CONTRACT DOCUMENTS

RD-3-2016

ASBESTOS ABATEMENT, DEMOLITION, SITE CLEARANCE, BACKFILL AND GRADING OF FORTY THREE (43) VACANT DWELLINGS/STRUCTURES LOCATED IN THE CITY OF YOUNGSTOWN, OHIO

JOHN A. MCNALLY, MAYOR
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(For Bidder's Use)

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NOT FOR BIDDING
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SECTION 8

SUPPLEMENTAL SPECIFICATIONS

NOTE

THE FOLLOWING SPECIFICATIONS MODIFY OR FURTHER DEFINE THE GOVERNING SPECIFICATIONS, NAMELY, THE STATE OF OHIO, DEPARTMENT OF TRASPORTATION, CONSTRUCTION AND MATERIAL SPECIFICATIONS, JANUARY 1, 2013.

DESCRIPTION

Demolition Work Technical Specifications

Asbestos Abatement Technical Specifications

Appendix – A Asbestos Survey

TECHNICAL SPECIFICATIONS

SECTION 8

SUPPLEMENTAL SPECIFICATIONS

NOTE: BIDDERS SHALL ALSO READ AND UNDERSTAND SECTION TWO – GENERAL CONDITIONS AND INSTRUCTIONS

SUPPLEMENTAL SPECIFICATIONS ARE IN ADDITION TO SECTION TWO OF THE CONTRACT DOCUMENT FOR THIS PROJECT

SCOPE OF WORK

The work involves the furnishing of all labor, materials, tools, and equipment necessary for the demolition and removal of all buildings, sheds, fence posts, porches, steps, walks, curbs, walls, drives paved with brick, stone, asphalt, concrete, etc., and any other frame or masonry structure which is on the surface or extends above the surface, and any rubbish or debris within the property line boundaries of the parcel on which the building to be demolished is situated, including the devil strips.

DEMOLITION AND REMOVAL PROCEDURES

When a structure has a basement or vault that extends beyond the property line and into the City Right-of-way, the contractor will remove the sidewalk, concrete, pavement, brick, stone or paving and backfill the basement or vault with clean fill as stipulated in Section 203.12 of the State of Ohio, Department of Transportation Construction and Material Specifications, most recent issue. The contractor shall remove all coalhole covers, trap doors, lights, gratings and similar appurtenances that occur in the public sidewalk adjacent to the buildings to be removed.

In cases where basements exist, the contractor shall break up the basement floors in such a manner as to permit the drainage of water. The contractor shall cause to be disconnected the sewer utilities that serve each building to be demolished. All sanitary sewer laterals shall be exposed within 5 feet outside of the foundation and capped using the appropriate sized cap and flexible coupling. All work must be inspected by the City of Youngstown Engineering Department. The contractor shall contact the Engineering Department at 330-742-8800, twenty-four (24) hours before starting the work set forth in this paragraph.

When the removal of sidewalks has been made necessary to perform any of the work provided for in this contract, the voids or spaces resulting from such removal shall be replaced in kind by the contractor at no additional expense to the City of Youngstown.

The contractor shall remove the entire structure, including all walls, floors, ceilings and foundation supports of all kinds to a grade eighteen inches (18”) below the existing ground level.

Cellars of demolished structures in which clean up of debris has been completed shall not be backfilled until a final inspection has been made and approval given by the City inspector in charge of the work. Final payment shall not be made where inspection of cellars has not been made prior to backfilling.

Contractor must call in and inform the assigned City inspector of the houses he will be tearing down. The City inspector must see this structure the same day before the structures is to be razed.

The contractor will not move to another location until the demolished structure is hauled away and the hole backfilled. Holidays, weekends, heavy rains, and snow will be the only exceptions to this rule, as approved by the project inspector.

The contractor shall protect all sidewalks, curbs, pavements and other public or private facilities that may be damaged or endangered by the work required under the specifications and shall restore and make good any structure of facility that may be damaged or destroyed. Any damage to city property such as sidewalks, curbs, catch basins, fire hydrants, etc. will be the responsibility of the contractor.

Backfilling and final grading shall be such as to present a neat, well drained appearance and to prevent water from draining unnecessarily onto adjacent properties, or collecting on the site. Contractors shall not leave mud or any mess on streets or sidewalks while equipment is being loaded or unloaded. See also Section 339.08 of the Codified Ordinances. All demolition work, once commenced, must be completed within a reasonable time, 72 hours for residential structures and, once started, commercial demolition work must be continued daily until finished (excluding holidays, Sundays and inclement weather days).

SCHEDULED TIMES FOR DEMOLITION WORK

All demolition activities performed under this contract shall occur between the hours of 8:00 a.m. and 5:00 p.m. daily, excluding legal holidays, Sundays and inclement weather days. The Demolition Director or his designee may approve exceptions to these specified times, upon written request from the contractor. Requests to perform demolition work after dusk will not be approved under any circumstances.

BACKFILL

Backfill shall consist of soil, rock or granular material approved by the city and shall meet all general requirements of item 202.06 of the Ohio Department of Transportation Construction and Materials Specifications. Masonry material from the demolition site may be mixed with the above backfill provided it is smaller than one cubic foot in volume and free from solid waste and other demolition debris.

All non-masonry demolition debris shall be disposed of at an approved landfill.

DUMPING AND DISPOSAL OF DEBRIS

The contractor shall provide his own site for dumping and disposal of all debris. The dump side must be approved by the City of Youngstown. All debris from a razed structure must be removed immediately. Contractors must apply for Refuse Haulers permits in accordance with City Ordinance 98-214 and 98-278 and comply with all hauling regulations therein. It shall be illegal to dump debris from any site in basements or to dispose of on any site other than at an approved landfill or at a construction and demolition landfill. However, bricks/masonry may be buried on site.

LANDFILL MANIFESTS/DEMOLITION PAVEMENT

All landfill manifests relating to disposal of demolition debris and asbestos containing building material must be supplied in order to secure payment for demolition.

SAFETY PRECAUTIONS

The operations of the contractor shall be conducted in such a manner as to avoid fires and other hazards to persons and property and interference with the use of adjacent buildings and without interruption of free passage to and from such buildings.

Upon release of a structure for demolition by the City of Youngstown to the contractor, the contractor shall take all precautions necessary to avoid damages to persons or property before and during the demolition period.

No structure released for demolition shall be burned either while standing or after being demolished.

TRAFFIC CONTROL

All traffic controls and barricades must be erected and maintained in compliance with the State of Ohio Manual of Uniform Traffic Control Devices for Street and Highways.

WATER SUPPLY/DUST CONTROL

The City of Youngstown will furnish the Contractor water in the execution of this contract wherever water mains and hydrants are available. The water will be furnished at the rate or cost established by the City of Youngstown Water Department and this cost shall be charged to the Contractor for payment which is to be made to the City of Youngstown Water Department. Permit required from Water Commissioner. Contractor may provide water through an auxiliary source as approved by the Demolition Director.

Dust control and all related costs will be the responsibility of the contractor. Dust must be kept to a minimum while the building is being demolished and the debris I being hauled away. Contractors must hose down the work site during the operations by connection to city hydrants adjacent to the work site. This is for dust control measures. Contractors will pay the City Water Department a $10.00 user fee per single residential structure being demolished or $20.00 per commercial structure, if larger than a duplex, unless contractor provides his own water through portable means.

UTILITIES

The contractor will be responsible for the protection of all above and underground utilities. The contractor will replace at his expense any damage done to the above, caused by the demolition of the building. The Contractor will be required to check with all utility companies and the Ohio Utilities Protection Service to verify location of any and all utilities.

UTILITY LINES

The Contractor will be responsible for the removal, relocation or damage of any utility lines.

TEMPORARY SIDEWALKS AND BARRICADES

The Contractor shall furnish and erect all temporary sidewalks, barricades, covers and other temporary structures for the proper and safe conduct of the work as required by law, and shall remove all such temporary structures upon the completion of the work under this contract, without additional compensation.

Where basements or excavations are located within five feet (5') of the street line, a fence shall be erected along the street line and extended five feet (5') beyond the basement or excavation. The fence shall be constructed of posts measuring 4" x 4" imbedded in the ground at least two feet (2') and extend not less than three feet (3') above grade. The posts shall be located not over eight feet (8') center to center, and provided with a 2" x 4" top rail and a six inch (6") rail located at the grade line to form a toe board, and a six inch (6") board to serve as an intermediate rail located between the top rail and the toe board.

OCCUPANCY OF PUBLIC WAY

If and whenever the work under this contract shall require digging up, use or occupancy of any public way, area, alley or other public place, the Contractor shall furnish, erect and maintain such barriers and lights during the night time and will prevent the occurrence of any damage caused in connection with such digging up, use and occupancy, and shall assume liability for all damages which may result therefrom.

USE OF EXPLOSIVES

The use of explosives in the performance of this contract is hereby expressly prohibited.

SPECIAL

The Construction and Materials Specifications, Department of Transportation, State of Ohio, most recent issue and the Supplemental Specifications shall govern the workmanship and materials for this improvement.

Wherever in the specifications referred to above, the terms "State or Department" is used, it shall be interpreted to mean the City of Youngstown. Wherever in the specifications referred to above the terms "Director", "Engineer", or "Inspector" are used, it shall be interpreted to mean the Deputy Director of Public Works, City of Youngstown, or his authorized representative.

PERMITS

The Contractor shall obtain any and all permits or licenses that are required by the City of Youngstown or any other authority prior to beginning performance of this contract. The Contractor shall issue any notices that are required by law or municipal ordinance prior to beginning performance of this contract. The Contractor shall bear any and all costs required to obtain any permits or licenses as well as any costs necessary for the issuance of any notices that may be required by law or municipal ordinance. Failure by the Contractor to comply with the provisions of this section shall subject the Contractor to any penalties or costs that may be provided by law or municipal ordinance in addition to withholding contractual payments and invoking the performance bond. Further, the Contractor shall hold the city harmless from any claim arising against the City of Youngstown as a result of the Contractor's failure to comply with this section.

ADJUSTMENT FOR FIRE DAMAGED STRUCTURES

Structures that are fire damaged after a contract is let will be renegotiated at a reduced amount to reflect reduction in work required.

FINAL GRADING OF LOTS

All lots listed in the Proposal Pages are to be cleared of debris. This debris is to be disposed of at an approved landfill.

All lots are then to be filled and graded to an acceptable grade established by the City of Youngstown Site Inspector. This grade is to promote proper runoff and to eliminate standing water.

Any additional soil necessary for fill and grading shall be furnished by the contractor and approved for use by the Site Inspector. The contractor shall include the cost of such material in his price bid for demolition.

The final grade shall be free of all rocks and debris larger than three (3) inches in diameter.

GENERAL PLAN NOTES FOR DEMOLITION PROJECTS

MAINTENANCE OF TRAFFIC

All traffic control devices used on this project shall be furnished, placed and subsequently removed by the contractor in conformance with the Ohio Manual of Uniform Traffic Control Devices, most current edition, latest revision.

The safety and protection of pedestrians and the traveling public shall be of utmost concern and importance throughout the duration of this project.

Should the contractor determine that it is necessary to close any traffic lanes during the demolition process, he shall submit for approval an appropriate traffic control plan to the City of Youngstown Traffic Coordinator's Office at least seven (7) working days prior to the anticipated date of closure. Upon approval of such plan, all lane closures shall be achieved using appropriate signs, cones, barrels, and/or other traffic control devices in accordance with the Ohio Manual of Uniform Traffic Control Devices.

All sidewalk area directly adjacent to the demolition activities shall be properly closed and barricaded throughout the demolition project. Sidewalks shall also be properly protected from damage by falling debris through a method determined by the contractor and approved by the City of Youngstown, Deputy Director of Public Works.

DEMOLITION NOTIFICATION OF FEDERAL & OHIO EPA

Written notification of the demolition of these structures is required by 40 CFR 61.145(b) and Ohio Administration Code 3745-20-03.

The successful bidder must submit a complete, accurate Ohio EPA Notification of Demolition and Renovation for each structure to be demolished at this facility to the Mahoning-Trumbull Air Pollution Control Agency at least 10 working days before the demolition of that structure begins. A copy of the original notification any subsequent revisions will be forwarded by M-TAPCA to U.S. EPA, Region V.

To be complete, a notification must contain all the information required by Items I, II, III, IV, V, VI, IX, X, XVI, and XVIII. Compliance with the notification provisions will be determined by the Mahoning-Trumbull Air Pollution Control Agency.

Additional forms and instructions are available from the Mahoning-Trumbull Air Pollution Control Agency, Oakhill Renaissance Place, 345 Oak Hill Avenue, Suite 200, Youngstown, Ohio 44502.

Failure of the successful bidder to submit a notification of demolition or to correct notification deficiencies at M-TAPCA's direction prior to demolition will result in M-TAPCA initiating an enforcement referral against the contractor with the appropriate state and/or federal agency.

YOUNGSTOWN CODIFIED ORDINANCE CHAPTER 1309 (ORDINANCE 99-403)

The preceding specifications and provisions thereof are further modified by Youngstown City Ordinance Number 99-403, a copy of which is included as follows:

CHAPTER 1309
Demolition of Structures

SECTION 1309.01 Scheduled Times for Demolition Work
SECTION 1309.02 Demolition and Removal Procedures
SECTION 1309.99 Penalty

CROSS REFERENCES
Fire damaged structures – see FIRE PREV. Ch. 1515

1309.01 SCHEDULED TIMES FOR DEMOLITION

Anyone who does demolition work within the City, shall only perform demolition work between the hours of 8:00 a.m. and 5:00 p.m. daily, excluding legal holidays, Sundays and inclement weather days. The Housing Department Head or their designee may approve exceptions to these specified times, upon written request from the contractor. Requests to perform demolition work after dusk will not be approved under any circumstances.

1309.02 DEMOLITION AND REMOVAL PROCEDURES

In addition to the Section 8 Supplemental Specifications required of each contractor performing demolition work in the City of Youngstown, each contractor shall adhere to the following requirements in performing such demolition work.

(a) The Contractor must obtain and, if requested, display a valid 30-day permit when performing the demolition work. Extensions may be issued by the City of Youngstown Demolition Department. No permits are to be obtained after demolition work is done.

(b) Contractors must apply for Refuse Hauler permits (Ordinance 98-214 and 98-278) and comply with all hauling regulations therein.

(c) Contractors must hose down the work site during the operations by connecting to the city hydrants adjacent to the work site. This is for dust control measures. Contractors will pay City Water Department a $10.00 (ten dollar) user fee per single residential structure being demolished or $20.00 per commercial structure, if larger than a duplex, unless contractor provides his own water through portable means.

(d) It shall be illegal to dump debris from any site in basements or to dispose of on any site other than at an approved landfill or a construction and demolition landfill. However, brick/masonry may be buried on site.

(e) Contractors shall remove all garages, sheds and other outbuildings along with shrubs, bushes, walls, fences and foliage from property, along with structures. AND ALL DEPLORABLE MATERIAL MUST BE REMOVED FROM SITE.

(f) When a contractor applies for payment for demolition work performed, all landfill manifests relating to the disposal of demolition debris and asbestos-containing materials must be supplied in order to secure payment.

(g) Contractors must protect the area around the site during the demolition process to prevent debris from falling on active sidewalks and streets (not blocked off). Sidewalks, directly adjacent to the site, shall be properly closed and barricaded throughout the demolition project. Street traffic lanes may be closed as needed only in conjunction with the City Traffic Coordinator's Office.

(h) Contractors shall reasonably grade lots. They shall present a neat, well-drained appearance and to prevent water from draining unnecessarily onto adjacent properties or collecting on the site.

(i) Contractors shall not leave mud or any mess on streets or sidewalks while equipment is being loaded or unloaded. See Also Section 339.08 of the Codified Ordinances.

(j) All demolition work, once commenced, must be completed within a reasonable time, 72 hours for residential structures and, once started, commercial demolition work must be continued daily until finished (excluding holidays, Sundays and inclement weather days).

(k) Any damage to city property such as sidewalks, curbs, catch basins, fire hydrants, etc. will be the responsibility of the contractor.

1309.99 PENALTY

(a) Whoever violates any provision of Section 1309.01 of this chapter is guilty of a minor misdemeanor. When any person is found guilty of a subsequent offense, such person is guilty of a misdemeanor of the fourth degree. Such fine is mandatory and shall not be suspended or remitted when found guilty of a third or subsequent offense.

(b) Whoever violates any provision of Section 1309.02 of this chapter shall be guilty of an unclassified misdemeanor, punishable by up to six (6) months incarceration or a fine of up to five hundred dollars ($500.00) or both.

SECTION 3

That this ordinance is hereby declared to be an emergency measure necessary for the immediate preservation of the public peace, welfare and safety, the emergency being the necessity to repeal existing Chapter 1309 and enact new Chapter 1309, Demolition of Structures, of the Codified Ordinances, as further herein above described; and provided it receives the affirmative vote of six of the members elected to the legislative authority, it shall take effect and be in force immediately upon its passage and approval by the Mayor; otherwise, it shall take effect and be in force from and after the earliest period allowed by law.

SECTION 01013 - SUMMARY OF THE WORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

A. **The Asbestos Abatement Scope of Work** consists of performing the removal and disposal of asbestos containing materials identified in the asbestos survey for the property. In addition, the contractor shall remove and dispose of all hazardous wastes within the individual structure in compliance with federal, state and local regulations. Upon removal of the asbestos containing materials, and hazardous waste material the demolition contractor shall raise the structure using "wet methods".

B. **Non–Asbestos Related Tasks:**

The abatement contractor shall remove all **non-asbestos containing items** from the work area after decontamination procedures have been completed; prior to commencing the abatement work in order to access identified ACM to be removed during the project.

The non-asbestos related work tasks shall consist of:

a. Development of a Health and Safety Plan, an Evacuation Plan, and a Contingency Plan

b. Mobilization/Site Walkover

c. Site Improvements

d. Signage

1. **GENERAL:** The Contractor shall furnish all equipment, personal protective equipment, and other devices to perform the project's scope of work activities.

a. Workplan strategy, the Workplan includes procedures and specifications required to implement the work activities set forth above. **The Abatement Contractor shall prepare and submit to the CM and PM (Project Monitor) a written Work Plan, Health and Safety Plan and Contingency Plan for approval prior to commencement of work.** In addition, landfill approval documentation and names of any Sub-Contractors the Contractor may use, must be submitted prior to initiating any work. The details of each task are presented below.

b. Special Fees: The contractors shall be responsible for any fees associated with disposal of excavated materials, such as solid waste district fees, waste profile fees, county fees, storage fees, tipping fees, special permits, assessment fees, etc.

c. Contractor, including its employees, suppliers and subcontractors, shall use only the entrance designated by Owner and CM for its use.

d. Access by visitors will be restricted.

e. Contractor shall be responsible for the security of its work areas and shall at all times conduct its operation in a manner to minimize the risk of loss by theft, damage, vandalism, sabotage, or other conditions. Upon discovery of a loss, Contractor shall notify the CM and PM and provide a written report of the incident within 24 hours.

f. All designs and data furnished by or on behalf of Owner or Engineer shall be considered confidential and shall be used only for performance of this Contract.

g. Prior to making any statements to the press or other public releases, Contractor shall first obtain written approval from Owner, CM, PM and Engineer.

h. HEALTH and SAFETY: Contractor acknowledges that the project site may involve hazardous materials. Contractor shall conduct all operations under the Contract in a manner to avoid risk of bodily harm to persons of damage to property and in full compliance with OSHA, NESHAP, MSHA, OAC, CERCLA, NIOSH, RCRA, at a minimum, requirements and any and all other applicable legal requirements. Further, Contractor shall continuously inspect its Work, material and equipment to identify any unsafe conditions and shall promptly take action to correct any condition, which presents such a risk.

Contractor represents and warrants that it is fully qualified and knowledgeable with respect to all health and safety requirements relating to the work and that as an independent Contractor shall be solely responsible for compliance with those requirements. The Contractor shall provide and follow the Site Health & Safety Plan written by the Contractor. Additional site activities, (i.e., confined space entry, operating heavy equipment, etc.) are to be included in the Contractor's Health & Safety Plan. The Contractor is to present the Health & Safety Plan to the CM for review prior to performance of the work. The Contractor will be responsible for ensuring that all Contractor employees and subcontractors on site are properly trained and have medical monitoring. **Records supporting training and medical monitoring will be provided to the Owner or CM and PM prior to signing of the Contract.**

Should Contractor fail to comply with the Health & Safety Program or with other applicable requirements as referenced above, such action or inaction shall be considered a material breach of the Contract. Should Contractor, upon notice thereof, neglect or refuse to take appropriate corrective action, CM, PM or Owner shall have the right, but not the duty, to stop the Contractor's work or any portion thereof, and/or correct the condition and back charge all incident costs to Contractor's account.

Contractor shall be responsible for all fines or penalties assessed due to its failure to comply with applicable laws, regulations or standards, including any fines or penalties assessed against Owner, CM, PM and Engineer. Contractor agrees, to the fullest extent permitted by law, to indemnify and hold Owner and Engineer harmless from any claim, liability, loss or expense resulting from Contractor's failure to comply with all applicable health and safety requirements.

In the event or accident, injury or incident involving health, safety, or damage to property, Contractor shall immediately notify CM and PM and shall submit a report on the incident in writing within 24 hours of such occurrence. Contractor shall maintain accurate records of all such occurrences and shall furnish CM and PM a weekly summary including man-hours lost due to injuries.

Nothing in these Special Conditions shall be interpreted as enlarging the legal duty of Owner or Engineer to Contractor or to Contractor's agents, employees, subcontractors, or third parties or as altering the independent Contractor status of Contractor.

Materials, Equipment and Facilities to Be Furnished by Contractor: Contractor shall furnish all labor, equipment, services and materials necessary to complete the work as a functional system for the use intended. Materials, equipment and supplies to be furnished by Contractor shall include, but shall not necessarily be limited to, the following:

a. All other items of material, supplies, equipment and labor not specifically stated as being provided by Owner and/or Engineer.

b. Sanitary facilities for Contractor's personnel will be provided by Contractor.

c. Process and/or Potable water, if required, will be transported by the Contractor to the site from a remote site location or hydrant as approved by the local public water authority.

d. Power and telephone services, if required.

e. Transport of workers, as necessary.

DESCRIPTIONS OF NON-ABATEMENT WORK TASKS:

1. **MOBILIZATION/SITE WALKOVER REQUIREMENTS:** The Contractor shall provide a sufficient number of toilet facilities designated as men and women, as appropriate. The toilet facilities shall be located adjacent to the Work Areas. Before initiation of site activities the Contractor shall be accompanied by the CM or PM for a general site walkover.

2. **SITE IMPROVEMENTS:** Site improvements shall consist of the tasks that must be prepared by the Contractor prior to initiating the Abatement activities. The site improvements for the renovation / demolition include, but not limited to:

   a. Installation of Signs

   b. Permits (as applicable)

   c. Installation of Temporary fencing as necessary to secure the project work areas, if required.

3. **SIGNAGE:**

   The Contractor shall maintain the following signs at the site:

a. The Sanitary Facilities shall have signs designating a “Mens” and “Womens” on the entrance door, as applicable.

b. Asbestos Signage or equivalent, as necessary.

E. **The Work** will be constructed under a single prime contract.

1.3 ASBESTOS-CONTAINING MATERIALS:

A. **The Work** of this contract involves activities that will disturb asbestos-containing materials (ACM). The location and type of ACM known to be present at the worksite is set forth in the Schedule of Asbestos-Containing Materials at the end of this section. If any other ACM or PACM is found, notify the owner, CM and PM and Engineer about the location and quantity of the ACM or PACM immediately of the discovery.

1.4 ASBESTOS HEALTH RISK:

A. The disturbance or dislocation of ACM may cause asbestos fibers to be released into the buildings atmosphere, thereby creating a potential health risk to workers and building occupants. Apprise all workers, supervisory personnel, subcontractors and consultants who will be at the job site of the seriousness of the risk and of proper work procedures, which must be followed.

B. Where in the performance of the work, workers, supervisory personnel, subcontractors, or consultants may encounter, disturb, or otherwise function in the immediate vicinity of any identified ACM, take appropriate continuous measures as necessary to protect all building occupants from the risk of exposure to airborne asbestos. Such measures shall include the procedures and methods described herein, and compliance with regulations of applicable federal, state and local agencies.

1.5 OCCUPANCY REQUIREMENTS – NOT USED.

1.6 AIR MONITORING BY THE OWNER – NOT USED.
1.7 SCHEDULE OF AIR SAMPLES BY OWNER: NOT USED

1.8 ADDITIONAL TESTING:

1. **The Contractor may conduct** air monitoring and laboratory testing. If he elects to do this, the cost of such air monitoring and laboratory testing shall be at no additional cost to the Owner. In addition, the contractor shall engage the services of an independent laboratory other than the laboratory being used by the Owner.

1.9 PERSONAL MONITORING:

1. **Owner <u>will not</u> perform** air monitoring for the Contractor to meet Contractor's OSHA requirements for personal sampling or any other purpose.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 STOP ACTION LEVELS:

3.1.1 Inside Work Area: Maintain an average airborne count in the Work Area of less than 0.5 fibers per cubic centimeter. If the fiber counts rise above this figure for any sample taken, revise work procedures to lower fiber counts. If the Time Weighted Average (TWA) fiber count for any work shift or 8-hour period exceeds 0.5 fibers per cubic centimeter, stop all work, leave Pressure Differential System in operation and notify Construction Manager. After correcting cause of high fiber levels, do not recommence work for 24 hours unless otherwise authorized, in writing, by the Construction Manager.

1. If airborne fiber counts exceed 2.5 fibers per cubic centimeter for any period of time cease all work except corrective action until fiber counts fall below 0.5 fibers per cubic centimeter and notify Construction Manager. After correcting cause of high fiber levels, do not recommence work for 24 hours unless otherwise authorized, in writing, by the Construction Manager.

STOP ACTION LEVEL (f/cc)	IMMEDIATELY STOP LEVEL (f/cc)	MINIMUM RESPIRATOR REQUIRED	PROTECTION FACTOR
0.1	0.5	Half face	10
0.5	2.5	PAPR	1,000
1.0	5.0	Supplied Air Pressure Demand	1,000

If airborne fiber counts exceed Immediate Stop Level given above for type of respiratory protection in use for any period of time cease all work except corrective action. Notify Construction Manager and Project Monitor. Do not recommence work until fiber counts fall below Stop Action Level given above for the type of respiratory protection in use. After correcting cause of high fiber levels, do not recommence work for 24 hours unless otherwise authorized, in writing, by the Construction Manager.

3.1.2 Outside Work Area: If any air sample taken outside of the Work Area exceeds the base line established in Part 1 of this section, immediately and automatically stop all work except corrective action. The Construction Manager will determine the source of the high reading and so notify the Contractor in writing.

A. If the high reading was the result of a failure of Work Area isolation measures initiate the following actions:

a. Immediately erect new critical barriers as set forth in Section 01526 Temporary Enclosures to isolate the affected area from the balance of the building. Erect Critical Barriers at the next existing structural isolation of the involved space (e.g. wall, ceiling, floor).

b. Require that respiratory protection as set forth in Section 01562 Respiratory Protection be worn in affected area until area is cleared for re-occupancy in accordance with Section 01711 Project Decontamination.

c. Leave Critical Barriers in place until completion of work and insure that the operation of the pressure differential system in the Work Area results in a flow of air from the balance of the building into the affected area.

d. If the exit from the clean room of the personnel decontamination unit enters the affected area, establish a decontamination facility consisting of a Shower Room and Changing Room as set forth in Section 01563 Decontamination Units at entry point to affected area.

e. After Certification of Visual Inspection in the Work Area remove critical barriers separating the work area from the affected area. Final air samples will be taken within the entire area as set forth in Section 01711 Project Decontamination.

B. If the high reading was the result of other causes initiate corrective action as determined by the Construction Manager and/or Project Monitor.

3.1.3 Effect on Contract Sum: Complete corrective work with no change in the Contract Sum if high airborne fiber counts were caused by Contractor's activities. The Contract Sum and schedule will be adjusted for additional work caused by high airborne fiber counts beyond the Contractor's control.

3.2 STOP WORK:

A. If the Construction Manager presents a written stop work order, immediately and automatically conform to that stop work order, while maintaining temporary enclosures and pressure differential. Do not recommence abatement work until authorized in writing by Construction Manager.

B. Immediately initiate the following actions: After being presented with a stop work order immediately:

1. Cease all asbestos removal activities, or any other activities that disturbs ACM.

2. Repair any fallen, ripped or otherwise failed work area isolation measures.

3. Maintain in operation all work area isolation measures including those required by Sections 01526 Temporary Enclosures, 01513 Temporary Pressure Differential & Air Circulation System, 01563 Decontamination Units.

4. Maintain all worker protections including those required by Sections 01560 Worker Protection - Asbestos Abatement, and 01562 Respiratory Protection.

5. Fog the air in the work area with a mist of amended water to reduce airborne fiber levels.

C. **Do not recommence work** until authorized in writing by the Construction Manager.

SCHEDULE OF ASBESTOS-CONTAINING MATERIALS (Insert From Reports).

Quantities are estimates only and need to be field verified by Abatement Contractor.

Item/Location	Estimated Quantity	Asbestos Content

SEE ATTACHED ASBESTOS SURVEY RD-2-2011

THERMAL SYSTEM INSULATION

SURFACING MATERIALS

END OF SECTION - 01013

SECTION 01043 - COORDINATION - ASBESTOS ABATEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. **This Section includes** administrative and supervisory requirements necessary for coordinating construction operations including, but not necessarily limited to, the following:

1. General project coordination procedures.
2. Conservation.
3. Plan of Action.
4. Contingency Plan.
5. Project Directory.
6. Notifications.
7. Pre-Construction Inspection.
8. Contractors Construction Schedule.
9. Administrative and supervisory personnel.
10. Pre-Construction Conference
11. Progress Meetings
12. Coordination meetings.
13. Record Keeping.
14. Special Reports.
15. RFI's, Change Orders, Correspondence, Request for Change orders, Clarifications, etc.

B. **Related Sections:** The following Sections contain requirements that relate to this Section:

1. Section 01301 - Submittals - Asbestos Abatement for administrative procedures regarding submittals.
2. Section 01601 - Materials and Equipment - Asbestos Abatement for coordinating general installation.

1.3 COORDINATION

A. **Owner Occupancy:** Coordinate construction operations and scheduling with partial occupancy requirements of the Owner and the Owners use of utilities, if applicable.

B. **Coordinate construction operations** included in various Sections of these Specifications to assure efficient and orderly completion of each part of the Work. Coordinate construction

operations included under different Sections that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in the sequence required to obtain the best results where execution of one part of the Work depends on execution of other components, before or after its own execution.

C. Where necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.

1. Prepare similar memoranda for the Owner and separate contractors where coordination of their work is required.

D. **Administrative Procedures:** Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and assure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of schedules.
2. Installation and removal of temporary facilities.
3. Delivery and processing of submittals.
4. Progress meetings.
5. Project closeout activities.

E. All RFI's, Change Orders, Correspondence, Request for Change Orders, Clarification, etc. will be submitted through the owner's representative. The successful contractor shall designate a minimum of one company representative to be responsible for submitting and retrieving all aforementioned information.

1.4 CONTINGENCY PLAN:

D. **Contingency Plan:** Prepare a contingency plan for emergencies or any other event that may require breaching of work area containment or modification or abridgement of decontamination or work area isolation procedures. Include in plan specific procedures for decontamination or work area isolation. Note that nothing in this specification should impede safe exiting or providing of adequate medical attention in the event of an emergency. Items to be addressed in the plan include, but are not limited to the following:

1. Fire
2. Accident
3. Life threatening injury
4. Non life threatening injury
5. Rescue
6 Power Failure
7. Pressure differential system failure
8. Breach of containment
9. Electrical faults or shock
10. Excessive heat / cold (if/when such limits are specified)
11. Supplied air system failure

12. Water leaks
13. Waste spills
14. Unauthorized entry into work area
15. Elevated air samples outside of containment
16. Repairs inside containment
17. Toxic releases

1.5 PROJECT DIRECTORY

D. **Develop a directory** of all entities involved in the project. Include the Contractor's principal staff assignments, including the Superintendent and other personnel in attendance at the site. Identify individuals, their duties and responsibilities. List business name, contact person, normal business and emergency telephone, pager and fax numbers and addresses of:

1. Owner, Designer, and Project Administrator
2. Contractors General Superintendent, supervisory personnel and Contractors home office
3. Emergency services including but not limited to fire, ambulance, doctor, hospital, police, power company, telephone company.
4. Local, state, and federal agencies with jurisdiction over the project.

1.6 NOTIFICATIONS

A. **Notify other entities** at the job site of the nature of the asbestos abatement activities, location of asbestos-containing materials (ACM), requirements relative to asbestos set forth in these specifications and applicable regulations. Advance notification will be made to:

1. Employees who will perform asbestos abatement work or related activities, or who will be in the work area during the course of the work of this contract.
2. Employers of employees who work and/or will be working in adjacent areas during the course of the work of this contract.

B. **Notify emergency service agencies** including fire, ambulance, police or other agency that may service the abatement work site in case of an emergency. Notification is to include methods of entering work area, emergency entry and exit locations, modifications to fire notification or fire fighting equipment, and other information needed by agencies providing emergency services.

C. **Notifications of Emergency:** Any individual at the job site may notify emergency service agencies if necessary without effect on this Contract or the Contract Sum.

1.7 PRE-CONSTRUCTION INSPECTION:

A. **Inspect areas** in which work will be performed, prior to commencement of work. Prepare a listing of damage to structure, surfaces, equipment or of surrounding properties which could be misconstrued as damage resulting from the work. Photograph or videotape existing conditions as necessary to document conditions. Submit to Project Representative for record purposes prior to starting work.

1.8 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. **Bar-Chart Schedule:** Prepare a fully developed, horizontal bar-chart-type, contractor's construction schedule. Submit within 30 days after the date established for "Commencement of the Work."

1. Provide a separate time bar for each significant construction activity. Provide a continuous vertical line to identify the first working day of each week.

2. Within each time bar, indicate estimated completion percentage in 10 percent increments. As Work progresses, place a contrasting mark in each bar to indicate Actual Completion.

3. Prepare the schedule on a sheet, or series of sheets, of stable transparency, or other reproducible media, of sufficient width to show data for the entire construction period.

4. Secure time commitments for performing critical elements of the Work from parties involved. Coordinate each element on the schedule with other construction activities; include minor elements involved in the sequence of the Work. Show each activity in proper sequence. Indicate graphically the sequences necessary for completion of related portions of the Work.

5. Indicate Clearance of each Work Area in advance of the dates established for Clearance. Allow time for testing and other Ohio Department of Health (ODH) procedures necessary for certification of Clearance.

6. Indicate completion in advance of the date established for Substantial Completion. Indicate Substantial Completion on the schedule to allow time for the Project Representative procedures necessary for certification of Substantial Completion.

B. **Work Stages:** Indicate important stages of construction for each major portion of the Work, including submittal review, testing, and installation.

1. Non-asbestos demolitions.

2. Preparation of the Work Area.

3. Asbestos removal.

4. Clearance testing.

5. Substantial Completion.

1.4 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

A. Project Supervisor: Provide a full-time Project Supervisor at the work site who is experienced in administration and supervision of asbestos abatement projects including work practices, protective measures for building and personnel, disposal procedures, project scheduling, management, etc. This person is the Contractor`s Representative, and will function as the competent person at the work site responsible for compliance with all applicable federal, state and local regulations, particularly those relating to ACM.

1. Training: The General Superintendent must have a current certification from a state approved trainer for a course that meets the requirements of the EPA Model Accreditation

Plan for asbestos abatement contractor/supervisor (40 CFR part 763, Subpart E, Appendix C).

2. Experience: The General Superintendent must have demonstrable experience in the successful management of asbestos abatement projects that are similar to the work of this contract.

a. The General Superintendent must have had responsible charge of a minimum of ten (10) asbestos abatement projects in Mahoning County similar in size and type to the work of this contract.

3. Competent Person: The General Superintendent is to be a Competent Person as required by OSHA in 29 CFR 1926.

B. Supervisors / Forepersons: Provide full-time Supervisors / Forepersons who are experienced in the supervision of asbestos abatement work areas including work practices, building and personnel, disposal practices, etc. These persons are contractor employees directly responsible to the General Superintendent.

C. Accreditation: The General Superintendent, Supervisors and Forepersons are to be accredited as an Asbestos Abatement Supervisor in accordance with the AHERA regulation 40 CFR Part 763, Subpart E, Appendix C.

1.5 PRE-CONSTRUCTION CONFERENCE:

A. **An initial progress meeting**, recognized as "Pre-Construction Conference" will be convened by the Project Representative prior to start of any work. The preconstruction conference will be scheduled before start of construction, at a time convenient to the Owner and the Project Representative. Meet at the project site, or as otherwise directed, with General Superintendent, Owner, Designer, Project Administrator, and other entities concerned with the asbestos abatement work.

B. **Attendees:** Authorized representatives of the Owner, Designer, and their consultants will be in attendance. An authorized representative of the Contractor and its superintendent; major subcontractors; manufacturers; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the Work.

1. 72 hours advance notice will be provided to all participants prior to convening Pre-Construction Conference.

1.6 PROGRESS MEETINGS:

A. **General:** In addition to specific coordination and pre-installation meetings for each element of work, and other regular project meetings held for other purposes, the Construction Manager will hold general progress meetings as required. These meeting will be scheduled, where possible, at time of preparation of payment request.

B. **Attendees:** Representatives of the Owner and Project Monitor will attend these meetings. In addition to representatives of the Contractor, each subcontractor, supplier, or other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with the Project and authorized to conclude matters relating to the work. Require each entity then involved in planning, coordination or performance of work to be properly represented at each meeting.

C. **Reporting:** Revise the Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue the revised schedule no later than 3 days after each meeting. Include a brief summary, in narrative form, of progress since the previous meeting and report.

1.7 COORDINATION MEETINGS

A. **Attend project coordination meetings** that will be conducted by the Construction Manager at regular intervals convenient for all parties involved. Project coordination meetings are intended to coordinate the work of all contractors performing work on the site, and are in addition to specific meetings held for other purposes, such as regular progress meetings.

1.8 RECORD KEEPING:

A. **Daily Log:** Maintain a Daily Log (in an area accessible to the Owner, Project Monitor and Project Administrator) as a bound, sequential, hand-written record carefully prepared daily that documents but is not limited to the following items:

1. Meetings; purpose, attendees, brief discussion
2. Special or unusual events, i.e. barrier breeching, equipment failures, accidents
3. Documentation of Contractor's completion of the following:

a. Inspection of work area preparation prior to start of removal and daily thereafter.
b. Removal of any sheet plastic barriers
c. Contractor's inspections prior to spray back, lock back, encapsulation, enclosure or any other operation that will conceal the condition of ACM or the substrate from which such materials have been removed.
d. Removal of waste materials from work area
e. Decontamination of equipment (list items)
f. Contractors final inspection/final air test analysis.

B. **Entry/Exit Log:** Maintain within the Decontamination Unit a daily log documenting the dates and time of but not limited to, the following items:

1. Visitations; authorized and unauthorized with the following information
   a. Name
   b. Organization
   c. Entry time
   d. Exit Time
   e. Respiratory protection

2. Personnel, by name, entering and leaving the work area with the following information
   a. Printed Name
   b. Identification Number
   c. Entry Time
   d. Exit Time
   e. Respiratory Protection

C. Air Monitoring Results: Post personnel and area air monitoring results in Decontamination Unit within 24 hours of sample collection. Post the respiratory protection requirements for the work in progress.

D. Records in Decontamination Unit: Maintain the following documentation in the Decontamination Unit, in a location accessible to workers.
1. Documentation of inspections by OSHA, EPA or local authority
2. Respiratory Protection Program.

E. Other records: Maintain other documentation in a location that is accessible to the Owner, Construction Manager, and Project Administrator including:
1. Waste Manifests and shipping records
2. Landfill receipts.
3. Accident reports.

1.9 SPECIAL REPORTS:

A. General: Except as otherwise indicated, submit special reports directly to Owner within one day of occurrence requiring special report, with copy to Construction Manager and others affected by occurrence.

B. Reporting Unusual Events: When an event of unusual and significant nature occurs at site (examples: failure of pressure differential system, rupture of temporary enclosures), prepare and submit report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. When such events are known or predictable in advance, advise Owner in advance at earliest possible date.

C. Reporting Accidents: Prepare and submit reports of significant accidents, at site and anywhere else work is in progress. Record and document data and actions; comply with industry standards. For this purpose, a significant accident is defined to include events where personal injury is sustained, property loss of substance is sustained, or where the event posed a significant threat of loss or personal injury, or where work was stopped for over four hours during a scheduled shift.

D. **Report Discovered Conditions:** When an unusual condition of the building is discovered during the work (e.g. leaks, termites, corrosion) prepare and submit a special report indication condition discovered.

1.10 SUBMITTALS

A. **Before the Start of Work:** Submit the following to the Construction Manager in the same manner as product data. Do not begin work until these submittals are returned with an action stamp indicating that all submittals have been received-not reviewed.

1. Plan of Action.
2. Contingency Plans.
3. Project Directory.
4. Notifications: copy of notification sent to other entities at the work site, and to emergency service agencies.
5. Pre-Construction Inspection: Report on inspection carried out as required by this section. Include copies of all photographs, video tapes, etc.
6. Contractors Construction Schedule.
7. Accreditation: Submit evidence in the form of training course certificates for the General Superintendent, Supervisors, and Forepersons as asbestos abatement supervisors in accordance with AHERA requirements. Submit evidence in the form of training course certificates that each worker is trained as an asbestos abatement worker in accordance with AHERA requirements.
8. Resume: Submit resume of General Superintendent

B. **Submit daily:** Provide two (2) copies for information purposes of all documents indicated in the following sub-sections to Construction Manager by end of the next working day after the day they are received by Contractor.
1. Section on Record Keeping.
2. Section on Special Reports.

C. **Project Close-out:** Submit two (2) copies for information purposes of all documents indicated in the following sections at final closeout of project as a project close-out submittal.
1. Section on Record Keeping.
2. Section on Special Reports.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

END OF SECTION - 01043

SECTION 01097 - REFERENCE STANDARDS AND DEFINITIONS - ASBESTOS ABATEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 DEFINITIONS

A. **General:** Basic contract definitions are included in the Conditions of the Contract.

1. "Indicated": The term "indicated" refers to graphic representations, notes, or schedules on the Drawings, or other paragraphs or Schedules in the Specifications, and similar requirements in the Contract Documents. Terms such as "shown," "noted," "scheduled," and "specified" are used to help the reader locate the reference. Location is not limited.

2. "Directed": Terms such as "directed," "requested," "authorized," "selected," "approved," "required," and "permitted" mean directed by the Designer, requested by the Designer, and similar phrases.

3. "Approved": The term "approved," when used in conjunction with the Designer's action on the Contractor's submittals, applications, and requests, is limited to the Designer's duties and responsibilities as stated in the Conditions of the Contract.

4. "Regulations": The term "regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work.

5. "Furnish": The term "furnish" means supply and deliver to the Project Site, ready for unloading, unpacking, assembly, installation, and similar operations.

6. "Install": The term "install" describes operations at the Project Site including the actual unloading, unpacking, assembly, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.

7. "Provide": The term "provide" means to furnish and install, complete and ready for the intended use.

8. "Installer": An installer is the Contractor or another entity engaged by the Contractor, either as an employee, subcontractor, or contractor of lower tier, to perform a particular construction activity, including installation, erection, application, or similar operations. Installers are required to be experienced in the operations they are engaged to perform.

a. The term "experienced," when used with the term "installer," means having a minimum of 10 previous projects similar in size and scope to this Project, being familiar with the special requirements indicated, and having complied with requirements of authorities having jurisdiction.

b. Trades: Using terms such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to trades persons of the corresponding generic name.

9. "Project Site" is the space available to the Contractor for performing construction activities, either exclusively or in conjunction, with others performing other work as part of the Project. The extent of the Project Site is shown on the Drawings and may or may not be identical with the description of the land on which the Project is to be built.

10. "Testing Agencies": A testing agency is an independent entity engaged to perform specific inspections or tests, either at the Project Site or elsewhere, and to report on and, if required, to interpret results of those inspections or tests.

11. "Designer": This is the entity described as the "Architect" in AIA Document A201 "General Conditions of the Contract for Construction," or is the entity described as "Engineer" in Engineers Joint Contract Document Committee (EJCDC) Document 1910-8 "Standard General Conditions of the Construction Contract." All references to Architect or Engineer in the Contract Documents in all cases refer to the Project Manager. The Construction Manger will represent the Owner during construction and until final payment is due. The Designer will advise and consult with the Owner. The Owner's instructions to the Contractor will be forwarded through the Construction Manager.

12. "Construction Administrator": This is the entity described as the "Project Representative" in AIA Document A201 "General Conditions of the Contract for Construction," or is the entity described as "Engineer" in Engineers Joint Contract Document Committee (EJCDC) Document 1910-8 "Standard General Conditions of the Construction Contract." The Construction Manager (CM) is a full time representative of the Owner at the job site with authority to stop the work upon written or verbal order if requirements of the Contract Documents are not met, or if in the sole judgement of the CM, Designer, or Owner, the interests of the Owner, safety of any person or the Owner's property are jeopardized by the work.

13. $Stop Work Order : is a written order to cease asbestos removal, encapsulation or enclosure activities. The Contractor must maintain work area enclosure, pressure differential isolation and ventilation of the work area, and decontamination units during the period that a Stop Work Order is in affect.

14. "General Superintendent": This is the Contractor's Representative at the work site. This person must be a Competent Person as defined by OSHA in 29 CFR 1926.

B. Definitions Relative to Asbestos Abatement:

1. “Adequately Wet”: means to sufficiently mix or penetrate with liquid to prevent the release of particulates. If visible emissions are observed coming from the asbestos-containing material (ACM), then that material has not been adequately wetted. However, the absence of visible emissions is not sufficient evidence of being adequately wetted.

2. "Asbestos": The asbestiform varieties of chrysotile (serpentine), amosite (cummingtonite-grunerite), crocidolite (riebeckite), tremolite, anthophyllite, actinolite, and any of these minerals that has been chemically treated and/or altered. For purposes of the contract documents materials described in the contract documents as asbestos are to be considered as asbestos.

3. "Asbestos-Containing Material (ACM)": Any material containing more than 1% asbestos as determined using the methods specified in appendix A, subpart F, 40 CFR part 763, section 1, Polarized Light Microscopy.

4. "Asbestos-Containing Waste Material": any waste that contains asbestos. This term includes filters or other materials contaminated with asbestos. This term also includes regulated asbestos-containing material waste and materials contaminated with asbestos including disposable equipment and clothing.

5. "Asbestos debris": pieces of ACM that can be identified by color, texture, or composition, or dust, if the dust is determined by an accredited inspector to be ACM.

6. "Certified Industrial Hygienist (C.I.H.)": one certified in the practice of industrial hygiene by the American Board of Industrial Hygiene.

7. "Competent person" : an individual who meets the requirements of OSHA as a competent person for the specific activity involved in the work. The competent person must meet the requirements of 29 CFR 1926.32(f), and 29 CFR 1926.1101.

8. "Filter": A media component used to remove solid or liquid particles from air and water.

9. "Friable Asbestos": any asbestos-containing material that when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.

10. "Grinding" : to reduce to powder or small fragments and includes manual or mechanical chipping or drilling.

11. "HEPA Filter": A High Efficiency Particulate Air (HEPA) filter capable of trapping and retaining 99.97% of all mono-dispersed particles of 0.3 microns in diameter.

12. "HEPA Filter Vacuum Collection Equipment (or vacuum cleaner)": High efficiency particulate air filtered vacuum collection equipment with a HEPA filter.

13. "Intact" : that the ACM has not crumbled, been pulverized, or otherwise deteriorated so that the asbestos is no longer likely to be bound with its matrix.

14. "Leak-tight" : that solids or liquids cannot escape or spill out. It also means dust-tight.

15. "Negative Pressure Enclosure (NPE) ": A pressure differential and ventilation system where the work area is maintained at a negative pressure relative to air pressure outside the work area.

16. "Nonfriable Material" : any material that, when dry, cannot be crumbled, pulverized, or reduced to powder by hand pressure and has not been rendered friable.

17. "Personal Monitoring": Sampling of the asbestos fiber concentrations within the breathing zone of an employee.

18. "Surfacing material" : material that is sprayed, troweled-on or otherwise applied to surfaces (such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, and other purposes).

19. "Thermal system insulation (TSI)" : insulation applied to pipes, fittings, boilers, breeching, tanks, ducts or other components to prevent heat loss or gain.

20. "Time Weighted Average (TWA)": The average concentration of a contaminant in air during a specific time period as determined by the method prescribed in Appendix A of 29 CFR part 1926.1101.

21. "Visible Emissions": Any emissions containing particulate material that are visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.

22. "Working Day" : Monday through Friday and includes holidays that fall on any of the days Monday through Friday as indicated in the notification requirements.

1.3 SPECIFICATION FORMAT AND CONTENT EXPLANATION

A. **Specification Format:** These Specifications are organized into Divisions and Sections based on CSRF's 16-Division format and MasterFormat's numbering system.

B. **Specification Content:** This Specification uses certain conventions regarding the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations or circumstances. These conventions are explained as follows:

1. **Abbreviated Language:** Language used in Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be interpolated as the sense requires. Singular words will be interpreted

as plural and plural words interpreted as singular where applicable as the context of the Contract Documents indicates.

2. **Streamlined Language:** The Specifications generally use the imperative mood and streamlined language. Requirements expressed in the imperative mood are to be performed by the Contractor. At certain locations in the Text, subjective language is used for clarity to describe responsibilities that must be fulfilled indirectly by the Contractor or by others when so noted.

1.4 INDUSTRY STANDARDS

A. **Applicability of Standards:** Except where the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

B. **Publication Dates:** Comply with the standards in effect as of the date of the Contract Documents.

C. **Conflicting Requirements:** Where compliance with 2 or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer to the Designer before proceeding for a decision on requirements that are different but apparently equal, and where it is uncertain which requirement is the most stringent.

1. **Minimum Quantity or Quality Levels:** The quantity or quality level shown or specified shall be the minimum acceptable. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of the requirements. Refer uncertainties to the Designer for a decision before proceeding.

D. **Copies of Standards:** Each entity engaged in construction on the Project is required to be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed to perform a required construction activity, the Contractor shall obtain copies directly from the publication source.

E. **Standards:** which apply to asbestos abatement work or hauling and disposal of asbestos waste materials include but are not limited to the following:

1. American National Standards Institute (ANSI)
   1430 Broadway
   New York, New York 10018
   (212)354-3300

   a. Fundamentals Governing the Design and Operation of Local Exhaust Systems Publication Z9.2

b. Practices for Respiratory Protection Publication Z88.2

2. American Society for Testing and Materials (ASTM)
100 Bar Harbor Drive
West Conshocken, PA 19428-2959
(610) 832-9585

a. Safety and Health Requirements Relating to Occupational Exposure to Asbestos E 849

b. ASTM Standard Practice for Encapsulants for Spray-or-Trowel-Applied Friable Asbestos-Containing Building Materials E1494

c. ASTM Standard Practice for Visual Inspection of Asbestos Abatement Projects E1368

F. **Abbreviations and Names:** Trade association names and titles of general standards are frequently abbreviated. The following acronyms or abbreviations, as referenced in the Contract Documents, are defined to mean the associated names. Names and addresses are subject to change and are believed, but are not assured, to be accurate and up-to-date as of the date of the Contract Documents.

1. ACI American Concrete Institute
P.O. Box 19150
Detroit, MI 48219 (313) 532-2600

2. ACIL American Council of Independent Laboratories
1629 K St., NW
Washington, DC 20006 (202) 887-5872

3. ACPA American Concrete Pipe Assoc.
8300 Boone Blvd., Suite 400
Vienna, VA 22182 (703) 821-1990

4. ACGIH American Conference of Governmental Industrial Hygienists
1330 Kemper Meadow Dr.
Cincinnati, OH 45240 (513) 742-2020

5. AIA The American Institute of Architects
1735 New York Ave., NW
Washington, DC 20006 (202) 626-7300

6. AIHA American Industrial Hygiene Assoc.
2700 Prosperity Ave., Suite 250
Fairfax, VA 22031 (703) 849-8888

7. ANSI American National Standards Institute
11 West 42nd St., 13th Floor
New York, NY 10036 (212) 642-4900

8. ASHRAE American Society of Heating,
Refrigerating and Air-Conditioning Engineers
1791 Tullie Circle, NE
Atlanta, GA 30329 (404) 636-8400

9. ASME American Society of Mechanical Engineers
345 East 47th St.
New York, NY 10017 (212) 705-7722

10. ASPE American Society of Plumbing Engineers
3617 Thousand Oaks Blvd., Suite 210
Westlake, CA 91362 (805) 495-7120

11. ASTM American Society for Testing and Materials
100 Barr Harbor Drive
West Conshohocken, PA 19428-2959 (610) 832-9585

12. CGA Compressed Gas Assoc.
1725 Jefferson Davis Highway, Suite 1004
Arlington, VA 22202-4100 (703) 412-0900

13. FM Factory Mutual Systems
1151 Boston-Providence Turnpike
P.O. Box 9102
Norwood, MA 02062 (617) 762-4300

14. GA Gypsum Association
810 First St., NE, Suite 510
Washington, DC 20002 (202) 289-5440

15. IEEE Institute of Electrical and Electronic Engineers
345 E. 47th St.
New York, NY 10017 (212) 705-7900

16. IETA International Electrical Testing Assoc.
P.O. Box 687
Morrison, CO 80465 (303) 697-8441

17. IRI Industrial Risk Insurers
P.O. Box 5010
85 Woodland St.
Hartford, CT 06102-5010 (203) 520-7300

18. ISA Instrument Society of America
P.O. Box 12277
67 Alexander Dr.
Research Triangle Park, NC 27709 (919) 549-8411

19. ISO International Standards Organization

20. NEC National Electrical Code (from NFPA)

21. NECA National Electrical Contractors Assoc.
3 Bethesda Metro Center, Suite 1100
Bethesda, MD 20814 (301) 657-3110

22. NEMA National Electrical Manufacturers Assoc.
2101 L St., NW, Suite 300
Washington, DC 20037 (202) 457-8400

23. NFPA National Fire Protection Assoc.
One Batterymarch Park
P.O. Box 9101
Quincy, MA 02269-9101 (617) 770-3000 (800) 344-3555

24. NRCA National Roofing Contractors Assoc.
10255 W. Higgins Rd., Suite 600
Rosemont, IL 60018-5607 (708) 299-9070

25. Ohio Department of Health
246 North High Street
Columbus, Ohio 43215 (614) 466-3543

26. RFCI Resilient Floor Covering Institute
966 Hungerford Dr., Suite 12-B
Rockville, MD 20805 (301) 340-8580

27. UL Underwriters Laboratories
333 Pfingsten Rd.
Northbrook, IL 60062 (708) 272-8800

28. White Lung Association
PO Box 1483
Baltimore, MD 21203

G. Federal Government Agencies: Names and titles of federal government standard- or Specification-producing agencies are often abbreviated. The following acronyms or abbreviations referenced in the Contract Documents indicate names of standard- or Specification-producing agencies of the federal government. Names and addresses are subject to change and are believed, but are not assured, to be accurate and up-to-date as of the date of the Contract Documents.

25. CE Corps of Engineers
(U.S. Department of the Army)
Chief of Engineers - Referral
Washington, DC 20314 (202) 272-0660

26. CFR Code of Federal Regulations
(Available from the Government Printing Office)
N. Capitol St. between G and H St., NW
Washington, DC 20402 (202) 783-3238
(Material is usually first published in the "Federal Register")

27. CPSC Consumer Product Safety Commission
5401 Westbard Ave.
Bethesda, MD 20207 (800) 638-2772

28. CS Commercial Standard
(U.S. Department of Commerce)
Government Printing Office
Washington, DC 20402 (202) 783-3238

29. DOC Department of Commerce
14th St. and Constitution Ave., NW
Washington, DC 20230 (202) 482-2000

30. DOT Department of Transportation
400 Seventh St., SW
Washington, DC 20590 (202) 366-4000

31. EPA Environmental Protection Agency
401 M St., SW
Washington, DC 20460 (202) 260-2090

32. FS Federal Specification (from GSA)
Specifications Unit (WFSIS)
7th and D St., SW
Washington, DC 20407 (202) 708-9205

33. GSA General Services Administration
F St. and 18th St., NW
Washington, DC 20405 (202) 708-5082

34. MIL Military Standardization Documents
(U.S. Department of Defense)
Naval Publications and Forms Center
5801 Tabor Ave.
Philadelphia, PA 19120

35. NIST National Institute of Standards and Technology
(U.S. Department of Commerce)
Gaithersburg, MD 20899 (301) 975-2000

36. OSHA Occupational Safety and Health Administration
(U.S. Department of Labor)
200 Constitution Ave., NW
Washington, DC 20210 (202) 219-6091

37. PS Product Standard of NBS
(U.S. Department of Commerce)
Government Printing Office
Washington, DC 20402 (202) 783-3238

38. USPS U.S. Postal Service
475 L'Enfant Plaza, SW
Washington, DC 20260-0010 (202) 268-2000

H. **Trade Union Jurisdictions:** The Contractor shall maintain, and require subcontractors to maintain, complete current information on jurisdictional matters, regulations and pending actions, as applicable to construction activities. The manner in which Contract Documents have been organized and subdivided is not intended to be indicative of trade union or jurisdictional agreements.

43. Discuss new developments at project meetings at the earliest feasible dates. Record relevant information and actions agreed upon.

44. Assign and subcontract construction activities, and employ tradesmen and laborers in a manner that will not unduly risk jurisdictional disputes that could result in conflicts, delays, claims and losses.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01097

SECTION 01098 - CODES, REGULATIONS AND STANDARDS - ASBESTOS ABATEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to this section.

1.2 SUMMARY

A. This section sets forth governmental regulations which are included and incorporated herein by reference and made a part of the specification. This section also sets forth those notices and permits which are known to the Owner and which either must be applied for and received, or which must be given to governmental agencies before start of work.

1. Requirements include adherence to work practices and procedures set forth in applicable codes, regulations and standards.

2. Requirements include obtaining permits, licenses, inspections, releases and similar documentation, as well as payments, statements and similar requirements associated with codes, regulations, and standards.

1.3 CODES, REGULATIONS AND STANDARDS

A. **General Applicability of Codes, Regulations and Standards:** Except to the extent that more explicit or more stringent requirements are written directly into the Contract Documents, all applicable codes and regulations have the same force and effect (and are made a part of the contract documents by reference) as if copied directly into the Contract Documents, or as if published copies are bound herewith.

B. **Contractor Responsibility:** The Contractor shall assume full responsibility and liability for the compliance with all applicable Federal, State, and local regulations pertaining to work practices, hauling, disposal, and protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The Contractor is responsible for providing medical examinations and maintaining medical records of personnel as required by the applicable Federal, State, and local regulations. The Contractor shall hold the Owner and Designer harmless for failure to comply with any applicable work, hauling, disposal, safety, health or other regulation on the part of the contractor , the contractor's employees, or subcontractors.

C. **Federal Requirements:** which govern asbestos abatement work or hauling and disposal of asbestos waste materials include but are not limited to the following:

1. **OSHA:** U.S. Department of Labor, Occupational Safety and Health Administration, (OSHA), including but not limited to:

a. Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite;

Final Rules Title 29, Part 1910, Section 1001 of the Code of Federal Regulations
Final Rules Title 29, Part 1926, Section 1101 of the Code of Federal Regulations

b. Respiratory Protection
Title 29, Part 1910, Section 134 of the Code of Federal Regulations
Title 29, Part 1926, Section 103 of the Code of Federal Regulations

c. Personal Protective Equipment for General Industry
Title 29, Part 1910, Section 132 of the Code of Federal Regulations
Title 29, Part 1926, Sections 95 - 107 of the Code of Federal Regulations

d. Access to Employee Exposure and Medical Records
Title 29, Part 1926, Section 33 of the Code of Federal Regulations

e. Hazard Communication
Title 29, Part 1926, Section 59 of the Code of Federal Regulations

f. Specifications for Accident Prevention Signs and Tags
Title 29, Part 1910, Section 145 of the Code of Federal Regulations

g. Permit Required Confined Space
Title 29, Part 1910, Section 146 of the Code of Federal Regulations

h. Construction Industry
Title 29, Part 1910, Section 1001 of the Code of Federal Regulations
Title 29, Part 1926, Section 1101 of the Code of Federal Regulations

i. Construction Industry - General Duty Standards
Title 29, Part 1926, Sections 20 through 35 of the Code of Federal Regulations

j. Shipyard Industry
Title 29 Part 1915 Section 1001 of the Code of Federal Regulations

2. DOT: U. S. Department of Transportation, including but not limited to:

a. Hazardous Substances
Title 49, Part 171 and 172 of the Code of Federal Regulations

b. Hazardous Material Regulations
General Awareness and Training Requirements for Handlers, Loaders and Drivers
Title 49, Parts 171-180 of the Code of Federal Regulations

c. Hazardous Material Regulations
Editorial and Technical Revisions
Title 49, Parts 171-180 of the Code of Federal Regulations

3. **EPA:** U. S. Environmental Protection Agency (EPA), including but not limited to:

a. Asbestos Hazard Emergency Response Act (AHERA) Regulation
Title 40, Part 763, Sub-part E of the Code of Federal Regulations

b. EPA Model Accreditation Plan - Asbestos Containing Materials Final Rule & Notice
Title 40, Part 763, Sub-part E, Appendix C of the Code of Federal Regulations

c. National Emission Standard for Hazardous Air Pollutants (NESHAP)
National Emission Standard for Asbestos
Title 40, Part 61, Sub-part A, and Sub-part M (Revised Sub-part B) of the Code of Federal Regulations

D. State Requirements: which govern asbestos abatement work or hauling and disposal of asbestos waste materials include but are not limited to the following:

a. Ohio Health Department (3701-34).
b. Ohio Department of Development – NSP Program.

E. Local Requirements: which govern asbestos abatement work or hauling and disposal of asbestos waste materials include but are not limited to the following:

a. Ohio Health Department (3701-34).
b. Ohio Department of Development – NSP Program.

1.4 NOTICES:

A. U.S. ENVIRONMENTAL PROTECTION AGENCY

1. Postmark or Deliver Written Notification as required by USEPA National Emission Standards for Hazardous Air Pollutants (NESHAP) Asbestos Regulations (40 CFR 61, Subpart M) to the regional Asbestos NESHAP Contact at least 10 working days prior to beginning any work on asbestos-containing materials (ACM). Send notification to the following address:

a. Mahoning-Trumbull Air Pollution Control Agency
Oakhill Renaissance Place
345 Oakhill Ave.
Youngstown, Ohio 44502
(330) 743-3333

Attn: Misty Koletich, administrator

b. Ohio Health Department
77 South High Street
P.O. Box 1001
Columbus, Ohio 43216-1001
Asbestos Program (614) 466-0061

2. There is a copy of the NESHAP form at the end of this section.

3. Notification: Include the following information in the notification sent to the NESHAP contact:

a. Indication whether the notification is the original or revised notification
b. Name, address, and telephone number of owner or operator.
c. Name, address, and telephone number of contractor.
d. Type of Operation (demolition or renovation).
e. Description of the facility or affected part of the facility being demolished or renovated, including the size (square feet [square meters], number of floors), age, present and prior use of the facility.
f. Estimate of the approximate amount of RACM to be removed from the facility in terms of linear meters [linear feet] of pipe, and surface area in square meters [square feet] of other facility components. Also estimate the approximate amount of Category I and Category II nonfriable ACM in the affected part of the facility that will not be removed before demolition.
g. For facilities in which the amount of friable asbestos materials less than 80 linear meters (260 linear feet) on pipes and less than 15 square meters (160 square feet) or 1 cubic meter (35 cubic feet) if the length and width could not be measured. On other facility components, explain techniques of estimation.
h. Location and street address (including building number or name and floor or room number, if appropriate), city county, and state, of the facility being demolished or renovated.
i. Scheduled starting and completion dates of asbestos removal work (or any other activity, such as site preparation that would break up, dislodge, or similarly disturb asbestos material) in a demolition or renovation; planned renovation operations involving individual nonscheduled operations shall only include the beginning and ending dates of the report period as described in paragraph (a)(4)(iii) of 40 CFR 61.145.
j. Scheduled starting and completion dates of demolition or renovation.
k. Nature of planned demolition or renovation and method(s) to be used, including demolition or renovation techniques to be used and description of affected facility components.
l. Procedures to be used to comply with the requirements of USEPA National Emission Standards for Hazardous Air Pollutants (NESHAP) Asbestos Regulations (40 CFR 61 Subpart M).
m. Name and location of the waste disposal site where the asbestos containing waste material will be deposited.
n. A certification that at least one person trained as required by paragraph (c)(8) of 40 CFR 61.145 will supervise the stripping and removal described by this notification.

o. For emergency renovations described in paragraph (a)(4)(iv) of 40 CFR 61.145 , the date and hour that the emergency occurred, a description of the sudden, unexpected event, and an explanation of how the event caused an unsafe condition, or would cause equipment damage or an unreasonable financial burden.

p. Description of procedures to be followed in the event that the unexpected RACM is found or Category II nonfriable ACM becomes crumbled, pulverized, or reduced to powder.

q. Name, address, and telephone number of the waste transporter.

B. STATE AND LOCAL AGENCIES:

3. Send written notification as required by state and local regulations prior to beginning any work on ACM.

1.5 PERMITS:

A. Permit: All asbestos containing waste is to be transported by an entity maintaining a current "Industrial waste hauler permit" specifically for ACM, as required for transporting of waste ACM to a disposal site.

B. Contractor is responsible for obtaining any demolition, building, renovation or other permits, and for paying application fees, if any, where required by State or Local jurisdictions.

1. The Contractor is responsible for obtaining a Demolition Permit from the appropriate municipality prior to commencing the work.

1.6 LICENSES:

A. Licenses: Maintain current licenses as required by applicable state or local jurisdictions for the removal, transporting, disposal or other regulated activity relative to the work of this contract.

1.7 POSTING AND FILING OF REGULATIONS

A. **Posting and Filing of Regulations:** Post all notices required by applicable federal, state and local regulations. Maintain two (2) copies of applicable federal, state and local regulations and standard. Maintain one copy of each at job site. Keep on file in Contractor's office one copy of each.

1.8 SUBMITTALS:

A. **Before Start of Work:** Submit the following to the Construction Manager for review. No work shall begin until these submittals are returned with Designer's action stamp indicating that the submittal is returned for unrestricted use or final-but-restricted use.

3. Permits, Licenses, and Certificates: For the Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, and similar documents, correspondence and records established in conjunction with compliance with standards and regulations bearing upon performance of the Work including:

a. State and Local Regulations: Submit copies of codes and regulations applicable to the work.

4. Notices: Submit notices required by federal, state and local regulations together with proof of timely transmittal to agency requiring the notice.

5. Permits: Submit copies of current valid permits required by state and local regulations.

6. Licenses: Submit copies of all State and local licenses and permits necessary to carry out the work of this contract.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION - 01098

SECTION 01301 - SUBMITTALS - ASBESTOS ABATEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements for submittals required for performance of the Work, including the following:

1. Submittal schedule.
2. Daily construction reports.
3. Shop Drawings.
4. Samples.
5. Quality Assurance Submittals

B. Administrative Submittals: Refer to other Division 1 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to, the following:

1. Permits
2. Applications for payment
3. Performance and payment bonds
4. Insurance certificates
5. List of Subcontractors

C. RELATED SECTIONS

1. The following Sections contain requirements that relate to this Section:

a. Division 1 Section "Applications for Payment - Asbestos Abatement" specifies requirements for submittal of the Schedule of Values.

b. Division 1 Section "Coordination" specifies requirements governing submittal and distribution of meeting and conference minutes.

c. Division 1 Section "Project Closeout-Asbestos Abatement" specifies requirements for submittal of Project Record Documents and warranties at project closeout.

1.3 SUBMITTAL PROCEDURES

A. **Coordination:** Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.

B. **Submittal Preparation:** Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.

1. Provide a space approximately 4 by 5 inches (100 by 125 mm) on the label or beside the title block on Shop Drawings to record the Contractor's review and approval markings and the action taken.

2. Include the following information on the label for processing and recording action taken.

c. Project name.
d. Date.
e. Name and address of the Construction Manager.
f. Name and address of the Contractor.
g. Name and address of the subcontractor.
h. Name and address of the supplier.
i. Name of the manufacturer.
j. Number and title of appropriate Specification Section.
k. Drawing number and detail references, as appropriate.

C. Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal from the Contractor to the Construction Manager (CM) using a transmittal form. The CM will not accept submittals received from sources other than the Contractor.

1. On the transmittal, record relevant information and requests for data. On the form, or separate sheet, record deviations from Contract Document requirements, including variations and limitations. Include Contractor's certification that information complies with Contract Document requirements.

D. **Transmittal Form:** Use AIA Document G810.

1.4 SUBMITTAL SCHEDULE

A. **Listing:** At the end of this section is a listing of the principal submittals required for the work. This listing is not necessarily complete, nor does the listing reflect the significance of each submittal requirement. The listing is included only for the convenience of users of the Contract Documents.

B. **Submittal Schedule:** After development and acceptance of the Contractor's Construction Schedule, prepare a complete schedule of submittals. Submit the schedule within 10 days of the date required for submittal of the Contractor's Construction Schedule.

1. Coordinate Submittal Schedule with the list of subcontracts, Schedule of Values, and the list of products as well as the Contractor's Construction Schedule.

2. Prepare the schedule in chronological order. Provide the following information:

a. Scheduled date for the first submittal.
b. Related Section number.
c. Submittal category (Shop Drawings, Product Data, or Samples).
d. Name of the subcontractor.
e. Description of the part of the Work covered.
f. Scheduled date for resubmittal.
g. Scheduled date for the CM's final release or approval.

C. **Distribution:** Following response to the initial submittal, print and distribute copies to the CM, Designer, Owner, subcontractors, and other parties required to comply with submittal dates indicated. Post copies in the Project meeting room and field office.

1. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities.

D. **Schedule Updating:** Revise the schedule after each meeting or activity where revisions have been recognized or made. Issue the updated schedule concurrently with the report of each meeting.

1.5 SHOP DRAWINGS (NOT USED).

1.6 PRODUCT DATA (NOT USED).

1.7 SAMPLES (NOT USED).

1.8 QUALITY ASSURANCE SUBMITTALS (NOT USED).

1.9 MISCELLANEOUS SUBMITTALS:

A. **Material Safety Data Sheets:** Process material safety data sheets as product data. These are submitted for information purposes only, they will be returned with the action stamp, Received - Not Reviewed.

B. **Inspection and Test Reports:** Classify each inspection and test report as being either "shop drawings" or "product data" depending on whether the report is specially prepared for the project, or a standard publication of workmanship control testing at the point of production. Process inspection and test reports accordingly.

C. **Records of Actual Work:** Furnish 4 copies of records of actual work, one of which will be returned for inclusion in the record documents as specified in section "Project Closeout".

D. **Closeout Submittals:** Refer to section "Project Closeout" and to individual sections of these specifications for specific submittal requirements of project closeout information.

E. **Record Documents:** Furnish set of original documents as maintained on the project site. Along with original marked-up record drawings provide 2 photographic copies of marked-up drawings, which, at the Contractor's option, may be reduced to not less than half size.

1.10 DESIGNER'S ACTION

A. Except for submittals for the record or information, where action and return is required, the Designer will review each submittal, mark to indicate action taken, and return promptly.

1 Compliance with specified characteristics is the Contractor's responsibility.

B. **Action Stamp:** The Designer will stamp each submittal with a uniform, action stamp. The Designer will mark the stamp appropriately to indicate the action taken, as follows:

2 Final Unrestricted Release: When the Designer marks a submittal "Approved," the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents. Final payment depends on that compliance.

3 Final-But-Restricted Release: When the Designer marks a submittal "Approved as Noted," the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents. Final payment depends on that compliance.

4 Returned for Resubmittal: When the Designer marks a submittal "Not Approved, Revise and Resubmit," do not proceed with Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal according to the notations; resubmit without delay. Repeat if necessary to obtain different action mark.

h. Do not use, or allow others to use, submittals marked "Not Approved, Revise and Resubmit" at the Project Site or elsewhere where Work is in progress.

5 Received - Not Reviewed: When the Designer marks a submittal "Received - Not Reviewed" this acknowledges that the submittal has been received. This action applies to materials that are to be submitted for information purposes only, and where no review or action by the Designer is required.

6 Other Action: Where a submittal is for information or record purposes or special processing or other activity, the Designer will return the submittal marked "Action Not Required."

C. **Unsolicited Submittals:** The Designer will return unsolicited submittals to the sender without action.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01301

SECTION 01513 - TEMPORARY PRESSURE DIFFERENTIAL AND AIR CIRCULATION SYSTEM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to work of this section.

1.2 RELATED SECTIONS – NOT USED

1.3 MONITORING

A. **Continuously monitor** and record the pressure differential between the Work Area and the building outside of the Work Area with a monitoring device incorporating a continuous recorder (e.g. strip chart).

1.4 SUBMITTALS

A. **Before Start of Work:** Submit design of pressure differential system to the CM for review. Do not begin work until submittal is returned with the Designer's action stamp indicating that the submittal is returned for unrestricted use. Include in the submittal at a minimum:

1. Number of HEPA filtered fan units required and the calculations necessary to determine the number of machines
2. Description of projected air flow within Work Area and methods required to provide adequate air flow in all portions of the work area
3. Anticipated pressure differential across Work Area enclosures
4. Description of methods of testing for correct air flow and pressure differentials
5. Manufacturer's product data on the HEPA filtered fan units to be used
6. Location of the machines in the Work Area
7. Method of supplying adequate power to the machines and designation of building electrical panel(s) which will be supplying the power.
8. Description of work practices to insure that airborne fibers travel away from workers
9. Manufacturer's product data on equipment used to monitor pressure differential between inside and outside of Work Area.
10. Manufacturer's product data on auxiliary generator to be used
11. Manufacturer's product data on auxiliary power switch to be used
12. Schematic diagram of power and auxiliary power supply to HEPA filtered fan units

B. **On a weekly basis:** Submit printout from pressure differential monitoring equipment. Mark printout with date and start of time for each day. Use printout paper that indicates elapsed time in intervals no greater than hours. Indicate on each days record times of starting and stopping abatement work, type of work in progress, breaks for lunch or other purposes, periods of stop work,

and filter changes. Cut printout into segments by day, attach to 8 1/2" by 11" [215 X 280 mm] paper. Label with project name, contractors name and date.

1.5 QUALITY ASSURANCE:

A. **Monitor pressure differential** at Personnel and Equipment Decontamination Units with a differential pressure meter equipped with a continuous recorder. Meter shall be equipped with a warning buzzer which will sound if pressure differential drops below 0.02 inch [0.5 mm] of water.

PART 2 - PRODUCTS

2.1 HEPA FILTERED FAN UNITS:

A. **General:** Supply the required number of HEPA filtered fan units to the site in accordance with these specifications. Use units that meet the following requirements.

B. **Cabinet:** Constructed of durable materials able to withstand damage from rough handling and transportation. The width of the cabinet should be less than 30 inches [0.76 meters] to fit through standard-size doorways. Provide units whose cabinets are:

1. Factory-sealed to prevent asbestos-containing dust from being released during use, transport, or maintenance

2. Arranged to provide access to and replacement of all air filters from intake end

3. Mounted on casters or wheels

C. **Fans:** Rate capacity of fan according to usable air-moving capacity under actual operating conditions.

D. **HEPA Filters:** Provide units whose final filter is the HEPA type with the filter media (folded into closely pleated panels) completely sealed on all edges with a structurally rigid frame.

1. Provide units with a continuous rubber gasket located between the filter and the filter housing to form a tight seal.

2. Provide HEPA filters that are individually tested and certified by the manufacturer to have an efficiency of not less than 99.97 percent when challenged with 0.3 um dioctylphthalate (DOP) particles when tested in accordance with Military Standard Number 282 and Army Instruction Manual 136-300-175A. Provide filters that bear a UL586 label to indicate ability to perform under specified conditions.

3. Provide filters that are marked with: the name of the manufacturer, serial number, air flow rating, efficiency and resistance, and the direction of test air flow.

4. Pre-filters, which protect the final filter by removing the larger particles, are required to prolong the operating life of the HEPA filter. Two stages of pre-filtration are required. Provide units with the following pre-filters:

a. First-stage pre-filter: low-efficiency type (e.g., for particles 100 um and larger)

b. Second-stage (or intermediate) filter: medium efficiency (eg., effective for particles down to 5 um)

c. Provide units with pre-filters and intermediate filters installed either on or in the intake grid of the unit and held in place with special housings or clamps.

E. Instrumentation: Provide units equipped with:

1. Magnehelic gauge or manometer to measure the pressure drop across filters and indicate when filters have become loaded and need to be changed

2. A table indicating the usable air-handling capacity for various static pressure readings on the Magnehelic gauge affixed near the gauge for reference, or the Magnehelic reading indicating at what point the filters should be changed, noting Cubic Feet per Minute (CFM) (Liters / Second (LPS)) air delivery at that point

3. Elapsed time meter to show the total accumulated hours of operation

F. Safety and Warning Devices: Provide units with the following safety and warning devices:

1. Electrical (or mechanical) lockout to prevent fan from operating without a HEPA filter

2. Automatic shutdown system to stop fan in the event of a rupture in the HEPA filter or blocked air discharge

3. Warning lights to indicate normal operation (green), too high a pressure drop across the filters (i.e., filter overloading) (yellow), and too low of a pressure drop (i.e., rupture in HEPA filter or obstructed discharge) (red)

4. Audible alarm if unit shuts down due to operation of safety systems

G. Electrical components: Provide units with electrical components approved by the National Electrical Manufacturers Association (NEMA) and Underwriter's Laboratories (UL). Each unit is to be equipped with overload protection sized for the equipment. The motor, fan, fan housing, and cabinet are to be grounded.

H. Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the work include, but are not limited to, the following:

2.2 AUXILIARY GENERATOR:

A. Auxiliary Generator: Provide a gasoline or diesel-powered self-starting generator with a capacity adequate to power a minimum of 50% of the HEPA filtered fan units in operation at any time during the work.

2.3 AUXILIARY POWER SWITCH:

A. Auxiliary Power Switch: Provide a switching relay which will automatically start auxiliary generator and switch over power supplied to HEPA filtered fan units to auxiliary generator.

PART 3 - EXECUTION

3.1 PRESSURE DIFFERENTIAL ISOLATION

A. **Isolate the Work Area** from all adjacent areas or systems of the building with a Pressure Differential that will cause a movement of air from outside to inside at any breach in the physical isolation of the Work Area.

B. **Relative Pressure in Work Area:** Continuously maintain the work area at an air pressure that is lower than that in any surrounding space in the building, or at any location in the immediate proximity outside of the building envelope. This pressure differential when measured across any physical or critical barrier must equal or exceed a static pressure of:

1. 0.02 inches (0.5 mm) of water.

C. **Accomplish the pressure differential by exhausting** a sufficient number of HEPA filtered fan units from the work area. The number of units required will depend on machine characteristics, the seal at barriers, and required air circulation. The number of units will increase with increased make-up air or leaks into the Work Area. Determine the number of units required for pressure isolation by the following procedure:

1. Establish required air circulation in the work area, personnel and equipment decontamination units.
2. Establish isolation by increased pressure in adjacent areas or as part of seals where required.
3. Exhaust a sufficient number of units from the work area to develop the required pressure differential.
4. The required number of units is the number determined above plus one additional unit.
5. Vent HEPA filtered fan units to outside of building unless authorized in writing by the CM.
6. Mount units to exhaust directly or through disposable ductwork.
6. Use only new ductwork except for sheet metal connections and elbows.
7. Use ductwork and fittings of same diameter or larger than discharge connection on fan unit.
8. Use inflatable, disposable plastic ductwork in lengths not greater than 100 feet (30 meters).
9. Use spiral wire-reinforced flex duct in lengths not greater than 50 feet (15 meters).
10. Arrange exhaust as required to inflate duct to a rigidity sufficient to prevent flapping.
11. If direction of discharge from fan unit is not aligned with duct use sheet metal elbow to change direction. Use six feet (2 meters) of spiral wire reinforced flex duct after direction change.

D. **Isolation of elevators, stair towers, and return air intakes:** Erect seals with an air space at doors to elevators and stair towers. Pressurize this space with HEPA-filtered air so that it is at a pressure greater than either the Work Area elevator shaft or stair tower.

1. Fabricate seal by first sealing door with duct tape and 6 mil polyethylene. Construct a barrier from ½" (13 mm) gypsum board supported by 3-5/8" (92 mm) x 25 gauge metal studs at 16" (410 mm) on centers. Space face of barrier a minimum of 3" (76 mm) from face of door. Seal barrier with 6 mil (0.15 mm) sheet plastic and duct tape.

2. Pressurize space with exhaust from HEPA filtered fan unit. Continuously maintain a pressure differential with this space a minimum of 0.02 inches (0.5 mm) of water higher in static pressure than any adjacent space.
3. Locate HEPA filtered fan unit outside of work area. Fabricate a manifold as required to distribute air to individual spaces to be isolated. Provide relief venting at unit as required to prevent shut down due to low air flow while still maintaining required air pressure.

E. Isolation of chases and enclosed stairs: Pressurize chases and enclosed stairs with HEPA filtered air so that it is at a pressure greater than any adjacent work area.

1. Pressurize space with exhaust from HEPA filtered fan unit. Continuously maintain a pressure differential with this space a minimum of 0.02 (.5 mm) inches of water higher in static pressure than any adjacent work area.

F. Isolation of return air ductwork: Return air duct work which must be kept operating is located in the Work Area. This duct work is to be isolated from the Work Area by an enclosure forming an annular space around the duct which is positively pressurized with HEPA filtered air.

1. Wrap the duct with 6 mil (0.15 mm) polyethylene. Seal all polyethylene seams with spray glue and duct tape.
2. Enclose wrapped duct with two layers of polyethylene. Fabricate inner layer from 6 mil (0.15 mm) polyethylene with all seams sealed with spray glue and duct tape. Arrange outer layer to support inner layer. Fabricate out of reinforced sheet plastic with seams sealed with spray glue and duct tape and reinforced with staples. Support outer layer with a frame work fabricated from 2" x 4"s (51 mm x 102 mm) at 24" (610 mm) on center. Enclosures less than 2'-6' in diameter may be reinforced with box strapping in lieu of wood framing.

3.2 AUXILIARY GENERATOR

A. Provide auxiliary gasoline-powered generator located outside of the building in a location protected from the weather. Install the generator in a location so that the exhaust from the generator does not flow to any building ventilation or supplied air intakes. Arrange so that if a power failure occurs the generator automatically starts and supplies power to a minimum of 50% of the HEPA filtered fan units in operation.

3.3 AIR CIRCULATION IN THE WORK AREA:

A. Air Circulation: For purposes of this section air circulation refers to either the introduction of outside air to the Work Area or the circulation and cleaning of air within the Work Area.

B. Air circulation in the Work Area is a minimum requirement intended to help maintain airborne fiber counts at a level that does not significantly challenge the work area isolation measures. The Contractor may also use this air circulation as part of the engineering controls in the worker protection program.

C. Determining the Air circulation Requirements: The air flow volume (cubic meters per minute) exhausted (removed) from the workplace must exceed the amount of makeup air supplied to the enclosure. Provide a fully operational air circulation system supplying a minimum of the following air circulation rate:

1. 4 air changes per hour

D. Determine Number of Units needed to achieve required air circulation according to the following procedure:

1. Determine the volume in cubic feet of the work area by multiplying floor area by ceiling height. Determine total air circulation requirement in cubic feet per minute (CFM) for the work area by dividing this volume by 60 and multiplying by the air change rate.

2. Air Circulation Required in Cubic Feet of Air per Minute (CFM) =

$$\frac{\text{Volume of work area (cu. ft.)}}{\text{60 (minutes per hour)}} \times \text{Number of air changes per hour}$$

3.4 EXHAUST SYSTEM:

A. **Pressure differential isolation and air circulation** and pressure differential in the Work Area are to be accomplished by an exhaust system as described below.

3. Exhaust all units from the Work Area to meet air circulation requirement of this section.

4. Location of HEPA Filtered Fan Units: Locate fan unit(s) so that makeup air enters work area primarily through decontamination facilities and traverses Work Area as much as possible. This may be accomplished by positioning the HEPA filtered fan unit(s) at a maximum distance from the worker access opening or other makeup air sources.

5. The end of the unit or its exhaust duct should be placed through an opening in the plastic barrier or wall covering. Seal plastic around the unit or duct with tape.

6. Vent to Outside of Building, unless authorized in writing by the Designer.

7. Air Handling Unit Exhaust: The exhaust plume from air handling units should be located away from adjacent personnel and intakes for HVAC systems.

8. Decontamination Units: Arrange Work Area and decontamination units so that the majority of make up air comes through the Decontamination Units. Use only personnel or equipment Decontamination Unit at any time and seal the other so that make up air passes through unit in use.

9. Supplemental Makeup Air Inlets: Provide where required for proper air flow through the Work Area in location approved by the Designer by making openings in the plastic sheeting that allow air from outside the building into the Work Area. Locate auxiliary makeup air inlets as far as possible from the fan unit(s) (e.g., on an opposite wall), off the floor (preferably near the ceiling), and away from barriers that separate the Work Area from occupied clean areas. Cover with flaps to reseal automatically if the pressure differential system should shut down for any reason. Spray flap and around opening with spray adhesive so that if flap closes meeting surfaces are both covered with adhesive. Use adhesive that forms contact bond when dry.

3.5 AIR CIRCULATION IN DECONTAMINATION UNITS:

A. **Pressure Differential Isolation:** Continuously maintain the pressure differential required for the work area in the:

10. Personnel Decontamination Unit: across the Shower Room with the Equipment Room at a lower pressure than the Clean room.

11. Equipment Decontamination Unit: Across the Holding Room with the Wash Room at a lower pressure than the Clean Room.

B. **Air Circulation:** Continuously maintain air circulation in Decontamination Units at same level as required for Work Area.

C. **Air Movement:** Arrange air circulation through the Personnel Decontamination Unit so that it produces a movement of air from the Clean Room through the Shower Room into the Equipment Room. At each opening, the air flow velocity must be sufficient to provide visible indications of air movement into the work area.. The velocity of air flow within the enclosure must be adequate to remove airborne contamination from each worker's breathing zone without disturbing the asbestos-containing material on surfaces.

3.6 USE OF THE PRESSURE DIFFERENTIAL AND AIR CIRCULATION SYSTEM:

A. **General:** Each unit shall be serviced by a dedicated minimum 115V-20A circuit with ground fault circuit interrupter (GFCI) supplied from temporary power supply installed under requirements of Section 01503 "Temporary Facilities." Do not use existing branch circuits to power fan units.

B. **Air Flow Tests:** Air flow patterns will be checked before removal operations begin, at least once per operating shift and any time there is a question regarding the integrity of the enclosure. The primary test for air flow is to trace air currents with smoke tubes or other visual methods. Flow checks are made at each opening and at each doorway to demonstrate that air is being drawn into the enclosure and at each worker's position to show that air is being drawn away from the workers location and toward the HEPA filtration unit.

C. **Demonstrate Condition of Equipment** for each HEPA filtered fan unit and pressure differential monitoring equipment including proper operation of the following:

12. Squareness of HEPA Filter
13. Condition of Seals
14. Proper operation of all lights
15. Proper operation of automatic shut down if exhaust is blocked
16. Proper operation of alarms
17. Proper operation of Magnehelic gauge
18. Proper operation and calibration on pressure monitoring equipment

D. **Demonstrate Operation** of the pressure differential system to the CM will include, but not be limited to, the following:

19. Plastic barriers and sheeting move lightly in toward Work Area,
20. Curtain of decontamination units move lightly in toward Work Area,

21. There is a noticeable movement of air through the Decontamination Unit.

22. Use smoke tube to demonstrate air movement from Clean Room through Shower Room to Equipment Room.

23. Use smoke tubes to demonstrate a definite motion of air across all areas in which work is to be performed.

24. Use a differential pressure meter or manometer to demonstrate the required pressure differential at every barrier separating the Work Area from the balance of the building, equipment, ductwork or outside.

25. Modify the Pressure Differential System as necessary to demonstrate successfully the above.

E. Use of System During Abatement Operations:

26. Start fan units before beginning work (before any asbestos-containing material is disturbed). After abatement work has begun, run units continuously to maintain a constant pressure differential and air circulation until decontamination of the work area is complete. Do not turn off units at the end of the work shift or when abatement operations temporarily stop.

27. Monitoring Pressure Within the Enclosure: After the initial air flow patterns have been checked, the static pressure must be monitored within the enclosure. Monitoring may be made using manometers, pressure gauges, or combinations of these devices. It is recommended that they be attached to alarms and strip chart recorders

28. Do not shut down air pressure differential system during encapsulating procedures, unless authorized by the CM in writing. Supply sufficient pre-filters to allow frequent changes.

29. Start abatement work at a location farthest from the fan units and proceed toward them. If an electric power failure occurs, immediately stop all abatement work and do not resume until power is restored and fan units are operating again.

30. Corrective Actions: If the manometers or pressure gauges demonstrate a reduction in pressure differential below the required level, work should cease and the reason for the change investigated and appropriate changes made. The air flow patterns should be retested before work begins again.

31. At completion of abatement work, allow fan units to run as specified under section 01711, to remove airborne fibers that may have been generated during abatement work and cleanup and to purge the Work Area with clean makeup air. The units may be required to run for a longer time after decontamination, if dry or only partially wetted asbestos material was encountered during any abatement work.

F. Dismantling the System:

32. When a final inspection and the results of final air tests indicate that the area has been decontaminated, fan units may be removed from the Work Area. Before removal from the Work Area, remove and properly dispose of pre-filter, decontaminate exterior of machine and seal intake to the machine with 6 mil (0.15 mm) polyethylene to prevent environmental contamination from the filters.

END OF SECTION - 01513

SECTION 01526 - TEMPORARY ENCLOSURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

A. **Drawings and general provisions of the Contract**, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to work of this section.

1.2 SUBMITTALS:

A. **Before Start of Work** submit the following to the Construction Manger for review. Do not begin work until these submittals are returned with the Designer's action stamp indicating that the submittal has been "Received - Not Reviewed."

1. Material Safety Data Sheet: Submit Material Safety Data Sheets, or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for the following:

a. Spray Cement.

PART 2 - PRODUCTS

2.1 SHEET PLASTIC:

A. **Polyethylene Sheet:** A single polyethylene film in the largest sheet size possible to minimize seams 6.0 mil (0.15 mm) thick, clear, frosted, or black as indicated.

B. **Reinforced Polyethylene Sheet:** Where plastic sheet constitutes the only barrier between the work area and the building exterior, provide translucent, nylon reinforced or woven polyethylene, laminated, flame-resistant, polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-resistant Textiles and Films. Provide largest size possible to minimize seams, 6.0 mil (0.15 mm) thick, frosted or black as indicated.

2.2 MISCELLANEOUS MATERIALS:

A. **Duct Tape:** Provide duct tape in 2 inch or 3 inch (50 mm or 75 mm) widths as indicated, with an adhesive which is formulated to stick aggressively to sheet polyethylene.

B. **Spray Cement:** Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.

PART 3 - EXECUTION

3.1 SEQUENCE OF WORK:

A. **Carry out work of this section sequentially**. Complete each of the following activities in accordance with requirements before proceeding to the next.

1. Provide emergency exits and emergency lighting.
2. Control access
3. Provide respiratory and worker protection.
4. Provide Critical Barriers.
5. Prepare Area.
6. Provide Primary Barriers.
7. Provide Isolation Areas as required.
8. Provide Secondary Barrier.

3.2 GENERAL:

A. **Work Area:** the location where asbestos abatement work occurs. The Work Area is a variable of the extent of work of the Contract. It may be a portion of a room, a single room, or a complex of rooms. A "Work Area" is considered contaminated during the work, and must be isolated from the balance of the building, and decontaminated at the completion of the asbestos control work.

B. **Completely isolate the Work Area** from other parts of the building so as to prevent asbestos-containing dust or debris from passing beyond the isolated area. Should the area beyond the Work Area(s) become contaminated with asbestos-containing dust or debris as a consequence of the work, clean those areas in accordance with the procedures indicated in Section 01711. Perform all such required cleaning or decontamination at no additional cost to owner.

C. Construct enclosures to provide an air-tight seal around ducts and openings into existing ventilation systems and around penetrations for electrical conduits, telephone wires, water lines, drain pipes, etc. Construct enclosures to be both airtight and watertight except for those openings designed to provide entry and/or air flow control.

D. **Size:** Construct enclosure with sufficient volume to encompass all of the working surfaces yet allow unencumbered movement by the worker(s), provide unrestricted air flow past the worker(s), and ensure walking surfaces can be kept free of tripping hazards.

E. **Shape:** The enclosure may be any shape that optimizes the flow of ventilation air past the worker(s).

F. **Structural Integrity:** The walls, ceilings and floors must be supported in such a manner that portions of the enclosure will not fall down during normal use.

G. **Barrier Supports:** Provide frames as necessary to support all unsupported spans of sheeting.

H. **Openings:** It is not necessary that the structure be airtight; openings may be designed to direct air flow. Such openings are to be located at a distance from active removal operations. They are to be

designed to draw air into the enclosure under all anticipated circumstances. In the event that negative pressure is lost, they are to be fitted with either HEPA filters to trap dust or automatic trap doors that prevent dust from escaping the enclosure. Openings for exits are to be controlled by an airlock or a vestibule.

I. **Place all tools**, scaffolding, staging, etc. necessary for the work in the area to be isolated prior to completion of Work Area isolation.

J. **Areas Within an Enclosure:** Each enclosure consists of a work area, a decontamination area, and waste storage area. The work area where the asbestos removal operations occur are to be separated from both the waste storage area and the contamination control area by physical curtains, doors, and/or airflow patterns that force any airborne contamination back into the work area.

K. **Removing Mobile Objects:** Clean movable objects and remove them from the work area before an enclosure is constructed unless moving the objects creates a hazard. Mobile objects will be assumed to be asbestos contaminated and are to be either cleaned with amended water and a HEPA vacuum and then removed from the area or wrapped and then disposed of as asbestos-contaminated waste.

L. **Disabling HVAC Systems:** The power to the heating, ventilation, and air conditioning systems that service the regulated area must be deactivated and locked out. All ducts, grills, access ports, windows and vents must be sealed off with two layers of plastic to prevent entrainment of contaminated air.

M. **Operating HVAC Systems in the regulated Area:** If components of a HVAC system located in the regulated area are connected to a system that will service another zone during the project, the portion of the duct in the regulated area must be sealed and pressurized. Necessary precautions include caulking the duct joints, covering all cracks and openings with two layers of sheeting, and pressurizing the duct throughout the duration of the project by restricting the return air flow. The power to the fan supplying the positive pressure should be locked "on" to prevent pressure loss.

1. If fan providing positive pressure fails for any reason, immediately stop asbestos removal work, mist the area to reduce airborne fiber levels. Notify the Project Administrator. Do not re-start asbestos removal work until authorized by the Designer.

N. **Lockout power to Work Area** by switching off all breakers serving power or lighting circuits in work area. A lock and tag shall be placed on each breaker used to de-energize circuits and equipment with notation "DANGER circuit being worked on". Lock panel and have all keys under control of authorized person who has applied the locks.

O. **Lockout power** to circuits running through work area wherever possible by switching off all breakers or removing fuses serving these circuits. Label breakers with tape over breaker with notation "DANGER circuit being worked on". Lock panel and have all keys under control of authorized person who applied locks. If circuits cannot be shut down for any reason, label at intervals 4 feet (1.22 m) on center with signs reading, "DANGER live electric circuit. Electrocution hazard." Label circuits in hidden locations but which may be affected by the work in a similar manner.

P. **Inspection Windows:** Install inspection windows in locations shown on the plans or as directed by the Designer. Each inspection window is to have a 24 inch X 24 inch (610 X 610 mm) viewing area fabricated from 1/4 inch (6.35 mm) acrylic or polycarbonate sheet. Install window with top at 6 feet-6 inches (1.98 m) above floor height in a manner that provides unobstructed vision from outside to inside of the Work Area. Protect window from damage from scratching, dirt or any coatings used during the work. A sufficient number of windows are to be installed to provide observation of all portions of the Work Area that can be made visible from adjacent areas. Inspection windows that open into uncontrolled area are to be covered with a removable plywood hatch secured by lock and key. Provide keys to Project Manager and the Project Monitor for all such locks.

3.3 EMERGENCY EXITS:

A. **Provide emergency exits and emergency lighting** as set forth below:

1. Emergency Exits: At each existing exit door from the Work Area provide the following means for emergency exiting:

2. Arrange exit door so that it is secure from outside the Work area but permits exiting from the Work Area.

3. Mark outline of door on Primary and Critical Barriers with luminescent paint at least 1 inch (25.4 mm) wide. Hang a razor knife on a string beside outline. Arrange Critical and Primary barriers so that they can be easily cut with one pass of razor knife. Paint words "EMERGENCY EXIT" inside outline with luminescent paint in letters at least one foot high and 2 inches (50.8 mm) wide.

4. Provide battery-operated emergency lighting that switches on automatically in the event of a power failure.

3.4 CONTROL ACCESS:

A. **Isolate the Work Area** to prevent entry by building occupants into Work Area or surrounding controlled areas. Accomplish isolation by the following:

1. Submit to CM a list of doors and other openings that must be secured to isolate Work Area. Include on list notation if door or opening is in an indicated exit route.

2. After receiving written authorization from the CM lock all doors into Work Area, or, if doors cannot be locked, chain shut. Notify the local fire department of the list of doors/or other openings which must be chained or otherwise secured shut. Cover any signs that direct emergency exiting, either outside or inside of Work Area, to locked doors. Do not obstruct doors required for emergency exits from Work Area or from building.

3. After receiving written authorization from the CM, construct partitions or closures across any opening into Work Area. Partitions are to be a minimum of 8 feet (2.44 meters) high.

4. Fabricate partitions from 2 inch X 4 inch (50.8mm X 101.6mm) wood studs with □inch (1.27 cm) plywood on both faces. Brace at intervals of 4 feet (1.25 m) on center.

5. Modify elevator controls to prevent elevators from stopping at doors in Work Areas. This work is to be performed by a qualified elevator technician.

B. **Locked Access:** Arrange Work Area so that the only access into Work Area is through lockable doors to personnel and equipment decontamination units.

1. Install temporary doors with entrance type locksets that are key lockable from the outside and always unlocked and operable from the inside. Do not use deadbolts or padlocks.

C. **Visual Barrier:** Where the Work Area is immediately adjacent to or within view of occupied areas, provide a visual barrier of opaque polyethylene sheeting at least 6 mil (0.15 mm) in thickness so that the work procedures are not visible to building occupants. Where this visual barrier would block natural light, substitute frosted or woven rip-stop sheet plastic in locations approved by the CM.

D. **Demarcation.** Demarcate the regulated area in any manner that minimizes the number of persons within the area and protects persons outside the area from exposure to airborne concentrations of asbestos. Where critical barriers or negative pressure enclosures are used, they may demarcate the regulated area.

E. **Access.** Limit access to regulated areas to authorized persons as defined by OSHA, and to the Owner, Designer, Project Manager, Project Monitor or a representative authorized by one of these entities.

F. **Provide Warning Signs** at each locked door leading to Work Area reading as follows:

1. Print text in both English and Spanish

Legend	**Notation**
KEEP OUT	3 inch (77 mm) Sans Serif Gothic or Block
BEYOND THIS POINT	1 inch (25.4 mm) Sans Serif Gothic or Block
ASBESTOS ABATEMENT WORK	1 inch (25.4 mm) Sans Serif Gothic or Block
IN PROGRESS	1 inch (25.4 mm) Sans Serif Gothic or Block
BREATHING ASBESTOS DUST MAY BE HAZARDOUS TO YOUR HEALTH	14 Point Gothic

2. Immediately inside door and outside critical barriers post an approximately 20 inch by 14 inch (508 mm X 356 mm) manufactured caution sign displaying the following legend with letter sizes and styles of a visibility required by 29 CFR 1926:

Legend

DANGER
ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY
RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA

3. Provide spacing between respective lines at least equal to the height of the respective upper line.

3.5 ALTERNATE METHODS OF ENCLOSURE:

A. **Alternate methods** of containing the Work Area may be submitted to the CM for approval in accordance with procedures set forth in Section 01632 Substitutions. Do not proceed with any such method(s) without prior written approval of the Designer.

B. **Notification:** Before work which involves the removal of more than 25 linear or 10 square feet (7.5 linear meters or 3 square meters) of thermal system insulation or surfacing material is begun using an alternative method which has been the subject of required evaluation and certification. Send a copy of such evaluation and certification to the national office of OSHA, Office of Technical Support, Room N3653, 200 Constitution Avenue, NW, Washington, DC 20210 and to the Allegheny Health Department..

C. **Use a control method** that encloses, contains or isolates the processes or source of airborne asbestos dust, or otherwise captures or redirects such dust before it enters the breathing zone of employees.

3.6 RESPIRATORY AND WORKER PROTECTION:

A. **Before proceeding** beyond this point in providing Temporary Enclosures:

1. Provide Worker Protection per Section 01560

2. Provide Respiratory Protection per Section 01562

3. Provide Personnel Decontamination Unit per Section 01563

3.7 CRITICAL BARRIERS:

A. **Completely Separate** the Work Area from other portions of the building, and the outside by closing all openings with sheet plastic barriers at least 6 mil (0.15 mm) in thickness, or by sealing cracks leading out of Work Area with duct tape.

B. **Individually seal** all ventilation openings (supply and exhaust), lighting fixtures, clocks, doorways, windows, convectors and speakers, and other openings into the Work Area with duct tape alone or with polyethylene sheeting at least 6 mil (0.15 mm) in thickness, taped securely in place with duct tape. Maintain seal until all work including Project Decontamination is completed. Take care in sealing of lighting fixtures to avoid melting or burning of sheeting.

C. **Provide Sheet Plastic** barriers at least 6 mil (0.15 mm) in thickness as required to seal openings completely from the Work Area into adjacent areas. Seal the perimeter of all sheet plastic barriers with duct tape or spray cement.

D. **Mechanically Support** sheet plastic independently of duct tape or spray cement seals so that seals do not support the weight of the plastic. Following are acceptable methods of supporting sheet plastic barriers. Alternative support methods may be used if approved in writing by the Designer.

1. Nylon or polypropylene rope or wire with a maximum unsupported span of 10 feet (3.05 m), minimum 1/4 inch (6.35 mm) in diameter suspended between supports securely fastened on either side of opening at maximum 1 foot (304.8 mm) below ceiling. Tighten rope so that it has 2 inches (50.8 mm) maximum dip. Drape plastic over rope from outside Work Area so that a two foot long flap of plastic extends over rope into Work Area. Staple or wire plastic to itself 1 inch (25.4 mm) below rope at maximum 6 inches (152 mm) on centers to form a sheath over rope. Lift flap and seal to ceiling with duct tape or spray cement. Seal loop at bottom of flap with duct tape. Erect entire assembly so that it hangs vertically without a "shelf" upon which debris could collect.

E. **Provide Pressure Differential System** per Section 01513.

1. Clean housings and ducts of all overspray materials prior to erection of any Critical Barrier that will restrict access.

3.8 PREPARE AREA:

A. **Scaffolding:** If fixed scaffolding is to be used to provide access HEPA vacuum and wet clean area prior to scaffolding installation.

B. **Remove all electrical and mechanical items**, such as lighting fixtures, clocks, diffusers, registers, escutcheon plates, etc. which cover any part of the surface to be worked on with the work.

C. **Remove all general construction items** such as cabinets, casework, door and window trim, moldings, ceilings, trim, etc., which cover the surface of the work as required to prevent interference with the work. Clean and decontaminate all such materials, upon completion of all removal work.

D. **Clean all contaminated furniture**, equipment, and or supplies with a HEPA filtered vacuum cleaner or by wet cleaning, as specified in Section 01712 Cleaning and Decontamination Procedures, prior to being moved or covered. All equipment furniture, etc. is to be deemed contaminated unless specifically declared as uncontaminated on the drawings or in writing by the CM.

E. **Clean All Surfaces In Work Area** with a HEPA filtered vacuum or by wet wiping prior to the installation of primary barrier.

F. **Cleaning and Sealing Surfaces:** After cleaning with water and a HEPA vacuum, surfaces of stationary objects should be covered with two layers of plastic sheeting. The sheeting should be secured with duct tape or an equivalent method to provide a tight seal around the object.

3.9 PRIMARY BARRIER:

A. **Protect building and other surfaces** in the Work Area from damage from water and high humidity or from contamination from asbestos-containing debris, slurry or high airborne fiber levels by covering with a primary barrier as described below.

1. Sheet Plastic: Protect surfaces in the Work Area with two (2) layers of plastic sheeting on floor and walls, or as otherwise directed on the Contract Drawings or in writing by the Designer. Perform work in the following sequence.

a. All seams in the sheeting should overlap, be staggered and not be located at corners or wall-to-floor joints.

b. Cover Floor of Work Area with 2 individual layers of clear polyethylene sheeting, each at least 6 mil (0.15 mm) in thickness, turned up walls at least 12 inches (305 mm). Form a sharp right angle bend at junction of floor and wall so that there is no radius which could be stepped on causing the wall attachment to be pulled loose. Both spray-glue and duct tape all seams in floor covering. Locate seams in top layer six feet from, or at right angles to, seams in bottom layer. Install sheeting so that top layer can be removed independently of bottom layer.

c. Cover all walls in Work Area including "Critical Barrier" sheet plastic barriers with one layer of polyethylene sheeting, at least 6 mil (0.15 mm) in thickness, mechanically supported and sealed with duct tape or spray-glue in the same manner as "Critical Barrier" sheet plastic barriers. Tape all joints including the joining with the floor covering with duct tape or as otherwise indicated on the Contract Documents or in writing by the CM.

d. Elevator: Cover walls, floor and ceiling of elevator with 2 layers of 6 mil (0.15 mm) polyethylene. Arrange entry to Work Area so that elevator door is in a positively pressurized space outside the clean room of the decontamination unit. At completion of work clean elevator as set forth in Section 01711. Refer to Section 01013 Summary of the Work for additional requirements for protection of elevator.

e. Stairs and Ramps: Do not cover stairs or ramps with unsecured sheet plastic. Where stairs or ramps are covered with plastic, provide 3/4 inch (19.1 mm) exterior grade plywood treads securely held in place, over plastic. Do not cover rungs or rails with any type of protective materials.

f. Repair of Damaged Polyethylene Sheeting: Remove and replace plastic sheeting which has been damaged by removal operations or where seal has failed allowing water to seep between layers. Remove affected sheeting and wipe down entire area. Install new sheet plastic only when area is completely dry.

3.10 ISOLATION AREA:

A. **Maintain isolation areas** between the Work Area and adjacent building area:

B. **Form isolation area** by controlling access to the space in the same manner as a Work Area. Physically isolate the space from the Work Area and adjacent areas. Accomplish physical isolation by:

1. Installing critical barriers in unoccupied space.

2. Erecting a second Critical Barrier a minimum of 3 feet (1.0 m) away from Work Area.

3.11 STOP WORK:

A. **If the Critical or Primary barrier falls** or is breached in any manner stop asbestos removal work immediately and comply with □$top Work requirements of Section 01013 □$ummary of Work - Asbestos Abatement. Do not start work until authorized in writing by the CM.

3.12 EXTENSION OF WORK AREA:

A. **Extension of Work Area:** If the Critical Barrier is breached in any manner that could allow the passage of asbestos debris or airborne fibers, then add affected area to the Work Area, enclose it as required by this Section of the specification and decontaminate it as described in Section 01711 Project Decontamination.

3.13 SECONDARY BARRIER:

A. **Secondary layer** of plastic as a drop cloth to protect the primary layer from debris generated by the asbestos abatement work is specified in the appropriate work sections.

3.14 EXTERIOR ENCLOSURES: (AS REQUIRED)

A. **Construct exterior enclosures** as a Critical Barrier as necessary to completely enclose the work. Fabricate from reinforced polyethylene sheeting and 2 inch x 4 inch (51mm X 102 mm) wood framework. Attach to existing building components or brace as necessary for lateral stability. Construct walls to meet all state and local regulations for construction of temporary buildings. Construct to resist a wind of 30 MPH (13.41 m/s), slope ceiling to permit drainage of rain water.

END OF SECTION - 01526

SECTION 01560 - WORKER PROTECTION - ASBESTOS ABATEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to work of this section.

1.2 DESCRIPTION OF WORK:

A. This section describes the equipment and procedures required for protecting workers against asbestos contamination and other workplace hazards except for respiratory protection.

1.3 RELATED WORK SPECIFIED ELSEWHERE:

A. **Respiratory Protection:** is specified in Section 01562.

1.4 WORKER TRAINING:

A. **AHERA Accreditation:** All workers are to be accredited as Abatement Workers as required by the EPA Model Accreditation Plan (MAP) asbestos abatement worker training (40 CFR Part 763, Subpart E, Appendix C).

B. **State and Local License:** All workers are to be trained, certified and accredited as required by state or local code or regulation.

C. **Training - Class I:** Train in accordance with 29 CFR 1926.1101. Provide training for all workers who will perform Class I operations that is the equivalent in curriculum, training method and length to the EPA Model Accreditation Plan (MAP) asbestos abatement worker training (40 CFR Part 763, Subpart E, Appendix C).

1.5 MEDICAL SURVEILLANCE:

A. **Provide a medical surveillance program** for all employees who are:

1. engaged in Class I, II and III work for a combined total of 30 or more days per year or,

a. For the purposes of this paragraph, any day in which a worker engages in Class II or Class III work or a combination thereof for one hour or less (taking into account the entire time spent on the removal operation, including cleanup) and, while doing so, adheres fully to the work practices specified in the OSHA standard (29 CFR 1926.1101) is not counted.

2. are exposed at or above the permissible exposure limit or excursion limit or,

3. before an employee can be assigned to work requiring use of a respirator.

B. **Provide a medical surveillance program** and physician's opinion before a respirator is assigned as required by 29 CFR 1910.134 and 29 CFR 1926.103(e)(10) .

C. **Provide medical examination** that as a minimum meets OSHA requirements as set forth in 29 CFR 1926.1101. In addition, require that the physician provide an evaluation of the individual's ability to work in environments capable of producing heat stress in the worker.

1.6 SUBMITTALS:

A. **Before Start of Work:** Submit the following to the CM for review. Do not start work until these submittals are returned with Designer's action stamp indicating that the submittal is returned for unrestricted use.

1. **AHERA Accreditation:** Submit copies of certificates from an EPA-approved AHERA Abatement Workers course for each worker as evidence that each asbestos Abatement Worker is accredited as required by the EPA Interim Final Model Accreditation Plan (MAP) asbestos abatement worker training (40 CFR Part 763, Subpart E, Appendix C).

2. **State and Local License:** Submit evidence that all workers have been trained, certified and accredited as required by state or local code or regulation.

3. **Certificate Worker Acknowledgment:** Submit an original signed copy of the Certificate of Worker's Acknowledgment found at the end of this section, for each worker who is to be at the job site or enter the Work Area.

4. **Report from Medical Examination:** conducted within last 12 months as part of compliance with OSHA medical surveillance requirements for each worker who is to enter the Work Area. Submit, at a minimum, for each worker the following:

   a. Name and Social Security Number

   b. The physician's written opinion as to whether the employee has any detected medical conditions that would place the employee at an increased risk of material health impairment from exposure to asbestos;

   c. Any recommended limitations on the employee or on the use of personal protective equipment such as respirators; and

   d. A statement that the employee has been informed by the physician of the results of the medical examination and of any medical conditions that may result from asbestos exposure.

e. A statement that the employee has been informed by the physician of the increased risk of lung cancer attributable to the combined effect of smoking and asbestos exposure (29 CFR 1926.1101(m)).

f. A legible typed version of the physician's name, the physician's signature, and date of examination.

5. Notarized Certifications: Submit certification signed by an officer of the abatement contracting firm and notarized that exposure measurements, medical surveillance, and worker training records are being kept in conformance with 29 CFR 1926.

PART 2 - EQUIPMENT

2.1 PROTECTIVE CLOTHING:

A. General. Provide and require the use of protective clothing, such as coveralls or similar whole-body clothing, head coverings, gloves, and foot coverings for any employee exposed to airborne concentrations of asbestos that exceed the TWA and/or excursion limit prescribed by 29 CFR 1926.1101 or for which a required negative exposure assessment is not produced, and for any employee performing Class I operations which involve the removal of over 25 linear or 10 square feet (7.5 linear meters or 3 square meters) of TSI or surfacing ACM or PACM.

B. Coveralls: Provide disposable full-body coveralls and disposable head covers, and require that they be worn by all workers in the Work Area. Provide a sufficient number for all required changes, for all workers in the Work Area.

C. Additional Protective Clothing: Provide each worker with the protective clothing as required by Federal State and local regulations. This includes, but is not necessary limited by Hardhats, Cold weather gear, Glove, boots and goggles.

2.2 ADDITIONAL PROTECTIVE EQUIPMENT:

A. Disposable coveralls, head covers, and footwear covers shall be provided by the Contractor for the Owner, CM, Project Administrator, and other authorized representatives who may inspect the job site. Provide six (6) complete coveralls per day.

PART 3 - EXECUTION

3.1 GENERAL:

A. Provide worker protection as required by the most stringent OSHA and/or EPA standards applicable to the work. The following procedures are minimums to be adhered to regardless of fiber count in the Work Area.

B. Each time Work Area is entered remove all street clothes in the Changing Room of the Personnel Decontamination Unit and put on new disposable coverall, new head cover, and a clean respirator. Proceed through shower room to equipment room and put on work boots.

3.2 DECONTAMINATION PROCEDURES:

A. Require all workers to adhere to the following personal decontamination procedures whenever they leave the Work Area:

1. Type C Supplied Air or Powered Air-Purifying Respirators: Require that all workers use the following decontamination procedure as a minimum requirement whenever leaving the Work Area:

a. When exiting area, remove disposable coveralls, disposable head covers, and disposable footwear covers or boots in the equipment room.

b. Still wearing respirators, proceed to showers. Showering is mandatory. Care must be taken to follow reasonable procedures in removing the respirator to avoid asbestos fibers while showering. The following procedure is required as a minimum:

c. Thoroughly wet body including hair and face. If using a Powered Air-Purifying Respirator (PAPR) hold blower unit above head to keep canisters dry.

d. With respirator still in place thoroughly wash body, hair, respirator face piece, and all parts of the respirator except the blower unit and battery pack on a PAPR. Pay particular attention to seal between face and respirator and under straps.

e. Take a deep breath, hold it and/or exhale slowly, completely wet hair, face, and respirator. While still holding breath, remove respirator and hold it away from face before starting to breath.

f. Carefully wash facepiece of respirator inside and out.

2. If using PAPR: shut down in the following sequence, first cap inlets to filter cartridges, then turn off blower unit (this sequence will help keep debris which has collected on the inlet side of filter from dislodging and contaminating the outside of the unit). Thoroughly wash blower unit and hoses. Carefully wash battery pack with wet rag. Be extremely cautious of getting water in battery pack as this will short out and destroy battery.

a. Shower completely with soap and water.

b. Rinse thoroughly.

c. Rinse shower room walls and floor prior to exit.

d. Proceed from shower to Changing Room and change into street clothes or into new disposable work items.

3. Air Purifying-Negative Pressure Respirators: Require that all workers use the following decontamination procedure as a minimum requirement whenever leaving the Work Area with a half or full face cartridge type respirator:

a. When exiting area, remove disposable coveralls, disposable headcovers, and disposable footwear covers or boots in the Equipment Room.

b. Still wearing respirators, proceed to showers. **Showering is mandatory**. Care must be taken to follow reasonable procedures in removing the respirator and filters to avoid asbestos fibers while showering. The following procedure is required as a minimum:

c. Thoroughly wet body from neck down.

d. Wet hair as thoroughly as possible without wetting the respirator filter if using an air purifying type respirator.

e. Take a deep breath, hold it and/or exhale slowly, complete wetting of hair, thoroughly wetting face, respirator and filter (air purifying respirator). While still holding breath, remove respirator and hold it away from face before starting to breath.

f. Dispose of wet filters from air purifying respirator.

g. Carefully wash facepiece of respirator inside and out.

h. Shower completely with soap and water.

i. Rinse thoroughly.

j. Rinse shower room walls and floor prior to exit.

k. Proceed from shower to Changing Room and change into street clothes or into new disposable work items.

B. Within Work Area:

1. Require that workers NOT eat, drink, smoke, chew tobacco or gum, or apply cosmetics in the Work Area. To eat, chew, drink or smoke, workers shall follow the procedure described above, then dress in street clothes before entering the non-Work Areas of the building.

3.3 CERTIFICATE OF WORKER'S ACKNOWLEDGEMENT:

Following this section is a Certificate of Worker Training. After each worker has been included in the Contractor's Respiratory Protection Program, completed the training program and medical examination, secure a fully executed copy of this form.

END OF SECTION - 01560

CERTIFICATE OF WORKER'S ACKNOWLEDGEMENT

PROJECT NAME_____ DATE_____

PROJECT ADDRESS_____

CONTRACTOR'S NAME_____

WORKING WITH ASBESTOS CAN BE DANGEROUS. INHALING ASBESTOS FIBERS HAS BEEN LINKED WITH VARIOUS TYPES OF CANCER. IF YOU SMOKE AND INHALE ASBESTOS FIBERS THE CHANCE THAT YOU WILL DEVELOP LUNG CANCER IS GREATER THAN THAT OF THE NON-SMOKING PUBLIC.

Your employer's contract with the Owner for the above project requires that: You be supplied with the proper respirator and be trained in its use. You be trained in safe work practices and in the use of the equipment found on the job. You receive a medical examination. These things are to have been done at no cost to you.

RESPIRATORY PROTECTION: You must have been trained in the proper use of respirators, and informed of the type respirator to be used on the above referenced project. You must be given a copy of the written respiratory protection manual issued by your employer. You must be equipped at no cost with the respirator to be used on the above project.

TRAINING COURSE: You must have been trained in the dangers inherent in handling asbestos and breathing asbestos dust and in proper work procedures and personal and area protective measures. This training must have been the equivalent in curriculum, training method and length to the EPA Model Accreditation Plan (MAP) asbestos abatement worker training (40 CFR Part 763, Subpart E, Appendix C).

MEDICAL EXAMINATION: You must have had a medical examination within the past 12 months at no cost to you. This examination must have included: health history, pulmonary function tests and may have included an evaluation of a chest x-ray.

By signing this document you are acknowledging only that the Owner of the building you are about to work in has advised you of your rights to training and protection relative to your employer.

Signature_____Social Security No_____

Printed Name_____Witness_____

SECTION 01562 - RESPIRATORY PROTECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

A. **Drawings and general provisions of Contract**, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to work of this section.

1.2 DESCRIPTION OF WORK:

A. **Instruct and train each worker** involved in asbestos abatement or maintenance and repair of friable asbestos-containing materials (ACM) in proper respiratory use and require that each worker always wear a respirator, properly fitted on the face in the Work Area from the start of any operation which may cause airborne asbestos fibers until the Work Area is completely decontaminated. Use respiratory protection appropriate for the fiber level encountered in the work place or as required for other toxic or oxygen-deficient situations encountered.

1.3 DEFINITIONS:

A. "Negative Pressure Respirator": A respirator in which the air pressure inside the respiratory-inlet covering is positive during exhalation in relation to the air pressure of the outside atmosphere and negative during inhalation in relation to the air pressure of the outside atmosphere.

B. "Protection Factor": The ratio of the ambient concentration of an airborne substance to the concentration of the substance inside the respirator at the breathing zone of the wearer. The protection factor is a measure of the degree of protection provided by a respirator to the wearer.

C. "Respirator": A device designed to protect the wearer from the inhalation of harmful atmospheres.

1.4 STANDARDS:

A. **Except to the extent** that more stringent requirements are written directly into the Contract Documents, the latest edition of the following regulations and standards have the same force and effect (and are made a part of the Contract Documents by reference) as if copied directly into the Contract Documents, or as if published copies were bound herewith. Where there is a conflict in requirements set forth in these regulations and standards, meet the more stringent requirement.

1. **OSHA** - U.S. Department of Labor Occupational Safety and Health Administration, Safety and Health Standards Section 29 CFR 1910.1001, Section 1910.134, and Section 29 CFR 1926.1101.
2. **CGA** - Compressed Gas Association, Inc., New York, Pamphlet G-7, "Compressed Air for Human Respiration", and Specification G-7.1 "Commodity Specification for Air".

3. **CSA** - Canadian Standard Association, Rexdal, Ontario, Standard Z180.1, "Compressed Breathing Air".
4. **ANSI** - American National Standard Practices for Respiratory Protection, ANSI Z88.2.
5. **NIOSH** - National Institute for Occupational Safety and Health
   - NIOSH Respirator Decision Logic (May 1987) DHHS/NIOSH Publication No. 87-108;
   - NIOSH/EPA, A Guide to Respiratory Protection for the Asbestos Abatement Industry EPA-560-OPTS-86-001 (September 1986);
   - 42 CFR 84, NIOSH Standard for Certification of Non-Powered Air Purifying Respirator filters;
   - 30 CFR 11, NIOSH - Certification of Respirators
6. **MSHA** - Mine Safety and Health Administration

1.5 SUBMITTALS:

A. **Before Start of Work** submit the following to the CM for review. Do not begin work until these submittals are returned with the Designer's action stamp indicating that the submittal is returned for unrestricted use.

1. **Product Data:** Submit manufacturer's product information for each component used, including NIOSH and MSHA Certifications for each component in an assembly and/or for entire assembly.
2. **System Diagram:** When a supplied air respiratory system is required by the work, submit drawing showing assembly of components into a complete supplied air respiratory system. Include diagram showing location of compressor, filter banks, backup air supply tanks, hose line connections in Work Area(s), routing of air lines to Work Area(s) from compressor.
3. **Operating Instruction:** Submit complete operating and maintenance instructions for all components and systems as a whole. Submittal is to be in bound manual form suitable for field use.

4. **Respiratory Protection Program:** Submit Contractor's written respiratory protection program manual as required by OSHA 1926.1101.

5. **Initial Exposure Assessment**: Submit level of respiratory protection intended for each operation required by the project. Base this selection on an Initial Exposure Assessment as required by OSHA 29 CFR 1926.1101. Submit information to support this "Initial Exposure Assessment on the form included at the end of this Section.
   a. Submit data from exposure monitoring for the PEL and EL from prior asbestos jobs within 12 months;
   b. Submit monitoring and analysis that were performed in compliance with the OSHA asbestos standard in effect;
   c. Submit data that was obtained under workplace conditions "closely resembling" those that will exist during the Work;
   d. Submit data from past asbestos jobs where the type of asbestos abatement and other work, material, control methods, work practices, and environmental conditions closely resemble those that will exist during the Work;

e. Submit exposure date from prior asbestos jobs where the work that was conducted by employees whose training and experience are no more extensive than that of employees performing the current job;

f. Based on the exposure data from the previous asbestos jobs, select respiratory protection for the Work that will, to a high degree of certainty, prevent worker exposures (inside the respirator) that exceed the Permissible Exposure Limits (PEL) set forth in this Section of the specifications.

6. Resume information: Submit resume and information on training for individual monitoring the operation of supplied air respiratory systems. Submit training certifications where applicable.

1.6 AIR QUALITY FOR SUPPLIED AIR RESPIRATORY SYSTEMS:

A. **Provide air** used for breathing in supplied air respiratory systems that meets or exceeds standards set for C.G.A. type 1 (Gaseous Air) Grade D:

1.7 ALLOWABLE CONTAMINANTS:

A. **Supply air** that has an asbestos concentration no greater than outside ambient conditions.

B. **Supply air** that meets the level of contaminants allowed according to the air quality standard specified.

C. **The following table** sets forth the quantity of any given contaminant allowed according to the referenced standards:

CONTAMINANT	CGA Type 1 (Gaseous Air) Grade D	Grade E	Grade H	CSA Z180.1
Carbon Monoxide, PPM/v	20	10	5	5
Carbon Dioxide, PPM/v	1000	500	500	500
Condensed Hydrocarbons, mg./cu. meter	5	5		1
Gaseous Hydrocarbons - as methane, PPM/v			10	25
Water Vapor - PPM/v	(1)	(1)	(1)	27
dewpoint	-50F	-50F	-50F	-63F
Objectionable Odors	None	None	None	None
Nitrogen Dioxide, PPM/v -		-	0.5	0.2

Nitrous Oxide, PPM/v	-	-	-	5
Sulfur Dioxide, PPM/v	-	-	0.5	-
Halogenated solvents, PPM/v	-	-	1	-
Other gaseous contaminants	-	-	-	(2)
Inorganic particulates, mg./cu. meter	-	-	-	1

- Indicates that the standard shows no limiting characteristics

(1) The CGA standards do not indicate a specific moisture limit when the ambient temperature is above freezing. However, since a moisture content no greater than a -50 Degrees Fahrenheit (-45.56 Degrees Celsius) dewpoint (66 PPM/v) is necessary for carbon monoxide elimination, the CO limits could not be met unless the air were dried to a -50 Degrees Fahrenheit (-45.56 Degrees Celsius) dewpoint or better.

(2) Maximum allowable content of trichlorotrifluoroethane, dichlorodifluoromethane, and chlorodifluoromethane is 2 PPM/v for each. Unlisted contaminants shall not exceed one-tenth of the Threshold Limit Values (TLV's) for Chemical Substances in Workroom air adopted by the American Conference of Governmental Industrial Hygienists (ACGIH).

1.8 DELIVERY:

A. **Deliver replacement parts,** etc., not otherwise labeled by NIOSH or MSHA to job site in manufacturer's containers.

PART 2 - EQUIPMENT

2.1 AIR PURIFYING RESPIRATORS

A. **Respirator Bodies:** Provide half face or full face type respirators. Equip full face respirators with a nose cup or other anti-fogging device as would be appropriate for use in air temperatures less than 32 degrees Fahrenheit (0 degrees Celsius).

B. **Filter Cartridges:** Provide, at a minimum, HEPA type filters labeled with NIOSH and MSHA Certification for "Radionuclides, Radon Daughters, Dust, Fumes, Mists including Asbestos-Containing Dusts and Mists" and color coded in accordance with 42 CFR Part 84 and ANSI Z228.2. Also, additional cartridge sections may be added, if required, for solvents, etc., in use. In this case, provide cartridges that have each section of the combination canister labeled with the appropriate color code and NIOSH/MSHA Certification.

C. **Non-permitted respirators.** Do not use single use, disposable or quarter face respirators.

2.2 SUPPLIED AIR RESPIRATOR SYSTEMS:

A. **Provide equipment** capable of producing air of the quality and volume required by the above reference standards applied to the job site conditions and crew size. Comply with provisions of this specification if more stringent than the governing standard.

B. **Facepiece and Hose:** Provide full facepiece and hose by same manufacturer that has been certified by NIOSH/MSHA as an approved Type "C" respirator assembly operating in pressure demand mode with a positive pressure facepiece.

C. **Auxiliary backup system:** In atmospheres which contain sufficient oxygen (greater than or equal to 19.5 percent oxygen) provide a pressure-demand full facepiece supplied air respirator equipped with an emergency back up HEPA filter.

D. **Escape air supply:** In atmospheres which are oxygen deficient (less than 19.5 percent oxygen) provide a pressure-demand full facepiece supplied air respirator incorporating an auxiliary self-contained breathing apparatus (SCBA) which automatically maintains an uninterrupted air supply in pressure demand mode with a positive pressure face piece.

E. **Backup air supply:** Provide a reservoir of compressed air located outside the Work Area which will automatically maintain a continuous uninterruptable source of air automatically available to each connected facepiece and hose assembly in the event of compressor shut-down, contamination of air delivered by compressor, power loss or other failure. Provide sufficient capacity in the back-up air supply to allow a minimum escape time of one-half hour times the number of connections available to the Work Area. Air requirement at each connection is the air requirement of the respirators in use plus the air requirement of an average-sized adult male engaged in moderately strenuous activity.

F. **Warning device:** Provide a warning device that will operate independently of the building's power supply. Locate so that alarm is clearly audible above the noise level produced by equipment and work procedures in use, in all parts of the Work Area and at the compressor. Connect alarm to warn of:

1. Compressor shut down or other fault requiring use of backup air supply
2. Carbon Monoxide (CO) levels in excess of 5 PPM/V

G. **Carbon Monoxide (CO) Monitor:** Continuously monitor and record on a strip chart recorder Carbon Monoxide (CO) levels. Place monitors in the air line between compressor and back-up air supply and between backup air supply and workers. Connect monitors so that they also sound an alarm as specified under "Warning Devices".

H. **Compressor Shut Down:** Interconnect monitors, alarms and compressor so that compressor is automatically shut down and the alarms sound if any of the following occur:

1. Carbon Monoxide (CO) concentrations exceed 5 PPM/v in the air line between the filter bank and backup air supply
2. Compressor temperature exceeds normal operating range

I. **Compressor Motor:** Provide a compressor driven by an electric motor. Do not use a gas or diesel engine to drive compressor. Insure that electrical supply available at the work site is adequate to energize motor.

J. **Compressor Location:** Locate compressor outside of building in location that will not impede access to the building, and that will not cause a nuisance by virtue of noise or fumes to occupied portions of the building.

K. **Air Intake:** Locate air intake remotely from any source of automobile exhaust or any exhaust from engines, motors, auxiliary generator or buildings.

L. **After-Cooler:** Provide an after-cooler at entry to filter system which is capable of reducing temperatures to outside ambient air temperatures.

M. **Self Contained Breathing Apparatus (SCBA):** Configure system to permit the recharging of ☐ hour 2260 PSI (15.58 MPa) SCBA cylinders.

PART 3 - EXECUTION

3.1 GENERAL:

A. **Respiratory Protection Program:** Comply with ANSI Z88.2 "Practices for Respiratory Protection" and OSHA 29 CFR 1910.314 and 1926.103.

B. **Require** that respirators be used in the following circumstances:

1. During all Class I asbestos jobs.
2. During all Class II work where the ACM is not removed in a substantially intact state,
3. During all Class II and III work which is not performed using wet methods.
4. During all Class II and III asbestos jobs where the employer does not produce a "negative exposure assessment".
5. During all Class III jobs where TSI or surfacing ACM or PACM is being disturbed.
6. During all Class IV work performed within regulated areas where employees performing other work are required to wear respirators.
7. During all work covered by this section where employees are exposed above the OSHA PEL (TWA, or excursion limit).
8. In emergencies. During emergencies where the airborne asbestos fiber concentration is not known, a self-contained breathing apparatus (SCBA) must be used.

C. **Require** that respiratory protection be used at all times that there is any possibility of disturbance of ACM whether intentional or accidental.

D. **Require** that a respirator be worn by anyone in a Work Area at all times, regardless of activity, during a period that starts with any operation which could cause airborne fibers until the area has been cleared for re-occupancy in accordance with Section 01711.

E. **Regardless of Airborne Fiber Levels:** Require that the minimum level of respiratory protection used be half-face air-purifying respirators with high efficiency filters.

F. **Do not allow** the use of single-use, disposable, or quarter-face respirators for any purpose.

3.2 FIT TESTING:

A. **Initial Fitting:** Provide initial fitting of respiratory protection during a respiratory protection course of training set up and administered by a individual qualified to do fit testing. Fit types and sizes of respirator to be actually worn by each individual. Allow an individual to use only those respirators for which training and fit testing has been provided.

B. **Upon Each Wearing:** Require that each time an air-purifying respirator is put on it be checked for fit with a positive and negative pressure fit test in accordance with the manufacturer's instructions or ANSI Z88.2 .

3.3 TYPE OF RESPIRATORY PROTECTION REQUIRED:

A. **General:** After reducing airborne asbestos levels to the lowest feasible level with engineering controls and work practices, provide respiratory protection as necessary to ensure that workers are not exposed to an airborne concentration of asbestos in excess of the Specified Permissible Exposure Limits (SPEL) set forth in this Section.

B. **Level of Respiratory Protection:** Determine the proper level of respiratory protection by dividing the expected or actual airborne fiber count in the Work Area by the "protection factors" given below. The level of respiratory protection which supplies an airborne fiber level inside the respirator, at the breathing zone of the wearer, at or below the Specified Permissible Exposure Limits (PEL)set forth in this Section is the minimum level of protection allowed.

C. **Specific Respiratory Protection Requirements:** Provide respiratory protection as indicated below as a minimum requirement:

1. **Half-face Negative Pressure Air-Purifying Respirators:** Provide half-face negative pressure air-purifying respirators during installation of Critical or Primary Barriers or other activities where there has been an Initial Exposure Assessment that has determined that airborne asbestos fiber levels will not exceed 0.1 fiber per cubic centimeter (0.1 f/cc). Provide a PAPR where a half-face negative pressure air-purifying respirator is allowed to any worker who so requests.

2. **Powered Air-Purifying Respirators (PAPR):** Provide powered air-purifying respirators (PAPR) during removal of asbestos-containing thermal system insulation (TSI) or surfacing material where there has been an Initial Exposure Assessment that has determined that airborne asbestos fiber levels will not exceed 1.0 fiber per cubic centimeter (1.0 f/cc).

3. **Type "C" Supplied-air respirators:** full facepiece pressure demand supplied air respirators are to be used by all workers engaged in the removal of thermal system

insulation (TSI) or surfacing materials, or demolition of pipes, structures, or equipment covered or insulated with asbestos, or in the removal or demolition of asbestos insulation or coverings, or any other activity which results in or may result in airborne asbestos fiber levels above 1.0 fibers per cubic centimeter (1.0 f/cc).

D. **Provide** a full facepiece supplied air respirator operated in the pressure demand mode equipped with an auxiliary positive pressure self-contained breathing apparatus for all workers within a regulated area where Class I work is being performed and for which an initial exposure assessment has not been produced. After an initial exposure assessment is made, use the level of respiratory protection required by that assessment and requirements of this specification and the OSHA Asbestos Construction Standard 29 CFR 1926.1101.

3.4 SPECIFIED PERMISSIBLE EXPOSURE LIMITS (SPEL):

A. **Specified Permissible Exposure Limits (SPEL):** Ensure that no worker is exposed to an airborne concentration of asbestos in excess of the Time-Weighted Average (TWA) limit , and Excursion Limit (EL) set forth below.

4 **Time Weighted Average (TWA) limit** - Concentration of airborne asbestos fibers to which any worker may be exposed as an eight (8) hour time-weighted average (TWA) shall not exceed the following.

a. 0.1 fibers per cubic centimeter

5 **Excursion Limit (EL)** - Concentration of airborne asbestos fibers to which any worker may be exposed as averaged over a sampling period of thirty (30) minutes shall not exceed the following.

a. 1.0 fibers per cubic centimeter

B. **Fibers:** For purposes of this section, fibers are defined as all fibers regardless of composition as counted in the OSHA Reference Method (ORM), or NIOSH 7400 procedure.

3.5 RESPIRATORY PROTECTION FACTOR:

A0	Respirator Type	Protection Factor
1a	**Air purifying:** Negative pressure respirator High efficiency filter Half facepiece	10
2a	**Air purifying:** Negative pressure respirator High efficiency filter Full facepiece	50
3a	**Powered Air Purifying (PAPR):**	50

	Positive pressure respirator High efficiency filter Half facepiece	
4a	**Supplied air:** Positive pressure respirator Pressure demand or other positive pressure mode Full facepiece Equipped with an auxiliary HEPA cartridge or positive pressure Self-contained breathing apparatus (SCBA) for escape	1,000

3.6 AIR PURIFYING RESPIRATORS:

A. **Negative pressure - half or full face mask:** Supply a sufficient quantity of respirator filters approved for asbestos, so that workers can change filters during the work day. Require that respirators be wet-rinsed, and filters discarded, each time a worker leaves the Work Area. Require that new filters be installed each time a worker re-enters the Work Area. Store respirators and filters at the job site in the changing room and protect totally from exposure to asbestos prior to their use.

B. **Powered air purifying - half or full face mask:** Supply a sufficient quantity of high efficiency respirator filters approved for asbestos so that workers can change filters at any time that flow through the facepiece decreases to the level at which the manufacturer recommends filter replacement. Require that regardless of flow, filter cartridges be replaced after 40 hours of use. Require that HEPA elements in filter cartridges be protected from wetting during showering. Require entire exterior housing of respirator, including blower unit, filter cartridges, hoses, battery pack, face mask, belt, and cords, be washed each time a worker leaves the Work Area. Caution should be used to avoid shorting battery pack during washing. Provide an extra battery pack for each respirator so that one can be charging while one is in use.

3.7 SUPPLIED AIR RESPIRATOR:

A. **Air Systems Monitor:** Continuously monitor the air system operation including compressor operation, filter system operation, backup air capacity and all warning and monitoring devices at all times that system is in operation. Assign an individual, trained by manufacturer of the equipment in use or by a Certified Industrial Hygienist, in the operation and maintenance of the system to provide this monitoring. Assign no other duties to this individual which will take him away from monitoring the air system.

END OF SECTION - 01562

INITIAL EXPOSURE ASSESSMENT

Project No:_____ Date:_____

Project Name:_____

Facility:_____

Work Area(s):_____

Reference Job:_____

Description of Work:_____

Asbestos Containing Materials Asbestos/Type Percentage

_____

_____

_____

Task	Personal Monitoring Level High	Low	Average	Respirator Worn	Comments
Prep / Set up	_____	_____	_____	_____	_____
Removal of Surface Trt	_____	_____	_____	_____	_____
Removal of TSI	_____	_____	_____	_____	_____
Removal of Misc Mat.	_____	_____	_____	_____	_____
Bag Out	_____	_____	_____	_____	_____
Clean Up	_____	_____	_____	_____	_____
Other	_____	_____	_____	_____	_____

Experience Level of Work Force _____

Reference Job:_____

Description of Work:_____

Asbestos Containing Materials Asbestos/Type Percentage

_____

_____

_____

Task	Personal Monitoring Level High	Low	Average	Respirator Worn	Comments
Prep / Set up	_____	_____	_____	_____	_____
Removal of Surface Trt	_____	_____	_____	_____	_____
Removal of TSI	_____	_____	_____	_____	_____
Removal of Misc Mat.	_____	_____	_____	_____	_____
Bag Out	_____	_____	_____	_____	_____
Clean Up	_____	_____	_____	_____	_____
Other	_____	_____	_____	_____	_____

Experience Level of Work Force _____

_____

Expected Conditions of This Job

Task	Anticipated Level	Respirator	Comments
Prep / Set up	_____ f/cc	_____	_____
Removal of Surface Trt	_____ f/cc	_____	_____
Removal of TSI	_____ f/cc	_____	_____
Removal of Misc Mat.	_____ f/cc	_____	_____
Bag Out	_____ f/cc	_____	_____
Clean Up	_____ f/cc	_____	_____
Other	_____ f/cc	_____	_____

Experience Level of Work Force _____

SECTION 01563 - DECONTAMINATION UNITS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

A. **Drawings and general provisions of Contract**, including General and Supplementary Conditions and other Division-1 Specification sections, apply to work of this section.

1.2 DESCRIPTION OF WORK:

A. **Provide separate Personnel and Equipment Decontamination facilities**. Require that the Personnel Decontamination Unit be the only means of ingress and egress for the Work Area. Require that all materials exit the Work Area through the Equipment Decontamination Unit.

1.3 RELATED WORK SPECIFIED ELSEWHERE:

A. **Refer to Section 01503 Temporary Facilities -** Asbestos Abatement for electrical requirements and requirements relative to connection of decontamination facilities to building systems such as water, sewer, and electrical.

1.4 SUBMITTALS

A. **Before the Start of Work:** Submit the following to the Construction Manager (CM) for review. Do not begin work until these submittals are returned with Designer's action stamp indicating that the submittal is returned for unrestricted use or final-but-restricted use.

1. Personnel Decontamination Unit: Provide shop drawing showing location and assembly of personnel decontamination units.

2. Equipment Decontamination Unit: Provide shop drawing showing location and assembly of equipment decontamination units.

3. Shower Pan: Provide shop drawing.

4. Shower Walls: Provide product data.

5. Shower Head and Controls: Provide product data.

6. Filters: Provide product data and shop drawing of installation on decontamination unit.

7. Hose Bib: Provide product data.

8. Shower Stall: for Wash Down Station provide product data and shop drawing showing and modifications.

9. Lumber: Provide product data on fire resistance treatment.

10. Sump Pump: Provide product data.

11. Signs: Submit samples of signs to be used.

PART 2 - PRODUCTS

2.1 MATERIALS

A. **Polyethylene Sheet:** A single polyethylene film in the largest sheet size possible to minimize seams, 6.0 mil (0.15 mm) thick, clear, frosted, or black as indicated.

B. **Reinforced Polyethylene Sheet:** Where plastic sheet is the only separation between the Work Area and building exterior, provide translucent, nylon reinforced, laminated, flame resistant, polyethylene film that conforms to requirements set forth by the National Fire Protection Association Standard 701, Small Scale Fire Test for Flame-resistant Textiles and Films. Provide largest size possible to minimize seams, 6.0 mil (0.15 mm) thick, frosted or black as indicated.

C. **Duct Tape:** Provide duct tape in 2 inch or 3 inch (51mm or 76 mm) widths as indicated, with an adhesive which is formulated to stick aggressively to sheet polyethylene.

D. **Spray Adhesive:** Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.

E. **Shower Pan:** Provide one piece waterproof shower pan 4 feet x 8 feet x 6 inches deep (102 mm X 204 mm x 152 mm deep). Fabricate from seamless fiberglass minimum 1/16 inch (1.59 mm) thick reinforced with wood, 18 ga. stainless or galvanized steel with welded seems, copper or lead with soldered seams, or equivalent.

F. **Shower Walls:** Provide 8 feet (2.44 m) long by approximately 7 feet (2.13 m) high walls fabricated from rigid, impervious, waterproof material, either corrugated fiberglass roofing or equivalent. Structurally support as necessary for stability.

G. **Shower Head and Controls:** Provide a factory-made shower head producing a spray of water which can be adjusted for spray size and intensity. Feed shower with water mixed from hot and cold supply lines. Arrange so that control of water temperature, flow rate, and shut off is from inside shower without outside aid.

H. **Filters:** Provide cascaded filter units on drain lines from showers or any other water source carrying asbestos-contaminated water from the Work Area. Provide units with disposable filter elements as indicated below. Connect so that discharged water passes primary filter and output of primary filter passes through secondary filter.

1. Primary Filter - Passes particles 20 microns and smaller

2. Secondary Filter - Passes particles 5 microns and smaller

I. **Hose Bib:** Provide heavy bronze angle type with wheel handle, vacuum breaker, and 3/4 inch (19.05 mm) National Standard male hose outlet.

J. **Lumber:** Provide kiln dried lumber of any grade or species.

K. **Sump Pump:** Provide totally submersible waterproof sump pump with integral float switch. Provide unit sized to pump 2 times the flow capacity of all showers or hoses supplying water to the sump, through the filters specified herein when they are loaded to the extent that replacement is required. Provide unit capable of pumping debris, sand, plaster or other materials washed off during decontamination procedures without damage to mechanism of pump. Adjust float switch so that a minimum of 3 inch (76 mm) remains between top of liquid and top of sump pan.

PART 3 - EXECUTION

3.1 PERSONNEL DECONTAMINATION UNIT:

A. **Provide a Personnel Decontamination Unit** consisting of a serial arrangement of connected rooms or spaces, Changing Room, Drying Room, Shower Room, Equipment Room. Require all persons without exception to pass through this Decontamination Unit for entry into and exiting from the Work Area for any purpose. Do not allow parallel routes for entry or exit. Do not remove equipment or materials through Personnel Decontamination Unit. Provide temporary lighting within Decontamination Units as necessary to reach a lighting level of 100 foot candles (1076 lumens / sq meter).

B. **Changing Room (clean room):** Provide a room that is physically and visually separated from the rest of the building for the purpose of changing into protective clothing.

1. Construct using polyethylene sheeting, at least 6 mil (0.15 mm) in thickness, to provide an airtight seal between the Changing Room and the rest of the building.

2. Locate so that access to Work Area from Changing Room is through Shower Room.

3. Separate Changing Room from the building by a sheet plastic flapped doorway.

4. Require workers to remove all street clothes in this room, dress in clean, disposable coveralls, and don respiratory protection equipment. Do not allow asbestos-contaminated items to enter this room. Require Workers to enter this room either from outside the structure dressed in street clothes, or naked from the showers.

5. An existing room may be utilized as the Changing Room if it is suitably located and of a configuration whereby workers may enter the Changing Room directly from the Shower Room. Protect all surfaces of room with sheet plastic as set forth in Section 01526 Temporary Enclosures. Authorization for this must be obtained from the Designer in

writing prior to start of construction. Submit written request in accordance with Section 01632 "Substitutions" detailing layout and protective measures proposed.

6. Maintain floor of changing room dry and clean at all times. Do not allow overflow water from shower to wet floor in changing room.

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

8. Provide posted information for all emergency phone numbers and procedures.

9. Provide 1 storage locker per employee.

10. Provide all other components indicated on the contract drawings.

C. **Airlock:** Provide an airlock between Drying Room and Changing Room. This is a transit area for workers.

1. Separate this room from Drying Room and Changing Room by sheet plastic flapped doorways.

2. Separate this room from the rest of the building with airtight walls fabricated of 6 mil (0.15 mm) polyethylene.

3. Separate this room from the Drying and Changing Rooms with airtight walls fabricated of 6 mil (0.15 mm) polyethylene.

D. **Drying Room:** Provide a drying room as an airlock and a place for workers to dry after showering.

1. Construct room by providing a pan continuous with or draining to Shower Room pan. Install a freely draining wooden or non-skid metal floor in pan at elevation of top of pan.

2. Separate this room from the rest of the building with airtight walls fabricated of 6 mil (0.15 mm) polyethylene.

3. Separate this room from the Changing Room and Shower Room with airtight walls fabricated of 6 mil (0.15 mm) polyethylene.

4. Separate from Changing Room by a sheet plastic flapped doorway.

5. Provide a continuously adequate supply of disposable bath towels.

E. **Shower Room:** Provide a completely watertight operational shower to be used for transit by cleanly dressed workers heading for the Work Area from the Changing Room, or for showering by workers headed out of the Work Area after undressing in the Equipment Room.

1. Construct room by providing a shower pan and 2 shower walls in a configuration that will cause water running down walls to drip into pan. Install a freely draining wooden floor in shower pan at elevation of top of pan.

2. Separate this room from the rest of the building with airtight walls fabricated of 6 mil (0.15 mm) polyethylene.

3. Separate this room from the Drying Room and Airlock with airtight walls fabricated of 6 mil (0.15 mm) polyethylene.

4. Provide splash-proof entrances to Drying Room and Airlock with doors arranged in the following configuration:

5. Provide shower head and controls.

6. Provide temporary extensions of existing hot and cold water and drainage, as necessary for a complete and operable shower.

7. Provide a soap dish and a continuously adequate supply of soap and maintain in sanitary condition.

8. Arrange so that water from showering does not splash into the Changing or Equipment Rooms.

9. Arrange water shut off and drain pump operation controls so that a single individual can shower without assistance from either inside or outside of the Work Area.

10. Provide flexible hose shower head.

11. Pump waste water to drain or to storage for use in amended water. If pumped to drain, provide 20 micron and 5 micron waste water filters in line to drain or waste water storage. Change filters daily or more often if necessary. Locate filters inside shower unit so that water lost during filter changes is caught by shower pan.

12. Provide hose bib.

F. Equipment Room (contaminated area): Require work equipment, footwear and additional contaminated work clothing to be left here. This is a change and transit area for workers.

1. Separate this room from the Work Area by a 6 mil (0.15 mm) polyethylene flapped doorway.

2. Separate this room from the rest of the building with airtight walls fabricated of 6 mil (0.15 mm) polyethylene.

3. Separate this room from the Shower Room and Work Area with airtight walls fabricated of 6 mil (0.15 mm) polyethylene.

4. Provide a drop cloth layer of sheet plastic on floor in the Equipment Room for every shift change expected. Roll drop cloth layer of plastic from Equipment Room into Work Area after each shift change. Replace before next shift change. Provide a minimum of two (2) layers of plastic at all times. Use only clear plastic to cover floors.

G. Airlock: Provide an airlock between Equipment Room and Work Area. This is a transit area for workers.

1. Separate this room from Equipment Room and Work Area by a sheet plastic flapped doorways.

2. Separate this room from the rest of the building with airtight walls fabricated of 6 mil (0.15 mm) polyethylene.

3. Separate this room from the Equipment Room and Work Area with airtight walls fabricated of 6 mil (0.15 mm) polyethylene.

F. Work Area: Separate Work Area from the Equipment Room by polyethylene barriers. If the airborne asbestos level in the Work Area is expected to be high, as in dry removal, add an intermediate cleaning space between the Equipment Room and the Work Area. Damp wipe clean all surfaces after each shift change. Provide one additional floor layer of 6 mil (0.15 mm) polyethylene per shift change and remove contaminated layer after each shift.

G. Decontamination Sequence: Require that all workers adhere to the following sequence when entering or leaving the Work Area.

1. Entering Work Area: Worker enters Changing Room and removes street clothing, puts on clean disposable overalls and respirator, and passes through the Shower Room into the Equipment Room.

2. Any additional clothing and equipment left in Equipment Room needed by the worker are put on in the Equipment Room.

3. Worker proceeds to Work Area.

H. Exiting Work Area:

1. Before leaving the Work Area, require the worker to remove all gross contamination and debris from overalls and feet.

2. The worker then proceeds to the Equipment Room and removes all clothing except respiratory protection equipment.

3. Extra work clothing such as boots, hard hats, goggles, gloves are to be stored in contaminated end of the Equipment Room.

4. Disposable coveralls are placed in a bag for disposal with other material.

5. Require that Decontamination procedures found in Section 01560 be followed by all individuals leaving the Work Area.

6. After showering, the worker moves to the Changing Room and dresses in either new coveralls for another entry or street clothes if leaving.

3.2 EQUIPMENT DECONTAMINATION UNIT:

A. **Provide an Equipment Decontamination Unit** consisting of a serial arrangement of rooms, Clean Room, Holding Room, Wash Room for removal of equipment and material from Work Area. Do not allow personnel to enter or exit Work Area through Equipment Decontamination Unit.

B. **Arrange with airlocks** between rooms as required below.

C. **Wash Down Station:** Provide an enclosed Shower Unit located in Work Area just outside Wash Room as an equipment, bag and container cleaning station.

1. Waterproof membrane is to be fabricated from minimum 10 mil (.254 mm) polyethylene.

2. Do not allow water to collect on waterproof membrane. Remove continuously with a wet vacuum or mops.

D. **Wash Room:** provide wash room for cleaning of bagged or containerized asbestos-containing waste materials passed from the Work Area.

1. Construct wash room of nominal 2 inch x 4 inch (51 X 102 mm) wood framing and polyethylene sheeting, at least 6 mil (0.15 mm) in thickness and located so that packaged materials, after being wiped clean, can be passed to the Holding Room.

2. Separate this room from the Work Area by a single flapped door of 6 mil (0.15 mm) polyethylene sheeting.

3. Provide a drop cloth layer of plastic on floor in the Wash Room for every load-out operation. Roll this drop cloth layer of plastic from Wash Room into Work Area after each load-out. Provide a minimum of two (2) layers of plastic at all times. Use only clear plastic to cover floors.

E. **Airlock:** Provide an airlock between Wash Room and Holding Room. This is a transit area.

1. Separate this room from adjacent spaces by a sheet plastic flapped doorway.

2. Separate this room from the rest of the building and adjacent spaces with airtight walls fabricated of 6 mil (0.15 mm) polyethylene.

F. **Holding Room:** Provide Holding Room as a drop location for bagged asbestos-containing materials passed from the Wash Room. Construct Holding Room of nominal 2 inch x 4 inch (51 X

102 mm) wood framing and polyethylene sheeting, at least 6 mil (0.15 mm) in thickness and located so that bagged materials cannot be passed from the Wash Room through the Holding Room to the Clean Room.

1. Separate this room from the adjacent rooms by flap doors fabricated from 6 mil (0.15 mm) sheet plastic.

G. **Airlock:** Provide an airlock between Holding Room and Clean Room. This is a transit area.

1. Separate this room from adjacent spaces by a sheet plastic flap doorway.

2. Separate this room from the rest of the building and adjacent spaces with airtight walls fabricated of 6 mil (0.15 mm) polyethylene.

H. **Clean Room:** provide Clean Room to isolate the Holding Room from the building exterior. If possible locate to provide direct access to the Holding Room from the building exterior.

1. Erect Critical and Primary Barriers as described in Section 01526 "Temporary Enclosures" in an existing space. If no space exists construct Clean Room of 2 x 4 (51 X 102 mm) wood framing and polyethylene sheeting, at least 6 mil (0.15 mm) in thickness.

2. Separate this room from the exterior by a single flap door of 6 mil (0.15 mm) polyethylene sheeting.

I. **Load-out Area:** The load-out area is the transfer area from the building to a truck or dumpster. It may be the Clean Room of the Equipment Decontamination unit or a separate room or loading dock area. Erect Critical and Primary barriers as described in Section 01526 "Temporary Enclosures" in load-out area.

1. During transfer of material from load-out area erect primary barriers as described in Section 01526 "Temporary Enclosures" as necessary to seal path from load-out area to truck or dumpster.

J. **Decontamination Sequence:** Take all equipment or material from the Work Area through the Equipment Decontamination Unit according to the following procedure:

2. At washdown station, thoroughly wet clean contaminated equipment or sealed polyethylene bags and pass into Wash Room.

3. When passing equipment or containers into the Wash Room, close all doorways of the Equipment Decontamination Unit, other than the doorway between the Washdown Station and the Wash Room. Keep all outside personnel clear of the Equipment Decontamination Unit.

4. Once inside the washroom, wet clean the bags and/or equipment.

5. When cleaning is complete pass items into Holding Room. Close all doorways except the doorway between the Holding room and the Clean Room.

6. Workers from the building exterior enter Holding Area and remove decontaminated equipment and/or containers for disposal.

7. Require these workers to wear full protective clothing and appropriate respiratory protection.

8. At no time is a worker from an uncontaminated area to enter the enclosure when a removal worker is inside.

3.3 CONSTRUCTION OF THE DECONTAMINATION UNITS:

A. **Walls and Ceiling:** Construct airtight walls and ceiling using polyethylene sheeting, at least 6 mil (0.15 mm) in thickness. Attach to existing building components or a temporary framework.

B. **Floors:** Use 2 layers (minimum) of 6 mil (0.15 mm) polyethylene sheeting to cover floors in all areas of the Decontamination Units. Use only clear plastic to cover floors.

C. **Flap Doors:** Fabricated from three (3) overlapping sheets with openings a minimum of three feet (3') (0.91 meters) wide. Configure so that sheeting overlaps adjacent surfaces. Weights at bottom of sheets as required so that they quickly close after being released. Put arrows on sheets to indicate direction of overlap and/or travel. Provide a minimum of six feet (6') (1.22 meters) between entrance and exit of any room. Provide a minimum of three feet (3') (0.91 meters) between doors to airlocks.

D. **If the Decontamination area** is located within an area containing friable asbestos on overhead ceilings, ducts, piping, etc., provide the area with a minimum 1/4 inch (6.4 mm) hardboard or 1/2 inch (12.7 mm) plywood "ceiling" with polyethylene sheeting, at least 6 mil (0.15 mm) in thickness covering the top of the "ceiling".

E. **Visual Barrier:** Where the Decontamination area is immediately adjacent to and within view of occupied areas, provide a visual barrier of opaque polyethylene sheeting at least 6 mil (0.15 mm) in thickness so that worker privacy is maintained and work procedures are not visible to building occupants. Where the area adjacent to the Decontamination area is accessible to the public, construct a solid barrier on the public side of the sheeting to protect the sheeting. Construct barrier with wood or metal studs covered with minimum 1/4 inch (6.4 mm) thick hardboard or 1/2 inch (12.7 mm) plywood. Where the solid barrier is provided, sheeting need not be opaque.

F. **Alternate methods** of providing Decontamination facilities may be submitted to the CM for approval. Do not proceed with any such method(s) without written authorization of the Designer.

G. **Electrical:** Provide subpanel at Changing Room to accommodate all removal equipment. Power subpanel directly from a building electrical panel.

9 Connect all electrical branch circuits in Decontamination unit and particularly any pumps in shower room to a ground-fault circuit protection device.

3.4 CLEANING OF DECONTAMINATION UNITS:

A. **Clean debris and residue** from inside of Decontamination Units on a daily basis or as otherwise indicated on Contract Drawings. Damp wipe or hose down all surfaces after each shift change. Clean debris from shower pans on a daily basis.

B. **If the Changing Room** of the Personnel Decontamination Unit becomes contaminated with asbestos-containing debris, abandon the entire Decontamination Unit and erect a new Decontamination Unit. Use the former Changing Room as an inner section of the new Equipment Room.

3.5 SIGNS:

A. **Post** an approximately 20 inch by 14 inch (508 mm x 356 mm) manufactured caution sign at each entrance to the Work Area displaying the following legend with letter sizes and styles of a visibility required by 29 CFR 1926:

10. Provide signs in both English and Spanish.

11. Legend:

DANGER

ASBESTOS

CANCER AND LUNG DISEASE HAZARD

AUTHORIZED PERSONNEL ONLY

RESPIRATORS AND PROTECTIVE CLOTHING
ARE REQUIRED IN THIS AREA

12. Provide spacing between respective lines at least equal to the height of the respective upper line.

END OF SECTION - 01563

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SECTION 01601 - MATERIALS AND EQUIPMENT - ASBESTOS ABATEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes administrative and procedural requirements governing the Contractor's selection of products for use in the Project.

B. **Related Sections:** The following Sections contain requirements that relate to this Section:

1. The Contractor's Construction Schedule is included under Section 01043 Coordination - Asbestos Abatement.

2. The Contractor’s Schedule of Submittals is included under Section 01301 Submittals - Asbestos Abatement.

3. The applicability of industry standards to products specified is included under Section 01097 Reference Standards and Definitions - Asbestos Abatement.

1.3 DEFINITIONS

A. **Definitions** used in this Article are not intended to change the meaning of other terms used in the Contract Documents, such as "specialties," "systems," "structure," "finishes," "accessories," and similar terms. Such terms are self-explanatory and have well-recognized meanings in the construction industry.

1. "Products" are items purchased for incorporation in the Work, whether purchased for the Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.

2. "Named Products" are items identified by the manufacturer's product name, including make or model number or other designation, shown or listed in the manufacturer's published product literature, that is current as of the date of the Contract Documents.

3. "Foreign Products" as distinguished from "domestic products," are items substantially manufactured (50 percent or more of value) outside the United States and its possessions. Products produced or supplied by entities substantially owned (more than 50 percent) by persons who are not citizens of, nor living within, the United States and its possessions are also considered to be foreign products.

4. "Materials" are products substantially shaped, cut, worked, mixed, finished, refined or otherwise fabricated, processed, or installed to form a part of the Work.

5. "Equipment" is a product with operational parts, whether motorized or manually operated, that requires service connections, such as wiring or piping.

1.4 SUBMITTALS

Required submittals: A general listing of products requiring submittals is included at the end of Section 01301 "Submittals." This listing may not be complete. Submittal requirements are found in each specification section. Prepare a schedule in tabular form showing each product listed. Include the manufacturer's name and proprietary product names for each item listed.

A. **Product List:** A list of products required is included at the end of this Section. Prepare a schedule in tabular form showing each product listed. Include the manufacturer's name and proprietary product names for each item listed.

a. Related Specification Section number.

b. Generic name used in Contract Documents.

c. Proprietary name, model number, and similar designations.

d. Manufacturer's name and address.

e. Supplier's name and address.

f. Installer's name and address.

g. Projected delivery date or time span of delivery period.

a. At the Contractor's option, the initial submittal may be limited to product selections and designations that must be established early in the Contract period.

1. CM's Action: The CM will respond in writing to Contractor within 2 weeks of receipt of the completed product list. No response within this period constitutes no objection to listed manufacturers or products but does not constitute a waiver of the requirement that products comply with Contract Documents. The Owner’s representative's response will include a list of unacceptable product selections, containing a brief explanation of reasons for this action.

1.5 QUALITY ASSURANCE (NOT USED)

A. Source Limitations: To the fullest extent possible, provide products of the same kind from a single source.

B. Compatibility of Options: When the Contractor is given the option of selecting between 2 or more products for use on the Project, the product selected shall be compatible with products previously selected, even if previously selected products were also options.

5. The contractor is responsible for providing products and construction methods that are compatible with products and construction methods to be installed after completion of the work of this contract.

6. If a dispute arises between contractors over concurrently selectable, but incompatible products, the CM will determine which products shall be retained and which are incompatible and must be replaced.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products according to the manufacturer's recommendations, using means and methods that will prevent damage, deterioration, and loss, including theft.

1. Schedule delivery to minimize long-term storage at the site and to prevent overcrowding of construction spaces.

2. Coordinate delivery with installation time to assure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.

3. Deliver products to the site in an undamaged condition in the manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.

4. Inspect products upon delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.

5. Store products at the site in a manner that will facilitate inspection and measurement of quantity or counting of units.

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION (NOT USED)

A. **General Product Requirements:** Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, new at the time of installation.

1. Provide products complete with accessories, trim, finish, safety guards, and other devices and details needed for a complete installation and the intended use and effect.

2. Standard Products: Where available, provide standard products of types that have been produced and used successfully in similar situations on other projects.

PART 3 - EXECUTION

3.1 INSTALLATION OF PRODUCTS (NOT USED)

A. **Comply with manufacturer's instructions and recommendations** for installation of products in the applications indicated. Anchor each product securely in place, accurately located and aligned with other Work.

1. Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

END OF SECTION 01601

SECTION 01711 - PROJECT DECONTAMINATION

PART 1 - GENERAL

1.1 SUMMARY:

A. **Work of This Section** includes the decontamination of air in the Work Area which has been, or may have been, contaminated by the elevated airborne asbestos fiber levels generated during abatement activities, or which may previously have had elevated fiber levels due to friable asbestos-containing materials (ACM) in the space.

B. **Work of This Section** includes the cleaning, decontamination, and removal of temporary facilities installed prior to abatement work, including:

1. Primary and Critical Barriers erected by work of Section 01526
2. Decontamination Unit erected by work of Section 01563
3. Pressure Differential System installed by work of Section 01513

C. **Work of This Section** includes the cleaning, and decontamination of all surfaces (ceiling, walls, floor) of the Work Area, and all furniture or equipment in the Work Area.

1.2 RELATED DOCUMENTS:

A. **Drawings and general provisions of the Contract**, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to work of this section.

1.3 DESCRIPTION OF REQUIREMENTS:

A. **General:** Decontamination of the Work Area following asbestos abatement.

B. **If the asbestos abatement work is on damaged or friable materials** the work is a four step procedure with two cleanings of the Primary Barrier plastic prior to its removal and two cleanings of the room surfaces to remove any new or existing contamination. Unless specifically indicated otherwise all materials are considered damaged or friable for purposes of this section.

C. During the work area cleaning operation of the pressure differential system is used to remove airborne fibers generated by the abatement work.

1.4 RELATED WORK SPECIFIED ELSEWHERE:

A. **Removal of Gross Debris** is integral with the performance of abatement work and as such is specified in the appropriate work section(s) of these specifications:

1. Section 02081 Removal of Asbestos-Containing Materials
2. Section 09805 Encapsulation of Asbestos-Containing Materials
3. **Ohio Department of Health Rules and Regulations.**

1.5 CLEARANCE AIR SAMPLING BY THE OWNER:

A. **Prior to clearance air sampling,** the contractor shall comply with the requirements of the **Ohio Department of Health Rules and Regulations**.

B. **To determine** if the elevated airborne asbestos structure concentration encountered during abatement operations has been reduced to the specified level, the Owner will secure samples and analyze them according to the following procedures.

1. Aggressive sampling procedures as described below will be followed.
2. PCM samples will be secured as indicated below. If the area meets the clearance criteria TEM sampling will proceed.
3. Aggressive sampling procedures will be repeated.
4. TEM samples will be secured and analyzed as indicated below.
5. Work Area Clearance: upon meeting the TEM Clearance requirements the work of Section 01711 Project Decontamination can continue.

1.6 AGGRESSIVE SAMPLING BY THE OWNER:

A. **All Air Samples** will be taken using aggressive sampling techniques as follows:

1. Before sampling pumps are started the exhaust from forced-air equipment (leaf blower with an approximately 1 horsepower (746 watts) electric motor) will be swept against all walls, ceilings, floors, ledges and other surfaces in the room. This procedure will be continued for 5 minutes per 10,000 (283 cubic meters) cubic feet of room volume.
2. One 20 inch (508 mm) diameter fan per 10,000 cubic feet (283 cubic meters) of room volume will be mounted in a central location at approximately 6 feet-6 inches (2 meters) above floor, directed toward ceiling and operated at low speed for the entire period of sample collection.
3. Air samples will be collected in areas subject to normal air circulation away from room corners, obstructed locations, and sites near windows, doors of vents.
4. After air sampling pumps have been shut off, fans will be shut off.
5. In work areas where a dirt floor or exposed fibrous glass insulation is in the space, but outside the work area, maintain a critical barrier to prevent disturbance of these surfaces during aggressive sampling.

1.7 SCHEDULE OF CLEARANCE AIR SAMPLES BY OWNER:

1.7.1. **Prior to clearance air sampling,** the contractor shall comply with the requirements of the **Ohio Department of Health Rules and Regulations.**

A. **Sample cassettes**: Samples will be collected on 25 mm. cassettes as follows:

1. **PCM:** 0.8 micrometer mixed cellulose ester.

2. **TEM:** 0.45 micrometer mixed cellulose ester or 0.40 micrometer polycarbonate, with 5.0 micron mixed cellulose ester backing filter.

B. Number and Volume of Samples: The number and volume of air samples given in the schedules is approximate. The exact number and volume of samples collected by the Owner may vary depending upon job conditions and the analytical method used.

C. Sampling sensitivity:

1. **PCM:** Based on a limit of detection (LOD) of 7 fibers/mm^2 on the filter (approximately 5 fiber counted in 100 fields) and a 95% confidence limit, a sample volume of sufficient size that a single sample indicates compliance with the limit values given below. A sample must be at or below the LOD to indicate that it is at or below the limit value. Note: This is different from quantifying a concentration which is a stricter requirement and would need a larger sample volume.
   a. Clearance samples - a limit value of 0.01 f/cc.

2. **TEM:** Analytical Sensitivity as set forth in the analytical method used or the AHERA regulation.

D. PHASE CONTRAST MICROSCOPY:

1. **In each Work Area** after completion of all cleaning work, a minimum of 7 samples will be taken and analyzed as follows:

Location Sampled	Number of Samples	Limit Value (Fibers/cc)	Approx. Volume (Liters)	Liters / Minute Rate
Each Work Area or	5	0.01	*<1,000>*	10
Each Room of Work Area	1 (5 min.)	0.01	*<1,000>*	10
Work Area Blank	1	0.01	0	open for 30 Seconds
Laboratory Blank	1	0.01	0	Do Not Open

2. **Analysis:** Fibers on each filter will be measured using the NIOSH Method 7400 entitled "Fibers" published in the NIOSH Manual of Analytical Methods, or the OSHA Reference Method (ORM) (29 CFR 1926.1101 Appendix A).

3. **Fibers:** referred to in this section include fibers regardless of composition as counted by the phase contrast microscopy method used.

4. **Split Sample:** One Work Area sample will be split and both halves analyzed separately for duplicate analysis.

5. **Release Criteria:** Decontamination of the work site is complete when every Work Area sample is at or below the Detection Limit above. If any sample is above the Detection Limit then the decontamination is incomplete and recleaning per section 01711 Project Decontamination is required. **In addition, refer to the Ohio Department of Health Rules and Regulations for additional requirements.**

1.8 TRANSMISSION ELECTRON MICROSCOPY:

A. **In each Work Area** after completion of all cleaning work and compliance with the **Ohio Department of Health Rules and Regulations** , a minimum of 13 samples will be taken and analyzed as follows:

Location Sampled	Number of Samples	Analytical Sensitivity Struct/cc	Approx. Volume (Liters)	Rate Liters/ Minute
Each Work Area	5	0.005	1,300-1,800	1-10
Outside Each Work Area	5	0.005	1,300-1,800	1-10
Work Area Blank	1	0.005	0	Open for 30 Seconds
Outside Blank	1	0.005	0	Open for 30 Seconds
Laboratory Blank	1	0.005	0	Do Not Open

B. **Analysis** will be performed using the analysis method set forth in the AHERA Regulation 40 CFR Part 763 Appendix A.

C. **Asbestos Structures** referred to in this Section include asbestos fibers, bundles, clusters or matrices, as defined by method of analysis.

D. **Release Criteria:** Decontamination of the work site is complete once the ACHD has inspected and released the work area and in addition, if either of the following two sets of conditions are met:

1. Work Area Samples are below filter background levels

a. All Work Area sample volumes are greater than 1,199 liters for a 25 mm. sampling cassette.

b. The average concentration of asbestos of the five Work Area Samples does not exceed the filter background level of 70 structures per square millimeter of filter area.

2. Work Area Samples are not statistically different from Outside samples

a. All sample volumes except for blanks are greater than 560 liters for a 25 mm. sampling cassette.

b. The average asbestos concentration of the three blanks is below the filter background level of 70 structures per square millimeter of filter area.

c. Average asbestos concentrations in Work Area Samples are not statistically different from Outside samples, as determined by the Z-test calculation found in 40 CFR Part 763, Subpart E, Appendix A (Z is less that or equal to 1.65)

E. **If these conditions are not met** then the decontamination is incomplete, repeat the cleaning procedures of this section.

F. **Termination of Analysis:** if the arithmetic mean (average) asbestos concentration on the blank filters exceed 70 structures per square millimeter of filter area the analysis will cease and new samples collected.

1.9 LABORATORY TESTING BY THE OWNER:

A. Phase Contrast Microscopy by the Owner:

1. The services of a testing laboratory will be employed by the Owner to perform laboratory analysis of the air samples. A technician will be at the job site, and samples will be sent daily by overnight delivery, so that verbal reports on air samples can be obtained within 24 hours. A complete record, certified by the testing laboratory, of all air monitoring tests and results will be furnished to the Construction Manager (CM), the Owner and the Contractor.

B. Transmission Electron Microscopy by the Owner:

1. Samples will be sent by overnight courier for analysis by Transmission Electron Microscopy. Samples will not be carried on weekends, so that samples shipped on Friday

will arrive on the following Monday. Verbal results will normally be available during the 5th working day after receipt of samples by the laboratory. The laboratory is capable of analyzing a maximum of 13 such samples from this project at any one time. All Transmission Electron Microscopy results will be available to the Contractor.

1.10 SUBMITTALS:

A. **Before Start of Work** submit the following to the CM for review. Do not begin work until these submittals are returned with the Designer's action stamp indicating that the submittal has been Received - Not Reviewed.

1. Material Safety Data Sheet: Submit Material Safety Data Sheets, or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for the following:

   a. Lock-Back, sealer.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.1 START OF WORK:

A. **Previous Work:** During completion of the asbestos abatement work specified in other sections, the Secondary Barrier of polyethylene sheeting will have been removed and disposed of along with any gross debris generated by the asbestos abatement work.

B. **Visual inspection:** Perform visual inspections of the work area along with the Project Administrator at each step of the decontamination process.

1. Follow inspection procedures in EPA Purple Book.

2. In addition, refer to the **Ohio Department of Health Rules and Regulations for additional requirements.**

C. **Start of Work:** Work of this section begins with the cleaning of the Primary Barrier. At start of work the following will be in place:

1. Primary Barrier: Two layers of polyethylene sheeting on floor and one layer on walls.
2. Critical Barrier: An airtight barrier between the Work Area and other portions of the building or the outside.
3. Critical Barrier Sheeting: Over lighting fixtures and clocks, ventilation openings, doorways, convectors, speakers and other openings.
4. Decontamination Units: For personnel and equipment in operating condition.

5. Pressure Differential System: In operation.

3.2 FIRST CLEANING:

A. First Cleaning: Carry out a first cleaning of all surfaces of the work area including items of remaining sheeting, tools, scaffolding and/or staging by use of damp-cleaning and mopping, and/or a High Efficiency Particulate Air (HEPA) filtered vacuum. (Note: A HEPA vacuum may fail if used with wet material.) Do not perform dry dusting or dry sweeping. Use each surface of a cleaning cloth one time only and then dispose of as contaminated waste. Continue this cleaning until there is no visible debris from removed materials or residue on plastic sheeting or other surfaces.

1 Remove All Filters in Air Handling System(s) and dispose of as asbestos-containing waste in accordance with requirements of Section 02084 Disposal of Regulated Asbestos-Containing Material.

2 After the surfaces have passed a visual inspection verifying that all debris and residue has been removed from the sheet plastic, allow a waiting period that is long enough for the HEPA-filtered fan units operating in the work area to provide 96 air changes to clean air of airborne asbestos fibers. Use oscillating fans as necessary to assure circulation of air in all parts of work areas during this period. Maintain Pressure Differential System in operation for the entire 96 air change period.

3.3 SECOND CLEANING:

A. Second Cleaning: Carry out a second cleaning of all surfaces in the work area in the same manner as the first cleaning.

B. Visual inspection: Before the application of any sealer to abated surfaces as a lock-back, perform a visual inspection to determine if all ACM including debris and residue has been removed. Perform visual inspections along with Project Monitor. When the area is visually clean, and if after sweeping of all surfaces with leaf blower, no debris, residue, dust or other material is found, complete the certification at the end of this section. Visual inspection is not complete until confirmed in writing, on the certification, by Project Monitor. After this visual inspection is passed, lock-back sealants can be applied and the work area decontamination process can be initiated.

C. Sealing of substrate: Perform sealing of substrate or installation of spray-applied finishes or fireproofing, where required, at this time. Maintain Pressure Differential System in operation during encapsulation work. Perform work only after meeting the following requirements:

3 Surfaces to be covered with sealer have met the requirements for a visual inspection in this section.

4 Airborne fiber counts in the Work Area are at or below 0.01 fibers per cubic centimeter as measured by phase contrast microscopy.

D. Removal of Primary Barriers:

5 Immediately following the second cleaning of the Primary plastic, remove all Primary Barrier sheeting and Material Decontamination Unit, if there is one, leaving only:

a. Critical Barrier: Which forms the sole barrier between the Work Area and other portions of the building or the outside.

b. Critical Barrier Sheeting: Over lighting fixtures and clocks, ventilation openings, doorways, convectors, speakers, and other openings.

c. Decontamination Unit: For personnel, in operating condition.

d. Pressure Differential System: Maintain in continuous operation.

3.4 THIRD CLEANING:

A. Third cleaning: Carry out a third cleaning of all surfaces in the work area in the same manner as the first cleaning immediately after removal of Primary plastic. This cleaning is now being applied to existing room surfaces. Take care to avoid water marks or other damage to surfaces.

B. Contractor's Testing: At the completion of the above cleaning visually inspect all surfaces. Reclean if any dust, debris, etc. is found. At completion of this inspection sweep entire Work Area including walls, ceilings, ledges, floors and other surfaces in the Work Area with exhaust from forced-air equipment (leaf blower with approximately 1 horsepower (745.7 watts) electric motor or equivalent). Do not direct forced-air equipment at any seal in any Critical Barrier. If any debris or dust is found repeat the cleaning. Continue this process until no debris dust or other material is found while sweeping of all surfaces with forced-air equipment.

3.5 FINAL CLEANING:

A. Final Cleaning: Carry out a final cleaning of all surfaces in the Work Area in the same manner as the previous cleaning.

B. Contractor's Testing: At the completion of the above cleaning visually inspect all surfaces. Reclean if any dust, debris, etc. is found. At completion of this inspection sweep entire Work Area including walls, ceilings, ledges, floors and other surfaces in the Work Area with exhaust from forced air equipment (leaf blower with approximately 1 horsepower electric motor or equivalent). Do not direct forced air equipment at any seal in any critical barrier. If any debris or dust is found repeat the final cleaning. Continue this process until no debris dust or other material is found while sweeping of all surfaces with forced air equipment.

C. After a visual inspection, again wait for a period of time long enough for the HEPA-filtered fan units operating in the work area to provide 96 air changes to allow HEPA filtered fan units to clean air of airborne asbestos fibers. Use oscillating fans as necessary to assure circulation of air in all parts of Work Areas during this period. Maintain Pressure Differential System in operation for the entire 96 air change period.

3.6 VISUAL INSPECTION:

A5 After Final Cleaning Perform a Complete Visual Inspection of the entire Work Area including: all surfaces, ceiling, walls, floor, decontamination unit, all plastic sheeting, seals over

ventilation openings, doorways, windows, and other openings; look for debris from any source, residue on surfaces, dust or other matter. During visual inspection sweep entire work area including walls, ceilings, ledges, floors, and other surfaces in the room with exhaust from forced air equipment (leaf blower with approximately 1 horsepower electric motor or equivalent). If any debris, residue, dust or other matter is found repeat final cleaning and continue decontamination procedure from that point. When the area is visually clean, and if after sweeping of all surfaces with leaf blower, no debris, residue, dust or other material is found, complete the certification at the end of this section. Visual inspection is not complete until confirmed in writing, on the certification, by Project Monitor.

B. **Temporary lighting:** Provide a minimum of 100 foot candles (1075 Lumens / sq meter) of lighting on all surfaces in the areas to be subjected to visual inspection. Provide hand held lights providing 150 foot candles (1600 lumens / sq meter) at 4 feet (1.25 meter) capable of reaching all locations in work area.

C. **Lifts:** Provide ladders, scaffolding, and lifts as required to provide access to all surfaces in the area to be subjected to visual inspection. Access is to allow touching of all surfaces.

3.7 CLEARANCE AIR SAMPLING BY OWNER (TEM):

A. **Phase Contrast Microscopy (PCM):** After the Work Area is found to be visually clean, air samples will be taken and analyzed by the Owner in accordance with the procedure for Phase Contrast Microscopy set forth in Part 1 of this section.

6d If Release Criteria are not met, repeat Final Cleaning and continue decontamination procedure from that point.

7d If Release Criteria are met the Owner will continue with the clearance air testing by Transmission Electron Microscopy.

B. **Transmission Electron Microscopy (TEM):** After the work area is found to be visually clean and PCM air sampling completed, TEM air samples will be collected and analyzed by the Owner in accordance with the procedure for Transmission Electron Microscopy set forth in Part 1 of this section.

8d If Release Criteria are not met, repeat Final Cleaning and continue Decontamination procedure from that point.

9d If Release Criteria are met, remove work area isolation in accordance with requirements of this section.

3.8 LOCK-BACK:

A. **Encapsulation of substrate:** Perform encapsulation of substrate or installation of spray-applied finishes or fireproofing, where required, before Removal of Work Area Isolation as specified below. Maintain Pressure Differential System in operation during encapsulation work.

3.9 REMOVAL OF WORK AREA ISOLATION:

A. **After all requirements of this section and Section 01714 Work Area Clearance** have been met:

10d Shut down and remove the Pressure Differential System. Seal HEPA filtered fan units, HEPA vacuums and similar equipment with 6 mil (0.15 mm) polyethylene sheet and duct tape to form a tight seal at intake end before being moved from Work Area.

11d Remove Personnel Decontamination Unit.

12d Remove the Critical Barriers separating the Work Area from the rest of the building. Remove any small quantities of residual material found upon removal of the plastic sheeting with wet wiping, HEPA filtered vacuum cleaners and local area protection. If significant quantities, as determined by the Project Monitor, are found then the entire area affected shall be decontaminated as specified in Section 01712 Cleaning & Decontamination Procedures.

13d Remove all equipment, materials, debris from the work site.

14d Dispose of all asbestos-containing waste material as specified in Section 02084 Disposal of Regulated Asbestos Containing Material.

3.80 SUBSTANTIAL COMPLETION OF ABATEMENT WORK:

A. **Asbestos Abatement Work is Substantially Complete** upon meeting the requirements of this section including submission of:

15d Certificate of Visual Inspection

16d Receipts Documenting proper disposal as required by Section 02084 Disposal of Regulated Asbestos-Containing Material.

17d Punch list detailing repairs to be made and incomplete items.

3.91 CERTIFICATE OF VISUAL INSPECTION:

A. **Following this section is a "Certificate of Visual Inspection"**. This certification is to be completed by the Contractor and certified by the Project Monitor. Submit completed Certificate with Application for Final Payment. Final payment will not be made until this Certification is executed.

END OF SECTION - 01711

CERTIFICATION OF VISUAL INSPECTION

In accordance with Section 01711 "Project Decontamination" the Contractor hereby certifies that he has visually inspected the Work Area (all surfaces including pipes, beams, ledges, walls, ceiling and floor, Decontamination Unit, sheet plastic, etc.) and has found no dust, debris or residue.

by: (Signature_____ Date_____

(Print Name)_____

(Print Title)_____

PROJECT MONITOR CERTIFICATION

The Project Monitor hereby certifies that he has accompanied the Contractor on the Contractor's visual inspection and verifies that this inspection has been thorough and to the best of their knowledge and belief, the Contractor's Certification above is a true and honest one.

by: (Signature)_____ Date_____

(Print Name)_____

(Print Title)_____

SECTION 01712 - CLEANING AND DECONTAMINATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

A. **Drawings and general provisions of Contract**, including General and Supplementary Conditions and other Division-1 Specification Sections, apply to work of this section.

1.2 DESCRIPTION OF THE WORK:

A. **The extent** of cleaning and decontamination work is shown on the drawings.

B. **The work includes** decontamination of the areas indicated in the "Schedule of Decontamination Work," found at the end of this section.

1.3 RELATED WORK SPECIFIED ELSEWHERE:

A. **Work Area Clearance:** Specified in Section 01711.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 GENERAL:

A. **Complete the following before start of work** of this section:

1. 01527 Regulated Areas

2. 01562 Respiratory Protection

3.2 WET CLEANING:

A. **Accomplish wet cleaning** during decontamination with paper towels or disposable rags:

B. **Immerse paper towel** or rag in container of amended water or dilute removal encapsulant.

C. **Wring out**,

D. **Fold into quarters**,

E. **Wipe surface once** and refold to a fresh face of cloth. Proceed in this manner until all available faces of paper towel or rag have been used.

F. **Dispose of paper towel** or rag,

G. **Do not place rag back in container** to rinse out or for any other purpose. If a used towel or rag comes in contact with water, empty container and refill.

H. **Material adhered** to a surface with removal encapsulant may require the application of additional removal encapsulant to facilitate cleaning.

3.3 REMOVAL OF ASBESTOS-CONTAINING DEBRIS

A. ***Work of this Section*** *is limited to the cleanup of a small quantity of amassed debris which has fallen from an architectural finish, fire-proofing, or thermal insulation on pipes, boilers and other equipment*.

B. **Remove asbestos-containing debris** and decontaminate the area involved using the following sequence:

1. Shut down all ventilation into room.

2. Seal entry to work area with 6 mil (0.15 mm) polyethylene. Slit polyethylene for entry. Install a flap to cover the slit automatically; tape slit closed after entry.

3.4 CLEANING AND DECONTAMINATING OBJECTS

A. **Perform all work of decontaminating objects** wherever possible on a plastic drop sheet.

B. **HEPA vacuum** all surfaces of object and immediate area before moving the object.

C. **Pick-up object**, if possible, and HEPA vacuum all surfaces.

D. **Hand to off-sheet worker** who will wet-clean object, if possible, and place in storage location.

E. **Decontaminate area** where object was located by HEPA vacuuming twice, in two perpendicular directions. Wet clean if necessary to remove any debris.

F. **Return object** to its original location.

3.5 DECONTAMINATION OF ROOMS:

A. **Shut down all ventilation into space**.

B. **Seal entry to Work Area** with 6 mil (0.15 mm) polyethylene. Slit polyethylene for entry. Install a flap to cover the slit automatically; tape slit closed after entry.

C. **Install Differential Pressure System** in accordance with Section 01513.

D. **Recirculate HEPA filtered fan units** in space by operating them so that discharge from machine is back into room. Use one HEPA filtered fan unit for each 2,500 cubic feet (70.8 cubic meters) of room volume.

E. **HEPA vacuum all surfaces** in the room starting at the ceiling, then top of wall and working downward to the floor.

F. **HEPA vacuum the floor** using a floor attachment with rubber floor seals and adjustable floor to attachment height. Adjust the height so that the rubber seals just touch the floor if carpeted and are within 1/16 inch (1.6 mm) of hard surface floors. Vacuum the floor in parallel passes with each pass overlapping the previous by one half the width of the floor attachment. At the completion of one cleaning, vacuum the floor a second time at right angles to the first.

G. **Operate HEPA filtered fan unit** in space for 96 air changes minimum.

H. **At completion of Decontamination Work** workers decontaminate in accordance with Section 01561 Worker Protection - Repair and Maintenance.

I. **Secure area from occupancy** until air monitoring results indicate area is safe for reoccupancy.

END OF SECTION - 01712

SECTION 02061 - BUILDING COMPONENT DEMOLITION-ASBESTOS ABATEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

A. **Drawings and general provisions of Contract**, including General and Supplementary Conditions and Division - 1 Specification Sections, apply to work of this section.

1.2 DESCRIPTION OF THE WORK

A. **The work of this Section** includes the demolition of buildings and installations where asbestos containing materials are present.

1.3 RELATED WORK SPECIFIED ELSEWHERE:

A. **Work to be completed prior to start of the work of this section** are set forth in the following sections:

1. 01560 Worker Protection - Asbestos abatement
2. 01562 Respiratory Protection
3. 01563 Decontamination Units

B. **Section 02084 Disposal of Regulated Asbestos-Containing Material** describes the handling and disposal of asbestos-containing waste.

C. **Section 02086 Hazardous Waste Management** describes the management and disposal of hazardous waste such as PCB Ballasts, fluorescent light tubes, and mercury containing thermostats encountered during the work of this section.

1.4 SUBMITTALS:

A. **Before Start of Work:** Submit the following to the Construction Manager (CM) for review. Do not start work until these submittals are returned with Designer's action stamp indicating that the submittal is returned for unrestricted use.

1. Surfactant: Submit product data, use instructions and recommendations from manufacturer of surfactant intended for use. Include data substantiating that material complies with requirements.
2. Removal Encapsulant: Submit product data, use instructions and recommendations from manufacturer of removal encapsulant intended for use. Include data substantiating that material complies with requirements.
3. NESHAP Certification: Submit certification from manufacturer of surfactant or removal encapsulant that, to the extent required by this specification, the material, if used in accordance with manufacturer's instructions, will wet asbestos-containing materials (ACM)

to which it is applied as required by the National Emission Standard for Hazardous Pollutants (NESHAP) Asbestos Regulations (40 CFR 61, Subpart M).

B. **Before Start of Work** submit the following to the CM for review. Do not begin work until these submittals are returned with the Designer's action stamp indicating that the submittal has been Received - Not Reviewed.

1. Material Safety Data Sheet: Submit Material Safety Data Sheets, or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for the following:

a. Surfactants.

b. Encapsulants.

PART 2 - PRODUCTS:

2.1 MATERIALS

A. **Wetting Materials:** For wetting prior to disturbance of ACM use either amended water or a removal encapsulant:

B. **Amended Water:** Provide water to which a surfactant has been added. Use a mixture of surfactant and water which results in wetting of the ACM and retardation of fiber release during disturbance of the material equal to or greater than that provided by the use of one ounce of a surfactant consisting of 50 percent polyoxyethylene ester and 50 percent polyoxyethylene ether mixed with five gallons of water.

C. **Removal Encapsulant:** Provide a penetrating type encapsulant designed specifically for removal of ACM. Use a material which results in wetting of the ACM and retardation of fiber release during disturbance of the material equal to or greater than that provided by water amended with a surfactant consisting of 50 percent polyoxyethylene ester and 50 percent polyoxyethylene ether mixed with five gallons of water.

D. **Polyethylene Sheet:** A single polyethylene film in the largest sheet size possible to minimize seams, 6.0 mil (0.15 mm) thick frosted, or black as indicated.

E. **Duct Tape:** Provide duct tape in 2 inch or 3 inch (51 mm or 76 mm) widths as indicated, with an adhesive which is formulated to stick aggressively to sheet polyethylene.

F. **Spray Cement:** Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.

PART 3 - EXECUTION

3.1 WORKER PROTECTION:

A. **Before beginning work** with any material for which a Material Safety Data Sheet has been submitted provide workers with the required protective equipment. Require that appropriate protective equipment be used at all times.

3.2 REMOVAL OF ARCHITECTURAL FINISHES, FIREPROOFING, AND THERMAL SYSTEM INSULATION:

A. **Isolate Work Area:** from the building exterior and other portions of the building. Where existing walls, doors, windows, or other such closure is missing, seal openings with polyethylene sheet at least 6 mil (0.15 mm) in thickness, mechanically fastened in place and sealed with duct tape or spray glue. Seal broken windows or other openings to the building exterior with nylon-reinforced plastic.

B. **Drop Cloth:** Install a drop cloth consisting of clear 6 mil (0.15 mm) sheet plastic in any area where asbestos removal work is to carried out.

C. **Adequately wet** ACM to be removed prior to stripping and/or tooling to reduce fiber dispersal into the air. Accomplish wetting by a fine spray (mist) of water, amended water or removal encapsulant. Saturate material sufficiently to wet to the substrate without causing excess dripping. Allow time for water, amended water or removal encapsulant to penetrate material thoroughly. If water or amended water is used, spray material repeatedly during the work process to maintain a continuously wet condition. If a removal encapsulant is used, apply in strict accordance with manufacturer's instructions. Perforate outer covering of any installation which has been painted and/or jacketed in order to allow penetration of water, amended water or removal encapsulant, or where necessary, carefully strip away while simultaneously wetting the installation to minimize dispersal of asbestos fibers into the air.

D. **Remove Saturated ACM** in small sections from all areas. Scrape materials from substrate and remove residue using nylon bristled hand brush or high pressure washer. Remove materials in manageable quantities and control the descent to staging or floor below. If height is over 20' use drop chute to contain material during descent. If using water or amended water spray mist continuously during work process. Do not allow material to dry out. As it is removed, simultaneously pack material while still wet into disposal bags. Seal bags, clean outside and move to washdown station adjacent to Material Decontamination Unit.

E. **At Completion of Removal Work:** Clean all surfaces in the removal area by wet wiping, HEPA vacuuming or washing down with hoses. Clean from top down. At Contractor's option a proportional feed nozzle may be used to add a surfactant to the water. Collect any water runoff and filter through a dual filtration system. Provide first filter that removes fibers 20 microns and larger, and a final filter that removes all fibers 5 microns and larger.

F. **Visual Inspection:** Visually inspect work area for debris. If any visible debris is noted, clean all surfaces in the Work Area again. Continue this procedure until no visible debris is found in the Work Area.

G. **Final Air Testing:** **C**lear the Work Area in accordance with requirements of section 01711 Project Decontamination.

3.3 HAZARDOUS WASTE MANAGEMENT AND DISPOSAL.

A. **Manage and dispose of hazardous waste** such as PCB ballasts, fluorescent light tubes, and mercury thermostats in accordance with the requirements of Section 02086 - Hazardous Waste Management.

B. **Do not mix potentially hazardous waste streams.** Where feasible, separate each type of hazardous waste from other types of hazardous wastes, from asbestos waste and from construction waste.

C. **Segregate, package, label, transport and dispose** of Hazardous Waste in accordance with DOT, EPA, State and Local regulations.

3.4 DISPOSAL OF WASTE:

A. **Pack:** All asbestos-containing or contaminated waste material in bags marked as required by Section 02084 Disposal of Regulated Asbestos-Containing Material.

END OF SECTION - 02061

SECTION 02081 - REMOVAL OF ASBESTOS-CONTAINING MATERIALS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

A. **Drawings and general provisions of Contract**, including General and Supplementary Conditions and Division - 1 Specification Sections, apply to work of this section.

1.2 RELATED WORK SPECIFIED ELSEWHERE:

A. **Worker Protection** requirements are set forth in Section 01560 Worker Protection - Asbestos abatement.

B. **Installation of Critical and Primary Barriers**, and Work Area Isolation Procedures are set forth in Section 01526 Temporary Enclosures.

C. **Project Decontamination** procedures after removal of the Secondary Barrier are specified in Section 01711 Project Decontamination.

D. **Disposal of asbestos-containing waste** is specified in Section 02084 Disposal of Regulated Asbestos-Containing Material.

E. **Section 02086 Hazardous Waste Management** describes the management and disposal of hazardous waste such as PCB Ballasts, fluorescent light tubes, and mercury containing thermostats encountered during the work of this section.

1.3 SUBMITTALS:

A. **Before Start of Work** submit the following to the Construction Manager for review. Do not begin work until these submittals are returned with the Designer's action stamp indicating that the submittal has been Received - Not Reviewed.

1. Material Safety Data Sheet: Submit Material Safety Data Sheets, or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for the following:

a. Surfactants.

b. Encapsulants.

c. Solvents.

PART 2 - PRODUCTS:

2.1 MATERIALS

A. **Wetting Materials:** For wetting prior to disturbance of ACM use either amended water or a removal encapsulant:

B. **Amended Water:** Provide water to which a surfactant has been added. Use a mixture of surfactant and water which results in wetting of the ACM and retardation of fiber release during disturbance of the material equal to or greater than that provided by the use of one ounce of a surfactant consisting of 50 percent polyoxyethylene ester and 50 percent polyoxyethylene ether mixed with five gallons (19 liters) of water.

C. **Removal Encapsulant:** Provide a penetrating type encapsulant designed specifically for removal of ACM. Use a material which results in wetting of the ACM and retardation of fiber release during disturbance of the material equal to or greater than that provided by water amended with a surfactant consisting of one ounce of a mixture of 50 percent polyoxyethylene ester and 50 percent polyoxyethylene ether in five gallons (19 liters) of water.

D. **Polyethylene Sheet:** A single polyethylene film in the largest sheet size practicable to minimize seams, 6.0 mil (0.15 mm) thick clear, frosted, or black as indicated.

E. **Duct Tape:** Provide duct tape in 2 inch or 3 inch (50mm or 75 mm) widths as indicated, with an adhesive which is formulated to stick aggressively to sheet polyethylene.

F. **Spray Cement:** Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.

G. **Disposal Bags:** Provide 6 mil (0.15 mm) thick leak-tight polyethylene bags labeled as required by Section 02084 Disposal of Regulated Asbestos Containing Material.

H. **Fiberboard Drums:** Provide heavy duty leak tight fiberboard drums with tight sealing locking metal tops.

I. **Paper board Boxes:** Provide heavy duty corrugated paper board boxes coated with plastic or wax to retard deterioration from moisture. Provide in sizes that will easily fit in disposal bags.

J. **Felt:** Standard felt approximately 1/16 inch (1.6 mm) thick and 36 inches (900 mm) to 72 inches (1800 mm) in width.

PART 3 - EXECUTION

3.1 SECONDARY BARRIER:

A. **Secondary Barrier:** Over the Primary Barrier, install as a drop cloth a clear 6 mil (0.15 mm) sheet plastic in all areas where asbestos removal work is to be carried out. Completely cover floor with sheet plastic. Where the work is within 10 feet (3 m) of a wall extend the Secondary Barrier up wall to ceiling. Support sheet plastic on wall with duct tape, seal top of Secondary plastic to Primary Barrier with duct tape so that debris is unable to get behind it. Provide cross strips of duct tape at wall support as necessary to support sheet plastic and prevent its falling during removal operations.

1. **Install Secondary Barrier** at the beginning of each work shift. Install only sufficient plastic for work of that shift.

2. **Remove Secondary Barrier** at end of each work shift or as work in an area is completed. Fold plastic toward center of sheet and pack in disposal bags. Keep material on sheet continuously wet until bagged.

3. **Install Walkways** of black 6 mil (0.15 mm) plastic between active removal areas and decontamination units to protect Primary Layer from tracked material. Install walkways at the beginning of, and remove at the end of, each work shift.

3.2 WORKER PROTECTION:

A. **Before beginning work** with any material for which a Material Safety Data Sheet has been submitted provide workers with the required protective equipment. Require that appropriate protective equipment be used at all times.

3.3 WET REMOVAL:

A. **Thoroughly wet** the ACM to be removed prior to stripping and/or tooling to reduce fiber dispersal into the air. Accomplish wetting by a fine spray (mist) of amended water or removal encapsulant. Saturate material sufficiently to wet to the substrate without causing excess dripping. Allow time for amended water or removal encapsulant to penetrate material thoroughly. If amended water is used, spray material repeatedly during the work process to maintain a continuously wet condition. If a removal encapsulant is used, apply in strict accordance with manufacturer's written instructions. Perforate outer covering of any installation which has been painted and/or jacketed in order to allow penetration of amended water or removal encapsulant, or use injection equipment to wet material under the covering. Where necessary, carefully strip away while simultaneously spraying amended water or removal encapsulant on the installation to minimize dispersal of asbestos fibers into the air.

1. **Mist work area continuously** with amended water whenever necessary to reduce airborne fiber levels.

2. **Remove saturated ACM** in small sections from all areas. Do not allow material to dry out. As it is removed, simultaneously pack material while still wet into disposal bags. Twist neck of bags, bend over and seal with minimum three wraps of duct tape. Clean outside and move to Wash Down Station adjacent to Material Decontamination Unit.

B. **Fireproofing or Architectural Finish on Scratch Coat:** Spray asbestos-containing fireproofing or architectural acoustic finish with a fine mist of amended water or removal encapsulant. Allow time for amended water or removal encapsulant to saturate materials to substrate. Do not over-saturate to cause excess dripping. Scrape materials from substrate. Remove materials in manageable quantities and control the descent to staging or floor below, if over 20 feet (6000 mm) use drop chute to contain material during descent. If using amended water, spray mist surface continuously during work process. If using removal encapsulant follow manufacturer's written instructions. Remove residue remaining on scratch coat after scraping using stiff nylon bristled hand brush.

C. **Fireproofing or Architectural Finish on Wire Lath:** Spray asbestos-containing fireproofing or architectural acoustic finish with a fine mist of amended water or removal encapsulant. Allow time for amended water or removal encapsulant to saturate material completely. Do not over-saturate to cause excess dripping. If surface of material has been painted or otherwise coated cut small holes as required and apply amended water or removal encapsulant from above. Cut wire lath into manageable sections and cut hanger wires. Roll or fold up complete with ACM and hand place in container. Do not drop on floor. After removal of lath and ACM remove any overspray on decking and structure above using stiff nylon bristled brush. Use one of the following methods for containing waste.

1. **Deposit material in corrugated paper board box**. When box is full duct tape closed and place in disposal bag.

2. **Wrap material in felt** and place in fiberboard drum lined with two disposal bags. Use caution to insure that all edges of wire lath that could cut plastic are covered with felt.

3. **Place material directly in a steel drum.** Seal drums when full with leak tight seal. Drum is to be leak tight in any orientation.

D. **Pipe Insulation:** Spray with a mist of amended water or removal encapsulant. Allow amended water or removal encapsulant to saturate material to substrate. If a removal encapsulant is used, use in strict accordance with manufacturer's instructions. Cut bands holding preformed pipe insulation, slit jackets at seams, remove and hand-place in a disposal bag. Remove job-molded fitting insulation in chunks and hand place in a disposal bag. Do not drop to floor. Remove any residue on pipe or fitting with stiff bristle nylon hand brush. In locations where pipe fitting insulation is removed from pipe with straight runs insulated with fibrous glass or other non-asbestos-containing fibrous material, remove fibrous material 6" (150 mm) from the point where it contacts the asbestos-containing insulation.

3.4 HAZARDOUS WASTE MANAGEMENT AND DISPOSAL.

D. **Manage and dispose of hazardous waste** such as PCB ballasts, fluorescent light tubes, and mercury thermostats in accordance with the requirements of Section 02086 - Hazardous Waste Management.

E. **Do not mix potentially hazardous waste streams.** Where feasible, separate each type of hazardous waste from other types of hazardous wastes, from asbestos waste and from construction waste.

F. **Segregate, package, label, transport and dispose** of Hazardous Waste in accordance with DOT, EPA, State and Local regulations.

END OF SECTION - 02081

SECTION 02084 - DISPOSAL OF REGULATED ASBESTOS-CONTAINING MATERIAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

A. **Drawings and general provisions of Contract**, including General and Supplementary Conditions and Division-1 Specification Sections, apply to work of this section.

1.2 RELATED WORK SPECIFIED ELSEWHERE:

A. **Worker protection requirements** are set forth in Sections 01560 Worker Protection - Asbestos abatement

B. **Section 01098 Codes, Regulations and Standards - Asbestos Abatement** describes applicable federal, state and local regulations.

C. **Ohio Department of Health – Asbestos Hazard Abatement Rules, Chapter 3701-34, Ohio Administrative Code, Amended February 1, 1993.**

1.3 DESCRIPTION OF THE WORK:

A. **This section describes the disposal of Regulated Asbestos-Containing Materials (RACM)**. Disposal includes packaging of Regulated Asbestos-Containing Materials.

1.4 SUBMITTALS:

A. **Before Start of Work:** Submit the following to the Engineer/Owner's Representative for review. Do not start work until these submittals are returned with Designer's action stamp indicating that the submittal is returned for unrestricted use.

1. **Copy of state or local license** for waste hauler.

2. **Name and address of landfill** where Regulated Asbestos Containing Materials are to be buried. Include contact person and telephone number.

3. **Chain of Custody form** and form of waste manifest proposed

4. **Sample of disposal bag** and any added labels to be used.

B. **On a weekly basis** submit copies of all manifests and disposal site receipts to Engineer/Owner's Representative.

C. **Waste Shipment Record:** Maintain a waste shipment record as required by the NESHAP regulation which indicates the waste generator, transporter, and disposal site, and which describes the nature, size, type of container, and form of asbestos waste. Submit to Owner within 35 days of departure from building.

PART 2 - PRODUCTS:

2.1 MATERIALS

A. **Disposal Bags:** Provide 6 mil (0.15 mm) thick leak-tight polyethylene bags labeled with three labels with text as follows:

1. **First Label:** Provide in accordance with 29 CFR 1910.1200(f) of OSHA's Hazard Communication standard:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD
BREATHING AIRBORNE FIBERS IS
HAZARDOUS TO YOUR HEALTH

2. **Second Label:** Provide in accordance with U. S. Department of Transportation regulation on hazardous waste marking. 49 CFR parts 171 and 172. Hazardous Substances

RQ-ASBESTOS WASTE
CLASS 9
NA2212-PG III

3. **Third Label:** Provide the name of the waste generator (Owner's name), the location from which the waste was generated and the names and addresses of the contractor and transporter. This label must be durable, able to repel dirt and moisture (e.g., permanent marker). Label must be placed directly on disposal bag(s) in a legible format. **Peel and stick type labels are expressly prohibited.**

PART 3 - EXECUTION

3.1 SEQUENCE

A. **Comply with the following sections** during all phases of this work:

1. **Section 01560** Worker Protection - Asbestos Abatement

2. **Section 01562** Respiratory Protection

3.2 GENERAL:

A. **All waste** is to be hauled by a waste hauler with all required licenses from all state and local authority with jurisdiction.

B. **Liquid waste:** Mix all liquid asbestos-containing waste or asbestos contaminated waste with a bladeable material so that it forms a bladeable (non-liquid) form, and have the concurrence of the landfill operator prior to disposal.

C. **Load all adequately wetted Regulated Asbestos-Containing Material** in disposal bags or leak-tight containers. All materials are to be contained in one of the following

1. **Two 6 mil (0.15 mm) disposal bags** or

2. **Two 6 mil (0.15 mm) disposal bags and a fiberboard drum** or

3. **Sealed steel drum** with no bag

D. **Protect interior of truck** or dumpster with Critical and Primary Barriers as described in Section 01526 Temporary Enclosures.

E. **Carefully load containerized waste** in fully enclosed dumpsters, trucks or other appropriate vehicles for transport. Exercise care before and during transport, to insure that no unauthorized persons have access to the material.

F. **Warning Signs:** During loading and unloading mark dumpsters, receptacles and vehicles with a sign complying with requirements of the EPA NESHAP regulation (40 CFR Part 61), in a manner and location that a person can read the following legend :

DANGER
ASBESTOS DUST HAZARD
CANCER AND LUNG DISEASE HAZARD
Authorized Personnel Only

G. **Do not store containerized materials outside of the Work Area**. Take containers from the Work Area directly to a sealed truck or dumpster.

H. **Do not transport disposal bagged materials on open trucks**. Label drums with same warning labels as bags. Uncontaminated drums may be reused. Treat drums that have been contaminated as Regulated Asbestos-Containing Material and dispose of in accordance with this specification.

I. **Advise the landfill** operator or processor, at least ten days in advance of transport, of the quantity of material to be delivered.

J. **At disposal site** unload containerized waste:

1. **At a disposal site**, sealed plastic bags may be carefully unloaded from the truck. If bags are broken or damaged, return to work site for re-bagging. Clean entire truck and contents using procedures set forth in section 01711 Project Decontamination.

K. **Retain receipts from landfill** for materials disposed of.

L. **At completion of hauling** and disposal of each load submit copy of waste manifest, chain of custody form, and landfill receipt to the Engineer/Owner's Representative.

END OF SECTION - 02084

SECTION 02086 - HAZARDOUS WASTE MANAGEMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

A. **Drawings and general provisions of Contract**, including General and Supplementary Conditions and Division-1 Specification Sections, apply to work of this section.

1.2 RELATED SECTIONS

A. **Section 01092 Codes and Regulations - Asbestos Abatement** describes federal, state and local regulations applicable to asbestos.

B. **Section 02084 Disposal of Regulated Asbestos-Containing Material** describes the handling and disposal of asbestos-containing waste.

1.3 DESCRIPTION OF THE WORK:

A. **This section describes** the segregation, packaging, labeling, transport, and disposal of waste materials generated by demolition activities and the subsequent shipment of properly packaged and labeled waste materials to an approved disposal site.

1.4 CODES AND REGULATIONS

A. **General Applicability of Codes and Regulations:** Except to the extent that more explicit or more stringent requirements are written directly into the Contract Documents, all applicable codes and regulations have the same force and effect (and are made a part of the contract documents by reference) as if copied directly into the Contract Documents, or as if published copies are bound herewith.

B. **Contractor Responsibility:** The Contractor shall assume full responsibility and liability for the compliance with all applicable Federal, State, and local regulations pertaining to hazardous waste management and disposal. Hold the Owner and Designer harmless for failure to comply with any applicable work, hauling, disposal, safety, health or other regulation on the part of the Contractor, the Contractor's employees, or Subcontractors.

C. **Federal Requirements:** which govern the management, hauling and disposal of hazardous waste include but are not limited to the following:

1. **DOT:** U. S. Department of Transportation, including but not limited to:

a. Hazardous Substances

Title 49, Part 171 and 172 of the Code of Federal Regulations

b. Hazardous Material Regulations
General Awareness and Training Requirements for Handlers, Loaders and Drivers
Title 49, Parts 171-180 of the Code of Federal Regulations

c. Hazardous Material Regulations
Editorial and Technical Revisions
Title 49, Parts 171-180 of the Code of Federal Regulations

2. EPA: U. S. Environmental Protection Agency (EPA), including but not limited to:

a. Management of Hazardous Wastes Resource Conservation and Recovery Act (RCRA)
Title 40, Parts 260- 268 of the Code of Federal Regulations

D. State Requirements: Abide by all state requirements which govern the management, hauling and disposal of hazardous waste.

E. Local Requirements: Abide by all local requirements which govern the management, hauling and disposal of hazardous waste.

1.5 DEFINITIONS:

A. Toxicity Characteristic Leaching Procedure (TCLP): A laboratory test method to determine the mobility of both organic and inorganic analytes present in liquid, solid, and multiphasic wastes performed in accordance with test methods required under 40 CFR Part 268.

1.6 SUBMITTALS:

A. Before Start of Work: Submit the following to the Construction Manager for review. Do not start work until these submittals are returned with Designer's action stamp indicating that the submittal is returned for unrestricted use.

1. Copy of state and local licenses for waste hauler.

2. U.S. EPA Identification Number of waste hauler.

3. Name and address of waste disposal facility where hazardous waste materials are to be disposed including:

a. Contact person and telephone number.

b. Copy of state license and permit

c. Disposal facility permits

4. **Specimen copy** of Uniform Hazardous Waste Manifest form.

5. **Copy** of EPA Notice of Hazardous Waste activity form

6. **Copy** of forms requires by state and local agencies

7. **Sample** of disposal label to be used.

B. During Work: Submit the following as required by the work.

1. **TCLP test results**, as required to characterize waste for segregation and packaging purposes.

2. **Submit copies** of all executed manifests and disposal site receipts to the Designer.

PART 2 - PRODUCTS:

2.1 MATERIALS

A. Disposal Bags: Provide 6 mil (0.15 mm) thick leak-tight polyethylene bags.

B. DOT Hazardous Waste Disposal Drums: Provide DOT 17-H Open -Top Drums (55 gallon) in accordance with DOT regulations title 49 CFR Parts 173, 178, and 179.

C. DOT Hazardous Waste Labels: in accordance with DOT regulations Title 49 CFR parts 173, 178, and 179.

PART 3 - EXECUTION

3.1 GENERAL

A. Do not mix potentially hazardous waste streams. Where feasible, separate each type of hazardous waste from other types of hazardous wastes, from asbestos waste and from construction waste.

B. Segregate, package, label, transport and dispose of Hazardous Waste in accordance with DOT, EPA, State and Local regulations.

3.2 HAZARDOUS WASTE:

A. The following waste products are designated by the Owner as non-salvageable and as Hazardous Waste Types:

1. Waste Type A: PCB waste.

a. PCB-containing ballasts from fluorescent light fixtures.

2. Waste Type B: Mercury-containing waste.

a. Thermostats with mercury switches. Individually bagged mercury-containing thermostats.

b. Fluorescent, and mercury-vapor lamps.

3.1 Hazardous Waste Packaging and Labeling: Package each segregated Hazardous Waste Type , A and B, in specified containers as follows. **IMPORTANT: Do Not Mix Waste Streams:**

A. Waste Type A

1. Package in DOT 17-H Open-Top Drums

2. Fill to capacity only with Waste Type A (Do Not Mix Waste Stream types).

3. Install gasket on lid, apply lock ring, and seal.

4. Apply Hazardous Waste Label to drum side.

5. Enter DOT Shipping Data as follows: RQ Waste Polychlorinated Biphenols, 9, UN-2315, PG-II, (M001).

6. Adjacent to each label, enter the date indicating when waste was first placed in each drum.

B. Waste Type B

1. Package in DOT 17-H Open-Top Drums with Polyethylene disposal Bag liners

2. Fill liner bags only with Waste Type B (Do Not Mix Waste Stream types); then neck liner bags down into DOT 17-H Open-Top Drum and seal with duct tape.

3. Install gasket on lid, apply lock ring, and seal.

4. Apply Hazardous Waste Label to drum side.

5. Enter DOT Shipping Data as follows: RQ Hazardous Waste Solid, NOS, 9, NA3077, PG-III, (D009).

6. Adjacent to each label, enter the date indicating when waste was first placed in each drum.

C. **Sealed and Labeled Containers:** maintain all containers in a continuously sealed condition after they have been sealed.

1. Do not reopen sealed containers.

2. Do not place additional waste in sealed containers.

3.2 Temporary Storage: Partially filled containers of hazardous waste may be stored at the work site for intermittent packaging provided that:

A. Each container is properly labeled when it is first placed in service;

B. Each container remains closed at all times except when compatible waste types are added; and

C. When moved from site to site, each container remains within the geographic boundaries of the facility without moving nor crossing public access highways.

3.3 Removal of Hazardous Wastes: Immediately seal containers of hazardous waste as each the container is filled. Remove containers of hazardous waste from the work site **within seventy-two (72) hours of being filled.**

A. **Transporting filled containers** from the work site to an approved disposal site or recycling center.

B. **Continuously maintain custody** of all hazardous material generated at the work site including security, short-term storage, transportation and disposition until custody is transferred to an approved disposal site or recycling center. Document continuous chain-of custody.

C. **Do not remove**, or cause to be removed, hazardous waste from Owner's property without a legally executed Uniform Hazardous Waste manifest .

D. **At completion of hauling** and disposal of each load submit copy of waste manifest, chain of custody form, and landfill receipt to Designer.

3.4 Recycling and Recovery: Turn over waste which contains materials for which recovery and/or recycling is possible to an approved recycling center. Materials subject to recycling include:

1. Fluorescent light tubes.

2. Thermostats with mercury switches.

3. Lead acid batteries

4. Combustible lead-based painted building components and lead-based paint chips.

3.5 Backcharges:

A. Where contractor fails to fulfill packaging, handling, transport or disposal requirements as outlined herein, Owner will charge back to the Contractor all costs associated with insuring that hazardous wastes are segregated, packaged, transported and disposed of in accordance with all applicable Federal and State regulations.

B. Environmental pollution of Owner's property or other environments resulting from Contractor's hazardous waste management activities will be promptly remediated under Owner's direction, to the Owner's sole satisfaction, and at the Contractor's sole expense.

C. Contractor agrees to either reimburse the Owner, or reduce the Contract amount by change order to cover all costs associated with waste re-packaging, waste re-segregation, or pollution remediation efforts.

3.6 Removal of Non-Hazardous Waste Materials:

A. Transport and legally dispose of non-hazardous waste products, materials, residues and refuse at a location not on Owner's property.

B. Non-hazardous waste products, materials, residues and refuse include, but are not necessarily limited to:

1. Materials which are determined to be non-hazardous wastes through objective sampling in accordance with EPA Document SW-846 and laboratory analysis in accordance with EPA Method 1311.

2. Emptied hazardous material containers: containers holding a material with constituents listed on the MSDS as hazardous.

a. When a container is emptied of its hazardous contents by pouring or scraping so that less than one inch of material remains in the bottom of the container, the container is considered empty and is not in itself a hazardous waste.

b. Emptied hazardous material containers may be disposed of as construction debris waste (i.e. non-hazardous).

3. Personnel protective clothing and safety equipment with de minimis or trace contamination, as determined by visual inspection by Owner's Representative.

C. Keep premises in a clean and orderly condition during performance of abatement work.

D. Place non-hazardous construction debris wastes on a daily basis in secure containers for local landfill disposal.

END OF SECTION - 02086

SECTION 02088 - REMOVAL OF ASBESTOS ROOFING MATERIALS

THERE ARE TWO SECTIONS IN THE OSHA CONSTRUCTION STANDARD (1926.1101) THAT DEAL WITH THE REMOVAL OF ASBESTOS-CONTAINING ROOFING. PARAGRAPH (g)(8) DEALS WITH NON-INTACT ROOFING MATERIALS, OR ROOFING MATERIALS THAT WILL BECOME NON-INTACT DURING REMOVAL. PARAGRAPH (g)(11) DEALS WITH INTACT REMOVAL. THIS SPECIFICATION SECTION IS INTENDED FOR SPECIFYING REMOVAL WORK ON MORE THAN 25 SQUARE FEET OF NON-INTACT BUILT-UP ROOF (BUR) GOVERNED BY PARAGRAPH (g)(8). IF THE PROJECT WILL INVOLVE THE INTACT REMOVAL OF OTHER ROOFING MATERIALS THE DESIGNER SHOULD REFER TO THE INFORMATIONAL DOCUMENT ON ROOFING OPERATIONS PUBLISHED BY OSHA OR THE NATIONAL ROOFING CONTRACTORS ASSOCIATION (NRCA). THIS DOCUMENT DESCRIBES HOW TO COMPLY WITH THE OSHA ASBESTOS STANDARD IN ROOFING OPERATIONS INVOLVING ASBESTOS-CONTAINING MATERIALS. IT CONTAINS SPECIFIC INFORMATION ON (g)(11) ROOFING WORK.

BEFORE EDITING THIS SECTION CHECK WITH LOCAL REQUIREMENTS FOR DEALING WITH CONTAMINATED MATERIALS. IN SOME LOCALITIES THIS MATERIAL MUST BE HANDLED AS ASBESTOS-CONTAINING.

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

A. **Drawings and general provisions of Contract**, including General and Supplementary Conditions and Division-1 Specification Sections, apply to work of this section.

1.2 SUMMARY OF WORK:

A. **Work of this section includes** removal and disposal of all Asbestos-Containing tar roofing material applied directly to a concrete substrate.

1.3 RELATED WORK SPECIFIED ELSEWHERE:

A. **Asbestos abatement project requirements** to be completed prior to start of the work of this section are set forth in the following sections:

1. **01526** - Temporary Enclosures (for Critical Barriers and Screens)
2. **01527** - Regulated Areas
3. **01561** - Worker Protection - Repair & Maintenance
4. **01562** Respiratory Protection
5. **01563** Decontamination Units

1.4 TRAINING

A. Non-Intact Roofing:

1. **Worker Training:** Workers performing removal work on non-intact roofing must have completed an 8-hour training program as required by the OSHA regulation 29 CFR 1926.1101(k) covering asbestos subjects as well as training, including hands-on training, in the work practices and engineering controls specific to roofing removal work and work practices required by 29 CFR 1926.1101(g)(8).

2. **Competent Person:** Engage a person experienced in roofing work who has completed a 40 hr. EPA/AHERA supervisor training course as required by 29 CFR 1926.1101(o)(4)(I).

B. Intact Roofing:

1. **Worker Training:** Workers performing removal work on intact roofing must be trained as required by the OSHA regulation 29 CFR 1926.1101(g)(11) and as set forth in the Compliance Directive CPL 2-2.63 Appendix D page D-22 to D-23.

2. **Competent Person:** Competent Persons for work on intact roofing must be trained as required by the OSHA regulation 29 CFR 1926.1101(g)(11) and as set forth in the Compliance Directive CPL 2-2.63 Appendix D page D-22 to D-23.

C. State and Local Requirements: All workers are to be trained, certified and accredited as required by state or local regulation.

1.5 SUBMITTALS:

A. Before Start of Work: Submit the following to the Designer for review. Do not start work until these submittals are returned with Designer's action stamp indicating that the submittal is returned for unrestricted use.

1. **Surfactant**: Submit product data, use instructions and recommendations from manufacturer of surfactant intended for use. Include data substantiating that material complies with requirements.

2. **Disposal Chute:** Provide a drawing showing disposal chute and how it is to be mounted and supported. Show the relationship of the chute to the dumpster.

B. Before Start of Work submit the following to the Designer for review. Do not begin work until these submittals are returned with the Designer's action stamp indicating that the submittal has been ☐Received - Not Reviewed.☐

1. Material Safety Data Sheet: Submit Material Safety Data Sheets, or equivalent, in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200) for the following:

a. Surfactants.

b. Encapsulants.

c. Solvents.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Disposal Chute: Provide a leak tight waste disposal chute to transfer the materials to the ground.

B. Polyethylene Sheet: A single polyethylene film in the largest sheet size possible to minimize seams, 6.0 mil (0.15 mm) thick clear, frosted, or black as indicated.

C. Duct Tape: Provide duct tape in 2 inch or 3 inch (50 or 75 mm) widths as indicated, with an adhesive which is formulated to stick aggressively to sheet polyethylene.

D. Spray Cement: Provide spray adhesive in aerosol cans which is specifically formulated to stick tenaciously to sheet polyethylene.

E. Disposal Bags: Provide 6 mil (0.15 mm) thick leak-tight polyethylene bags labeled as required by Section 02084 Disposal of Regulated Asbestos Containing Material.

F. Fiberboard Drums: Provide heavy duty leak tight fiberboard drums with tight sealing locking metal tops.

G. Paper board Boxes: Provide heavy duty corrugated paper board boxes coated with plastic or wax to retard deterioration from moisture. Provide in sizes that will easily fit in disposal bags.

H. Unlabeled Clear Bags: Provide clear 6 mil (0.15 mm) thick leak-tight polyethylene bags with no label.

PART 3 - EXECUTION

3.1 GENERAL

IT IS GENERALLY GOOD PRACTICE TO ISOLATE AIR INTAKES FOR VENTILATION EQUIPMENT DURING ROOFING WORK. DUST AND FUMES FROM THE ROOFING WORK CAN CREATE INDOOR AIR QUALITY PROBLEMS. THIS IS PARTICULARLY IMPORTANT WITH HOT TAR ROOFS, BUT THE SOLVENTS AND COATINGS USED WITH SINGLE PLY ROOFS CAN ALSO BE A PROBLEM. OSHA REQUIRES THAT A COMPETENT PERSON DETERMINE THE NEED FOR AND METHOD OF ACCOMPLISHING ISOLATION OF AIR INTAKES TO AVOID DRAWING AIRBORNE ASBESTOS FIBER INTO THE BUILDING$

HEATING AND VENTILATING EQUIPMENT. AIR INTAKE ISOLATION SHOULD BE A PART OF THE PROJECT DESIGN RATHER THAN LEAVING IT TO THE CONTRACTOR.

A. Isolate air intakes

SHUTTING DOWN AND SEALING OFF AIR INTAKES IN THE VICINITY OF ROOFING WORK IS THE BEST WAY TO PROTECT THE BUILDING INTERIOR. UNFORTUNATELY THIS IS NOT ALWAYS POSSIBLE WHERE THE BUILDING IS OCCUPIED AND AIR HANDLING UNITS MUST REMAIN IN OPERATION TO CONDITION AIR. RETAIN THE FOLLOWING IF AIR HANDLING UNITS ARE TO BE SHUT DOWN. DELETE IF AIR HANDLING UNITS MUST REMAIN IN OPERATION.

1. Shut down air handling units that draw in fresh air from any area within 30' of the roofing work.. Seal all air intakes with 6 mil sheet plastic.

FOLLOWING IS A CATCH-ALL THAT SHOULD BE DELETED AND REPLACED WITH A SPECIFICALLY DESIGNED DUCT EXTENSION. IF AIR HANDLING UNITS MUST REMAIN IN OPERATION, THEY MAY NEED TO HAVE TEMPORARY EXTENSIONS ADDED TO EXTEND THEM BEYOND THE WORK AREA. THE DIRECTION OF WIND AND DENSITY OF THE VAPORS AND FUMES, AS WELL AS DUST FROM ROOFING OPERATIONS WILL DETERMINE THE LOCATION OF THE RELOCATED INTAKE. DEPENDING ON THE SIZE AND LENGTH OF THE EXTENSION THIS COULD REQUIRE DESIGN BY A MECHANICAL AND/OR STRUCTURAL ENGINEER. DELETE THE FOLLOWING IF THERE IS TO BE NO INTAKE EXTENSION.

2. Provide horizontal or vertical extension to relocate the opening of air intakes outside or above the regulated area.

A BUFFER ZONE WILL ACCOMPLISH LITTLE ON A HOT TAR PROJECT. ON A SMALL SINGLE-PLY JOB WITH NO COATING A BUFFER ZONE MAY PREVENT VAPORS FROM ENTERING THE BUILDING, IF THE WIND IS BLOWING IN THE RIGHT DIRECTION. A BUFFER ZONE IS ALLOWED BY OSHA AS ONE POSSIBLE MEANS OF ISOLATING AN INTAKE FOR ASBESTOS PURPOSES. DELETE THE FOLLOWING IF THERE IS TO BE NO BUFFER ZONE.

3. Use a 20' buffer zone to isolate the work area from openings into the building.

GENERALLY DELETE THE FOLLOWING. INSTALLING A HEPA FILTER OVER AN AIR INTAKE IS USUALLY NOT FEASIBLE. IT WILL USUALLY THROTTLE DOWN VENTILATION RATES TO UNACCEPTABLE LEVELS AND IS LIKELY TO OVERLOAD AND POTENTIALLY BURN OUT FAN MOTORS. HEPA FILTERS DO NOTHING FOR FUMES FROM HOT TAR OPERATIONS AND SOLVENTS USED IN SINGLE PLY ROOFING. WATER DESTROYS HEPA FILTERS, SO THAT THEY NEED TO BE ENCLOSED SO THAT THEY ARE NOT AFFECTED BY RAIN.

4. Install HEPA filters in fresh air intakes for heating and ventilating equipment

FOLLOWING IS NOT REQUIRED BY OSHA, BUT IS COMMON PRACTICE ON ROOFING PROJECTS. DELETE FOLLOWING IF CRITICAL BARRIERS OVER BUILDING OPENINGS IS NOT DESIRED.

B. Install critical barriers over all openings into building, adjacent buildings, or equipment within 30 feet of the work. Do not cover building surfaces. Erect temporary screens of reinforced sheet plastic as required to prevent wind carrying products of work to any entries of building or occupied portions of the site.

C. Do not sand, abrade or grind roofing materials.

D. **Use Manual methods** which do not render roofing material non-intact. These include the use of spud, spade, flat-blade or slicing tools, such as axes, mattocks, pry bars, spud bars, crow bars, shovels, flat-blade knives, and utility knifes, to slice, cut, strip-off, shear-under, or pry up the material.

E. **Remove roofing materials** in an intact state to the extent feasible.

F. **Non-intact Built Up Roofing:** Perform all removal work on non-intact roofing when outside temperatures are warm enough that the bitumen in the roofing is above the phase change (glass) point. Carry out all roofing removal in a manner that will minimize pulverizing, breaking or abrading of involved materials.

1. **Use Wet Methods** to remove roofing materials that are not intact, or will be rendered not intact during removal, unless wet methods are not feasible or will create safety hazards.

2. **Non-intact Roof Membrane:** Wet surface of roof with amended water. Use sufficient water to completely wet surface but not cause ponding or running of water. Cut roof membrane into sections able to fit in disposal boxes. Use rotary blade to cut roof. Do not saw. Lift sections from insulation and place in disposal boxes. Bag and dispose of as required by Section 02084 Disposal of Regulated Asbestos-Containing Material.

3. **Insulation in a non-intact roof assembly:** Wet insulation with amended water sufficiently to enable it to be removed in a crumbly damp mass. Remove by scraping with roofing hoes. Do not use powered roof rippers. Dispose of insulation as a non-asbestos waste.

4. **Non-intact Vapor Barrier:** Wet surface of vapor barrier with amended water. Use sufficient water to completely wet surface but not cause ponding or running of water. Scrape vapor barrier from roof deck with roofing hoes. Do not use powered roof rippers. Use water based solvent as required to completely remove vapor barrier and as much roofing bitumen as possible from roof deck. Use a HEPA vacuum or wet sweep into sweep shovels to pick up debris. Dispose of as required by Section 02084 Disposal of Regulated Asbestos-Containing Material.

G. **Power Roof Cutter:** When removing built-up roofs with a power roof cutter

1. **Continuously mist** the blade of the cutting machine during use unless the competent person determines that misting substantially decreases worker safety.

2. **Collect dust and debris** resulting from the cutting operation:

a. Aggregate Surface: Collect all dust resulting from the cutting operation with a HEPA dust collector or by HEPA vacuuming along cut line.

b. Smooth Surface: Collect all dust resulting from the cutting operation with a HEPA dust collector, by HEPA vacuuming along cut line, or by gently sweeping and then carefully and completely wiping up the still-wet dust and debris left along the cut line

3. **Immediately bag dust and debris** resulting from the cutting operation or place in covered containers.

H. **Do not drop or throw** ACM that has been removed from a roof to the ground. Either carry or pass the ACM to the ground by hand, or lower it to the ground via covered, dust-tight chute, crane or hoist.

1. **Intact ACM** remove from the roof as soon as is practical, but in any event no later than the end of the work shift.

2. **ACM that is not intact** lower to the ground as soon at is practical, but in any event no later than at the end of the work shift. While the material remains on the roof either keep it wet, placed in an impermeable waste bag, or wrapped in plastic sheeting.

I. **Upon being lowered** transfer unwrapped material to a closed receptacle in such manner so as to preclude the dispersion of dust.

3.2 WARNING SIGNS

OSHA REQUIRES THAT WARNING SIGN BE COMPREHENSIBLE TO NON-ENGLISH SPEAKING PEOPLE.

A. **The warning signs** required by this section shall bear the following information.

1. DANGER
   ASBESTOS
   CANCER AND LUNG DISEASE HAZARD
   AUTHORIZED PERSONNEL ONLY

WHERE USE OF RESPIRATOR AND PROTECTIVE CLOTHING IS REQUIRED DELETE ABOVE AND USE BELOW.

2. DANGER
   ASBESTOS
   CANCER AND LUNG DISEASE HAZARD
   AUTHORIZED PERSONNEL ONLY
   RESPIRATORS AND PROTECTIVE CLOTHING ARE REQUIRED IN THIS AREA

3.3 DISPOSAL

A. **Dispose** of all friable materials in accordance with Section 02084 Disposal of Regulated Asbestos Containing Material. Dispose of Category I non-friable waste in accordance with State and Local Regulations.

SELECT EITHER ABOVE OR BELOW DISPOSAL METHODOLOGY

B. **Pick up scrapings and debris** and deposit in a disposal bag or closed impermeable container and dispose of as required by Section 02084 □Disposal of Regulated Asbestos-Containing Material.□

3.4 AIRBORNE FIBER LEVELS:

A. **Airborne Fiber Levels:** Maintain airborne fiber levels less than the □Stop Action Levels□ set forth in Section 01013 □Summary of Work - Asbestos Abatement.□

END OF SECTION - 02088

APPENDIX – A

HZW
Environmental
Consultants

November 11, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Structure Located at 208 Broadway Avenue, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HZW Environmental Consultants, LLC (HZW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 208 Broadway Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below.

Photograph 01
Exterior View of Structure Located at
208 Broadway Avenue, Youngstown, Ohio

METHODS OF INVESTIGATION

General

During September 2016, a representative of HZW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HZW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HZW under the Miscellaneous Materials category.

Once categorized, HZW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HZW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HZW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HZW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HZW collected a minimum of seven (7) samples from this area/material. Drywall system was sampled in a similar manner.

- For TSI, HZW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HZW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HZW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HZW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HZW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HZW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory of Powhatan, Virginia for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HZW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HZW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HZW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HZW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HZW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HZW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos. Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HZW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HZW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HZW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HZW ENVIRONMENTAL CONSULTANTS, LLC

John Worthy
Asbestos Hazard Evaluation Specialist (AHES No. 34782)

Joan A. Sablar
Senior Industrial Hygienist

JER\jer\jas\H16201
Attachment
I:\2016\H16201\Fourth Request\02 208 Broadway Avenue Asbestos Survey Report.docx

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 208 Broadway, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Smooth Ceiling Plaster	Throughout Structure	>7,000 sq.ft.	01						9,800 sq.ft.	<0.1 ND
				02							<0.1 ND
				03							0.1 ND
				04							<0.1 ND
				05							0.2 ND
				06							0.1 ND
				07							<0.1 ND
				08							0.3 ND
				09							<0.1 ND
B	Ceiling Tile – 2-foot by 2-foot - Pinholes	Bath 2	Minimum 2 Samples	10							ND
				11							ND
C	Texture On Ceiling Plaster – Stomp Pattern	Kitchen 1, Kitchen 2	<1,000 sq.ft.	12							ND
				13							ND
				14							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 208 Broadway, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
D	Smooth Wall Plaster	Throughout Structure	>7,000 sq.ft.	15						21,500 sq.ft.	<0.1 ND
				16							0.1 ND
				17							<0.1 ND
				18							<0.1 ND
				19							<0.1 ND
				20							0.4 ND
				21							0.1 ND
				22							<0.1 ND
				23							<0.1 ND
E	Drywall System	Bath 2	Minimum 3 Samples	24							ND
				25							ND ND
				26							ND ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 208 Broadway, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
F	Window Glazing	Porch Windows	Minimum 2 Samples	27						16 Wndws	<0.25
				28							<0.25
G1-G6	Floor Tile – Mastic (6 Types)	Various Areas Throughout	Category I Nonfriable in Fair Condition, Not Sampled				X		3,800 sq.ft.		Assumed
H1-H4	Floor Sheeting – Mastic (4 Types)	Various Areas Throughout	Category I Nonfriable in Fair Condition, Not Sampled				X		220 sq.ft.		Assumed
I	Aircell Pipe Insulation (And Debris)	Various Areas Throughout	Assumed RACM			X				180 ln.ft.	Assumed
J	Boiler Insulation	Various Areas Throughout	Assumed RACM			X				100 sq.ft.	Assumed
K	Asphalt Shingle Roofing System	Building Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		3,200 sq.ft.		Assumed
L	Asphalt Shingle Roofing System	Garage Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		600 sq.ft.		Assumed

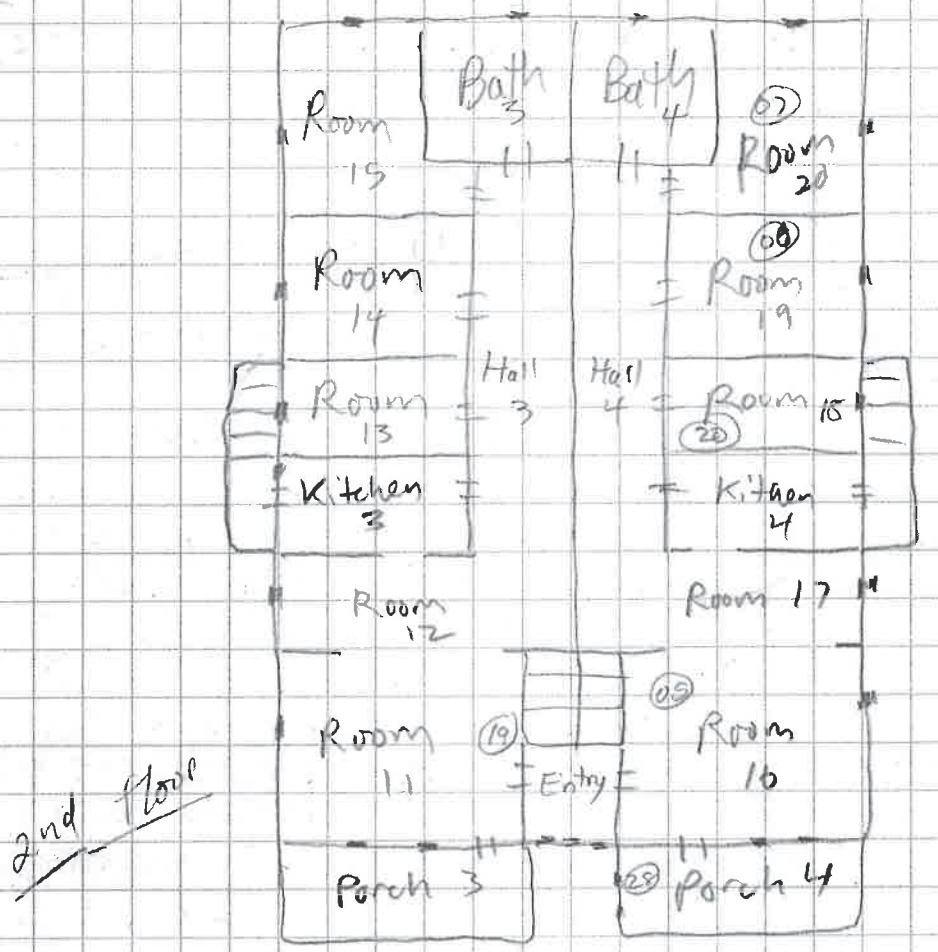
Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 208 Broadway
PROJECT NO. 416201
PAGE NO. _____ OF _____
FIELD REPRESENTATIVE JW DATE 10-19-16
SCALE _____

INDICATE DIRECTION OF NORTH



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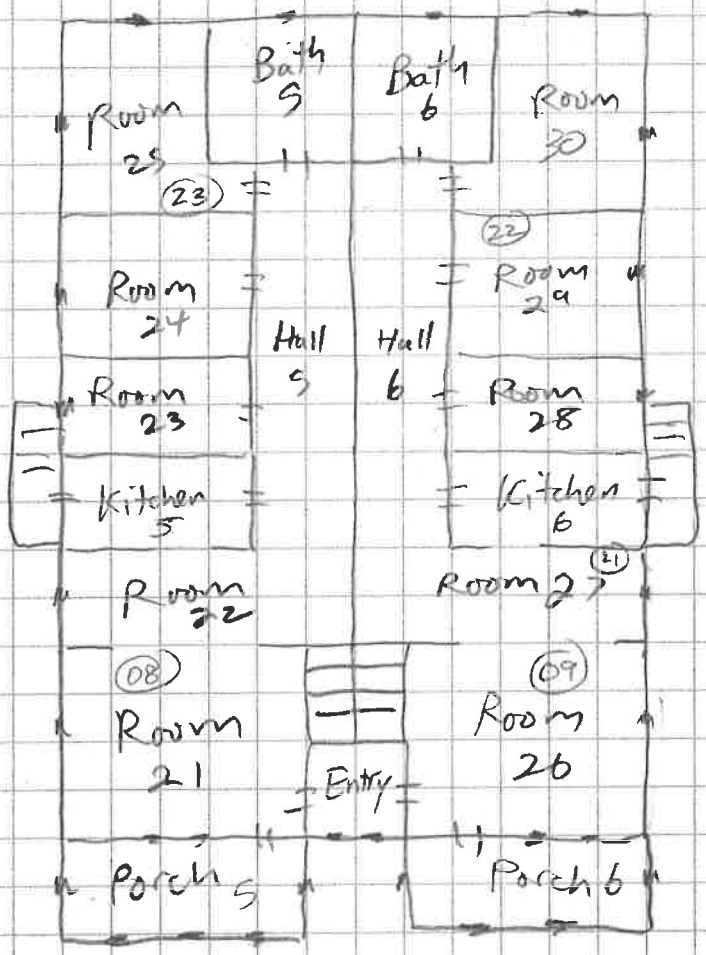
INDICATE DIRECTION OF NORTH



3rd floor

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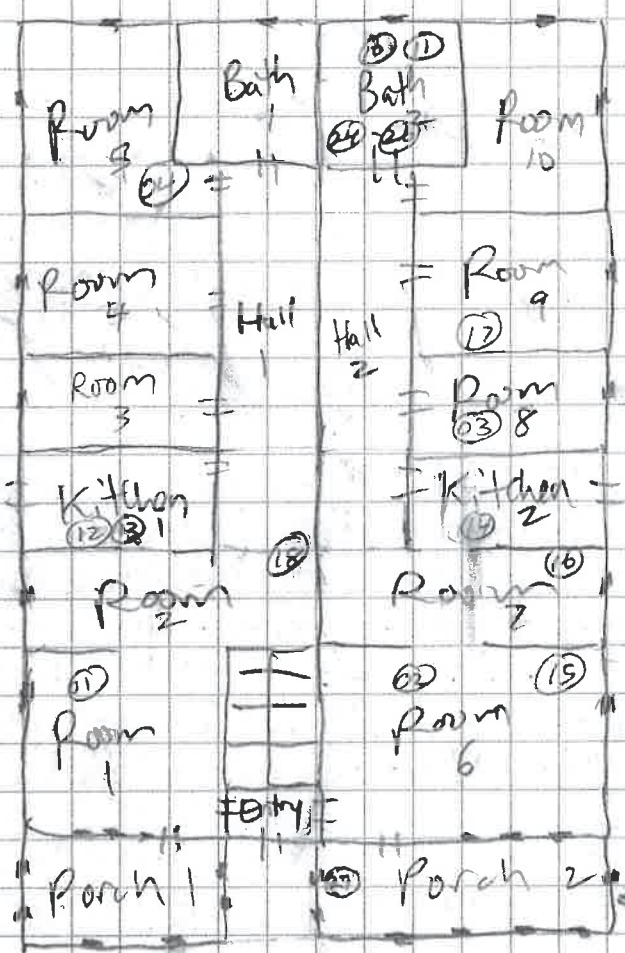

← wood windows on porches

1st floor

- Brick Exterior
- wood + vinyl windows
- Apartment Building

- Old steam heat radiators - removed

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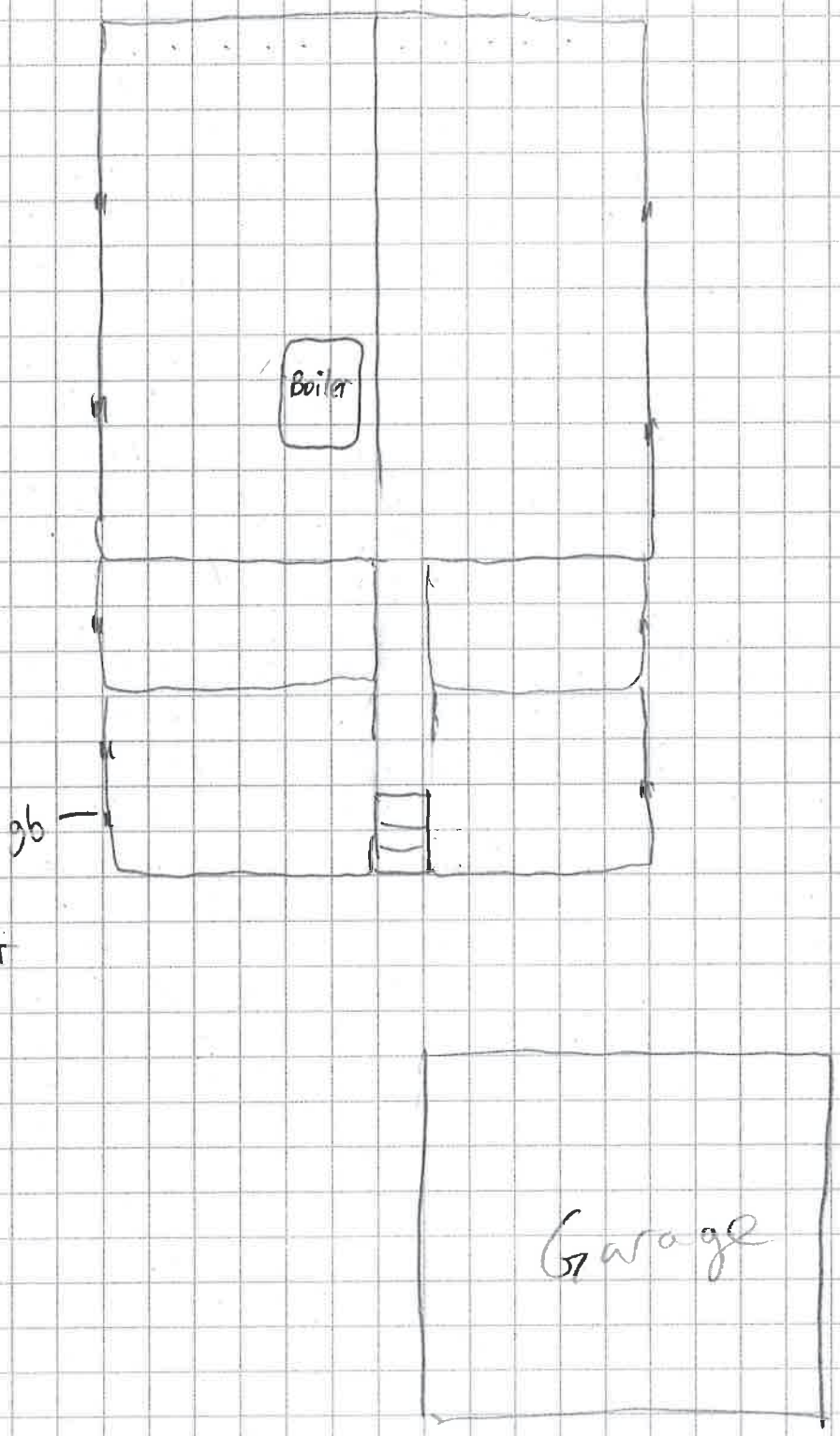
INDICATE DIRECTION OF NORTH



SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 11/9/2016
Project Name: 208 Broadway
Project #: H16201
SanAir ID#: 16040317

NVLAP LAB CODE 200870-0

Virginia SBE Certification # 652931

Texas Licensed Mold Analysis Laboratory License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

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

HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

November 9, 2016

SanAir ID # 16040317
Project Name: 208 Broadway
Project Number: H16201

Dear Joan Sablar,

We at SanAir would like to thank you for the work you recently submitted. The 37 sample(s) were received on Friday, November 04, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
48 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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

SanAir ID Number
16040317
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 208 Broadway

Collected Date: 11/2/2016
Received Date: 11/4/2016 10:00:00 AM
Report Date: 11/9/2016 4:52:41 PM
Analyst: Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16040317-001 Smooth C/ P, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
01 / 16040317-001 Smooth C/ P, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16040317-002 Smooth C/ P, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
02 / 16040317-002 Smooth C/ P, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16040317-003 Smooth C/ P, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
03 / 16040317-003 Smooth C/ P, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16040317-004 Smooth C/ P, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
04 / 16040317-004 Smooth C/ P, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16040317-005 Smooth C/ P, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
05 / 16040317-005 Smooth C/ P, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Approved Signatory:

Analysis Date: 11/9/2016 Date: 11/9/2016

SanAir Technologies Laboratory, Inc.

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

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Analyst: Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16040317-006 Smooth C/ P, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
06 / 16040317-006 Smooth C/ P, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16040317-007 Smooth C/ P, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
07 / 16040317-007 Smooth C/ P, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16040317-008 Smooth C/ P, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
08 / 16040317-008 Smooth C/ P, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16040317-009 Smooth C/ P, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
09 / 16040317-009 Smooth C/ P, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16040317-010 C/ T	White Fibrous Homogeneous	40% Cellulose 40% Min. Wool	20% Other	None Detected

Certification

Analyst: Approved Signatory:

Analysis Date: 11/9/2016 Date: 11/9/2016

SanAir Technologies Laboratory, Inc.

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804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: http://www.sanair.com E-mail: iaq@sanair.com

SanAir ID Number
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Address: 6105 Heisley Road
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Analyst: Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16040317-011 C/ T	White Fibrous Homogeneous	40% Cellulose 40% Min. Wool	20% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16040317-012 Texture On CP	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16040317-013 Texture On CP	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
14 / 16040317-014 Texture On CP	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16040317-015 Smooth Wall Plaster, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
15 / 16040317-015 Smooth Wall Plaster, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16040317-016 Smooth Wall Plaster, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
16 / 16040317-016 Smooth Wall Plaster, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Approved Signatory:

Analysis Date: 11/9/2016 Date: 11/9/2016

SanAir Technologies Laboratory, Inc.

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

SanAir ID Number
16040317
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 208 Broadway

Collected Date: 11/2/2016
Received Date: 11/4/2016 10:00:00 AM
Report Date: 11/9/2016 4:52:41 PM
Analyst: Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
17 / 16040317-017 Smooth Wall Plaster, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
17 / 16040317-017 Smooth Wall Plaster, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
18 / 16040317-018 Smooth Wall Plaster, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
18 / 16040317-018 Smooth Wall Plaster, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
19 / 16040317-019 Smooth Wall Plaster, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
19 / 16040317-019 Smooth Wall Plaster, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
20 / 16040317-020 Smooth Wall Plaster, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
20 / 16040317-020 Smooth Wall Plaster, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
21 / 16040317-021 Smooth Wall Plaster, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
21 / 16040317-021 Smooth Wall Plaster, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Approved Signatory:

Analysis Date: 11/9/2016 Date: 11/9/2016

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Report Date: 11/9/2016 4:52:41 PM
Analyst: Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
22 / 16040317-022 Smooth Wall Plaster, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
22 / 16040317-022 Smooth Wall Plaster, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
23 / 16040317-023 Smooth Wall Plaster, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
23 / 16040317-023 Smooth Wall Plaster, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
24 / 16040317-024 Drywall System	White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
25 / 16040317-025 Drywall System, Drywall	White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected
25 / 16040317-025 Drywall System, Joint Compound	White Non-Fibrous Homogeneous	5% Glass	95% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
26 / 16040317-026 Drywall System, Drywall	White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected
26 / 16040317-026 Drywall System, Joint Compound	White Non-Fibrous Homogeneous	5% Glass	95% Other	None Detected

Certification

Analyst: Approved Signatory:

Analysis Date: 11/9/2016 Date: 11/9/2016

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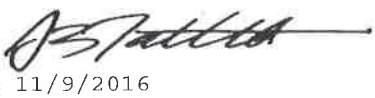
Analyst: Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
27 / 16040317-027 Window Glazing	Beige Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
28 / 16040317-028 Window Glazing	Beige Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile

Certification

Analyst: 
Analysis Date: 11/9/2016

Approved Signatory:
Date: 11/9/2016

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Report Date: 11/9/2016 4:52:41 PM
Analyst: Tallert, Jonathan

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16040317-029 Smooth C/P, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile
02 / 16040317-030 Smooth C/P, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile
03 / 16040317-031 Smooth C/P, Plaster	Grey Non-Fibrous Homogeneous		99.9% Other	0.1% Chrysotile
04 / 16040317-032 Smooth C/P, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile
05 / 16040317-033 Smooth C/P, Plaster	Grey Non-Fibrous Homogeneous		99.8% Other	0.2% Chrysotile
06 / 16040317-034 Smooth C/P, Plaster	Grey Non-Fibrous Homogeneous		99.9% Other	0.1% Chrysotile
07 / 16040317-035 Smooth C/P, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile

Certification

Analyst: Approved Signatory:

Analysis Date: 11/9/2016 Date: 11/9/2016

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Analyst: Tallert, Jonathan

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16040317-036 Smooth C/P, Plaster	Grey Non-Fibrous Homogeneous		99.7% Other	0.3% Chrysotile
09 / 16040317-037 Smooth C/P, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile
15 / 16040317-038 Smooth Wall Plaster, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile
16 / 16040317-039 Smooth Wall Plaster, Plaster	Grey Non-Fibrous Homogeneous		99.9% Other	0.1% Chrysotile
17 / 16040317-040 Smooth Wall Plaster, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile
18 / 16040317-041 Smooth Wall Plaster, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile
19 / 16040317-042 Smooth Wall Plaster, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile

Certification

Analyst: Approved Signatory:

Analysis Date: 11/9/2016 Date: 11/9/2016

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Report Date: 11/9/2016 4:52:41 PM
Analyst: Tallert, Jonathan

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
20 / 16040317-043 Smooth Wall Plaster, Plaster	Grey Non-Fibrous Homogeneous		99.6% Other	0.4% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
21 / 16040317-044 Smooth Wall Plaster, Plaster	Grey Non-Fibrous Homogeneous		99.9% Other	0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
22 / 16040317-045 Smooth Wall Plaster, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
23 / 16040317-046 Smooth Wall Plaster, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile

Certification

Analyst: Approved Signatory:

Analysis Date: 11/9/2016 Date: 11/9/2016

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Report Date: 11/9/2016 4:52:41 PM
Analyst: Tallert, Jonathan

Asbestos Bulk EPA PLM 400 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
27 / 16040317-047 Window Glazing	Beige Non-Fibrous Homogeneous		100% Other	< 0.25% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
28 / 16040317-048 Window Glazing	Beige Non-Fibrous Homogeneous		100% Other	< 0.25% Chrysotile

Certification

Analyst: Analysis Date: 11/9/2016

Approved Signatory: Date: 11/9/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

Disclaimer

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16040317

SanAir Technologies Laboratory

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Asbestos Chain of Custody

SanAir ID Number: 16031786

Company: HzW Environmental Consultants, LLC	Project #: H16201	Collected by: JR
Address: 6105 Heisley Road	Project Name: 208 Broadway	Phone #: (440) 357-1260
City, St., Zip: Mentor, Ohio 44060	Date Collected: 11/2/16	Fax #: (440) 357-1510
State of Collection: Oh Account#:	P.O. Number:	Email: jsablar@hzwenv.com

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Water

ABHE	EPA 100.2	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Matrix	Other	
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☒	4 Days ☐	5 Days ☐

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start – Stop	
01	Smooth C/P					
02	"					
03	"					
04	"	1,000 P.C.				
05	"					
06	"					
07	"					
08	"					
09	"					
10	C/T – Pin holes					
11	"					
12	Texture on C/P – Stamp	— 1,000 P.C.				

Relinquished by	Date	Time	Received by	Date	Time
[signature]	11/3/16	3:00pm	CCW	11/4/16	10:00AM

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

Page 1 of ___

16040317

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
13	Texture on cp-stomp	X	1,000 P.C.		
14	"				
15	Smooth Wall Plaster				
16	"				
17	"				
18	"				
19	" 1,000 P.C.				
20	"				
21	"				
22	"				
23	"				
24	Drywall System				
25	"				
26	"				
27	Window glazing				
28	"				

Special Instructions Samples for 1000 Point Count are noted, all other are 400 Point Count

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	11/3/16	3:00pm	CCV	11/4/16	10:00Am

Unless scheduled, the turn around time for all samples received after 3 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.

Page 2 of 2

Point Count all Samples identified at 2% or less – 1,000 P.C. when indicated.
– Stop at First Positive

HZW
Environmental
Consultants

October 3, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 2551 Cornwall Street, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HZW Environmental Consultants, LLC (HZW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 2551 Cornwall Street, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below.

Photograph 01
Exterior View of Residential Structure Located at
2551 Cornwall Street, Youngstown, Ohio

METHODS OF INVESTIGATION

General

During September 2016, a representative of HZW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HZW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HZW under the Miscellaneous Materials category.

Once categorized, HZW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HZW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HZW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HZW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HZW collected a minimum of seven (7) samples from this area/material.

- For TSI, HZW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HZW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HZW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HZW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HZW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HZW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HZW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HZW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HZW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HZW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HZW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HZW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos. Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HZW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HZW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HZW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HZW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Third Request\01 2551 Cornwall Street Asbestos Survey Report.docx

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 2551 Cornwall Street, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Ceiling Plaster with Skim Coat – Smooth	Throughout Structure	Unable To Access Structure	01	X					Approx. 1,040 sq.ft.	3 ND
				02							NA ND
				03							NA ND
B	Wall Plaster with Skim Coat – Smooth	Throughout Structure	Unable To Access	04	X					Approx. 3,000 sq.ft.	4 ND
				05							NA ND
				06							NA ND
C	Asphalt Shingle Roofing System - Black	House Roof	Minimum 2 Samples	07							ND
				08							ND
D	Window Glazing	House Windows	Minimum 2 Samples	09							ND
				10							ND
E	Window Glazing	Basement Windows	Minimum 2 Samples	11							ND
				12							ND

Note: Structure was considered unsafe to enter. Additional building materials suspect for containing asbestos may be present within the structure.

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

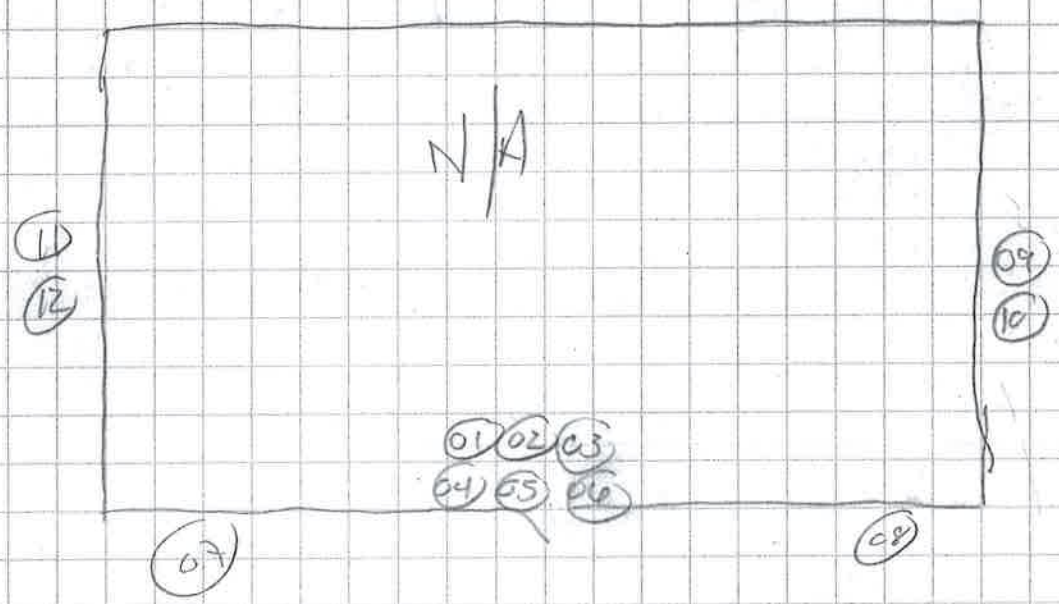
PROJECT 2551 Cornwall ST.
PROJECT NO. H116201
PAGE NO. 1 OF 1
FIELD REPRESENTATIVE CR DATE 09/01/14
SCALE (TH)

INDICATE DIRECTION OF NORTH

N →

Bldg observations:
- 26' x 20'
- 2 Story, full Basement
- filled w/ debris
- Very Rotted unsafe to enter

HAS:
A) Ceiling Plaster w/ S/C (smooth) "Poor" - throughout (01-03)
B) Wall Plaster w/ S/C (smooth) "Poor" throughout (04-06)
C) ASJS (Black) "Poor" - 550 SF (07, 08)
D) W/G "Poor" - House windows .3 x 16 SF 12 PCS (09, 10)
E) W/G "Poor" - Basement windows .3 x 12 1 PCS (11, 12)



SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/12/2016
Project Name: 2551 Cornwell St
Project #: H16201
SanAir ID#: 16031786

NVLAP LAB CODE 200870-0

Virginia SBE Certification # 652931

Texas Licensed Mold Analysis Laboratory License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

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

HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 12, 2016

SanAir ID # 16031786
Project Name: 2551 Cornwell St
Project Number: H16201

Dear Carmen Rocco,

We at SanAir would like to thank you for the work you recently submitted. The 12 sample(s) were received on Friday, September 02, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
12 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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

SanAir ID Number
16031786
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 2551 Cornwell St

Collected Date: 9/1/2016
Received Date: 9/2/2016 10:30:00 AM
Report Date: 9/12/2016 2:25:21 PM
Analyst: Rutter, Amber

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16031786-001 Ceiling Plaster W/ S/ C, Plaster	Beige Non-Fibrous Heterogeneous	5% Hair	92% Other	3% Chrysotile
01 / 16031786-001 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16031786-002 Ceiling Plaster W/ S/ C, Plaster				Not Analyzed
02 / 16031786-002 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16031786-003 Ceiling Plaster W/ S/ C, Plaster				Not Analyzed
03 / 16031786-003 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16031786-004 Wall Plaster W/ S/ C, Plaster	Beige Non-Fibrous Heterogeneous	5% Hair	91% Other	4% Chrysotile
04 / 16031786-004 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16031786-005 Wall Plaster W/ S/ C, Plaster				Not Analyzed
05 / 16031786-005 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

SanAir Technologies Laboratory, Inc.

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Name: HzW Environmental Consultants LLC
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Analyst: Rutter, Amber

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16031786-006 Wall Plaster W/ S/ C, Plaster				Not Analyzed
06 / 16031786-006 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16031786-007 Asphalt Shingle	Various Non-Fibrous Heterogeneous	15% Cellulose	85% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16031786-008 Asphalt Shingle	Various Non-Fibrous Heterogeneous	15% Cellulose	85% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16031786-009 Window Glazing	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16031786-010 Window Glazing	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16031786-011 Window Glazing	Beige Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

SanAir Technologies Laboratory, Inc.

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SanAir ID Number
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Name: HzW Environmental Consultants LLC
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Analyst: Rutter, Amber

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16031786-012 Window Glazing	Beige Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

SanAir Technologies Laboratory
1551 Oakbridge Drive Suite B
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804-897-1177 / 888-895-1177
Fax 804-897-0070
www.sanair.com

Asbestos Chain of Custody

SanAir ID Number: 16031786

Company: Haw Environmental	Project #: H16201	Collected by:
Address: 6605 Heisley Rd	Project Name: 7551 Cornwell ST.	Phone #:
City, St., Zip: Mentor, OH 44060	Date Collected:	Fax #:
State of Collection: Account#:	P.O. Number:	Email:

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Water

ABHE	EPA 100.2	☐

Other

Matrix		
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (3HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start – Stop	
01	Ceiling Plaster w/ s/c					
02			1000 p.c.			
03						
04	wall Plaster w/ s/c					
05			1,000 p.c			
06						
07	Asphalt Roofing					
08						
09	window Glazing					
10						
11	window Glazing					
12						

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	09/01/14	5:00pm	CEW	SEP 02 2016	10:30AM

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

Page ___ of ____

Please P/C 29a or less
1,000 P/C when Indicated.

HZW
Environmental
Consultants

October 3, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 2559 Cornwall Street, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HZW Environmental Consultants, LLC (HZW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 2559 Cornwall Street, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below.

Photograph 01
Exterior View of Residential Structure Located at
2559 Cornwall Street, Youngstown, Ohio

METHODS OF INVESTIGATION

General

During September 2016, a representative of HZW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HZW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HZW under the Miscellaneous Materials category.

Once categorized, HZW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HZW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HZW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HZW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HZW collected a minimum of seven (7) samples from this area/material.

- For TSI, HZW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HZW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HZW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HZW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HZW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HZW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HZW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HZW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HZW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HZW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HZW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HZW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos. Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HZW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HZW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HZW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HZW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Third Request\02 2559 Cornwall Street Asbestos Survey Report.docx

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 2559 Cornwall Street, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Ceiling Plaster	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	01	X				1,150 sq.ft.		1.2
				02							NA
				03							NA
				04							NA
				05							NA
B	Wall Plaster with Skim Coat – Smooth	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	06	X				4,161 sq.ft.		0.6
				07							1.2 ND
				08							NA ND
				09							NA
				10							NA ND
C	Ceiling Tile – 2-foot by 3-foot, 1-foot by 1 Pattern	Various Areas Throughout Structure	Minimum 2 Samples	11							ND
				12							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 2559 Cornwall Street, Youngstown, Ohio

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HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
D	Ceiling Panel – 2-foot by 4-foot, Swirl Pattern	Living Room and Dining Room	Minimum 2 Samples	13							ND
				14							ND
G	Ceiling Panel – 2-foot by 4-foot, Pinhole with Nick Pattern	Kitchen	Minimum 2 Samples	15							ND
				16							ND
J	Drywall System - Wall	Kitchen	Minimum 2 Samples	17							ND ND
				18							ND ND
K	Skim Coat – Ceiling, Small Circular Pattern	Various Areas Throughout Structure	<1,000 sq.ft.	19							ND ND
				20							ND
				21							ND
L	Drywall System – Ceiling and Wall	Bedroom # 1 Closet	Minimum 2 Samples	22							ND
				23							ND

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Client: City of Youngstown
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HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
M	Skim Coat – Wall, Smooth	Basement	<1,000 sq.ft.	24							ND
				25							ND
				26							ND
N	Window Glazing	Basement Windows	Minimum 2 Samples	27							ND
				28							ND
O	Duct Seam Caulk	Basement	Minimum 2 Samples	29							ND
				30							ND
Q	Asphalt Shingle Roofing System - Green	House Roof	Minimum 2 Samples	31							ND
				32							ND
T	Window Glazing	House Windows	Minimum 2 Samples	33							ND
				34							ND
E1-E7	Vinyl Sheet Flooring, Mastic (7 Types)	Various Areas Throughout Structure	Category I Nonfriable in Fair Condition, Not Sampled				X		717 sq.ft.		Assumed

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HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
F	Cove Base - 3-inch, Mastic	Various Areas Throughout First Floor	Category I Nonfriable in Fair Condition, Not Sampled				X		38 sq.ft.		Assumed
H	Sink Insulation - White	Kitchen	Category I Nonfriable in Fair Condition, Not Sampled				X		6 sq.ft.		Assumed
I	Floor Tile – 12-inch by 12-inch, Mastic	Kitchen	Category I Nonfriable in Fair Condition, Not Sampled				X		168 sq.ft.		Assumed
P	Duct Wrap Insulation	Throughout Structure	Assumed RACM			X			130 sq.ft.		Assumed
R	Asphalt Shingle Roofing System - Gray	Awning Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		192 sq.ft.		Assumed
S	Cementitious Siding Shingles	House Exterior	Assumed RACM				X		2,600 sq.ft.		Assumed

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CONSULTANTS, LLC

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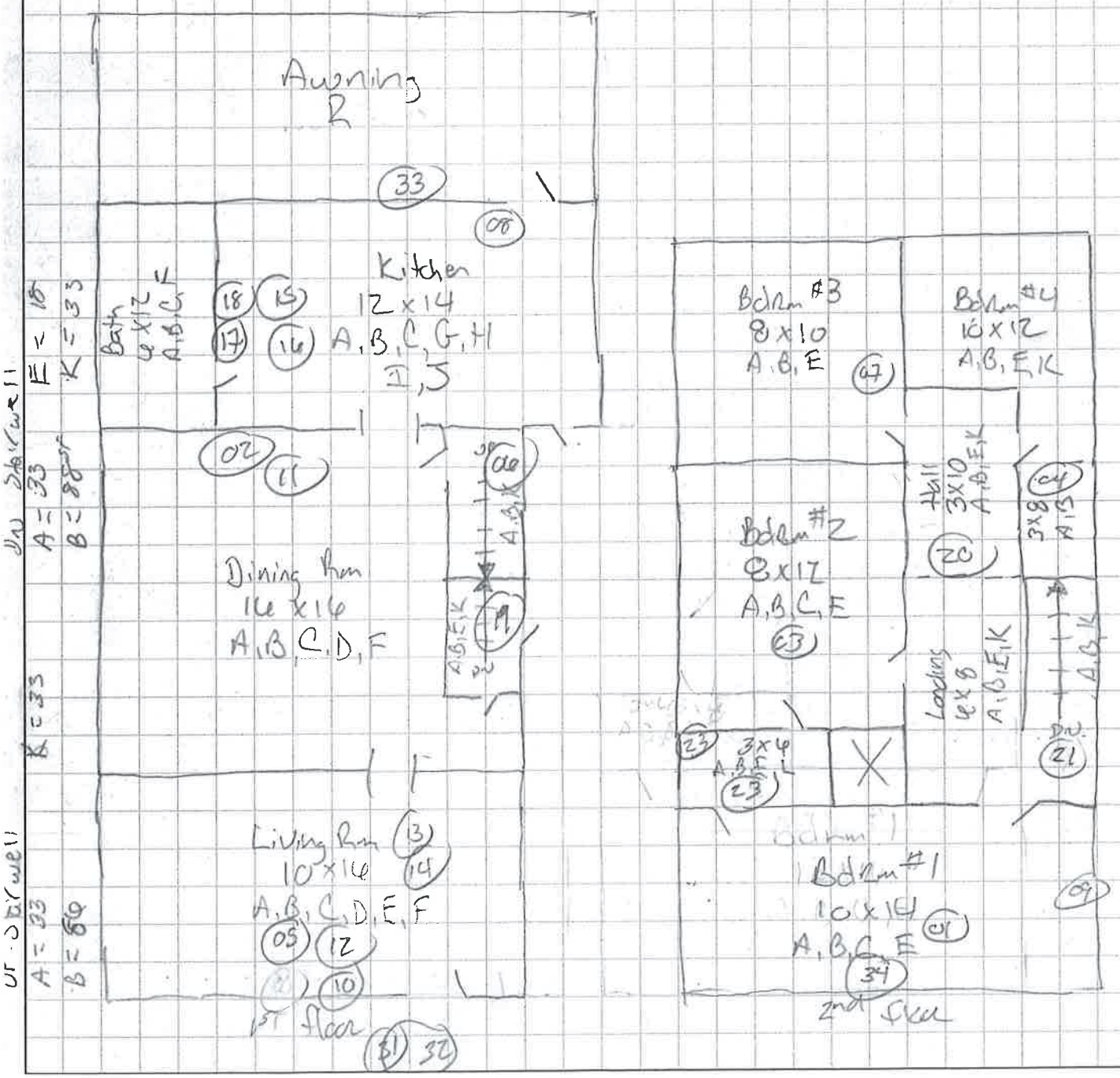
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 2559 Cornwall St.
PROJECT NO. H16201
PAGE NO. 2 OF 3
FIELD REPRESENTATIVE CR DATE 09/08/16
SCALE

INDICATE DIRECTION OF NORTH

← N



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PROJECT 2059 Cornwall St.
PROJECT NO. H16201
PAGE NO. 3 OF 3
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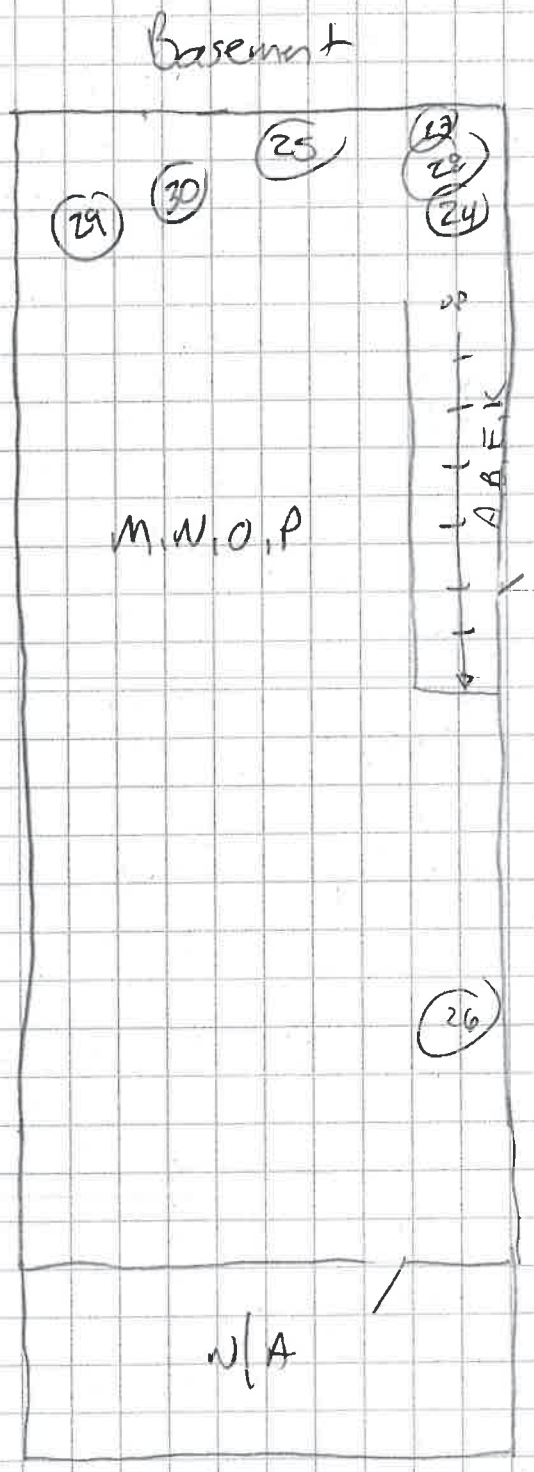
SCALE

INDICATE DIRECTION OF NORTH

← N



SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/20/2016
Project Name: 2559 Cornwall St
Project #: H16201
SanAir ID#: 16032997

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

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804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
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HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 20, 2016

SanAir ID # 16032997
Project Name: 2559 Cornwall St
Project Number: H16201

Dear Joan Sablar,

We at SanAir would like to thank you for the work you recently submitted. The 39 sample(s) were received on Tuesday, September 13, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
42 sample(s) in Good condition 2 sample(s) in Layer Missing condition

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SanAir ID Number
16032997
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 2559 Cornwall St

Collected Date: 9/12/2016
Received Date: 9/13/2016 10:35:00 AM
Report Date: 9/20/2016 5:14:37 PM
Analyst: Pisula, Nicholas

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16032997-001 Ceiling Plaster	Brown Non-Fibrous Homogeneous		98% Other	2% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16032997-002 Ceiling Plaster				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16032997-003 Ceiling Plaster				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16032997-004 Ceiling Plaster				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16032997-005 Ceiling Plaster				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16032997-006 Wall Plaster W/ S/ C, Plaster	Brown Non-Fibrous Homogeneous		98% Other	2% Chrysotile
06 / 16032997-006 Wall Plaster W/ S/ C, Skim Coat				Not Submitted

Certification

Analyst: Nicholas Pisula
Analysis Date: 9/20/2016

Approved Signatory:
Date: 9/20/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16032997-007 Wall Plaster W/ S/ C, Plaster				Not Analyzed
07 / 16032997-007 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16032997-008 Wall Plaster W/ S/ C, Plaster				Not Analyzed
08 / 16032997-008 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16032997-009 Wall Plaster W/ S/ C, Plaster				Not Analyzed
09 / 16032997-009 Wall Plaster W/ S/ C, Skim Coat				Not Submitted

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16032997-010 Wall Plaster W/ S/ C, Plaster				Not Analyzed
10 / 16032997-010 Wall Plaster W/ S/ C, Skim Coat	Pink Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16032997-011 Ceiling Tile	Brown Fibrous Homogeneous	95% Cellulose	5% Other	None Detected

Certification

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Analysis Date: 9/20/2016

Approved Signatory: [signature]
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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16032997-012 Ceiling Tile	Brown Fibrous Homogeneous	95% Cellulose	5% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16032997-013 Ceiling Panel	Brown Fibrous Homogeneous	95% Cellulose	5% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
14 / 16032997-014 Ceiling Panel	Brown Fibrous Homogeneous	95% Cellulose	5% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16032997-015 Ceiling Panel	White Fibrous Homogeneous	60% Cellulose 15% Glass 15% Min. Wool	10% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16032997-016 Ceiling Panel	White Fibrous Homogeneous	60% Cellulose 15% Glass 15% Min. Wool	10% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
17 / 16032997-017 D/ W System, Drywall	Grey Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
17 / 16032997-017 D/ W System, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
18 / 16032997-018 D/ W System, Drywall	Grey Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
18 / 16032997-018 D/ W System, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
19 / 16032997-019 Skim Coat, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected
19 / 16032997-019 Skim Coat, Texture	Pink Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
20 / 16032997-020 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
21 / 16032997-021 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
22 / 16032997-022 D/ W System	Grey Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
23 / 16032997-023 D/ W System	Grey Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
24 / 16032997-024 Skim Coat	Green Non-Fibrous Homogeneous		100% Other	None Detected
25 / 16032997-025 Skim Coat	Green Non-Fibrous Homogeneous		100% Other	None Detected
26 / 16032997-026 Skim Coat	Green Non-Fibrous Homogeneous		100% Other	None Detected
27 / 16032997-027 Window Glazing	Grey Non-Fibrous Homogeneous		100% Other	None Detected
28 / 16032997-028 Window Glazing	Grey Non-Fibrous Homogeneous		100% Other	None Detected
29 / 16032997-029 Duct Seam Caulk	Grey Non-Fibrous Homogeneous		100% Other	None Detected
30 / 16032997-030 Duct Seam Caulk	Grey Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Nicholas Pisula
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Approved Signatory:
Date: 9/20/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
31 / 16032997-031 Asphalt Roofing	Green Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
32 / 16032997-032 Asphalt Roofing	Green Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
33 / 16032997-033 Window Glazing	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
34 / 16032997-034 Window Glazing	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Approved Signatory:
Analysis Date: 9/20/2016 Date: 9/20/2016

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Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16032997-035 Ceiling Plaster	Brown Non-Fibrous Homogeneous		98.8% Other	1.2% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16032997-036 Ceiling Plaster				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16032997-037 Ceiling Plaster				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16032997-038 Ceiling Plaster				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16032997-039 Ceiling Plaster				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16032997-040 Wall Plaster	Brown Non-Fibrous Homogeneous		99.4% Other	0.6% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16032997-041 Wall Plaster	Brown Non-Fibrous Homogeneous		98.8% Other	1.2% Chrysotile

Certification

Analyst: Nicholas Pisula
Analysis Date: 9/20/2016

Approved Signatory: [signature]
Date: 9/20/2016

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Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16032997-042 Wall Plaster				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16032997-043 Wall Plaster				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16032997-044 Wall Plaster				Not Analyzed

Certification

Analyst: Nicholas Pisula
Analysis Date: 9/20/2016

Approved Signatory: [signature]
Date: 9/20/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

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1L0 3299.1

Asbestos Chain of Custody

SanAir ID Number: [redacted]

Company: HzW Environmental Consultants, LLC	Project #: H16201	Collected by:
Address: 6105 Heisley Road	Project Name: 2559 Cornwall St.	Phone #: 440-357-1260
City, St., Zip: Mentor, Ohio 44060	Date Collected:	Fax #: 440-357-1510
State of Collection: OH Account#:	P.O. Number:	Email: JSablar@Hzwenv.com

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Water

ABHE	EPA 100.2	☐

Matrix	Other	
		☐

Turn Around Times	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start – Stop
01	Ceiling Plaster				
02					
03			1,000 p.c.		
04					
05					
06	Wall Plaster w/ S/C				
07					
08			1,000 p.c		
09					
10					
11	Ceiling Tile				
12					

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	09/12/16	9:30 AM	[illegible]	SEP 13 2016	10:35AM

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

P/C 2% or less 1,000 P/C when Indicated

1C0032997

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start -- Stop	
13	Ceiling Panel				
14	"				
15	Ceiling Panel				
16	"				
17	D/W System				
18	"				
19	Skim Coat				
20	"		1,000 p.c.		
21	"				
22	D/W System				
23	"				
24	Skim coat				
25	"		1,000 p.c.		
26	"				
27	Window Glazing				
28	"				
29	Duct Seam Caulk				
30	"				
31	Asphalt Roofing				
32	"				
33	Window Glazing				
34	"				

Special Instructions: Samples for 1000 Point Count are noted, all other are 400 Point C

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	09/12/16	9:30 AM	CW	SEP 13 2016	10:35 AM

Unless scheduled, the turn around time for all samples received after 3 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.

Page 2 of 2

Point Count all Samples identified at 2% or less

HzW ENVIRONMENTAL
CONSULTANTS, LLC

August 30, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 707 Delaware Avenue, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HzW Environmental Consultants, LLC (HzW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 707 Delaware Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below.

Photograph 01
Exterior View of Residential Structure Located at
707 Delaware Avenue, Youngstown, Ohio

MENTOR **AKRON** **EUCLID** **CANTON**
6105 Heisley Road, Mentor, Ohio 44060 • phone 440-357-1260 • 800-804-8484 • fax 440-357-1510
www.hzwenv.com

METHODS OF INVESTIGATION

General

During August 2016, a representative of HzW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HzW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HzW under the Miscellaneous Materials category.

Once categorized, HzW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HzW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HzW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HzW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HzW collected a minimum of seven (7) samples from this area/material.

- For TSI, HzW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HzW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HzW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HzW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HzW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HzW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia, Louisiana, for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less percent asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HzW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HzW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HzW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HzW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HzW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HzW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos.

   Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HzW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HzW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HzW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HzW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Second Request\03 707 Delaware Avenue Asbestos Report.doc

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 707 Delaware Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Ceiling Plaster with Skim Coat – Smooth	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	01					1,184 sq.ft.		ND ND
				02							ND ND
				03							ND ND
				04							ND ND
				05							<0.1 ND
B	Wall Plaster with Skim Coat – Smooth	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	06					4,342 sq.ft.		ND ND
				07							<0.1 ND
				08							ND ND
				09							<0.1 ND
				10							ND ND
C	Skim Coat – Ceiling, Swirl Pattern	Dining Room and Bedroom # 2	<1,000 sq.ft.	11							ND
				12							ND
				13							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 707 Delaware Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
D	Skim Coat – Ceiling, Sharp Blotch Pattern	Kitchen	<1,000 sq.ft.	14						120 sq.ft.	0.1
				15							0.4
				16							0.2
F	Skim Coat – Ceiling and Wall, Smear Pattern	Bedroom # 1	<1,000 sq.ft.	20							ND
				21							ND
				22							ND
G	Drywall System - Wall	Bathroom	Minimum 2 Samples	23							ND ND
				24							ND ND
H	Drywall, Piled on Ground	Inside Back Door	Minimum 2 Samples	25							ND
				26							ND
I	Skim Coat – Wall, Rough Brush Stroke Pattern	Basement	<1,000 sq.ft.	27							ND
				28							ND
				29							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 707 Delaware Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
M	Window Glazing	House Windows	Minimum 2 Samples	30							ND
				31							ND
E1-E4	Floor Tile – 12-Inch by 12-Inch, Mastic (4-Types)	Various Areas Throughout Structure	Category I Nonfriable in Fair Condition, Not Sampled				X		350 sq.ft.		Assumed
J	Duct Seam Tape	Basement	Assumed RACM			X			23 sq.ft.		Assumed
K	Duct Wrap Insulation	Throughout Structure	Assumed RACM			X			126 sq.ft.		Assumed
L	Asphalt Shingle Roofing System - Gray	House Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		1,200 sq.ft.		Assumed
N	Asphalt Shingle Roofing System - Gray	Shed Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		144 sq.ft.		Assumed

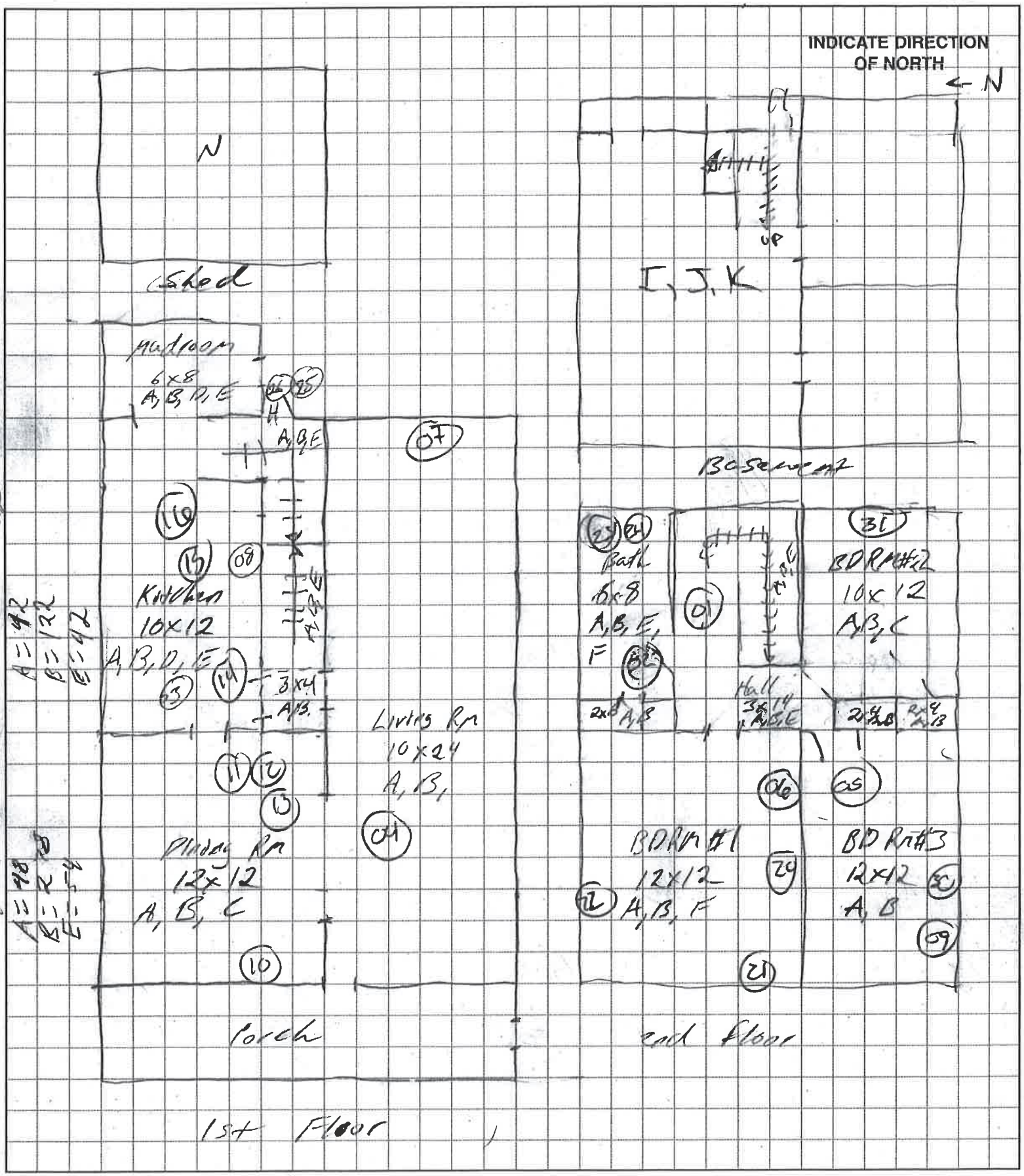
Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 707 Delaware Ave
PROJECT NO. H16201
PAGE NO. 2 OF 2
FIELD REPRESENTATIVE CR DATE 08/09/16
SCALE (T)

INDICATE DIRECTION OF NORTH ← N



SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 8/18/2016
Project Name: 707 Delaware Ave
Project #: H16201
SanAir ID#: 16028431

NVLAP LAB CODE 200870-0

Virginia SBE Certification # 652931

Texas Licensed Mold Analysis Laboratory License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

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

HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

August 18, 2016

SanAir ID # 16028431
Project Name: 707 Delaware Ave
Project Number: H16201

Dear Joan Sablar,

We at SanAir would like to thank you for the work you recently submitted. The 28 sample(s) were received on Thursday, August 11, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
34 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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

SanAir ID Number
16028431
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 707 Delaware Ave

Collected Date: 8/10/2016
Received Date: 8/11/2016 10:05:00 AM
Report Date: 8/18/2016 2:35:19 PM
Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16028431-001 Ceiling Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	None Detected
01 / 16028431-001 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16028431-002 Ceiling Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	None Detected
02 / 16028431-002 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16028431-003 Ceiling Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	None Detected
03 / 16028431-003 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16028431-004 Ceiling Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	None Detected
04 / 16028431-004 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16028431-005 Ceiling Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
05 / 16028431-005 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 8/18/2016

Approved Signatory:
Date: 8/18/2016

SanAir Technologies Laboratory, Inc.

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

SanAir ID Number
16028431
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 707 Delaware Ave

Collected Date: 8/10/2016
Received Date: 8/11/2016 10:05:00 AM
Report Date: 8/18/2016 2:35:19 PM
Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16028431-006 Wall Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	None Detected
06 / 16028431-006 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16028431-007 Wall Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
07 / 16028431-007 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16028431-008 Wall Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	None Detected
08 / 16028431-008 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16028431-009 Wall Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
09 / 16028431-009 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16028431-010 Wall Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	None Detected
10 / 16028431-010 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 8/18/2016

Approved Signatory:
Date: 8/18/2016

SanAir Technologies Laboratory, Inc.

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

SanAir ID Number
16028431
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 707 Delaware Ave

Collected Date: 8/10/2016
Received Date: 8/11/2016 10:05:00 AM
Report Date: 8/18/2016 2:35:19 PM
Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16028431-011 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected
12 / 16028431-012 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected
13 / 16028431-013 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected
14 / 16028431-014 Skim Coat	White Non-Fibrous Heterogeneous		98% Other	2% Chrysotile
15 / 16028431-015 Skim Coat				Not Analyzed
16 / 16028431-016 Skim Coat				Not Analyzed
20 / 16028431-017 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 8/18/2016

Approved Signatory:
Date: 8/18/2016

SanAir Technologies Laboratory, Inc.

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

SanAir ID Number
16028431
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 707 Delaware Ave

Collected Date: 8/10/2016
Received Date: 8/11/2016 10:05:00 AM
Report Date: 8/18/2016 2:35:19 PM
Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
21 / 16028431-018 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
22 / 16028431-019 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
23 / 16028431-020 D/W System, Drywall	White Non-Fibrous Heterogeneous	20% Cellulose	80% Other	None Detected
23 / 16028431-020 D/W System, Joint Compound	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
24 / 16028431-021 D/W System, Drywall	White Non-Fibrous Heterogeneous	20% Cellulose	80% Other	None Detected
24 / 16028431-021 D/W System, Joint Compound	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
25 / 16028431-022 D/W Board	White Non-Fibrous Heterogeneous	15% Cellulose	85% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
26 / 16028431-023 D/W Board	White Non-Fibrous Heterogeneous	15% Cellulose	85% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 8/18/2016

Approved Signatory:
Date: 8/18/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
27 / 16028431-024 Skim Coat	Grey Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
28 / 16028431-025 Skim Coat	Grey Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
29 / 16028431-026 Skim Coat	Grey Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
30 / 16028431-027 Window Glazing	Grey Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
31 / 16028431-028 Window Glazing	Grey Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 8/18/2016

Approved Signatory:
Date: 8/18/2016

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Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16028431-029 Ceiling Plaster W/ S/C	Brown Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16028431-030 Wall Plaster W/ S/C	Brown Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16028431-031 Wall Plaster W/ S/C	Brown Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
14 / 16028431-032 Skim Coat	White Non-Fibrous Heterogeneous		99.9% Other	0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16028431-033 Skim Coat	White Non-Fibrous Heterogeneous		99.6% Other	0.4% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16028431-034 Skim Coat	White Non-Fibrous Heterogeneous		99.8% Other	0.2% Chrysotile

Certification

Analyst: Nathan Vaughn
Analysis Date: 8/18/2016

Approved Signatory:
Date: 8/18/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

Disclaimer

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SanAir Technologies Laboratory

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www.sanair.com

Asbestos Chain of Custody

SanAir ID Number: 16028431

Company: Haw Environmental	Project #: H16201	Collected by:
Address: 6605 Heisley Rd	Project Name: 707 Delaware Ave	Phone #:
City, St., Zip: Mentor, OH 44060	Date Collected:	Fax #:
State of Collection: OH Account#:	P.O. Number:	Email:

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop ☒	
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Water

ABHE	EPA 100.2	☐

Matrix	Other	
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start – Stop	
01	Ceiling Flash w/ S/C		1,000 p/c.			
02						
03						
04						
05						
06	Wall Flash w/ S/C		1,000 p/c.			
07						
08						
09						
10						

Relinquished by	Date	Time	Received by	Date	Time
				AUG 11 2016	10:05AM

Unless scheduled, the turn around time for all samples received after ~~3 pm~~ EST 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.

Page ___ of ___

Please P/C 29a or less
1,000 P/C when Indicated.

16028431

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
11	Skim Coat				
12	)		1,000 p.c.		
13					
14	Skim Coat				
15	)		1,000 p.c.		
16					
20	Skim Coat				
21	)		1,000 p.c.		
22					
23	D/W System				
24	)				
25	D/W Board				
26	)				
27	Skim Coat				
28	)		1,000 p.c.		
29					
30	Window Glazing				
31	)				

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	08/10/16	819	[illegible]	AUG 11 2016	10:05AM

Unless scheduled, the turn around time for all samples received after 3 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.

Page ___of ___

HzW ENVIRONMENTAL
CONSULTANTS, LLC

September 19, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 708 Delaware Avenue, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HzW Environmental Consultants, LLC (HzW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at one (1) residential structure located at 708 Delaware Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below.

Photograph 01
Exterior View of Structure Located at
708 Delaware Avenue, Youngstown, Ohio

MENTOR AKRON EUCLID CANTON
6105 Heisley Road, Mentor, Ohio 44060 • phone 440-357-1260 • 800-804-8484 • fax 440-357-1510
www.hzwenv.com

METHODS OF INVESTIGATION

General

During September 2016, a representative of HzW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HzW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HzW under the Miscellaneous Materials category.

Once categorized, HzW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HzW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HzW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HzW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HzW collected a minimum of seven (7) samples from this area/material.

- For TSI, HzW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HzW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HzW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HzW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HzW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HzW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia, Louisiana, for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less percent asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HzW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HzW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HzW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HzW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HzW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HzW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos.

   Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HzW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HzW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HzW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HzW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Second Request\49 708 Delaware Avenue Asbestos Report.doc

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 708 Delaware Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Ceiling Plaster with Skim Coat – Smooth	Throughout Structure	<1,000 sq.ft.	01							ND ND
				02							ND ND
				03							ND ND
B	Wall Plaster with Skim Coat – Smooth	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	04							ND ND
				05							ND ND
				06							ND ND
				07							ND ND
				08							ND ND
E	Drywall System, - Ceiling and Walls	Basement	Minimum 2 Samples	09							ND ND
				10							ND ND
I	Window Glazing	House Windows	Minimum 2 Samples	11							ND
				12							ND
C	Floor Tile – 12-Inch by 12-Inch, Mastic	Kitchen and Hall	Category I Nonfriable in Fair Condition, Not Sampled				X		118 sq.ft.		Assumed
D	Vinyl Sheet Flooring, Mastic	Bath and Basement Stairwell	Category I Nonfriable in Fair Condition, Not Sampled				**X**		88 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 708 Delaware Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
F	Duct Seam Tape	Basement	Category I Nonfriable in Fair Condition, Not Sampled			X			1 sq.ft.		Assumed
G	Duct Wrap Insulation	Throughout	Category I Nonfriable in Fair Condition, Not Sampled			X			100 sq.ft.		Assumed
H	Asphalt Shingle Roofing System	House Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		800 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 708 Delaware Ave
PROJECT NO. 411e201
PAGE NO. 2 OF 2
FIELD REPRESENTATIVE CR DATE 09/01/10
SCALE NTS

INDICATE DIRECTION OF NORTH
N

SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/12/2016
Project Name: 708 Delaware Ave
Project #: H16201
SanAir ID#: 16031785

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 **www.sanair.com**

SanAir Technologies Laboratory, Inc.

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HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 12, 2016

SanAir ID # 16031785
Project Name: 708 Delaware Ave
Project Number: H16201

Dear Carmen Rocco,

We at SanAir would like to thank you for the work you recently submitted. The 12 sample(s) were received on Friday, September 02, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
12 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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

SanAir ID Number
16031785
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 708 Delaware Ave

Collected Date: 9/1/2016
Received Date: 9/2/2016 10:30:00 AM
Report Date: 9/12/2016 5:15:55 PM
Analyst: Fleming, Christopher

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16031785-001 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
01 / 16031785-001 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16031785-002 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
02 / 16031785-002 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16031785-003 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
03 / 16031785-003 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16031785-004 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
04 / 16031785-004 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16031785-005 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
05 / 16031785-005 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Analyst: Fleming, Christopher

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16031785-006 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
06 / 16031785-006 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16031785-007 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
07 / 16031785-007 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16031785-008 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
08 / 16031785-008 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16031785-009 D/ W System, Drywall	Off-White Non-Fibrous Homogeneous		100% Other	None Detected
09 / 16031785-009 D/ W System, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16031785-010 D/ W System, Drywall	Off-White Non-Fibrous Homogeneous		100% Other	None Detected
10 / 16031785-010 D/ W System, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16031785-011 Window Glazing	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16031785-012 Window Glazing	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

SanAir Technologies Laboratory

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804-897-1177 / 888-895-1177
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www.sanair.com

Asbestos Chain of Custody

SanAir ID Number: 16031785

Company: Haw Environmental		Project #: H16201	Collected by:
Address: 6605 Heisley Rd		Project Name: 708 Delaware Ave	Phone #:
City, St., Zip: Mentor, OH 44060		Date Collected:	Fax #:
State of Collection:	Account#:	P.O. Number:	Email:

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Water

ABHE	EPA 100.2	☐

Matrix	Other	
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start – Stop	
01	Ceiling Plaster w/ s/c		1,000 p.c.			
02						
03						
04	Wall Plaster w/ s/c		1,000 p.c			
05						
06						
07						
08						
09	D/W System					
10						
11	Window Glazing					
12						

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	09/01/16	5:00 pm	[illegible]	SEP 02 2016	10:30 AM

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

Page ___ of ____

Please P/C 2% or less
1.0cm P/C unless Indicated.

HzW ENVIRONMENTAL
CONSULTANTS, LLC

August 30, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 719 Delaware Avenue, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HzW Environmental Consultants, LLC (HzW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 719 Delaware Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below.

Photograph 01
Exterior View of Residential Structure Located at
719 Delaware Avenue, Youngstown, Ohio

MENTOR **AKRON** **EUCLID** **CANTON**
6105 Heisley Road, Mentor, Ohio 44060 • phone 440-357-1260 • 800-804-8484 • fax 440-357-1510
www.hzwenv.com

METHODS OF INVESTIGATION

General

During August 2016, a representative of HzW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HzW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HzW under the Miscellaneous Materials category.

Once categorized, HzW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HzW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HzW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HzW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HzW collected a minimum of seven (7) samples from this area/material.

- For TSI, HzW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HzW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HzW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HzW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HzW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HzW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia, Louisiana, for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less percent asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HzW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HzW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HzW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HzW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HzW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HzW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos.

   Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HzW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HzW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HzW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HzW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Second Request\04 719 Delaware Avenue Asbestos Report.doc

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 719 Delaware Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Ceiling Plaster with Skim Coat – Smooth	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	01			X		1,132 sq.ft.		4 ND
				02							NA ND
				03							NA ND
				04							NA ND
				05							NA ND
B	Wall Plaster with Skim Coat – Smooth	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	06			X		4,306 sq.ft.		4 ND
				07							NA ND
				08							NA ND
				09							NA ND
				10							NA ND
C	Drywall with Skim Coat – Ceiling, Blotch Pattern	Kitchen	<1,000 sq.ft.	11							ND ND
				12							ND ND
				13							ND ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 719 Delaware Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
E	Ceiling Panel – 2-foot by 4-foot, Indent Pattern	Bedroom # 1	Minimum 2 Samples	14							ND
				15							ND
H	Skim Coat – Ceiling, Blotch Pattern	Bedroom # 5	<1,000 sq.ft.	16							ND
				17							ND
				18							ND
I	Drywall Board	Various Areas Throughout Structure, on Floor	Minimum 2 Samples	19							ND
				20							ND
J	Skim Coat – Ceiling and Wall, Smear Pattern	Basement Stairwell	<1,000 sq.ft.	21							ND
				22							ND
				23							ND
L	Ceiling Plaster with Skim Coat	Bedroom Addition	<1,000 sq.ft.	24			X			288 sq.ft.	4 ND ND
				25							NA ND ND
				26							NA ND ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 719 Delaware Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
M	Wall Plaster with Skim Coat - Smooth	Bedroom Addition	<1,000 sq.ft.	27							ND ND
				28							ND ND
				29							ND ND
N	Skim Coat – Wall, Rough Brush Stroke Pattern	Basement	<1,000 sq.ft.	30							ND
				31							ND
				32							ND
O	Window Glazing	Basement Windows	Minimum 2 Samples	33							ND
				34							ND
R	Window Glazing	House Windows	Minimum 2 Samples	35							ND
				36							ND
D1-D2	Floor Tile – 12-Inch by 12-Inch, Mastic (2-Types)	Various Areas Throughout Structure	Category I Nonfriable in Fair Condition, Not Sampled				X		279 sq.ft.		Assumed
F1-F3	Vinyl Sheet Flooring, Mastic (3-Types)	Various Areas Throughout Structure	Category I Nonfriable in Fair Condition, Not Sampled				X		279 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 719 Delaware Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

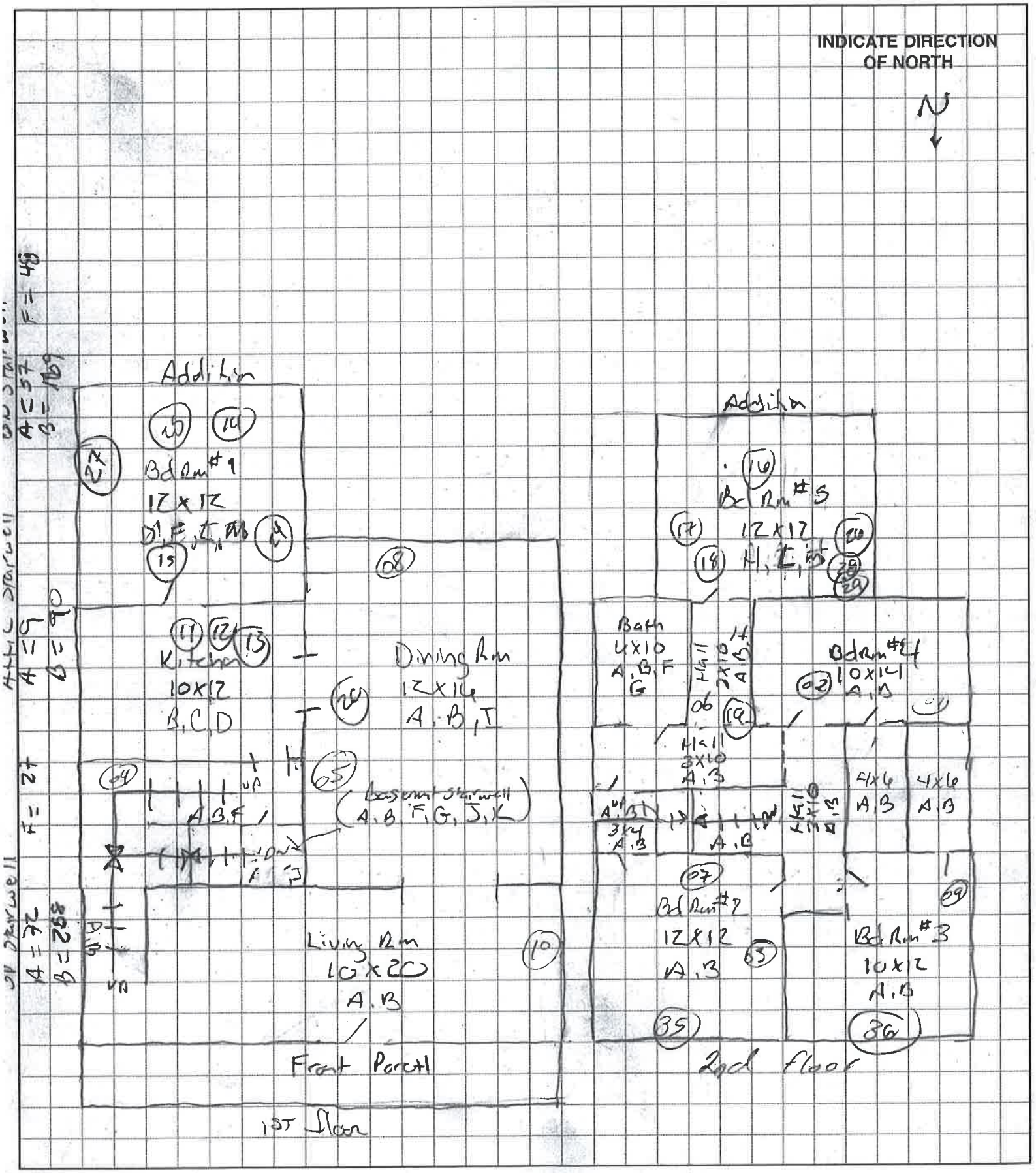
HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
G1-G2	Cove Base – 3-inch, Mastic (2-Types)	Bathroom and Basement Stairwell	Category I Nonfriable in Fair Condition, Not Sampled				X		12 sq.ft.		Assumed
K	Electrical Backing Pad	Basement Stairwell	Assumed RACM			X			1 sq.ft.		Assumed
P	Duct Wrap Insulation	Throughout Structure	Assumed RACM			X			200 sq.ft.		Assumed
Q	Asphalt Shingle Roofing System - Gray	House Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		1,200 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 719 Delaware Ave
PROJECT NO. H160201
PAGE NO. 2 OF 3
FIELD REPRESENTATIVE CR DATE 08/09/16
SCALE



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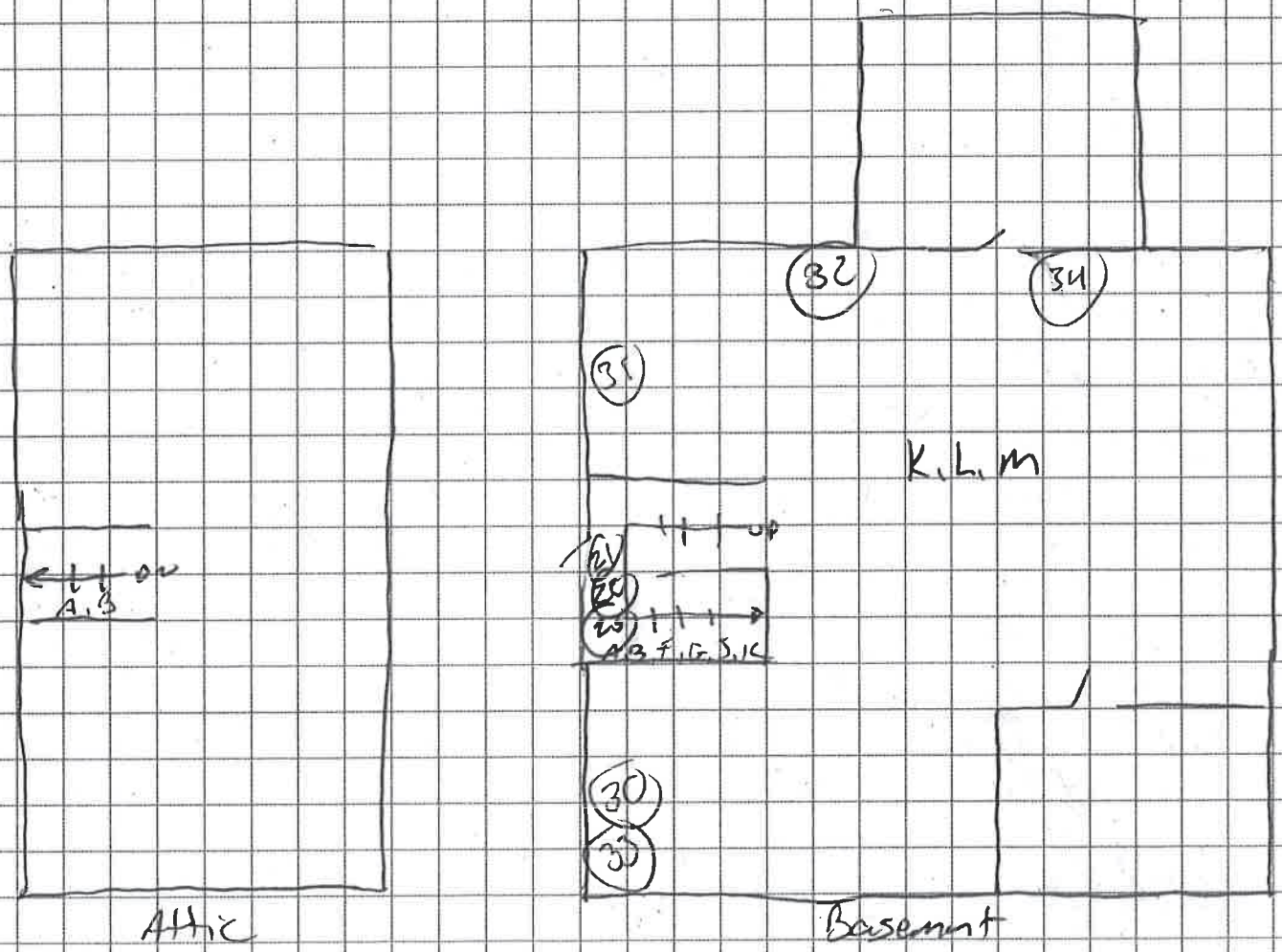
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 719 Delaware Ave
PROJECT NO. H116201
PAGE NO. 3 OF 3
FIELD REPRESENTATIVE CR DATE 08/09/16
SCALE (T)

INDICATE DIRECTION OF NORTH

N



SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 8/18/2016
Project Name: 719 Delaware Ave
Project #: H16201
SanAir ID#: 16028427

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
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HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

August 18, 2016

SanAir ID # 16028427
Project Name: 719 Delaware Ave
Project Number: H16201

Dear Joan Sablar,

We at SanAir would like to thank you for the work you recently submitted. The 36 sample(s) were received on Thursday, August 11, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
36 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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Web: http://www.sanair.com E-mail: iaq@sanair.com

SanAir ID Number
16028427
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 719 Delaware Ave

Collected Date: 8/10/2016
Received Date: 8/11/2016 10:05:00 AM
Report Date: 8/18/2016 4:01:42 PM
Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16028427-001 Ceiling Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		96% Other	4% Chrysotile
01 / 16028427-001 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16028427-002 Ceiling Plaster W/ S/C, Plaster				Not Analyzed
02 / 16028427-002 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16028427-003 Ceiling Plaster W/ S/C, Plaster				Not Analyzed
03 / 16028427-003 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16028427-004 Ceiling Plaster W/ S/C, Plaster				Not Analyzed
04 / 16028427-004 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16028427-005 Ceiling Plaster W/ S/C, Plaster				Not Analyzed
05 / 16028427-005 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 8/18/2016

Approved Signatory: Sandra Sabino
Date: 8/18/2016

SanAir Technologies Laboratory, Inc.

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Received Date: 8/11/2016 10:05:00 AM
Report Date: 8/18/2016 4:01:42 PM
Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16028427-006 Wall Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		96% Other	4% Chrysotile
06 / 16028427-006 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16028427-007 Wall Plaster W/ S/C, Plaster				Not Analyzed
07 / 16028427-007 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16028427-008 Wall Plaster W/ S/C, Plaster				Not Analyzed
08 / 16028427-008 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16028427-009 Wall Plaster W/ S/C, Plaster				Not Analyzed
09 / 16028427-009 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16028427-010 Wall Plaster W/ S/C, Plaster				Not Analyzed
10 / 16028427-010 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 8/18/2016

Approved Signatory: Sandra Sobrino
Date: 8/18/2016

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Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16028427-011 D/W W/ S/C, Drywall	White Non-Fibrous Heterogeneous	15% Cellulose	85% Other	None Detected
11 / 16028427-011 D/W W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16028427-012 D/W W/ S/C, Drywall	White Non-Fibrous Heterogeneous	15% Cellulose	85% Other	None Detected
12 / 16028427-012 D/W W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16028427-013 D/W W/ S/C, Drywall	White Non-Fibrous Heterogeneous	15% Cellulose	85% Other	None Detected
13 / 16028427-013 D/W W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
14 / 16028427-014 Ceiling Panel	White Fibrous Heterogeneous	90% Cellulose	10% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16028427-015 Ceiling Panel	White Fibrous Heterogeneous	90% Cellulose	10% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 8/18/2016

Approved Signatory: Sandra Sobrino
Date: 8/18/2016

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SanAir ID Number
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Mentor, OH 44060

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Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16028427-016 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected
17 / 16028427-017 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected
18 / 16028427-018 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected
19 / 16028427-019 D/W Board	White Non-Fibrous Heterogeneous	10% Cellulose	90% Other	None Detected
20 / 16028427-020 D/W Board	White Non-Fibrous Heterogeneous	10% Cellulose	90% Other	None Detected
21 / 16028427-021 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected
22 / 16028427-022 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 8/18/2016

Approved Signatory: Sandra Sabino
Date: 8/18/2016

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Received Date: 8/11/2016 10:05:00 AM
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Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
23 / 16028427-023 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
24 / 16028427-024 Ceiling Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		96% Other	4% Chrysotile
24 / 16028427-024 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected
24 / 16028427-024 Ceiling Plaster W/ S/C, Texture	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
25 / 16028427-025 Ceiling Plaster W/ S/C, Plaster				Not Analyzed
25 / 16028427-025 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected
25 / 16028427-025 Ceiling Plaster W/ S/C, Texture	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
26 / 16028427-026 Ceiling Plaster W/ S/C, Plaster				Not Analyzed
26 / 16028427-026 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected
26 / 16028427-026 Ceiling Plaster W/ S/C, Texture	White Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 8/18/2016

Approved Signatory: Sandra Sobrino
Date: 8/18/2016

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Received Date: 8/11/2016 10:05:00 AM
Report Date: 8/18/2016 4:01:42 PM
Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
27 / 16028427-027 Wall Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	None Detected
27 / 16028427-027 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
28 / 16028427-028 Wall Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	None Detected
28 / 16028427-028 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
29 / 16028427-029 Wall Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	None Detected
29 / 16028427-029 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
30 / 16028427-030 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
31 / 16028427-031 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 8/18/2016

Approved Signatory: Sandra Sobrino
Date: 8/18/2016

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Mentor, OH 44060

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Received Date: 8/11/2016 10:05:00 AM
Report Date: 8/18/2016 4:01:42 PM
Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
32 / 16028427-032 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
33 / 16028427-033 Window Glazing	Grey Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
34 / 16028427-034 Window Glazing	Grey Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
35 / 16028427-035 Window Glazing	Grey Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
36 / 16028427-036 Window Glazing	Grey Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 8/18/2016

Approved Signatory: Sandra Sobrino
Date: 8/18/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

SanAir Technologies Laboratory

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Asbestos Chain of Custody

SanAir ID Number: 16078427

Company: Haw Environmental	Project #: H16201	Collected by:
Address: 6605 Heisley Rd	Project Name: 719 Delaware Ave	Phone #:
City, St., Zip: Mentor, OH 44060	Date Collected:	Fax #:
State of Collection: Account#:	P.O. Number:	Email:

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☐
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Water

ABHE	EPA 100.2	☐

Other

Matrix		
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start – Stop	
01	Ceiling flash w/ S/C					
02			1,000 p.c.			
03						
04						
05						
06	Wall flash w/ S/C					
07			1,000 p.c.			
08						
09						
10						

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	08/10/16	7:50 am	[illegible]	AUG 11 2016	10:05 AM

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

Page ___ of ___

Please P/C 29a or less
1,000 P/C when Indicated.

16028427

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
11	D/w w/ S/C				
12	)		1,000 p.c.		
13					
14	Ceiling Panel				
15	)				
16	Skim Coat				
17	)		1,000 p.c.		
18					
19	D/w Board				
20	)				
21	Skim Coat				
22	)		1,000 p.c.		
23					
24	Ceiling Plaster w/ S/C				
25	)		1,000 p.c.		
26					
27	Wall Plaster w/ S/C				
28	)		1,000 p.c.		
29					
30	Skim Coat				
31	)		1,000 p.c.		
32					
33	Window Glazing				
34	)				
35	Window Glazing				
36	)				

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
	08/10/16	8:04		AUG 11 2016	10:05AM

Unless scheduled, the turn around time for all samples received after 3 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.

Page ___of ___

HzW ENVIRONMENTAL
CONSULTANTS, LLC

August 30, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 727 Delaware Avenue, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HzW Environmental Consultants, LLC (HzW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 727 Delaware Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below.

Photograph 01
Exterior View of Residential Structure Located at
727 Delaware Avenue, Youngstown, Ohio

MENTOR **AKRON** **EUCLID** **CANTON**
6105 Heisley Road, Mentor, Ohio 44060 • phone 440-357-1260 • 800-804-8484 • fax 440-357-1510
www.hzwenv.com

METHODS OF INVESTIGATION

General

During August 2016, a representative of HzW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HzW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HzW under the Miscellaneous Materials category.

Once categorized, HzW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HzW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HzW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HzW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HzW collected a minimum of seven (7) samples from this area/material.

- For TSI, HzW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HzW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HzW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HzW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HzW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HzW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia, Louisiana, for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less percent asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HzW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HzW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HzW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HzW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HzW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HzW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos.

   Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HzW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HzW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HzW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HzW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Second Request\05 727 Delaware Avenue Asbestos Report.doc

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 727 Delaware Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Ceiling Plaster with Skim Coat – Smooth	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	01	X					1,128 sq.ft.	4 ND
				02							NA ND
				03							NA ND
				04							NA ND
				05							NA ND
B	Wall Plaster with Skim Coat – Smooth	Throughout First Floor	>1,000 sq.ft. <5,000 sq.ft.	06	X					4,261 sq.ft.	4 ND
				07							NA ND
				08							NA ND
				09							NA ND
				10							NA ND
C	Skim Coat – Ceiling, Swirl Pattern	Living Room	<1,000 sq.ft.	11	X					240 sq.ft.	ND 4
				12							ND NA
				13							ND NA

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 727 Delaware Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
F	Vermiculite Attic Insulation – 3-inches Thick	Throughout Attic	Minimum 3 Samples	14			X			560 sq.ft.	<0.1
				15							<0.1
				16							<0.1
	Environmental Clean up Of Vermiculite Insulation	Throughout Second Floor									
H	Skim Coat – Wall, Rough Brush Stroke Pattern	Basement	<1,000 sq.ft.	17							ND
				18							ND
				19							ND
K	Asphalt Shingle Roofing System	House Roof	Minimum 2 Samples	20							ND
				21							ND
L	Window Glazing	House Windows	Minimum 2 Samples	22							ND
				23							ND
M	Drywall Board - Wall	Garage	Minimum 2 Samples	24							ND
				25							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 727 Delaware Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
D	Vinyl Sheet Flooring, Mastic	Kitchen	Category I Nonfriable in Fair Condition, Not Sampled				X		120 sq.ft.		Assumed
E	Stair Tread, Mastic	Second Floor Stairwell	Category I Nonfriable in Fair Condition, Not Sampled				X		12 sq.ft.		Assumed
G	Electrical Backing Pad	Basement Stairwell	Assumed RACM			X			1 sq.ft.		Assumed
I	Duct Seam Tape	Basement	Assumed RACM			X			12 sq.ft.		Assumed
J	Duct Wrap Insulation	Throughout Structure	Assumed RACM			X			100 sq.ft.		Assumed
N	Asphalt Shingle Roofing System - Gray	Garage Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		700 sq.ft.		Assumed

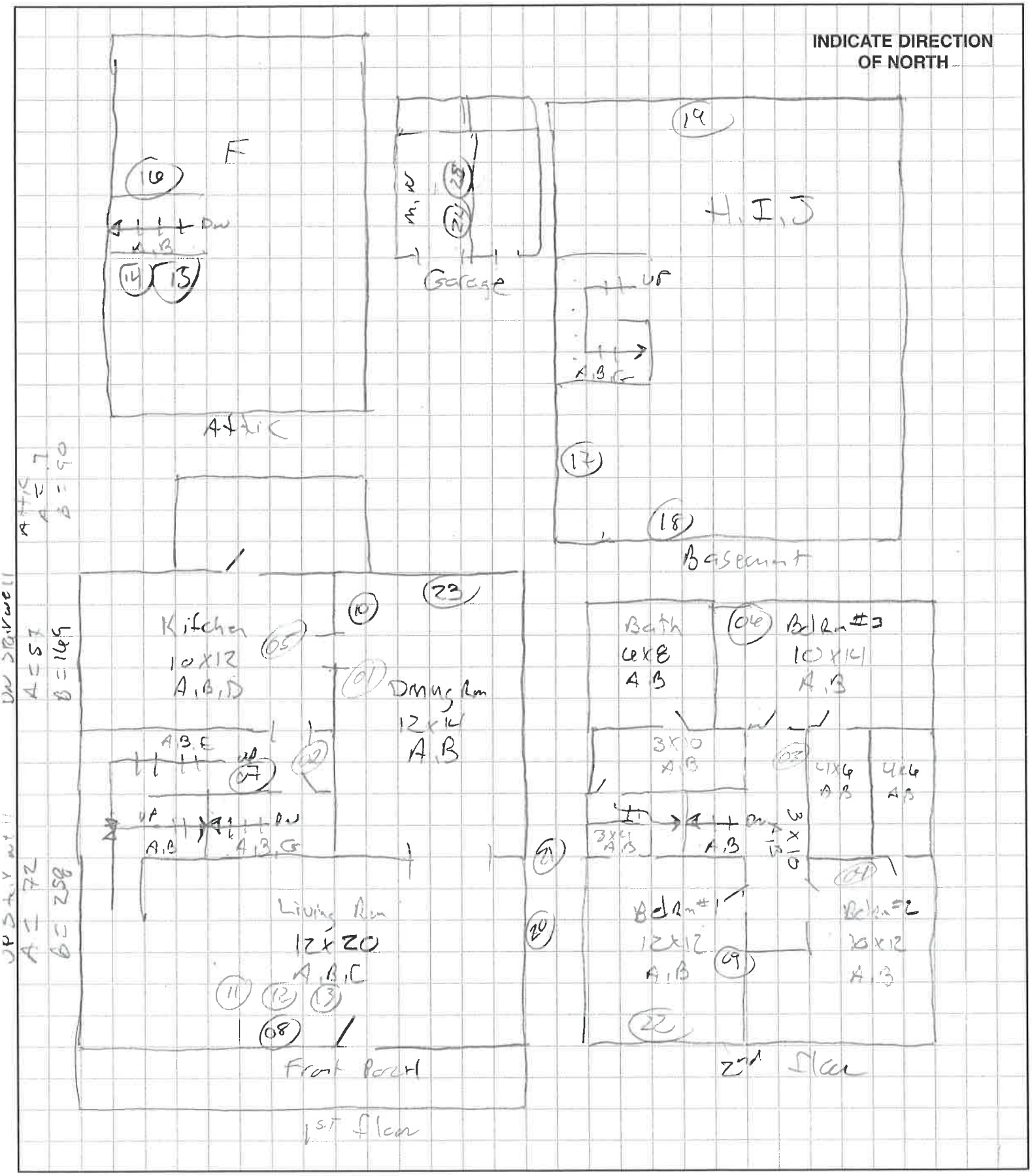
Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 727 Delaware Ave
PROJECT NO. H16201
PAGE NO. 2 OF
FIELD REPRESENTATIVE CR DATE 08/09/16
SCALE (T)

INDICATE DIRECTION OF NORTH



SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 8/18/2016
Project Name: 727 Delaware Ave
Project #: H16201
SanAir ID#: 16028433

NVLAP LAB CODE 200870-0

Virginia SBE Certification # 652931

Texas Licensed Mold Analysis Laboratory License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

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

HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

August 18, 2016

SanAir ID # 16028433
Project Name: 727 Delaware Ave
Project Number: H16201

Dear Joan Sablar,

We at SanAir would like to thank you for the work you recently submitted. The 22 sample(s) were received on Thursday, August 11, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 17, 18, 19, 20, 21, 22, 23, 24, 25.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
22 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
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SanAir ID Number
16028433
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 727 Delaware Ave

Collected Date: 8/10/2016
Received Date: 8/11/2016 10:05:00 AM
Report Date: 8/18/2016 2:57:17 PM
Analyst: Fleming, Christopher

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16028433-001 Ceiling Plaster W/ S/C, Plaster	Tan Non-Fibrous Homogeneous		96% Other	4% Chrysotile
01 / 16028433-001 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16028433-002 Ceiling Plaster W/ S/C, Plaster	Tan Non-Fibrous Homogeneous			Not Analyzed
02 / 16028433-002 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16028433-003 Ceiling Plaster W/ S/C, Plaster	Tan Non-Fibrous Homogeneous			Not Analyzed
03 / 16028433-003 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16028433-004 Ceiling Plaster W/ S/C, Plaster	Tan Non-Fibrous Homogeneous			Not Analyzed
04 / 16028433-004 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16028433-005 Ceiling Plaster W/ S/C, Plaster	Tan Non-Fibrous Homogeneous			Not Analyzed
05 / 16028433-005 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Chris Fleming
Analysis Date: 8/18/2016

Approved Signatory: J B Patchett
Date: 8/18/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16028433-006 Wall Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous		96% Other	4% Chrysotile
06 / 16028433-006 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16028433-007 Wall Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous			Not Analyzed
07 / 16028433-007 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16028433-008 Wall Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous			Not Analyzed
08 / 16028433-008 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16028433-009 Wall Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous			Not Analyzed
09 / 16028433-009 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16028433-010 Wall Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous			Not Analyzed
10 / 16028433-010 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Approved Signatory:

Analysis Date: 8/18/2016 Date: 8/18/2016

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Analyst: Fleming, Christopher

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16028433-011 Skim Coat, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected
11 / 16028433-011 Skim Coat, Plaster	Beige Non-Fibrous Homogeneous		96% Other	4% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16028433-012 Skim Coat, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected
12 / 16028433-012 Skim Coat, Plaster	Beige Non-Fibrous Homogeneous			Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16028433-013 Skim Coat, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected
13 / 16028433-013 Skim Coat, Plaster	Beige Non-Fibrous Homogeneous			Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
17 / 16028433-014 Skim Coat	Grey Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
18 / 16028433-015 Skim Coat	Grey Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Analysis Date: 8/18/2016

Approved Signatory: Date: 8/18/2016

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Analyst: Fleming, Christopher

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
19 / 16028433-016 Skim Coat	Grey Non-Fibrous Homogeneous		100% Other	None Detected
20 / 16028433-017 Asphalt Roofing	Black Non-Fibrous Homogeneous		100% Other	None Detected
21 / 16028433-018 Asphalt Roofing	Black Non-Fibrous Homogeneous		100% Other	None Detected
22 / 16028433-019 Window Glazing	Off-White Non-Fibrous Homogeneous		100% Other	None Detected
23 / 16028433-020 Window Glazing	Off-White Non-Fibrous Homogeneous		100% Other	None Detected
24 / 16028433-021 D/W Board	Off-White Non-Fibrous Homogeneous		100% Other	None Detected
25 / 16028433-022 D/W Board	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Chris Fleming
Analysis Date: 8/18/2016

Approved Signatory: [signature]
Date: 8/18/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

SanAir Technologies Laboratory

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804-897-1177 / 888-895-1177
Fax 804-897-0070
www.sanair.com

Asbestos Chain of Custody

SanAir ID Number: 16028433

Company: Hzw Environmental	Project #: H16201	Collected by:
Address: 6105 Heisley Rd	Project Name: 727 Delaware Ave	Phone #:
City, St., Zip: Mentor, OH 44060	Date Collected:	Fax #:
State of Collection: OH Account#:	P.O. Number:	Email:

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop ☒	
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☒
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Water

ABHE	EPA 100.2	☐

Other

Matrix		
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start – Stop	
01	Ceiling Flash w/ S/C					
02						
03			1,000 p.c.			
04						
05						
06	Wall flash w/ S/C					
07						
08			1,000 p.c.			
09						
10						

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	08/10/16	7:50 AM	[illegible]	AUG 11 2016	10:05AM

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

Page ___ of ____

Please P/C 2% or less
1.0mm P/C [illegible] Indicated.

160284133

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
11	Skim Coat				
12	)		1,000 p.c.		
13					
14	Vermiculite Insulation				
15	)				
16					
17	Skim Coat				
18	)		1,000 p.c.		
19					
20	asphalt Roofing				
21	)				
22	window Glazing				
23	)				
24	D/W Board				
25	)				

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	08/10/16	7:50AM	[illegible]	AUG 11 2016	10:05AM

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Page ___of ___

SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 8/18/2016
Project Name: 727 Delaware Ave
Project #: H16201
SanAir ID#: 16028434

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

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

HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

August 18, 2016

SanAir ID # 16028434
Project Name: 727 Delaware Ave
Project Number: H16201

Dear Joan Sablar,

We at SanAir would like to thank you for the work you recently submitted. The 3 sample(s) were received on Thursday, August 11, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 14, 15, 16.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
3 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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

SanAir ID Number
16028434
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 727 Delaware Ave

Collected Date: 8/10/2016
Received Date: 8/11/2016 10:05:00 AM
Report Date: 8/18/2016 2:44:17 PM
Analyst: Tallert, Jonathan

Asbestos Soil/Vermiculite PLM CARB 435 (LOD <1%)

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
14 / 16028434-001 Vermiculite Insulation	Gold Non-Fibrous Heterogeneous		100% Other	< 1% Tremolite

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16028434-002 Vermiculite Insulation	Gold Non-Fibrous Heterogeneous		100% Other	< 1% Tremolite

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16028434-003 Vermiculite Insulation	Gold Non-Fibrous Heterogeneous		100% Other	< 1% Tremolite

Certification

Analyst: [signature]
Analysis Date: 8/18/2016

Approved Signatory: Sandra Sobrino
Date: 8/18/2016

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, AIHA or any other agency of the U.S. government*; and may not be certified by every local, state and federal regulatory agencies.*

SanAir Technologies Laboratory

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: 16028434

Company: Haw Environmental	Project #: H16201	Collected by:
Address: 6605 Heisley Rd	Project Name: 727 Delaware Ave	Phone #:
City, St., Zip: Mentor, OH 44060	Date Collected:	Fax #:
State of Collection: OH Account#:	P.O. Number:	Email:

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Water

ABHE	EPA 100.2	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☒
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Other

Matrix		
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start – Stop	
01	Ceiling flash w/ S/C					
02			1,000 p.c.			
03						
04						
05						
06	wall flash w/ S/C					
07						
08			1,000 p.c.			
09						
10						

Relinquished by	Date	Time	Received by	Date	Time
[signature]	08/10/16	7:50 AM	[signature]	AUG 11 2016	10:05AM

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Page ___ of ___

Please P/C 29a or less
1,000 P/C unless Indicated.

16028434

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
11	Skim Coat				
12	)		1,000 p.c.		
13					
14	Vermiculite Insulation				
15	)				
16					
17	Skim Coat				
18	)		1,000 p.c.		
19					
20	asphalt Roofing				
21	)				
22	window Glazing				
23	)				
24	D/W Board				
25					

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
	08/10/16	7:50AM		AUG 11 2016	10:05AM

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Weekend or Holiday work must be scheduled ahead of time and is charged for rush turn around time.
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Page ___of ___

SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/7/2016
Project Name: 727 Delaware Ave
Project #: H16201
SanAir ID#: 16031132

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

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

HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 7, 2016

SanAir ID # 16031132
Project Name: 727 Delaware Ave
Project Number: H16201

Dear Joan Sablar,

We at SanAir would like to thank you for the work you recently submitted. The 3 sample(s) were received on Tuesday, August 30, 2016 via Fax or Email request. The final report(s) is enclosed for the following sample(s): 14, 15, 16.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
3 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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

SanAir ID Number
16031132
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 727 Delaware Ave

Collected Date: 8/10/2016
Received Date: 8/30/2016 2:05:00 PM
Report Date: 9/7/2016 3:38:04 PM
Analyst: Tallert, Jonathan

Asbestos Soil/Vermiculite PLM CARB 435 (LOD 0.1%)

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
14 / 16031132-001 Vermiculite Insulation	Gold Non-Fibrous Heterogeneous		100% Other	< 0.1% Tremolite

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16031132-002 Vermiculite Insulation	Gold Non-Fibrous Heterogeneous		100% Other	< 0.1% Tremolite

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16031132-003 Vermiculite Insulation	Gold Non-Fibrous Heterogeneous		100% Other	< 0.1% Tremolite

Certification

Analyst: JB Tallert
Analysis Date: 9/7/2016

Approved Signatory: Sandra Sobrino
Date: 9/7/2016

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, AIHA or any other agency of the U.S. government*; and may not be certified by every local, state and federal regulatory agencies.*

16031132

Maria E. Coker

From: Jordan L. Ridgeway
Sent: Tuesday, August 30, 2016 2:10 PM
To: Cheyenne E. Urbine; Elisa Moore; Maria E. Coker
Cc: Jonathan G. Tallert; Sandra C. Sobrino
Subject: FW: Analysis Report for Job 16028434 is complete.

Jordan Ridgeway
Account Executive
SanAir Technologies Laboratory, Inc
1551 Oakbridge Drive, Suite B
Powhatan, Va 23139
Phone: 804.897.1177
Phone: 888.895.1177
Fax 804.897.0070

www.sanair.com

"The Identification Specialists"
Asbestos, Environmental Microbiology, Legionella, Materials Testing

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-----Original Message-----
From: Joan Sablar [mailto:JSablar@hzwenv.com]
Sent: Tuesday, August 30, 2016 2:03 PM
To: Jordan L. Ridgeway <jridgeway@sanair.com>
Subject: RE: Analysis Report for Job 16028434 is complete.

Jordan,

ABSP2 Asbestos Soil/Vermiculite - PLM CARB 435 (LOD 0.1%) Perform 5 day analysis at $75.00/sample.

Sincerely,

Joan A. Sablar
Project Manager
HzW Environmental Consultants, LLC
6105 Heisley Road
Mentor, Ohio 44060
Phone: 440-357-1260

MC AUG 30 2016 2:05pm

16031132

SanAir Technologies Laboratory

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: 16028434

Company: Haw Environmental	Project #: H16201	Collected by:	
Address: 6105 Heisley Rd	Project Name: 727 Delaware Ave	Phone #:	
City, St., Zip: Mentor, OH 44060	Date Collected:	Fax #:	
State of Collection: OH	Account#:	P.O. Number:	Email:

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☒
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Water

ABHE	EPA 100.2	☐

Matrix	Other	
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start – Stop	
01	Ceiling flash w/ S/C					
02						
03			1,000 p.c.			
04						
05						
06	wall flash w/ S/C					
07						
08			1,000 p.c.			
09						
10						

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	08/10/16	7:50 AM	[illegible]	AUG 11 2016	10:00AM

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Page ___ of ___

Please P/C 2% or less
1,000 P/C when Indicated.

MC AUG 30 2016 2:05pm

16031132.

16028434

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
11	Skim Coat				
12	)		1,000 p.c.		
13					
14	Vermiculite Insulation				
15	)				
16					
17	Skim Coat				
18	)		1,000 p.c.		
19					
20	asphalt Roofing				
21	)				
22	window Glazing				
23	)				
24	D/W Board				
25	)				

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
	08/10/16	7:50AM		AUG 11 2016	10:05AM

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Page ___of ___

AUG 30 2016

2:05pm

HzW ENVIRONMENTAL
CONSULTANTS, LLC

August 30, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 117-119 West Dennick Avenue, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HzW Environmental Consultants, LLC (HzW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 117-119 West Dennick Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below.

Photograph 01
Exterior View of Residential Structure Located at
117-119 West Dennick Avenue, Youngstown, Ohio

MENTOR AKRON EUCLID CANTON
6105 Heisley Road, Mentor, Ohio 44060 • phone 440-357-1260 • 800-804-8484 • fax 440-357-1510
www.hzwenv.com

METHODS OF INVESTIGATION

General

During August 2016, a representative of HzW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HzW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HzW under the Miscellaneous Materials category.

Once categorized, HzW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HzW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HzW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HzW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HzW collected a minimum of seven (7) samples from this area/material.

- For TSI, HzW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HzW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HzW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HzW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HzW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HzW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia, Louisiana, for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less percent asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HzW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HzW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HzW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HzW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HzW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HzW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos.

   Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HzW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HzW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HzW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HzW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Second Request\06 117-119 West Dennick Asbestos Report.doc

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 117-119 West Dennick Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Ceiling Plaster with Skim Coat - Smooth	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	01					2,028 sq.ft.		0.2 ND
				02							<0.1 ND
				03							0.1 ND
				04							ND ND
				05							ND ND
B	Wall Plaster with Skim Coat - Smooth	Throughout Structure	>5,000sq.ft.	06					7,414 sq.ft.		<0.1 ND
				07							0.3 ND
				08							ND ND
				09							0.3 ND
				10							ND ND
				11							0.2 ND
				12							ND ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 117-119 West Dennick Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
C	Drywall System – Ceiling and Wall	Various Areas Throughout #117	Minimum 2 Samples	13							ND ND
				14							ND ND
D	Skim Coat – Wall, Ripple Pattern	Kitchen # 1	<1,000 sq.ft.	15							ND
				16							ND
				17							ND
G	Drywall Board - Stacked	#117 Basement	Minimum 2 Samples	18							ND
				19							ND
I	Window Glazing	Basement Windows	Minimum 2 Samples	20			X			3 sq.ft (9 Wndws)	4
				21							NA
O	Window Glazing – Mostly Stacked	Building Windows	Minimum 2 Samples	22							ND
				23							ND
Q	Window Glazing	Garage Windows	Minimum 2 Samples	24			X			2 sq.ft. (3 Wndws)	3
				25							NA

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 117-119 West Dennick Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
E1-E5	Vinyl Sheet Flooring, Mastic (5-Types)	Various Areas Throughout Structure	Category I Nonfriable in Fair Condition, Not Sampled				X		447 sq.ft.		Assumed
F	Cove Base – 3-inch, Mastic	Bathroom # 1	Category I Nonfriable in Fair Condition, Not Sampled				X		7 sq.ft.		Assumed
H	Floor Tile – 9-inch by 9-inch, Mastic	#119: First Floor Hallway and Basement Stairwell	Category I Nonfriable in Fair Condition, Not Sampled				X		18 sq.ft.		Assumed
J	Duct Seam Tape	Basements	Assumed RACM			X			21 sq.ft.		Assumed
	Duct Seam Tape Environmental Clean up	Basements	Assumed RACM			X			100 sq.ft.		Assumed
L	Duct Wrap Insulation	Throughout Structure	Assumed RACM			X			170 sq.ft.		Assumed
M	Asphalt Shingle Roofing System - Black	Building Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		1,320 sq.ft.		Assumed
N	Cementitious Roofing Shingles	Back Porch and Side Awnings	Assumed RACM				X		152 sq.ft.		Assumed
P	Cementitious Roofing Shingles	Garage Roof	Assumed RACM				X		400 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

HZW ENVIRONMENTAL
CONSULTANTS, LLC

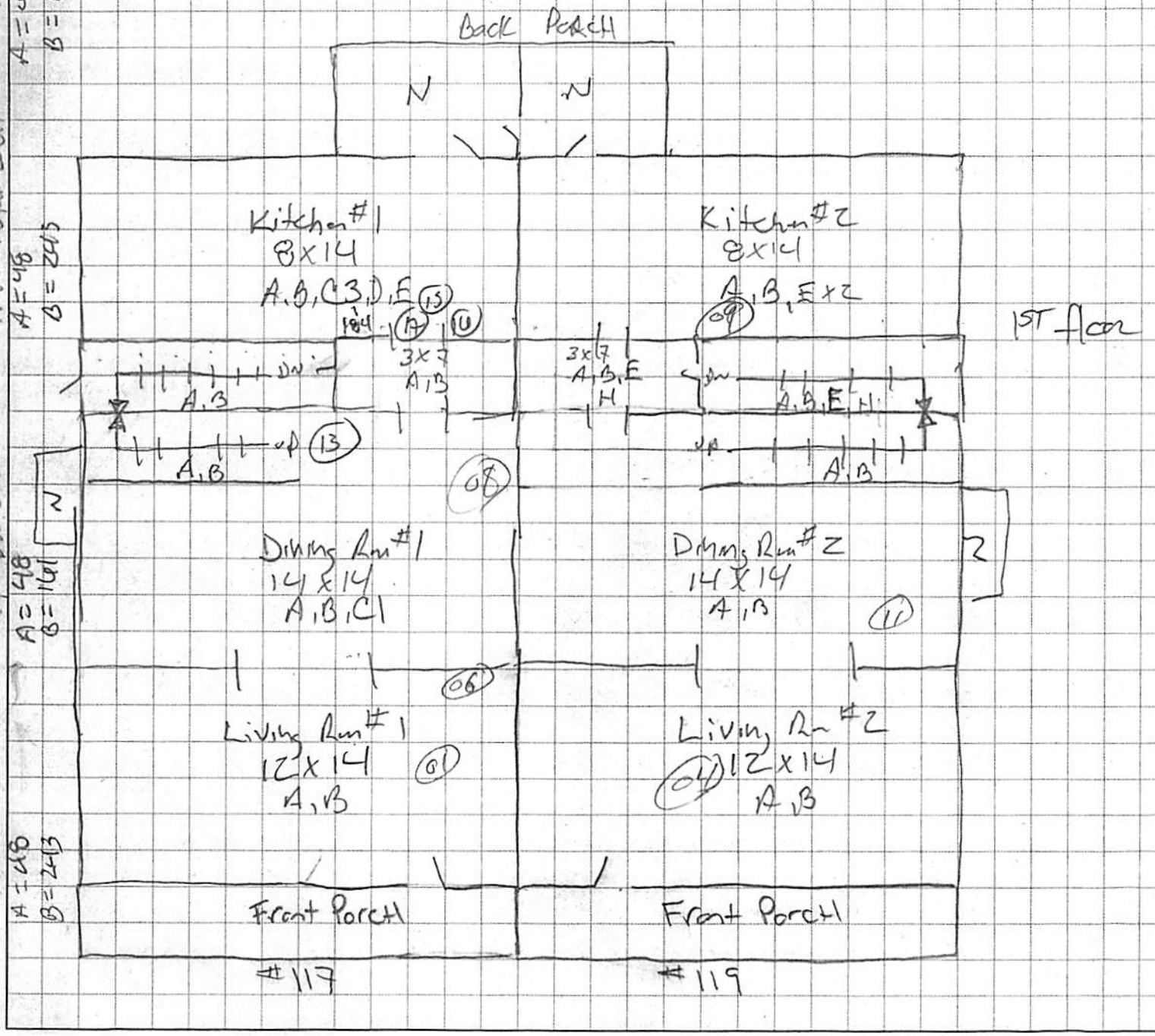
6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 117 - 119 W. Dennick Ave
PROJECT NO. H16201
PAGE NO. 2 OF 4
FIELD REPRESENTATIVE CR DATE 08/12/16
SCALE (F)

1 = Ceiling
2 = wall
3 = Both

INDICATE DIRECTION OF NORTH

N



HZW ENVIRONMENTAL
CONSULTANTS, LLC

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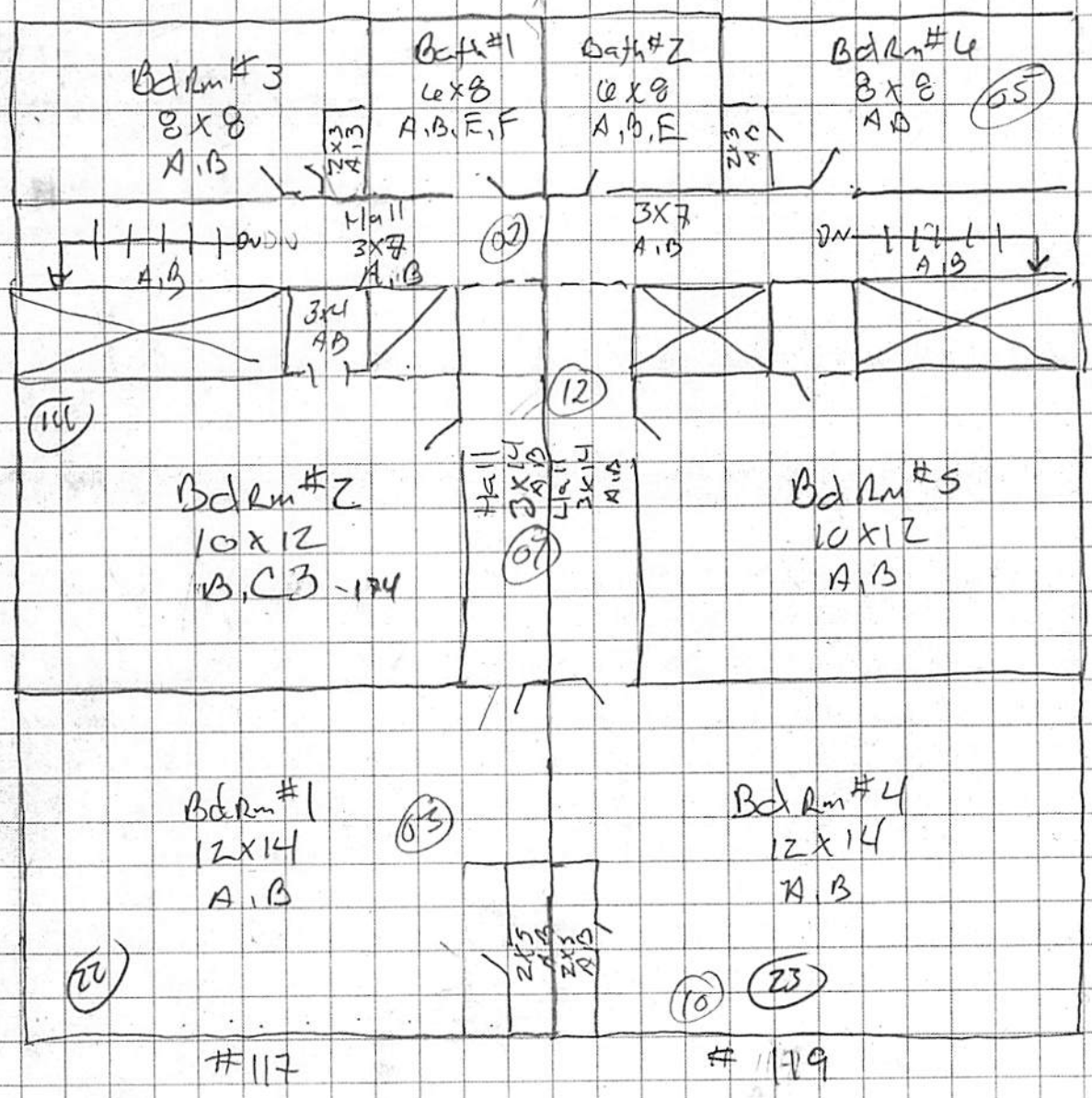
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 117-119 W. Dennick Ave
PROJECT NO. 416201
PAGE NO. 3 OF 4
FIELD REPRESENTATIVE CR DATE 08/12/16
SCALE (F)

INDICATE DIRECTION OF NORTH

N



2nd floor

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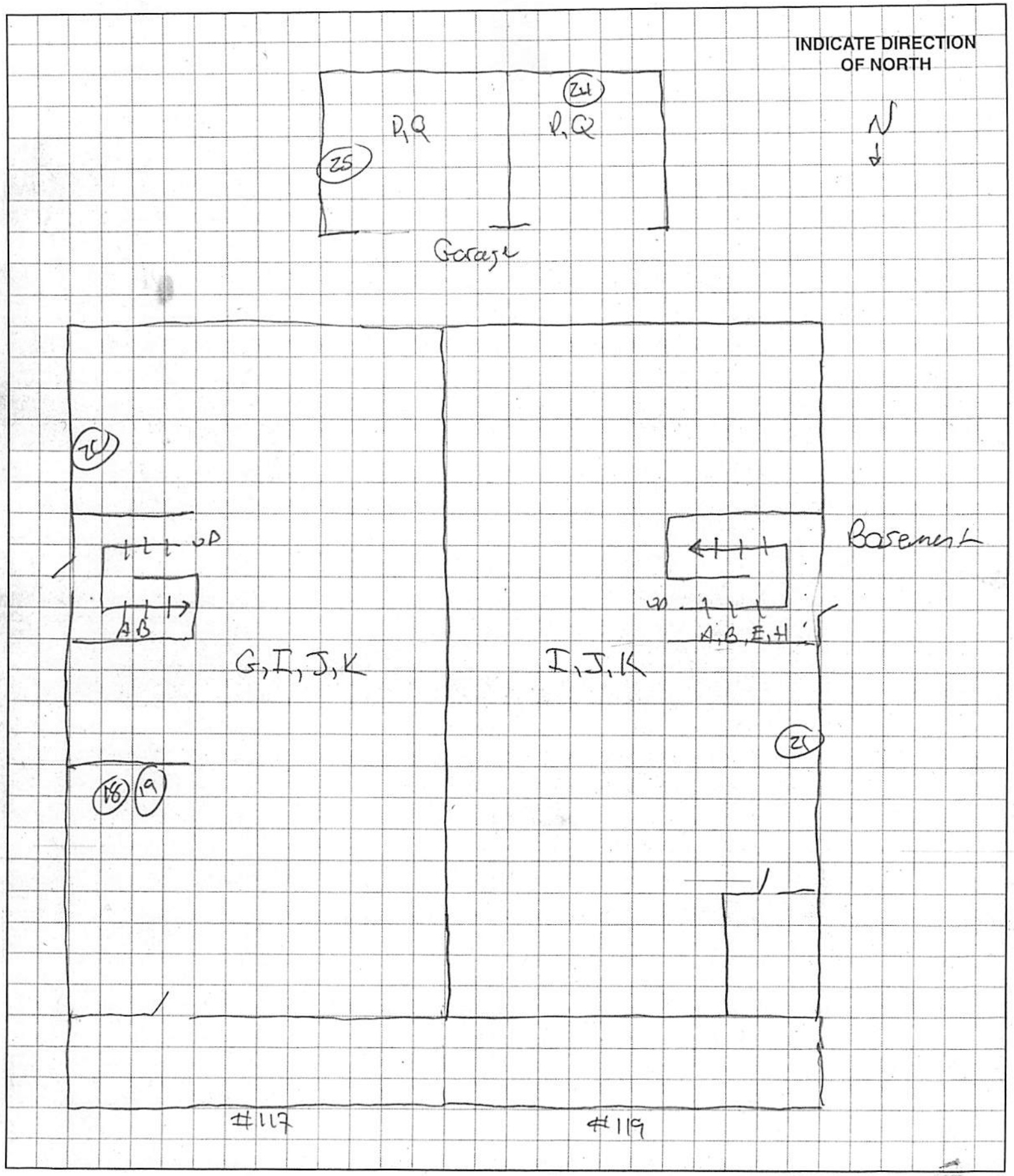
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 117 - 119 W. Dennick Ave
PROJECT NO. 4116201
PAGE NO. 4 OF 4
FIELD REPRESENTATIVE CR DATE 08/12/16
SCALE (F)

INDICATE DIRECTION OF NORTH



SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 8/29/2016
Project Name: 117-119 W. Dennick Ave
Project #: H16201
SanAir ID#: 16029874

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.
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HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

August 29, 2016

SanAir ID # 16029874
Project Name: 117-119 W. Dennick Ave
Project Number: H16201

Dear Carmen Rocco,

We at SanAir would like to thank you for the work you recently submitted. The 25 sample(s) were received on Monday, August 22, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
32 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.
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SanAir ID Number
16029874
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 117-119 W. Dennick Ave

Collected Date: 8/19/2016
Received Date: 8/22/2016 8:50:00 AM
Report Date: 8/29/2016 6:14:33 PM
Analyst: Pisula, Nicholas

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16029874-001 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
01 / 16029874-001 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16029874-002 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
02 / 16029874-002 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16029874-003 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
03 / 16029874-003 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16029874-004 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
04 / 16029874-004 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16029874-005 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
05 / 16029874-005 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 8/29/2016

Approved Signatory: [signature]
Date: 8/29/2016

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Report Date: 8/29/2016 6:14:33 PM
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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16029874-006 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
06 / 16029874-006 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16029874-007 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
07 / 16029874-007 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16029874-008 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
08 / 16029874-008 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16029874-009 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
09 / 16029874-009 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16029874-010 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
10 / 16029874-010 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Nicholas Pisula
Analysis Date: 8/29/2016

Approved Signatory: [signature]
Date: 8/29/2016

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Report Date: 8/29/2016 6:14:33 PM
Analyst: Pisula, Nicholas

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16029874-011 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
11 / 16029874-011 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16029874-012 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
12 / 16029874-012 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16029874-013 D/ W System, Drywall	Grey Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
13 / 16029874-013 D/ W System, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
14 / 16029874-014 D/ W System, Drywall	Grey Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
14 / 16029874-014 D/ W System, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16029874-015 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Nicholas Pisula
Analysis Date: 8/29/2016

Approved Signatory: [signature]
Date: 8/29/2016

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Collected Date: 8/19/2016
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Report Date: 8/29/2016 6:14:33 PM
Analyst: Pisula, Nicholas

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16029874-016 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
17 / 16029874-017 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
18 / 16029874-018 D/ W Board	Grey Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
19 / 16029874-019 D/ W Board	Grey Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
20 / 16029874-020 Window Glazing	Red Non-Fibrous Homogeneous		96% Other	4% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
21 / 16029874-021 Window Glazing				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
22 / 16029874-022 Window Glazing	Red Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Nicholas Pisula
Analysis Date: 8/29/2016

Approved Signatory: [signature]
Date: 8/29/2016

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Project Number: H16201
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Project Name: 117-119 W. Dennick Ave

Collected Date: 8/19/2016
Received Date: 8/22/2016 8:50:00 AM
Report Date: 8/29/2016 6:14:33 PM
Analyst: Pisula, Nicholas

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
23 / 16029874-023 Window Glazing	Red Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
24 / 16029874-024 Window Glazing	Tan Non-Fibrous Homogeneous		97% Other	3% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
25 / 16029874-025 Window Glazing				Not Analyzed

Certification

Analyst: Nicholas Pisula
Analysis Date: 8/29/2016

Approved Signatory: [signature]
Date: 8/29/2016

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Project Number: H16201
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Project Name: 117-119 W. Dennick Ave

Collected Date: 8/19/2016
Received Date: 8/22/2016 8:50:00 AM
Report Date: 8/29/2016 6:14:33 PM
Analyst: Pisula, Nicholas

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16029874-026 Ceiling Plaster W/ S/ C	Grey Non-Fibrous Homogeneous		99.8% Other	0.2% Chrysotile
02 / 16029874-027 Ceiling Plaster W/ S/ C	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile
03 / 16029874-028 Ceiling Plaster W/ S/ C	Grey Non-Fibrous Homogeneous		99.9% Other	0.1% Chrysotile
06 / 16029874-029 Wall Plaster W/ S/ C	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile
07 / 16029874-030 Wall Plaster W/ S/ C	Grey Non-Fibrous Homogeneous		99.7% Other	0.3% Chrysotile
09 / 16029874-031 Wall Plaster W/ S/ C	Grey Non-Fibrous Homogeneous		99.7% Other	0.3% Chrysotile
11 / 16029874-032 Wall Plaster W/ S/ C	Grey Non-Fibrous Homogeneous		99.8% Other	0.2% Chrysotile

Certification

Analyst: Nicholas Pisula
Analysis Date: 8/29/2016

Approved Signatory: [signature]
Date: 8/29/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

Disclaimer

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SanAir Technologies Laboratory

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: 16029874

Company: Hzw Environmental	Project #: 41620	Collected by:
Address: 6805 Heisley Rd	Project Name: 117-119 W. Derick Ave	Phone #:
City, St, Zip: Mentor, OH 44060	Date Collected:	Fax #:
State of Collection: Account#:	P.O. Number:	Email:

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Water

ABHE	EPA 100.2	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Other

Matrix		
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start – Stop
01	Ceiling Plaster w/ S/C				
02					
03			1,000 p/c		
04					
05					
06	Wall Plaster w/ S/C				
07					
08					
09			1,000 p/c		
10					
11					
12					

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	08/19/16	3:00pm	CW	AUG 22 2016	8:50AM

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

Please P/C 29a or less
1,000 P/C when Indicated.

Page ___ of ___

16029874

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
13	D/W System				
14					
15	Skim Coat				
16			1,000 pc.		
17					
18	D/W Board				
19					
20	window glazing				
21					
22	window glazing				
23					
24	window glazing				
25					

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	08/19/16	3:00pm	[illegible]		8:50AM
				AUG 22 2016	

Unless scheduled, the turn around time for all samples received after 3 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.

Page ___of ___

HzW ENVIRONMENTAL
CONSULTANTS, LLC

August 30, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 20 West Dennick Avenue, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HzW Environmental Consultants, LLC (HzW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 20 West Dennick Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below.

Photograph 01
Exterior View of Residential Structure Located at
20 West Dennick Avenue, Youngstown, Ohio

MENTOR **AKRON** **EUCLID** **CANTON**
6105 Heisley Road, Mentor, Ohio 44060 • phone 440-357-1260 • 800-804-8484 • fax 440-357-1510
www.hzwenv.com

METHODS OF INVESTIGATION

General

During August 2016, a representative of HzW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HzW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HzW under the Miscellaneous Materials category.

Once categorized, HzW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HzW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HzW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HzW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HzW collected a minimum of seven (7) samples from this area/material.

- For TSI, HzW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HzW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HzW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HzW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HzW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HzW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia, Louisiana, for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less percent asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HzW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HzW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HzW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HzW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HzW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HzW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos.

   Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HzW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HzW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HzW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HzW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Second Request\07 20 West Dennick Asbestos Report.doc

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 20 West Dennick Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Ceiling Plaster with Skim Coat - Smooth	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	01			X		1,446 sq.ft.		3 ND
				02							NA ND
				03							NA ND
				04							NA ND
				05							NA ND
B	Wall Plaster with Skim Coat - Smooth	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	06			X		4,709 sq.ft.		5 ND
				07							NA ND
				08							NA ND
				09							NA ND
				10							NA ND
C	Drywall System – Ceiling and Wall (Used as Patch)	Kitchen and Restroom	Minimum 2 Samples	11							ND ND
				12							ND ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 20 West Dennick Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
E	Ceiling Tile – 1-foot by 1-foot, Indent Pattern	Bathroom	Minimum 2 Samples	13							ND
				14							ND
F	Drywall Board - Stacked	Bathroom	Minimum 2 Samples	15							ND
				16							ND
H	Skim Coat – Ceiling and Wall, Indent Pattern	Attic	<1,000 sq.ft.	17							ND
				18							ND
				19							ND
I	Skim Coat – Wall, Thick Smear Pattern	Basement	<1,000 sq.ft.	20							ND
				21							ND
				22							ND
M	Window Glazing	House Windows	Minimum 2 Samples	23							ND
				24							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 20 West Dennick Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
O	Asphalt Shingle Roofing System - Black	Garage Roof	Minimum 2 Samples	25							ND
				26							ND
P	Window Glazing	Garage Windows	Minimum 2 Samples	27							ND
				28							ND
D1-D2	Floor Tile – 12-inch by 12-inch, Mastic (2-Types)	Various Areas Throughout Structure	Category I Nonfriable in Fair Condition, Not Sampled				X		252 sq.ft.		Assumed
G	Vinyl Sheet Flooring Mastic	Bathroom	Category I Nonfriable in Fair Condition, Not Sampled				X		90 sq.ft.		Assumed
J	Duct Seam Tape	Basement	Assumed RACM			X			1 sq.ft.		Assumed
K	Duct Wrap Insulation	Throughout Structure	Assumed RACM			X			100 sq.ft.		Assumed
L	Asphalt Shingle Roofing System – Greenish Gray	House Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		1,000 sq.ft.		Assumed
N	Asphalt Shingle Roofing System – Black	Garage Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		480 sq.ft.		Assumed

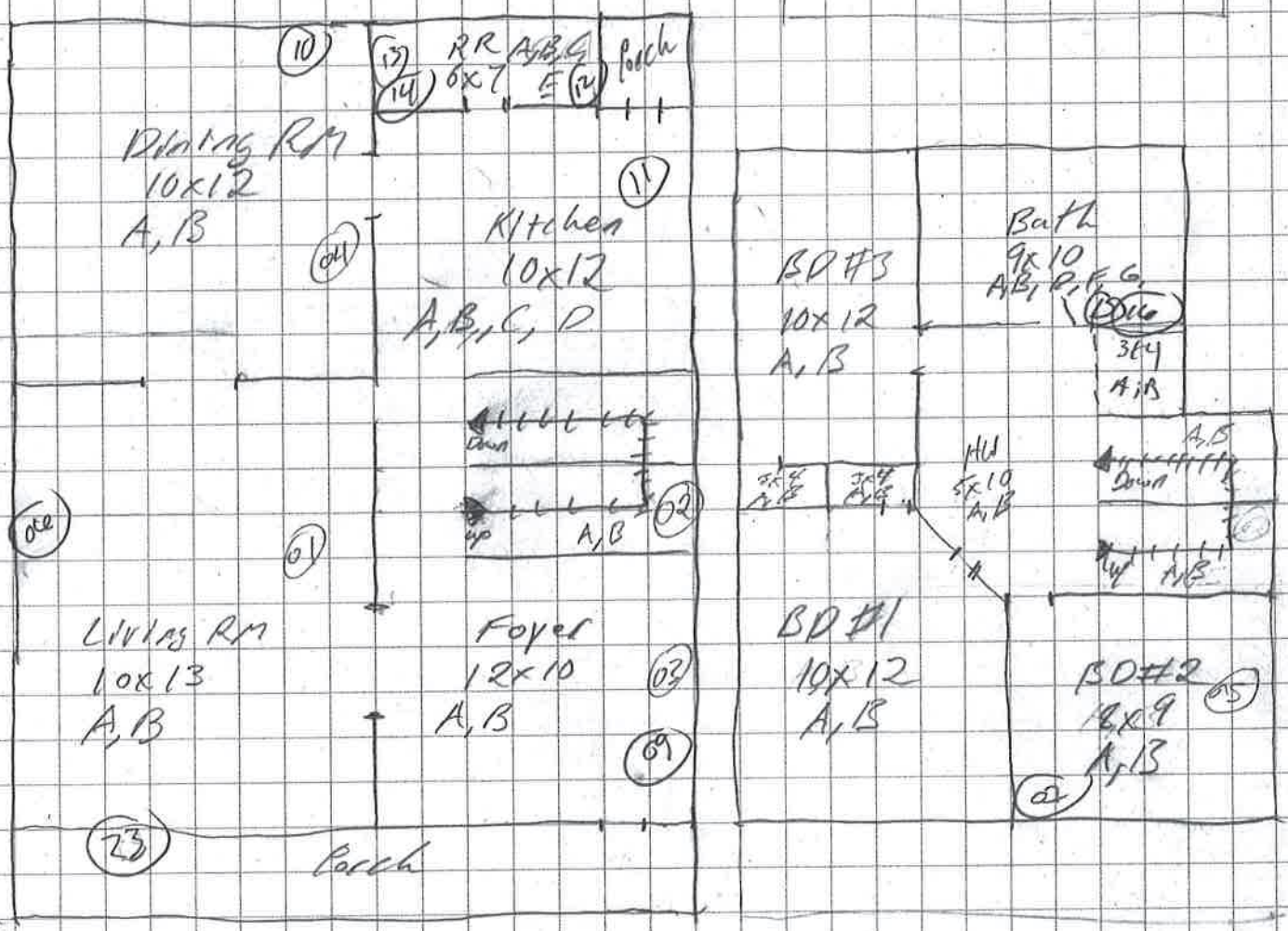
Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 20 W. Dennick Ave
PROJECT NO. H116201
PAGE NO. 2 OF 3
FIELD REPRESENTATIVE Ca DATE 8/12/16
SCALE

INDICATE DIRECTION OF NORTH
N



1st Floor

Up angle - 1 reading
A = 60
B = 272

Stairwell
A = 66
B = 251

HZW ENVIRONMENTAL
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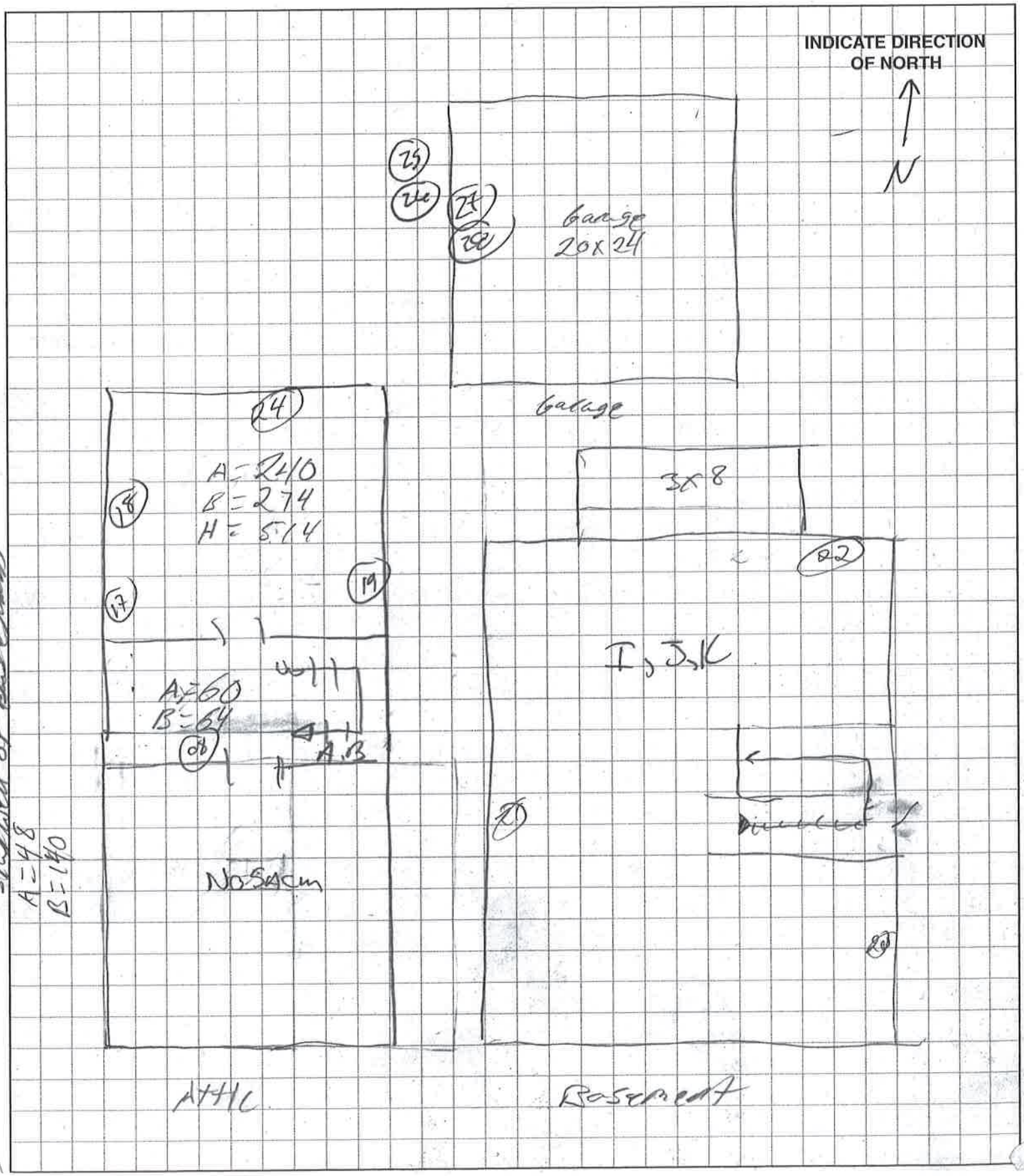
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 20 W. Derrick Ave
PROJECT NO. H16201
PAGE NO. 3 OF 3
FIELD REPRESENTATIVE CR DATE 08/12/16
SCALE

INDICATE DIRECTION OF NORTH

N



SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 8/29/2016
Project Name: 20 W. Dennick Ave
Project #: H16201
SanAir ID#: 16029873

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

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

HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

August 29, 2016

SanAir ID # 16029873
Project Name: 20 W. Dennick Ave
Project Number: H16201

Dear Carmen Rocco,

We at SanAir would like to thank you for the work you recently submitted. The 28 sample(s) were received on Monday, August 22, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
28 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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

SanAir ID Number
16029873
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 20 W. Dennick Ave

Collected Date: 8/19/2016
Received Date: 8/22/2016 8:50:00 AM
Report Date: 8/29/2016 6:15:18 PM
Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16029873-001 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Heterogeneous		97% Other	3% Chrysotile
01 / 16029873-001 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16029873-002 Ceiling Plaster W/ S/ C, Plaster				Not Analyzed
02 / 16029873-002 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16029873-003 Ceiling Plaster W/ S/ C, Plaster				Not Analyzed
03 / 16029873-003 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16029873-004 Ceiling Plaster W/ S/ C, Plaster				Not Analyzed
04 / 16029873-004 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16029873-005 Ceiling Plaster W/ S/ C, Plaster				Not Analyzed
05 / 16029873-005 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 8/29/2016

Approved Signatory:
Date: 8/29/2016

SanAir Technologies Laboratory, Inc.

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

SanAir ID Number
16029873
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 20 W. Dennick Ave

Collected Date: 8/19/2016
Received Date: 8/22/2016 8:50:00 AM
Report Date: 8/29/2016 6:15:18 PM
Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16029873-006 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Heterogeneous		95% Other	5% Chrysotile
06 / 16029873-006 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16029873-007 Wall Plaster W/ S/ C, Plaster				Not Analyzed
07 / 16029873-007 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16029873-008 Wall Plaster W/ S/ C, Plaster				Not Analyzed
08 / 16029873-008 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16029873-009 Wall Plaster W/ S/ C, Plaster				Not Analyzed
09 / 16029873-009 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16029873-010 Wall Plaster W/ S/ C, Plaster				Not Analyzed
10 / 16029873-010 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 8/29/2016

Approved Signatory:
Date: 8/29/2016

SanAir Technologies Laboratory, Inc.

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

SanAir ID Number
16029873
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 20 W. Dennick Ave

Collected Date: 8/19/2016
Received Date: 8/22/2016 8:50:00 AM
Report Date: 8/29/2016 6:15:18 PM
Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16029873-011 D/ W System, Drywall	White Non-Fibrous Heterogeneous	20% Cellulose	80% Other	None Detected
11 / 16029873-011 D/ W System, Joint Compound	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16029873-012 D/ W System, Drywall	White Non-Fibrous Heterogeneous	20% Cellulose	80% Other	None Detected
12 / 16029873-012 D/ W System, Joint Compound	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16029873-013 Ceiling Tile	White Fibrous Heterogeneous	90% Cellulose	10% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
14 / 16029873-014 Ceiling Tile	White Fibrous Heterogeneous	90% Cellulose	10% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16029873-015 D/ W Board	White Non-Fibrous Heterogeneous	20% Cellulose	80% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16029873-016 D/ W Board	White Non-Fibrous Heterogeneous	20% Cellulose	80% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 8/29/2016

Approved Signatory:
Date: 8/29/2016

SanAir Technologies Laboratory, Inc.

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
17 / 16029873-017 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected
18 / 16029873-018 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected
19 / 16029873-019 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected
20 / 16029873-020 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected
21 / 16029873-021 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected
22 / 16029873-022 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected
23 / 16029873-023 Window Glazing	Grey Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 8/29/2016

Approved Signatory:
Date: 8/29/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
24 / 16029873-024 Window Glazing	Grey Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
25 / 16029873-025 Asphalt Shingles	Black Non-Fibrous Heterogeneous	35% Cellulose	65% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
26 / 16029873-026 Asphalt Shingles	Black Non-Fibrous Heterogeneous	35% Cellulose	65% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
27 / 16029873-027 Window Glazing	Grey Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
28 / 16029873-028 Window Glazing	Grey Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 8/29/2016

Approved Signatory:
Date: 8/29/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

SanAir Technologies Laboratory

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Powhatan, VA 23139
804-897-1177 / 888-895-1177
Fax 804-897-0070
www.sanair.com

Asbestos Chain of Custody

SanAir ID Number: 16029873

Company: Hzw Environmental	Project #: H16201	Collected by:
Address: 6805 Heisley Rd	Project Name: 20 W. Demick Ave	Phone #:
City, St., Zip: Mentor, OH 44060	Date Collected:	Fax #:
State of Collection: Account#:	P.O. Number:	Email:

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Water

ABHE	EPA 100.2	☐

Other

Matrix		
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
01	Ceiling Flash w/ S/C					
02						
03			1,000 p.c.			
04						
05						
06	Wall Flash w/ S/C					
07						
08			1,000 p.c			
09						
10						
11	D/W System					
12						

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	08/19/16	3:00pm	[illegible]	AUG 22 2016	8:50am

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

Page ___ of ___

Please P/C 29a or less
1,000 P/C when Indicated.

16029873

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
13	Ceiling tile				
14					
15	D/W Board				
16					
17	Skim Coat				
18			1,000 p.c.		
19					
20	Skim Coat				
21			1,000 p.c.		
22					
23	Window Glazing				
24					
25	Asphalt Shingles				
26					
27	Window Glazing				
28					

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	08/18/16	3:00pm	CEW	AUG 22 2016	8:50AM

Unless scheduled, the turn around time for all samples received after 3 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.

Page ___of ___

HZW
Environmental
Consultants

October 3, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 106 Early Road, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HZW Environmental Consultants, LLC (HZW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 106 Early Road, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below.

Photograph 01
Exterior View of Residential Structure Located at
106 Early Road, Youngstown, Ohio

METHODS OF INVESTIGATION

General

During September 2016, a representative of HZW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HZW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HZW under the Miscellaneous Materials category.

Once categorized, HZW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HZW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HZW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HZW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HZW collected a minimum of seven (7) samples from this area/material.

- For TSI, HZW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HZW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HZW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HZW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HZW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HZW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HZW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HZW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HZW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HZW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HZW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HZW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos. Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HZW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HZW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HZW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HZW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Third Request\03 106 Early Road Asbestos Survey Report.docx

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 106 Early Road, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Ceiling Plaster with Skim Coat - Smooth	Throughout Structure	<1,000 sq.ft.	01					724 sq.ft.		<0.1 ND
				02							ND ND
				03							ND ND
B	Wall Plaster with Skim Coat – Smooth	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	04					3,252 sq.ft.		0.2 ND
				05							0.4 ND ND
				06							0.6 ND
				07							0.3 ND
				08							ND ND
C	Ceiling and Wall Plaster with Skim Coat – Smooth, Over Drywall Board	Various Areas Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	09							ND ND ND
				10							ND ND ND
				11							ND ND ND
				12							ND ND ND
				13							ND ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 106 Early Road, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
F	Drywall System – Ceiling and Wall	Bedroom # 1	Minimum 2 Samples	14							ND ND
				15							ND ND
G	Ceiling Tile – 1-foot by 1-foot, Smooth	Sun Porch	Minimum 2 Samples	16							ND
				17							ND
H	Drywall System – Ceiling and Wall	Sun Porch	Minimum 2 Samples	18							ND ND
				19							ND ND
J	Skim Coat – Ceiling and Wall, Rough Brush Stroke Pattern	Basement	<1,000 sq.ft.	20							ND
				21							ND
				22							ND
K	Drywall Board - Wall	Basement	Minimum 2 Samples	23							ND
				24							ND
L	Asphalt Shingle Roofing System – Reddish Black	Basement Extension	Minimum 2 Samples	25							ND
				26							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 106 Early Road, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
N	Window Glazing	House Windows	Minimum 2 Samples	27							ND
				28							ND
D1-D2	Floor Tile – 12-inch by 12-inch, Mastic (2 Types)	Kitchen and Foyer	Category I Nonfriable in Fair Condition, Not Sampled				X		207 sq.ft.		Assumed
F	Cove Base - 3-inch, Mastic	Kitchen	Category I Nonfriable in Fair Condition, Not Sampled				X		14 sq.ft.		Assumed
I	Vinyl Sheet Flooring, Mastic	Bathroom	Category I Nonfriable in Fair Condition, Not Sampled				X		48 sq.ft.		Assumed
M	Asphalt Shingle Roofing System – Reddish Gray	House Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		1,000 sq.ft.		Assumed
O	Duct Wrap Insulation	Throughout Structure	Assumed RACM			X			200 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

HZW ENVIRONMENTAL
CONSULTANTS, LLC

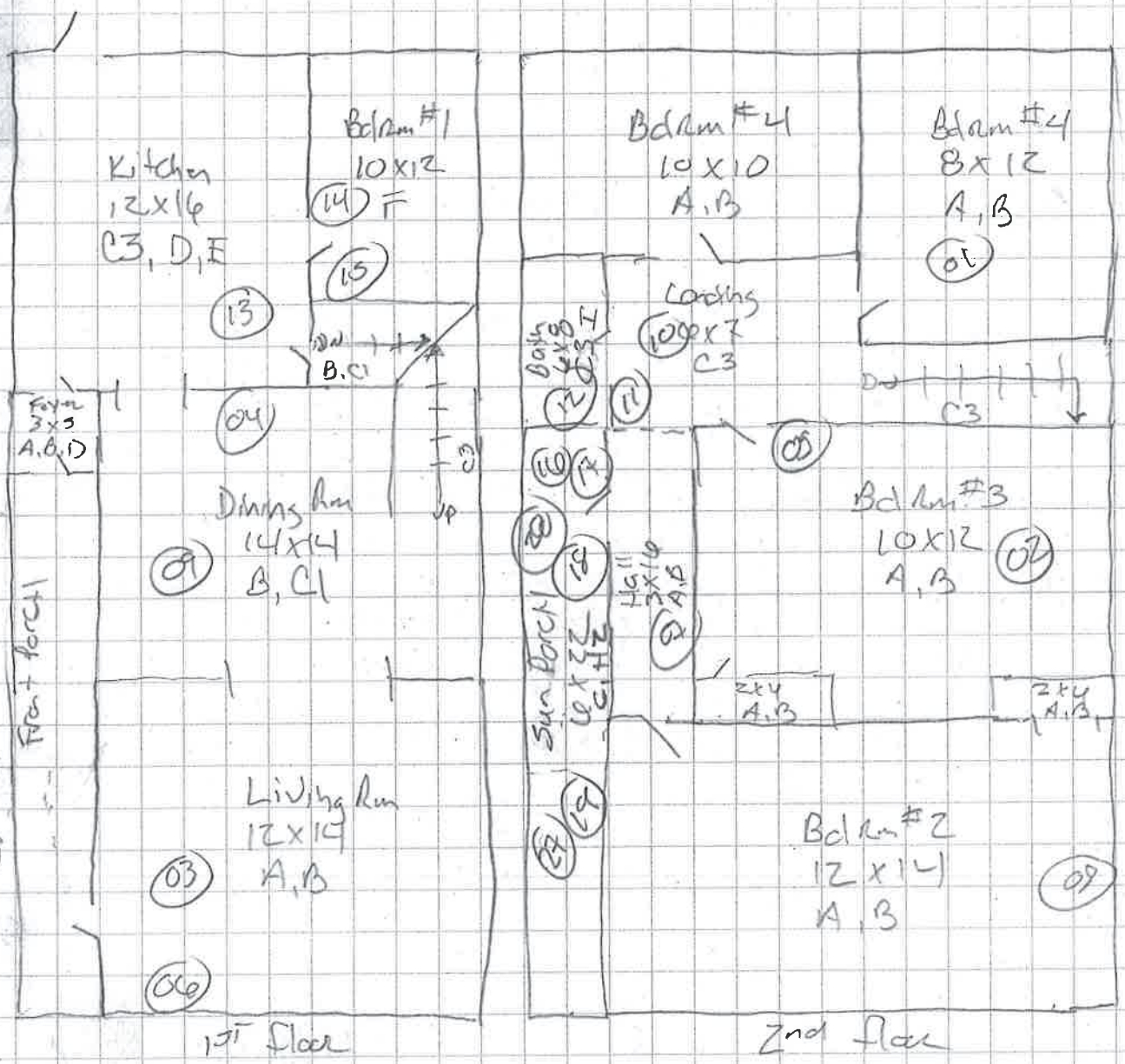
6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 106 Early Rd
PROJECT NO. H16201
PAGE NO. 2 OF
FIELD REPRESENTATIVE CA DATE 09/08/16
SCALE TH

1 = Ceiling
2 = wall
3 = Bctn

INDICATE DIRECTION OF NORTH

N →



HZW ENVIRONMENTAL
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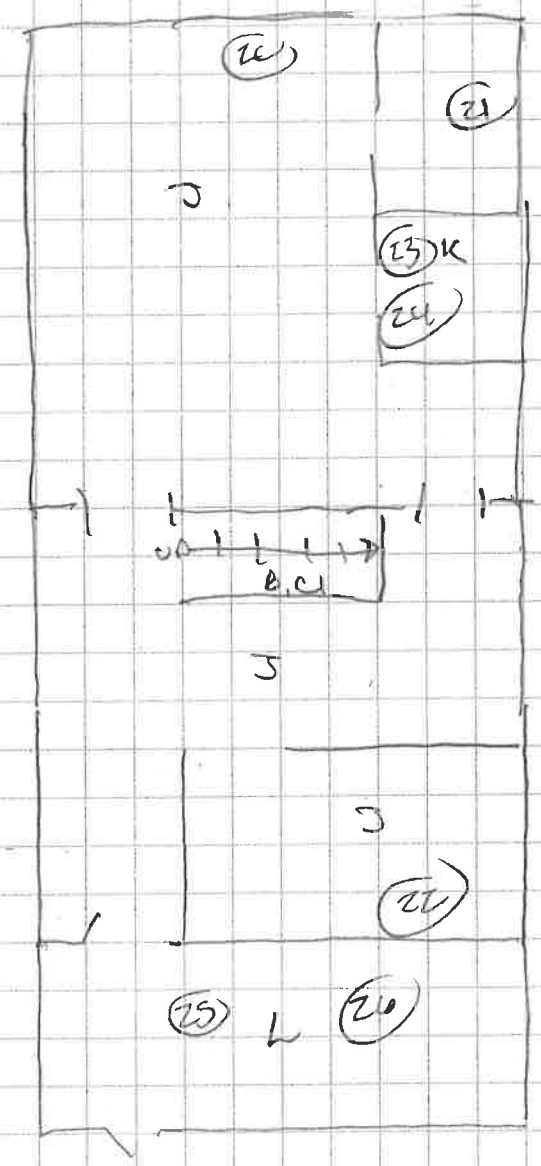
PROJECT 106 Early Rd
PROJECT NO. H116201
PAGE NO. 3 OF 3
FIELD REPRESENTATIVE CL DATE 09/08/11
SCALE T+1

INDICATE DIRECTION OF NORTH

N →



SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/20/2016
Project Name: 106 Early Rd
Project #: H16201
SanAir ID#: 16033004

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

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804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: http://www.sanair.com E-mail: iaq@sanair.com

HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 20, 2016

SanAir ID # 16033004
Project Name: 106 Early Rd
Project Number: H16201

Dear Joan Sablar,

We at SanAir would like to thank you for the work you recently submitted. The 28 sample(s) were received on Tuesday, September 13, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
32 sample(s) in Good condition 1 sample(s) in Layer Missing condition

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SanAir ID Number
16033004
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 106 Early Rd

Collected Date: 9/12/2016
Received Date: 9/13/2016 10:35:00 AM
Report Date: 9/20/2016 4:55:05 PM
Analyst: Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16033004-001 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous	3% Hair	97% Other	< 1% Chrysotile
01 / 16033004-001 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16033004-002 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
02 / 16033004-002 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16033004-003 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
03 / 16033004-003 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16033004-004 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
04 / 16033004-004 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16033004-005 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
05 / 16033004-005 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected
05 / 16033004-005 Wall Plaster W/ S/ C, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 9/20/2016

Approved Signatory: Sandra Sobrino
Date: 9/20/2016

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Analyst: Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16033004-006 Wall Plaster W/ S/ C, Plaster	Beige Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
06 / 16033004-006 Wall Plaster W/ S/ C, Skim Coat	Pink Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16033004-007 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
07 / 16033004-007 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16033004-008 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
08 / 16033004-008 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16033004-009 Plaster W/ S/ C Over D/ W, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
09 / 16033004-009 Plaster W/ S/ C Over D/ W, Skim Coat	Tan Non-Fibrous Homogeneous		100% Other	None Detected
09 / 16033004-009 Plaster W/ S/ C Over D/ W, Drywall	White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 9/20/2016

Approved Signatory: Sandra Sobrino
Date: 9/20/2016

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SanAir ID Number
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Project Number: H16201
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Project Name: 106 Early Rd

Collected Date: 9/12/2016
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Report Date: 9/20/2016 4:55:05 PM
Analyst: Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16033004-010 Plaster W/ S/ C Over D/ W, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
10 / 16033004-010 Plaster W/ S/ C Over D/ W, Skim Coat	Tan Non-Fibrous Homogeneous		100% Other	None Detected
10 / 16033004-010 Plaster W/ S/ C Over D/ W, Drywall	White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16033004-011 Plaster W/ S/ C Over D/ W, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
11 / 16033004-011 Plaster W/ S/ C Over D/ W, Skim Coat	Tan Non-Fibrous Homogeneous		100% Other	None Detected
11 / 16033004-011 Plaster W/ S/ C Over D/ W, Drywall	White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16033004-012 Plaster W/ S/ C Over D/ W, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
12 / 16033004-012 Plaster W/ S/ C Over D/ W, Skim Coat	Tan Non-Fibrous Homogeneous		100% Other	None Detected
12 / 16033004-012 Plaster W/ S/ C Over D/ W, Drywall	White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16033004-013 Plaster W/ S/ C Over D/ W, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
13 / 16033004-013 Plaster W/ S/ C Over D/ W, Skim Coat				Not Submitted
13 / 16033004-013 Plaster W/ S/ C Over D/ W, Drywall	White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 9/20/2016

Approved Signatory: Sandra Sobring
Date: 9/20/2016

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Project Number: H16201
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Project Name: 106 Early Rd

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Analyst: Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
14 / 16033004-014 D/ W System, Drywall	White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected
14 / 16033004-014 D/ W System, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16033004-015 D/ W System, Drywall	White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected
15 / 16033004-015 D/ W System, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16033004-016 Ceiling Tile	White Fibrous Homogeneous	95% Cellulose	5% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
17 / 16033004-017 Ceiling Tile	White Fibrous Homogeneous	95% Cellulose	5% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
18 / 16033004-018 D/ W System, Drywall	White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected
18 / 16033004-018 D/ W System, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 9/20/2016

Approved Signatory: Sandra Sobrino
Date: 9/20/2016

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SanAir ID Number
16033004
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 106 Early Rd

Collected Date: 9/12/2016
Received Date: 9/13/2016 10:35:00 AM
Report Date: 9/20/2016 4:55:05 PM
Analyst: Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
19 / 16033004-019 D/ W System, Drywall	White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected
19 / 16033004-019 D/ W System, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
20 / 16033004-020 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
21 / 16033004-021 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
22 / 16033004-022 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
23 / 16033004-023 D/ W Board	White Non-Fibrous Homogeneous	15% Cellulose	85% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
24 / 16033004-024 D/ W Board	White Non-Fibrous Homogeneous	15% Cellulose	85% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 9/20/2016

Approved Signatory: Sandra Sobring
Date: 9/20/2016

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SanAir ID Number
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Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

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Project Name: 106 Early Rd

Collected Date: 9/12/2016
Received Date: 9/13/2016 10:35:00 AM
Report Date: 9/20/2016 4:55:05 PM
Analyst: Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
25 / 16033004-025 Asphalt Roofing	Black Non-Fibrous Homogeneous	10% Glass	90% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
26 / 16033004-026 Asphalt Roofing	Black Non-Fibrous Homogeneous	10% Glass	90% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
27 / 16033004-027 Window Glazing	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
28 / 16033004-028 Window Glazing	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 9/20/2016

Approved Signatory: Sandra Sobering
Date: 9/20/2016

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Mentor, OH 44060

Project Number: H16201
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Project Name: 106 Early Rd

Collected Date: 9/12/2016
Received Date: 9/13/2016 10:35:00 AM
Report Date: 9/20/2016 4:55:05 PM
Analyst: Tallert, Jonathan

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16033004-029 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16033004-030 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		99.8% Other	0.2% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16033004-031 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		99.6% Other	0.4% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16033004-032 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		99.4% Other	0.6% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16033004-033 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		99.7% Other	0.3% Chrysotile

Certification

Analyst: [signature]
Analysis Date: 9/20/2016

Approved Signatory: Sandra Sobrino
Date: 9/20/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

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160.33004

Asbestos Chain of Custody

SanAir Number

Company: HzW Environmental Consultants, LLC	Project #: H1le 201	Collected by:
Address: 6105 Heisley Road	Project Name: Ble Early Rel	Phone #: 440-357-1260
City, St., Zip: Mentor, Ohio 44060	Date Collected:	Fax #: 440-357-1510
State of Collection: OH Account#:	P.O. Number:	Email: JSablar@Hzwenv.com

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Water

ABHE	EPA 100.2	☐

Matrix	Other	
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start – Stop
01	Ceiling Plaster w/ S/C				
02			1,000 P.C.		
03					
04	Wall Plaster w/ S/C				
05					
06			1,000 P.C.		
07					
08					
09	Plaster w/ S/C over				
10	D/W		1,000 P.C.		
11					
12, 13					

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	09/12/16	9:30am	CW	SEP 13 2016	10:35am

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

P/C 79 or less 1,000 P/C when Indicated

M033004

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
14	D/w System				
15	"				
16	Ceiling Tile				
17	"				
18	D/w System				
19	"				
20	Skim Coat				
21	"				
22	"				
23	D/w Board				
24	"				
25	Asphalt Roofing				
26	"				
27	Window Glazing				
28	"				

Special Instructions: Samples for 1000 Point Count are noted, all other are 400 Point C

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	09/12/16	9:30AM	CEW	SEP 13 2016	10:35AM

Unless scheduled, the turn around time for all samples received after 3 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.

Page 2 of 2

Point Count All Samples identified at 2% or less

HZW
Environmental
Consultants

October 3, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 273 Early Road, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HZW Environmental Consultants, LLC (HZW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 273 Early Road, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below:

Photograph 01
Exterior View of Residential Structure Located at
273 Early Road, Youngstown, Ohio

METHODS OF INVESTIGATION

General

During September 2016, a representative of HZW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HZW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HZW under the Miscellaneous Materials category.

Once categorized, HZW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HZW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HZW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HZW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HZW collected a minimum of seven (7) samples from this area/material.

- For TSI, HZW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HZW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HZW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HZW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HZW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HZW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HZW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HZW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HZW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HZW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HZW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HZW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos. Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HZW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HZW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HZW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HZW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Third Request\04 273 Early Road Asbestos Survey Report.docx

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 273 Early Road, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Ceiling Plaster with Skim Coat – Smooth, Over Drywall Board	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	01						1,163	<0.1 ND ND
				02							<0.1 ND ND
				03							0.1 ND ND
				04							0.2 ND ND
				05							<0.1 ND ND
B	Wall Plaster with Skim Coat – Smooth, Over Drywall Board	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	06						3,744 sq.ft.	<0.1 ND ND
				07							0.1 ND ND
				08							<0.1 ND ND
				09							0.1 ND ND
				10							<0.1 ND ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 273 Early Road, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
D	Window Glazing	Basement Windows	Minimum 2 Samples	11							ND
				12							ND
G	Drywall Board - Stacked	Basement	Minimum 2 Samples	13							ND
				14							ND
I	Window Glazing	House Windows	Minimum 2 Samples	15						1 sq.ft.	ND
				16							<0.25
C1-C2	Floor Tile – 12-inch by 12-inch, Mastic (2 Types)	Kitchen and Bathroom	Category I Nonfriable in Fair Condition, Not Sampled				X		180 sq.ft.		Assumed
E	Duct Seam Tape	Basement	Assumed RACM			X			10 sq.ft.		Assumed
F	Duct Wrap Insulation	Throughout Structure	Assumed RACM			X			150 sq.ft.		Assumed
H	Asphalt Shingle Roofing System – Square, Black (Over Asphalt Shingle Roofing System – Octagon, Black)	House Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		1,000 sq.ft. Each		Assumed

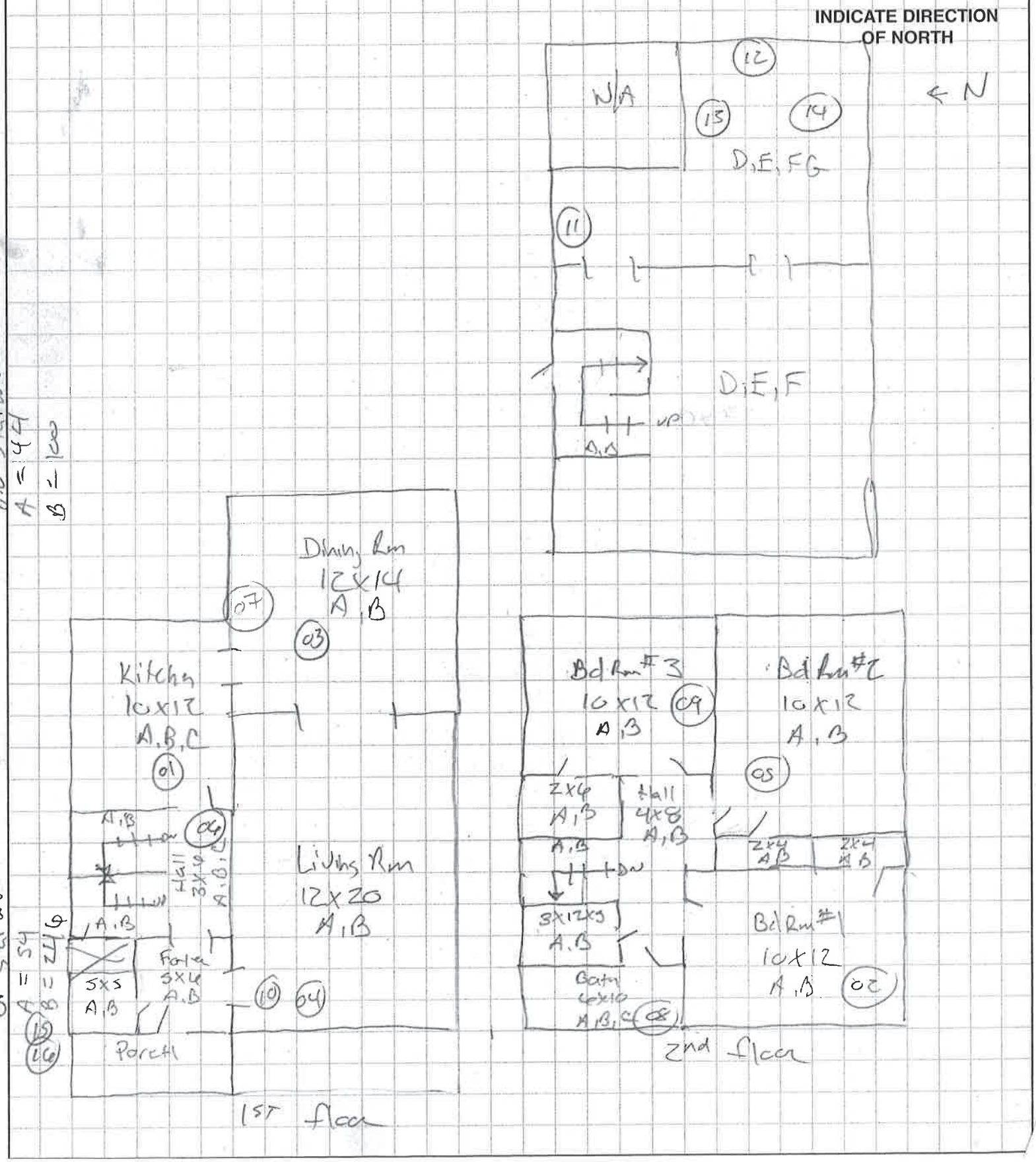
Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Helsley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 273 Early Rd
PROJECT NO. H116201
PAGE NO. 2 OF 2
FIELD REPRESENTATIVE CR DATE 09/08/14
SCALE (TH)

INDICATE DIRECTION OF NORTH



SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/20/2016
Project Name: 273 Early Rd
Project #: H16201
SanAir ID#: 16033005

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

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HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 20, 2016

SanAir ID # 16033005
Project Name: 273 Early Rd
Project Number: H16201

Dear CM,

We at SanAir would like to thank you for the work you recently submitted. The 16 sample(s) were received on Tuesday, September 13, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
27 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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Web: http://www.sanair.com E-mail: iaq@sanair.com

SanAir ID Number
16033005
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 273 Early Rd

Collected Date: 9/12/2016
Received Date: 9/13/2016 10:35:00 AM
Report Date: 9/20/2016 5:06:35 PM
Analyst: Fleming, Christopher

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16033005-001 Ceiling Plaster W/ S/ C Over D/ W Board, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
01 / 16033005-001 Ceiling Plaster W/ S/ C Over D/ W Board, Skim Coat	Beige Non-Fibrous Homogeneous		100% Other	None Detected
01 / 16033005-001 Ceiling Plaster W/ S/ C Over D/ W Board, Drywall	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16033005-002 Ceiling Plaster W/ S/ C Over D/ W Board, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
02 / 16033005-002 Ceiling Plaster W/ S/ C Over D/ W Board, Skim Coat	Beige Non-Fibrous Homogeneous		100% Other	None Detected
02 / 16033005-002 Ceiling Plaster W/ S/ C Over D/ W Board, Drywall	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16033005-003 Ceiling Plaster W/ S/ C Over D/ W Board, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
03 / 16033005-003 Ceiling Plaster W/ S/ C Over D/ W Board, Skim Coat	Beige Non-Fibrous Homogeneous		100% Other	None Detected
03 / 16033005-003 Ceiling Plaster W/ S/ C Over D/ W Board, Drywall	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16033005-004 Ceiling Plaster W/ S/ C Over D/ W Board, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
04 / 16033005-004 Ceiling Plaster W/ S/ C Over D/ W Board, Skim Coat	Beige Non-Fibrous Homogeneous		100% Other	None Detected
04 / 16033005-004 Ceiling Plaster W/ S/ C Over D/ W Board, Drywall	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Approved Signatory:

Analysis Date: 9/20/2016 Date: 9/20/2016

SanAir Technologies Laboratory, Inc.

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804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
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SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16033005-005 Ceiling Plaster W/ S/ C Over D/ W Board, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
05 / 16033005-005 Ceiling Plaster W/ S/ C Over D/ W Board, Skim Coat	Beige Non-Fibrous Homogeneous		100% Other	None Detected
05 / 16033005-005 Ceiling Plaster W/ S/ C Over D/ W Board, Drywall	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16033005-006 Wall Plaster W/ S/ C Over D/ W Board, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
06 / 16033005-006 Wall Plaster W/ S/ C Over D/ W Board, Skim Coat	Beige Non-Fibrous Homogeneous		100% Other	None Detected
06 / 16033005-006 Wall Plaster W/ S/ C Over D/ W Board, Drywall	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16033005-007 Wall Plaster W/ S/ C Over D/ W Board, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
07 / 16033005-007 Wall Plaster W/ S/ C Over D/ W Board, Skim Coat	Beige Non-Fibrous Homogeneous		100% Other	None Detected
07 / 16033005-007 Wall Plaster W/ S/ C Over D/ W Board, Drywall	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16033005-008 Wall Plaster W/ S/ C Over D/ W Board, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
08 / 16033005-008 Wall Plaster W/ S/ C Over D/ W Board, Skim Coat	Beige Non-Fibrous Homogeneous		100% Other	None Detected
08 / 16033005-008 Wall Plaster W/ S/ C Over D/ W Board, Drywall	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Chris Fleming
Analysis Date: 9/20/2016

Approved Signatory:
Date: 9/20/2016

SanAir Technologies Laboratory, Inc.

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Analyst: Fleming, Christopher

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16033005-009 Wall Plaster W/ S/ C Over D/ W Board, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
09 / 16033005-009 Wall Plaster W/ S/ C Over D/ W Board, Skim Coat	Beige Non-Fibrous Homogeneous		100% Other	None Detected
09 / 16033005-009 Wall Plaster W/ S/ C Over D/ W Board, Drywall	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16033005-010 Wall Plaster W/ S/ C Over D/ W Board, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
10 / 16033005-010 Wall Plaster W/ S/ C Over D/ W Board, Skim Coat	Beige Non-Fibrous Homogeneous		100% Other	None Detected
10 / 16033005-010 Wall Plaster W/ S/ C Over D/ W Board, Drywall	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16033005-011 Window Glazing	Tan Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16033005-012 Window Glazing	Tan Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16033005-013 D/ W Board	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Alex Fleming
Analysis Date: 9/20/2016

Approved Signatory: [signature]
Date: 9/20/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
14 / 16033005-014 D/ W Board	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16033005-015 Window Glazing	Tan Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16033005-016 Window Glazing	Off-White Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile

Certification

Analyst: Analysis Date: 9/20/2016

Approved Signatory: Date: 9/20/2016

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Analyst: Fleming, Christopher

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16033005-017 Ceiling Plaster W/ S/ C Over D/ W Board, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile
02 / 16033005-018 Ceiling Plaster W/ S/ C Over D/ W Board, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile
03 / 16033005-019 Ceiling Plaster W/ S/ C Over D/ W Board, Plaster	Grey Non-Fibrous Homogeneous		99.9% Other	0.1% Chrysotile
04 / 16033005-020 Ceiling Plaster W/ S/ C Over D/ W Board, Plaster	Grey Non-Fibrous Homogeneous		99.8% Other	0.2% Chrysotile
05 / 16033005-021 Ceiling Plaster W/ S/ C Over D/ W Board, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile
06 / 16033005-023 Wall Plaster W/ S/ C Over D/ W Board, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile
07 / 16033005-024 Wall Plaster W/ S/ C Over D/ W Board, Plaster	Grey Non-Fibrous Homogeneous		99.9% Other	0.1% Chrysotile

Certification

Analyst: Approved Signatory:

Analysis Date: 9/20/2016 Date: 9/20/2016

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Analyst: Fleming, Christopher

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16033005-025 Wall Plaster W/ S/ C Over D/ W Board, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16033005-026 Wall Plaster W/ S/ C Over D/ W Board, Plaster	Grey Non-Fibrous Homogeneous		99.9% Other	0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16033005-027 Wall Plaster W/ S/ C Over D/ W Board, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile

Certification

Analyst: Chris Fleming
Analysis Date: 9/20/2016

Approved Signatory: [signature]
Date: 9/20/2016

SanAir Technologies Laboratory, Inc.
1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: http://www.sanair.com E-mail: iaq@sanair.com

SanAir ID Number
16033005
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 273 Early Rd

Collected Date: 9/12/2016
Received Date: 9/13/2016 10:35:00 AM
Report Date: 9/20/2016 5:06:35 PM
Analyst: Fleming, Christopher

Asbestos Bulk EPA PLM 400 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
16 / 16033005-028 Window Glazing	Off-White Non-Fibrous Homogeneous		100% Other	< 0.25% Chrysotile

Certification

Analyst: Chris Fleming
Analysis Date: 9/20/2016

Approved Signatory: [signature]
Date: 9/20/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

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, AIHA or any other agency of the U.S. government; *and may not be certified by every local, state and federal regulatory agencies.*

SanAir Technologies Laboratory

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 Job Number: [redacted]

Company: HzW Environmental Consultants, LLC	Project #: 4116201	Collected by:
Address: 6105 Heisley Road	Project Name: 273 Early Rd	Phone #: 440-357-1260
City, St., Zip: Mentor, Ohio 44060	Date Collected:	Fax #: 440-357-1510
State of Collection: OH Account#:	P.O. Number:	Email: JSablar@Hzwenv.com

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Water

ABHE	EPA 100.2	☐

Matrix	Other	
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start – Stop
01	Ceiling flash w/ S/C over				
02	D/W Board				
03			1,000 p-c.		
04					
05					
06	Wall flash w/ S/C over				
07	D/W Board				
08			1,000 p-c		
09					
10					
11	Window Glazing				
12					

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	09/12/16	9:30 am	MC	SEP 13 2016	10:35 AM

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

P/C 79 or less 1,000 P/C when indicated.

HZW
Environmental
Consultants

October 3, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 661 Early Road, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HZW Environmental Consultants, LLC (HZW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 661 Early Road, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below:

Photograph 01
Exterior View of Residential Structure Located at
661 Early Road, Youngstown, Ohio

METHODS OF INVESTIGATION

General

During September 2016, a representative of HZW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HZW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HZW under the Miscellaneous Materials category.

Once categorized, HZW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HZW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HZW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HZW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HZW collected a minimum of seven (7) samples from this area/material.

- For TSI, HZW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HZW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HZW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HZW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HZW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HZW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HZW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HZW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HZW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HZW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HZW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HZW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos. Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HZW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HZW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HZW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HZW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Third Request\05 661 Early Road Asbestos Survey Report.docx

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 661 Early Road, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Ceiling Plaster with Skim Coat – Smooth	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	01	X					1,202 sq.ft.	ND ND
				02							ND ND 3
				03							ND ND
				04							ND ND
				05							ND ND
B	Wall Plaster with Skim Coat – Smooth	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	06							ND ND
				07							ND ND
				08							ND ND
				09							ND ND
				10							ND ND
C	Skim Coat – Ceiling, Circular Blotch Pattern	Living Room	Minimum 3 Samples	11							ND
				12							ND
				13							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 661 Early Road, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
D	Ceiling Plaster with Skim Coat – Swirl Pattern	Dining Room	<1,000 sq.ft.	14							ND ND
				15							ND ND
				16							ND ND
E	Ceiling Tile – 1-foot by 1-foot, Wood Grain Pattern	Kitchen	Minimum 2 Samples	17							ND
				18							ND
G	Skim Coat – Ceiling, Rough Texture	Bedroom # 5	<1,000 sq.ft.	19							ND
				20							ND
				21							ND
H	Drywall System – Ceiling and Wall	Bathroom and Hallway	Minimum 2 Samples	22							ND ND ND ND
				23							ND ND
K	Window Glazing	Basement Windows	Minimum 2 Samples	24			X			10 sq.ft.	3
				25							NA

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 661 Early Road, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
O	Window Glazing	House Windows	Minimum 2 Samples	26							ND
				27							ND
P	Asphalt Shingle Roofing System - Gray	Garage Roof	Minimum 2 Samples	28							ND
				29							ND
F	Vinyl Sheet Flooring, Mastic	Kitchen	Category I Nonfriable in Fair Condition, Not Sampled				X		140 sq.ft.		Assumed
I	Cove Base – 3-inch, Mastic	Bathroom	Category I Nonfriable in Fair Condition, Not Sampled				X		11 sq.ft.		Assumed
J	Floor Tile – 12-inch by 12-inch, Mastic	Bathroom	Category I Nonfriable in Fair Condition, Not Sampled				X		120 sq.ft.		Assumed
L	Duct Seam Tape	Basement	Assumed RACM			X			45 sq.ft.		Assumed
M	Duct Wrap Insulation	Throughout Structure	Assumed RACM			X			120 sq.ft.		Assumed
N	Asphalt Shingle Roofing System – Gray	House Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		1,200 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

HZW ENVIRONMENTAL
CONSULTANTS, LLC

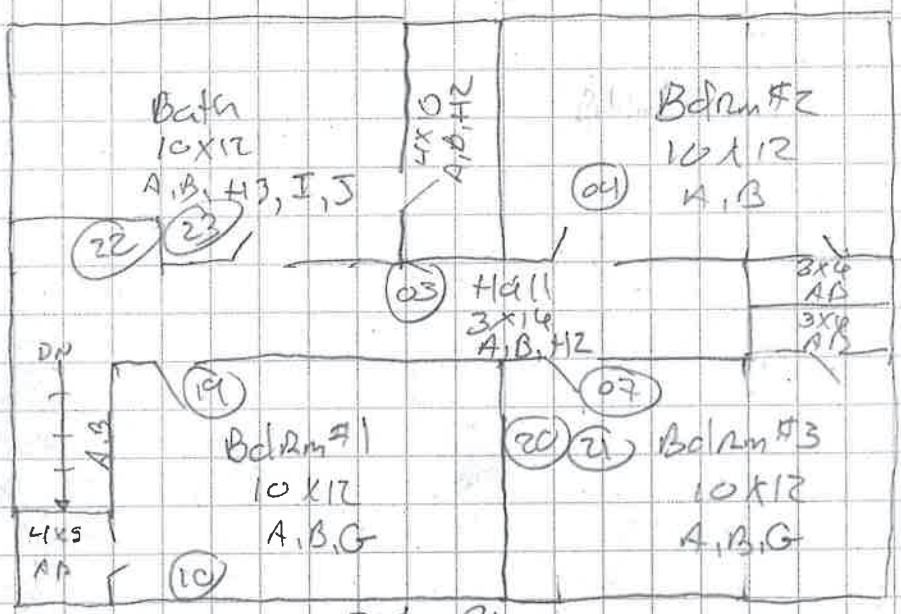
6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 661 Early Rd
PROJECT NO. H16201
PAGE NO. 2 OF 2
FIELD REPRESENTATIVE CL DATE 09/08/14
SCALE (TH)

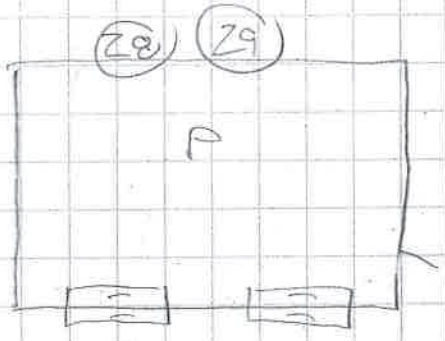
1 = Ceiling
2 = wall
3 = Both

INDICATE DIRECTION OF NORTH

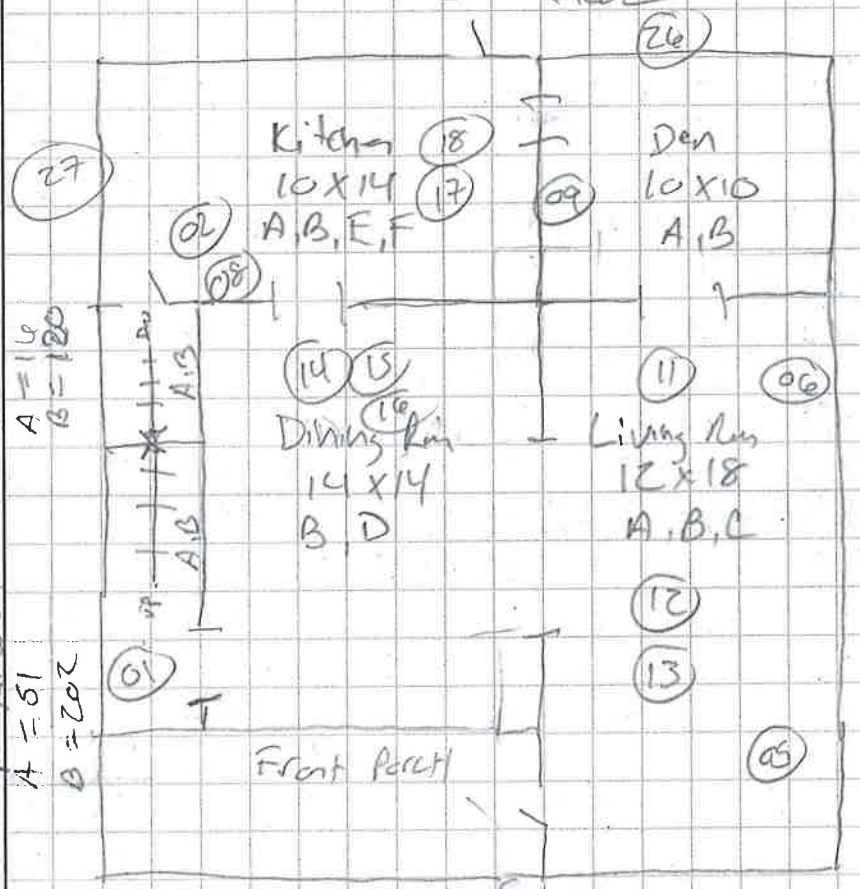
← N



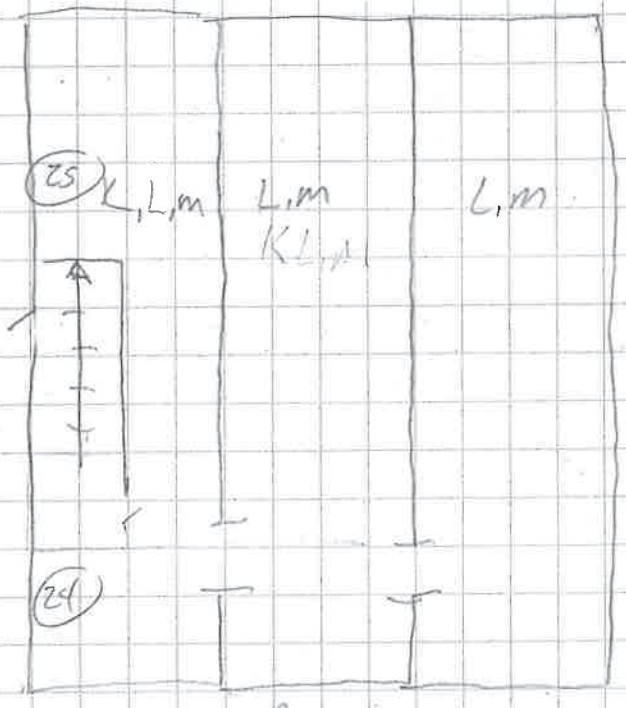
2nd floor



Garage



1st floor



Basement

SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/20/2016
Project Name: 661 Early Rd
Project #: H16201
SanAir ID#: 16032995

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

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Web: http://www.sanair.com E-mail: iaq@sanair.com

HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 20, 2016

SanAir ID #	16032995
Project Name:	661 Early Rd
Project Number:	H16201

Dear Joan Sablar,

We at SanAir would like to thank you for the work you recently submitted. The 29 sample(s) were received on Tuesday, September 13, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
29 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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

SanAir ID Number
16032995
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 661 Early Rd

Collected Date: 9/12/2016
Received Date: 9/13/2016 10:35:00 AM
Report Date: 9/20/2016 5:23:19 PM
Analyst: Vaughan, Nathaniel
Rutter, Amber

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
01 / 16032995-001 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Heterogeneous	2% Hair	98% Other	None Detected
01 / 16032995-001 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
02 / 16032995-002 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Heterogeneous	2% Hair	98% Other	None Detected
02 / 16032995-002 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected
02 / 16032995-002 Ceiling Plaster W/ S/ C, Texture	Off-White Non-Fibrous Homogeneous		97% Other	3% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
03 / 16032995-003 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Heterogeneous	2% Hair	98% Other	None Detected
03 / 16032995-003 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
04 / 16032995-004 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Heterogeneous	2% Hair	98% Other	None Detected
04 / 16032995-004 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst:

Analysis Date: 9/20/2016

Approved Signatory:

Date: 9/20/2016

SanAir Technologies Laboratory, Inc.

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

SanAir ID Number
16032995
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 661 Early Rd

Collected Date: 9/12/2016
Received Date: 9/13/2016 10:35:00 AM
Report Date: 9/20/2016 5:23:19 PM
Analyst: Vaughan, Nathaniel
Rutter, Amber

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16032995-005 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Heterogeneous	2% Hair	98% Other	None Detected
05 / 16032995-005 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16032995-006 Wall Plaster W/ S/ C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	None Detected
06 / 16032995-006 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16032995-007 Wall Plaster W/ S/ C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	None Detected
07 / 16032995-007 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16032995-008 Wall Plaster W/ S/ C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	None Detected
08 / 16032995-008 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16032995-009 Wall Plaster W/ S/ C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	None Detected
09 / 16032995-009 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

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Analyst: Approved Signatory:

Analysis Date: 9/20/2016 Date: 9/20/2016

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Rutter, Amber

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16032995-010 Wall Plaster W/ S/ C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	None Detected
10 / 16032995-010 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16032995-011 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16032995-012 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16032995-013 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
14 / 16032995-014 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Heterogeneous		100% Other	None Detected
14 / 16032995-014 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

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Analyst: Approved Signatory:

Analysis Date: 9/20/2016 Date: 9/20/2016

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Rutter, Amber

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16032995-015 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Heterogeneous		100% Other	None Detected
15 / 16032995-015 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16032995-016 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Heterogeneous		100% Other	None Detected
16 / 16032995-016 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
17 / 16032995-017 Ceiling Tile	White Fibrous Homogeneous	50% Cellulose 30% Glass	20% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
18 / 16032995-018 Ceiling Tile	White Fibrous Homogeneous	50% Cellulose 30% Glass	20% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
19 / 16032995-019 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst:

Analysis Date: 9/20/2016

Approved Signatory:

Date: 9/20/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
20 / 16032995-020 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
21 / 16032995-021 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
22 / 16032995-022 D/ W System, Plaster	Grey Non-Fibrous Heterogeneous	< 1% Hair 3% Cellulose	97% Other	None Detected
22 / 16032995-022 D/ W System, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected
22 / 16032995-022 D/ W System, Drywall	White Non-Fibrous Homogeneous	3% Glass	97% Other	None Detected
22 / 16032995-022 D/ W System, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
23 / 16032995-023 D/ W System, Drywall	White Non-Fibrous Homogeneous	3% Glass	97% Other	None Detected
23 / 16032995-023 D/ W System, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
24 / 16032995-024 Window Glazing	Grey Non-Fibrous Homogeneous		97% Other	3% Chrysotile

Certification

Analyst: Approved Signatory:

Analysis Date: 9/20/2016 Date: 9/20/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
25 / 16032995-025 Window Glazing				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
26 / 16032995-026 Window Glazing	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
27 / 16032995-027 Window Glazing	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
28 / 16032995-028 Asphalt Roofing	Grey Non-Fibrous Heterogeneous	20% Cellulose	80% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
29 / 16032995-029 Asphalt Roofing	Grey Non-Fibrous Heterogeneous	20% Cellulose	80% Other	None Detected

Certification

Analyst: Approved Signatory:

Analysis Date: 9/20/2016 Date: 9/20/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

SanAir Technologies Laboratory
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1603299

Asbestos Chain of Custody

Company: HzW Environmental Consultants, LLC	Project #: M16201	Collected by:
Address: 6105 Heisley Road	Project Name: Old Early Rd	Phone #: 440-357-1260
City, St., Zip: Mentor, Ohio 44060	Date Collected:	Fax #: 440-357-1510
State of Collection: OH Account#:	P.O. Number:	Email: JSablar@Hzwenv.com

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Water

ABHE	EPA 100.2	☐

Matrix	Other	
		☐

Turn Around Times	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start – Stop
01	Ceiling Plaster w/ S/C				
02					
03			1,000 p.c.		
04					
05					
06	Wall plaster w/ S/C				
07					
08			1,000 p.c.		
09					
10					

Relinquished by	Date	Time	Received by	Date	Time
	09/12/16	9:30am	CEN	SEP 13 2016	10/35Am

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

P/C 2% or less 1,000 P/C when Indicated

160329195

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
11	Skim Coat				
12			1,000p.c.		
13					
14	Ceiling Flash w/ s/c				
15			1,000p.c.		
16					
17	Ceiling Tile				
18					
19	Skim Coat				
20			1,000p.c.		
21					
22	D/W System				
23					
24	window Glazing				
25					
26	Window Glazing				
27					
28	Asphalt Roofing				
29					

Special Instructions	Samples for 1000 Point Count are noted, all other are 400 Point C

Relinquished by	Date	Time	Received by	Date	Time
	09/12/16	9:30 am	CEW	SEP 13 2016	10:35 Am

Unless scheduled, the turn around time for all samples received after 3 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.

Point Count All Samples identified at 2% or less

Page 2 of 2

HZW
Environmental
Consultants

October 3, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 745 Early Road, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HZW Environmental Consultants, LLC (HZW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 745 Early Road, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below:

Photograph 01
Exterior View of Residential Structure Located at
745 Early Road, Youngstown, Ohio

METHODS OF INVESTIGATION

General

During September 2016, a representative of HZW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HZW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HZW under the Miscellaneous Materials category.

Once categorized, HZW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HZW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HZW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HZW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HZW collected a minimum of seven (7) samples from this area/material.

- For TSI, HZW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HZW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HZW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HZW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HZW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HZW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HZW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HZW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HZW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HZW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HZW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HZW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos. Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HZW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HZW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HZW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HZW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Third Request\06 745 Early Road Asbestos Survey Report.docx

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 745 Early Road, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Ceiling Plaster with Skim Coat – Smooth	Throughout First Floor	<1,000 sq.ft.	01						400 sq.ft	ND ND
				02							ND ND
				03							<0.1 ND
B	Wall Plaster with Skim Coat – Smooth	Throughout First Floor	>1,000 sq.ft. <5,000 sq.ft.	04						1,998 sq.ft.	ND ND
				05							0.2 ND
				06							ND ND
				07							ND ND
				08							<0.1 ND ND
C	Drywall System – Ceiling and Wall	Various Areas Throughout First Floor	Minimum 2 Samples	09							ND ND
				10							ND ND
D	Skim Coat – Ceiling, Blotch Pattern	Front Room and Dining Room	<1,000 sq.ft.	11							ND
				12							ND
				13							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 745 Early Road, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
E	Skim Coat – Ceiling, Large Arc Pattern	Living Room	<1,000 sq.ft.	14							ND
				15							ND
				16							ND
G	Skim Coat – Ceiling, Large Circle Pattern	Back Room	<1,000 sq.ft.	17							ND
				18							ND
				19							ND
H	Drywall System – Ceiling and Wall	Throughout Second Floor and Stairwell	Minimum 3 Samples	20			X		3,817 sq.ft.		ND 4
				21							ND NA
				22							ND NA
I	Skim Coat – Ceiling, Rough Texture	Various Areas Throughout Second Floor	<1,000 sq.ft.	23							ND
				24							ND
				25							ND

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ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 745 Early Road, Youngstown, Ohio

Client: City of Youngstown
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HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
L	Window Glazing	House Windows	Minimum 2 Samples	26							ND
				27							ND
F1-F2	Floor Tile – 12-inch by 12-inch, Mastic (2 Types)	Various Areas Throughout Structure	Category I Nonfriable in Fair Condition, Not Sampled				X		316 sq.ft.		Assumed
J	Asphalt Shingle Roofing System – Grayish Black	House and Awning Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		1,344 sq.ft.		Assumed
K	Asphalt Siding Shingles – Red Brick Pattern	House Exterior	Category I Nonfriable in Fair Condition, Not Sampled				X		2,320 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

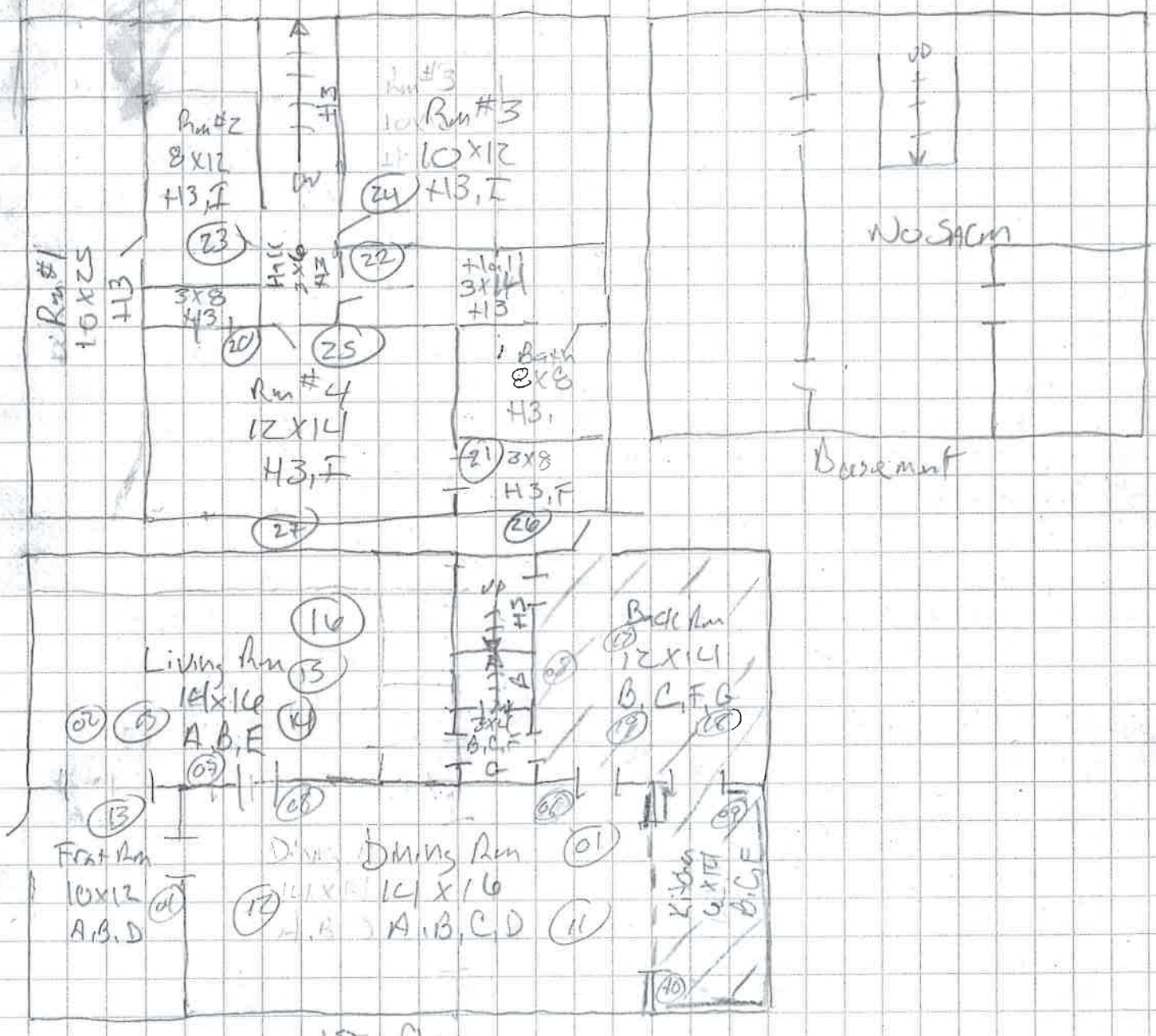
HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 745 Early Road
PROJECT NO. H16201
PAGE NO. 2 OF 2
FIELD REPRESENTATIVE CA DATE 09/09/14
SCALE (F)

= HA "C"
1 = Ceiling
2 = wall
3 = Both

INDICATE DIRECTION OF NORTH
N



SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/20/2016
Project Name: 745 Early Rd
Project #: H16201
SanAir ID#: 16033002

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
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Web: http://www.sanair.com E-mail: iaq@sanair.com

HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 20, 2016

SanAir ID # 16033002
Project Name: 745 Early Rd
Project Number: H16201

Dear Joan Sablar,

We at SanAir would like to thank you for the work you recently submitted. The 27 sample(s) were received on Tuesday, September 13, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
30 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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Web: http://www.sanair.com E-mail: iaq@sanair.com

SanAir ID Number
16033002
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 745 Early Rd

Collected Date: 9/12/2016
Received Date: 9/13/2016 10:35:00 AM
Report Date: 9/20/2016 5:47:08 PM
Analyst: Vaughan, Nathaniel
Robertson, Erin
Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16033002-001 Ceiling Plaster W/ S/ C, Plaster	Brown Non-Fibrous Homogeneous		100% Other	None Detected
01 / 16033002-001 Ceiling Plaster W/ S/ C, Skim Coat	Tan Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16033002-002 Ceiling Plaster W/ S/ C, Plaster	Brown Non-Fibrous Homogeneous		100% Other	None Detected
02 / 16033002-002 Ceiling Plaster W/ S/ C, Skim Coat	Tan Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16033002-003 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
03 / 16033002-003 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16033002-004 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
04 / 16033002-004 Wall Plaster W/ S/ C, Skim Coat	Tan Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 9/20/2016

Approved Signatory: Sandra Sobrino
Date: 9/20/2016

SanAir Technologies Laboratory, Inc.

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Robertson, Erin
Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16033002-005 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
05 / 16033002-005 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16033002-006 Wall Plaster W/ S/ C, Plaster	Brown Non-Fibrous Homogeneous		100% Other	None Detected
06 / 16033002-006 Wall Plaster W/ S/ C, Skim Coat	Tan Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16033002-007 Wall Plaster W/ S/ C, Plaster	Brown Non-Fibrous Homogeneous		100% Other	None Detected
07 / 16033002-007 Wall Plaster W/ S/ C, Skim Coat	Tan Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16033002-008 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
08 / 16033002-008 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected
08 / 16033002-008 Wall Plaster W/ S/ C, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 9/20/2016

Approved Signatory: Sandra Sobrino
Date: 9/20/2016

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Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16033002-009 D/ W System, Drywall	White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected
09 / 16033002-009 D/ W System, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16033002-010 D/ W System, Drywall	White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected
10 / 16033002-010 D/ W System, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16033002-011 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16033002-012 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16033002-013 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 9/20/2016

Approved Signatory: Sandra Sobering
Date: 9/20/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
14 / 16033002-014 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected
15 / 16033002-015 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected
16 / 16033002-016 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected
17 / 16033002-017 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected
18 / 16033002-018 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected
19 / 16033002-019 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 9/20/2016

Approved Signatory: Sandra Sobrino
Date: 9/20/2016

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Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
20 / 16033002-020 D/ W System, Drywall	Off-White Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
20 / 16033002-020 D/ W System, Joint Compound	White Non-Fibrous Homogeneous		96% Other	4% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
21 / 16033002-021 D/ W System, Drywall	Off-White Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
21 / 16033002-021 D/ W System, Joint Compound				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
22 / 16033002-022 D/ W System, Drywall	Off-White Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
22 / 16033002-022 D/ W System, Joint Compound				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
23 / 16033002-023 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
24 / 16033002-024 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 9/20/2016

Approved Signatory: Sandra Sobrino
Date: 9/20/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
25 / 16033002-025 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
26 / 16033002-026 Window Glazing	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
27 / 16033002-027 Window Glazing	White Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 9/20/2016

Approved Signatory: Sandra Sobrino
Date: 9/20/2016

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Robertson, Erin
Tallert, Jonathan

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16033002-028 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16033002-029 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		99.8% Other	0.2% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16033002-030 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile

Certification

Analyst: [signature]
Analysis Date: 9/20/2016

Approved Signatory: Sandra Sobrino
Date: 9/20/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

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160033002

Asbestos Chain of Custody

SanAir ID Number(s)

Company: HzW Environmental Consultants, LLC	Project #: H16201	Collected by:
Address: 6105 Heisley Road	Project Name: 745 Early Rd	Phone #: 440-357-1260
City, St., Zip: Mentor, Ohio 44060	Date Collected:	Fax #: 440-357-1510
State of Collection: OH Account#:	P.O. Number:	Email: JSablar@Hzwenv.com

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Water

ABHE	EPA 100.2	☐

Other

Matrix		
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start – Stop
01	Ceiling Plaster w/ S/C				
02			1,000 p-c		
03					
04	Wall Plaster w/ S/C				
05					
06			1,000 p-c		
07					
08					
09	D/W System				
10					

Relinquished by	Date	Time	Received by	Date	Time
[signature]	09/12/16	9:00 am	CW	SEP 12 2016	10:35 am

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

PLC 2% or less / 1,000 PLC when Tremolite

1603 3002

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
11	Skim Coat				
12	)		1,000p.c.		
13					
14	Skim Coat				
15	)		1,000p.c.		
16					
17	Skim Coat				
18	)		1,000p.c.		
19					
20	DLW system				
21	)				
22					
23	Skim Coat				
24	)		1,000p.c.		
25					
26	Window Glazing				
27	)				

Special Instructions: Samples for 1000 Point Count are noted, all other are 400 Point C

Relinquished by	Date	Time	Received by	Date	Time
	09/12/16	9:00am	CW	SEP 13 2016	10:35AM

Unless scheduled, the turn around time for all samples received after 3 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.

Page 2 of 2

Point Count all Samples identified at 2% or less

HzW ENVIRONMENTAL
CONSULTANTS, LLC

August 30, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 1815 Kensington Avenue, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HzW Environmental Consultants, LLC (HzW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 1815 Kensington Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below.

Photograph 01
Exterior View of Residential Structure Located at
1815 Kensington Avenue, Youngstown, Ohio

MENTOR **AKRON** **EUCLID** **CANTON**
6105 Heisley Road, Mentor, Ohio 44060 • phone 440-357-1260 • 800-804-8484 • fax 440-357-1510
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METHODS OF INVESTIGATION

General

During September 2016, a representative of HzW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HzW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HzW under the Miscellaneous Materials category.

Once categorized, HzW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HzW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HzW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HzW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HzW collected a minimum of seven (7) samples from this area/material.

- For TSI, HzW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HzW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HzW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HzW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HzW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HzW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia, Louisiana, for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less percent asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HzW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HzW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HzW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HzW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HzW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HzW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos.

   Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HzW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HzW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HzW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HzW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
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ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 1815 Kensington Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Ceiling Plaster with Skim Coat - Smooth	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	01							ND ND
				02							ND ND
				03							ND ND
				04							ND ND
				05							ND ND
B	Wall Plaster with Skim Coat - Smooth	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	06							ND ND
				07							ND ND
				08							ND ND
				09							ND ND
				10							ND ND
C	Drywall System – Ceiling and Wall	Various Areas Throughout Structure	Minimum 2 Samples	11							ND ND
				12							ND ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 1815 Kensington Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
D	Skim Coat – Ceiling, Blotch Pattern	Various Areas Throughout First Floor	<1,000 sq.ft.	13							ND
				14							ND
				15							ND
E	Skim Coat – Wall, Rough Ripple Pattern	Kitchen	<1,000 sq.ft.	16							ND
				17							ND ND
				18							ND
G	Skim Coat – Ceiling, Rough Popcorn Pattern	Bedroom #1	<1,000 sq.ft.	19							ND
				20							ND ND
				21							ND ND
H	Skim Coat – Wall, Rough Brush Stroke Pattern	Basement	<1,000 sq.ft.	22							ND
				23							ND
				24							ND
I	Ceiling Panel – 2-foot by 4-foot, Pinhole with Fissure Pattern	Basement and on Ground	Minimum 2 Samples	25							ND
				26							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 1815 Kensington Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
J	Drywall System - Wall	Basement	Minimum 2 Samples	27							ND ND
				28							ND ND
O	Rolled Asphalt Roofing - Gray	Garage Roof	Minimum 2 Samples	29							ND
				30							ND
P	Skim Coat – Ceiling and Wall, Fern Leaf Pattern	Bathroom	<1,000 sq.ft.	31							ND
				32							ND
				33							ND
F1-F6	Floor Tile – 12-inch by 12-inch, Mastic (6-Types)	Various Areas Throughout Structure	Category I Nonfriable in Fair Condition, Not Sampled				X		267 sq.ft.		Assumed
K	Vinyl Sheet Flooring, Mastic	Basement	Category I Nonfriable in Fair Condition, Not Sampled				X		120 sq.ft.		Assumed
L	Duct Seam Tape	Basement	Assumed RACM			X			4 sq.ft.		Assumed
M	Duct Wrap Insulation	Throughout Structure	Assumed RACM			X			100 sq.ft.		Assumed
N	Asphalt Shingle Roofing System - Brown	House Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		900 sq.ft.		Assumed

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HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Heisley Road, Mentor, Ohio 44060
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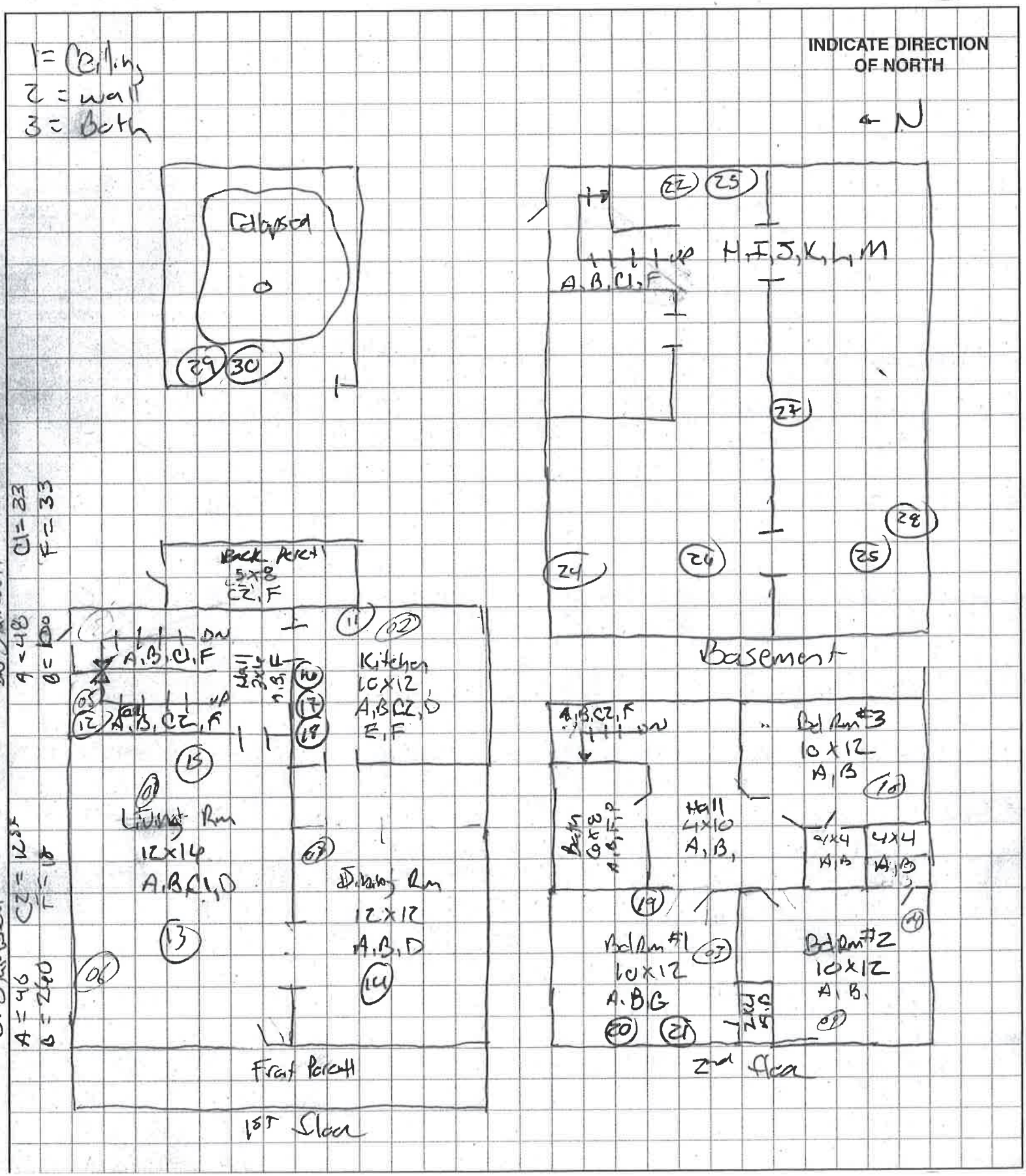
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 1815 Kensington Ave
PROJECT NO. H16201
PAGE NO. 2 OF 2
FIELD REPRESENTATIVE CR
DATE 09/01/16
SCALE TH

1 = Ceiling
2 = wall
3 = Both

INDICATE DIRECTION OF NORTH

← N



SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/12/2016
Project Name: 1815 Kensington Ave
Project #: H16201
SanAir ID#: 16031781

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

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

HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 12, 2016

SanAir ID # 16031781
Project Name: 1815 Kensington Ave
Project Number: H16201

Dear Carmen Rocco,

We at SanAir would like to thank you for the work you recently submitted. The 33 sample(s) were received on Friday, September 02, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
33 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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

SanAir ID Number
16031781
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 1815 Kensington Ave

Collected Date: 9/1/2016
Received Date: 9/2/2016 10:30:00 AM
Report Date: 9/12/2016 5:04:36 PM
Analyst: Toth, Elizabeth

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16031781-001 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous	3% Hair 3% Cellulose	94% Other	None Detected
01 / 16031781-001 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16031781-002 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous	3% Hair 3% Cellulose	94% Other	None Detected
02 / 16031781-002 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16031781-003 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
03 / 16031781-003 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16031781-004 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous	3% Hair 3% Cellulose	94% Other	None Detected
04 / 16031781-004 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16031781-005 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous	3% Hair 3% Cellulose	94% Other	None Detected
05 / 16031781-005 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Elizabeth Toth
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16031781-006 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous	3% Hair 3% Cellulose	94% Other	None Detected
06 / 16031781-006 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16031781-007 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous	3% Hair 3% Cellulose	94% Other	None Detected
07 / 16031781-007 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16031781-008 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous	3% Hair 3% Cellulose	94% Other	None Detected
08 / 16031781-008 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16031781-009 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous	3% Hair 3% Cellulose	94% Other	None Detected
09 / 16031781-009 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16031781-010 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous	3% Hair 3% Cellulose	94% Other	None Detected
10 / 16031781-010 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Elizabeth Toth
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Analyst: Toth, Elizabeth

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
11 / 16031781-011 D/ W System, Drywall	Off-White Non-Fibrous Homogeneous	3% Cellulose	97% Other	None Detected
11 / 16031781-011 D/ W System, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
12 / 16031781-012 D/ W System, Drywall	Off-White Non-Fibrous Homogeneous		100% Other	None Detected
12 / 16031781-012 D/ W System, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
13 / 16031781-013 Skim Coat	Yellow Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
14 / 16031781-014 Skim Coat	Beige Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
15 / 16031781-015 Skim Coat	Cream Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
16 / 16031781-016 Skim Coat	Cream Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Elizabeth Toth
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Analyst: Toth, Elizabeth

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
17 / 16031781-017 Skim Coat, Drywall	Off-White Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
17 / 16031781-017 Skim Coat, Skim Coat	Cream Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
18 / 16031781-018 Skim Coat	Cream Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
19 / 16031781-019 Skim Coat	Various Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
20 / 16031781-020 Skim Coat, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected
20 / 16031781-020 Skim Coat, Texture	Pink Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
21 / 16031781-021 Skim Coat, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected
21 / 16031781-021 Skim Coat, Texture	Pink Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Elizabeth Toth
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

SanAir Technologies Laboratory, Inc.

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

SanAir ID Number
16031781
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 1815 Kensington Ave

Collected Date: 9/1/2016
Received Date: 9/2/2016 10:30:00 AM
Report Date: 9/12/2016 5:04:36 PM
Analyst: Toth, Elizabeth

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
22 / 16031781-022 Skim Coat	Various Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
23 / 16031781-023 Skim Coat	Various Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
24 / 16031781-024 Skim Coat	Various Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
25 / 16031781-025 Ceiling Panel	Beige Fibrous Homogeneous	40% Cellulose 40% Glass	20% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
26 / 16031781-026 Ceiling Panel	Beige Fibrous Homogeneous	50% Cellulose 30% Glass	20% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
27 / 16031781-027 D/ W System, Drywall	Off-White Non-Fibrous Homogeneous	2% Glass	98% Other	None Detected
27 / 16031781-027 D/ W System, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Elizabeth Toth
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Analyst: Toth, Elizabeth

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
28 / 16031781-028 D/ W System, Drywall	Off-White Non-Fibrous Homogeneous	2% Glass	98% Other	None Detected
28 / 16031781-028 D/ W System, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
29 / 16031781-029 Rolled Asphalt Roofing	Black Fibrous Heterogeneous	50% Cellulose 15% Synthetic	35% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
30 / 16031781-030 Rolled Asphalt Roofing	Black Fibrous Heterogeneous	50% Cellulose 15% Synthetic	35% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
31 / 16031781-031 Skim Coat	Various Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
32 / 16031781-032 Skim Coat	Various Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
33 / 16031781-033 Skim Coat	Various Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Elizabeth Toth
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

SanAir Technologies Laboratory

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www.sanair.com

Asbestos Chain of Custody

SanAir ID Number: 16031781

Company: Haw Environmental	Project #: H16701	Collected by:
Address: 6105 Heisley Rd	Project Name: 1815 Kensington Ave	Phone #:
City, St., Zip: Mentor, OH 44060	Date Collected:	Fax #:
State of Collection: Account#:	P.O. Number:	Email:

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Water

ABHE	EPA 100.2	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Other

Matrix		
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
01	Wall plaster w/ S/C					
02						
03						
04						
05						
06	Wall plaster w/ S/C					
07						
08			1,000 P.C.			
09						
10						
11	D/W system					
12						

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	09/01/16	5:30pm	CEN	SEP 02 2016	10:30Am

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

Page ___ of ___

Please P/C 2% or less
1,000 P/C when Indicated.

16031781

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
13	Skim Coat				
14			1,000p.c		
15					
16	Skim coat				
17			1,000p.c.		
18					
19	Skim coat				
20			1,000p.c.		
21					
22	Skim coat				
23			1,000p.c.		
24					
25	Ceiling Panel				
26					
27	D/w system				
28					
29	Rolled Asphalt Roofing				
30					
31	Skim Coat				
32			1,000p.c.		
33					

Special Instructions	Samples for 1000 Point Count are noted, all other are 400 Point Co

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	09/01/16	5:30pm	[illegible]	SEP 02 2016	10:30AM

Unless scheduled, the turn around time for all samples received after 3 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.

Page 2 of 2

Point Count all Samples identified at 2% or less

HZW
Environmental
Consultants

October 3, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 15 Lansdowne Boulevard, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HZW Environmental Consultants, LLC (HZW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 15 Lansdowne Boulevard, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below:

Photograph 01
Exterior View of Residential Structure Located at
15 Lansdowne Boulevard, Youngstown, Ohio

METHODS OF INVESTIGATION

General

During September 2016, a representative of HZW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HZW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HZW under the Miscellaneous Materials category.

Once categorized, HZW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HZW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HZW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HZW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HZW collected a minimum of seven (7) samples from this area/material.

- For TSI, HZW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HZW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HZW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HZW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HZW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HZW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HZW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HZW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HZW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HZW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HZW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HZW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos. Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HZW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HZW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HZW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HZW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Third Request\06 Lansdown Boulevard Asbestos Survey Report.docx

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 15 Lansdowne Boulevard, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Ceiling and Wall Plaster with Skim Coat – Orange, Smooth, Over Drywall Board	Room # 1 and Associated Hallway	<1,000 sq.ft.	01							ND ND ND
				02							ND ND ND
				03							ND ND ND
E	Ceiling Plaster with Skim Coat – Smooth, Original	Various Areas Throughout	<1,000 sq.ft.	04							ND ND
				05							ND ND
				06							ND ND
F	Wall Plaster with Skim Coat – Smooth, Original	Various Areas Throughout	>1,000 sq.ft. <5,000 sq.ft.	07							ND ND
				08							ND ND
				09							ND ND
				10							ND ND
				11							ND ND
G	Ceiling Paper	Garage # 1	Minimum 2 Samples	12			X			180 sq.ft.	75
				13							NA

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 15 Lansdowne Boulevard, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
H	Skim Coat – Wall, Rough Brush Stroke Pattern	Room # 2	<1,000 sq.ft.	14							ND
				15							ND
				16							ND
I	Ceiling Tile – 1-foot by 1-foot, Gray Marble Pattern	Restroom	Minimum 3 Samples	17							ND
				18							ND
K	Ceiling and Wall Plaster with Skim Coat – White, Smooth, Over Drywall Board	Room # 6	<1,000 sq.ft.	19						636 sq.ft.	<0.1 ND ND
				20							<0.1 ND ND
				21							0.1 ND ND
L	Drywall with Skim Coat – Ceiling and Wall, Thick, Smooth	Mud Room	<1,000 sq.ft.	22							ND ND
				23							ND ND
				24							ND ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 15 Lansdowne Boulevard, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
O	Window Glazing	House and Basement Windows	Minimum 2 Samples	25						6 sq.ft.	<0.25
				26							<0.25
S	Window Glazing	Shed Windows	Minimum 2 Samples	27						1 sq.ft.	<0.25
				28							<0.25
B	Light Heat Shield	Foyer	Assumed RACM			X			1.0 sq.ft.		Assumed
C1-C2	Cove Base – 3-inch, Mastic (2 Types)	Room # 1 and Bathroom	Category I Nonfriable in Fair Condition, Not Sampled				X		22 sq.ft.		Assumed
D	Vinyl Sheet Flooring Mastic	Room # 1	Category I Nonfriable in Fair Condition, Not Sampled				X		224 sq.ft.		Assumed
J1-J4	Floor Tile – 9-inch by 9-inch, Mastic (4 Types)	Bathroom and Mud Room	Category I Nonfriable in Fair Condition, Not Sampled				X		138 sq.ft.		Assumed
M	Duct Seam Tape	Throughout Structure	Assumed RACM			X			60 sq.ft.		Assumed
N	Asphalt Shingle Roofing System – Brown	House Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		800 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 15 Lansdowne Boulevard, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
P	Drywall System - Walls	Garage # 2 (Unable To Obtain Access)	Assumed RACM				X		280 sq.ft.		Assumed
Q	Asphalt Siding Shingles – Brown	Shed Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		200 sq.ft.		Assumed
R	Rolled Asphalt Siding - Green	Shed Interior and Exterior	Category I Nonfriable in Fair Condition, Not Sampled				X		96 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

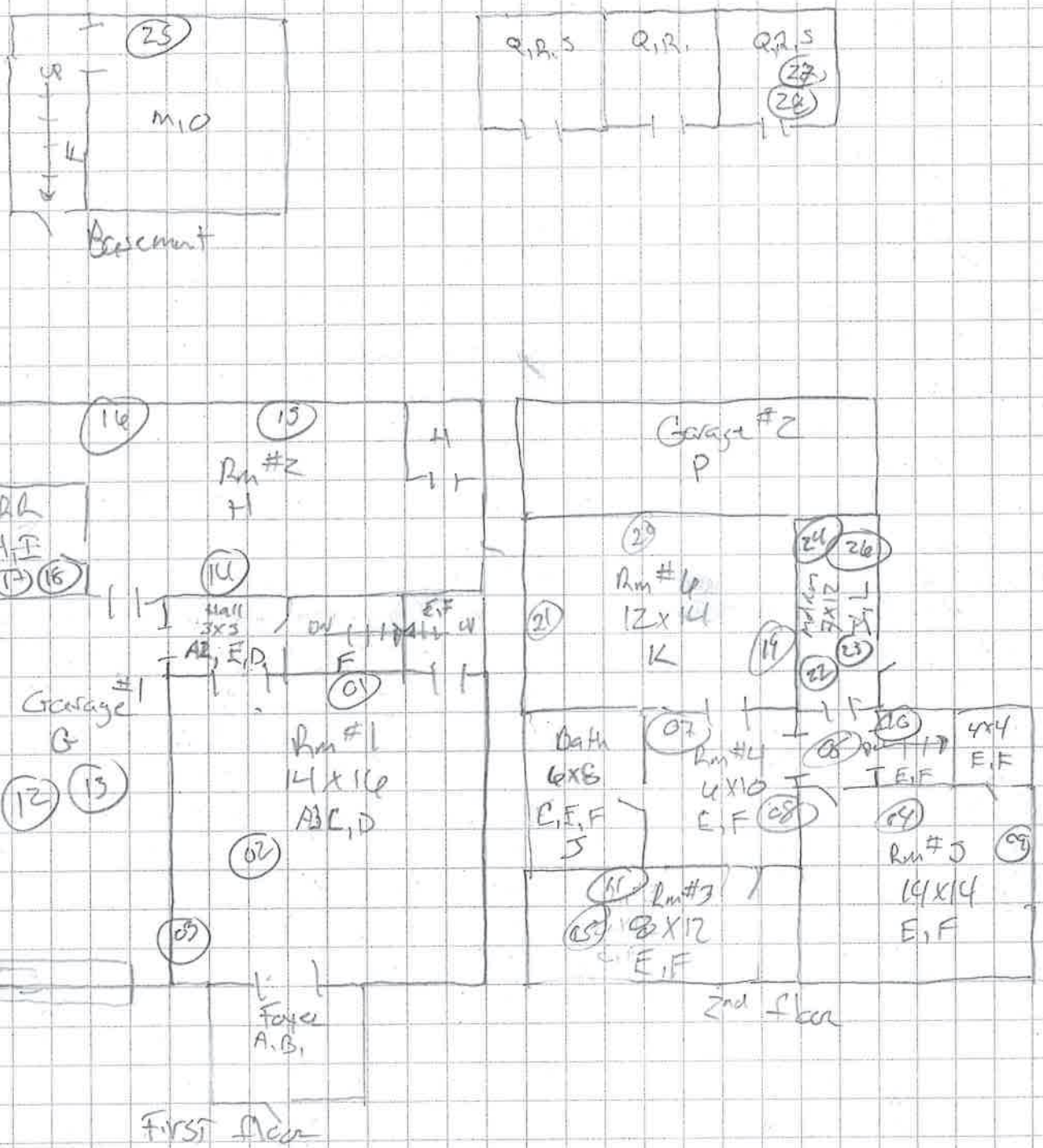
HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Helsley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 15 Lansdowne Blvd
PROJECT NO. 1116201
PAGE NO. 2 OF 2
FIELD REPRESENTATIVE CR DATE 09/09/16
SCALE (F)

1 = Ceiling
2 = Wall
3 = Both

INDICATE DIRECTION OF NORTH



SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/19/2016
Project Name: 15 Lansdowne Rd
Project #: H16201
SanAir ID#: 16032999

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
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Web: http://www.sanair.com E-mail: iaq@sanair.com

HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 19, 2016

SanAir ID # 16032999
Project Name: 15 Lansdowne Rd
Project Number: H16201

Dear Joan Sablar,

We at SanAir would like to thank you for the work you recently submitted. The 31 sample(s) were received on Tuesday, September 13, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
35 sample(s) in Good condition

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SanAir ID Number
16032999
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 15 Lansdowne Rd

Collected Date: 9/12/2016
Received Date: 9/13/2016 10:35:00 AM
Report Date: 9/19/2016 9:12:05 AM
Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16032999-001 Plaster W/ S/ C Over D/ W Board, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	None Detected
01 / 16032999-001 Plaster W/ S/ C Over D/ W Board, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected
01 / 16032999-001 Plaster W/ S/ C Over D/ W Board, Wallboard	White Non-Fibrous Heterogeneous	20% Cellulose	80% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16032999-002 Plaster W/ S/ C Over D/ W Board, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	None Detected
02 / 16032999-002 Plaster W/ S/ C Over D/ W Board, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected
02 / 16032999-002 Plaster W/ S/ C Over D/ W Board, Wallboard	White Non-Fibrous Heterogeneous	20% Cellulose	80% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16032999-003 Plaster W/ S/ C Over D/ W Board, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	None Detected
03 / 16032999-003 Plaster W/ S/ C Over D/ W Board, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected
03 / 16032999-003 Plaster W/ S/ C Over D/ W Board, Wallboard	White Non-Fibrous Heterogeneous	20% Cellulose	80% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16032999-004 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Heterogeneous		100% Other	None Detected
04 / 16032999-004 Ceiling Plaster W/ S/ C, Skim Coat	Pink Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/17/2016

Approved Signatory:
Date: 9/19/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16032999-005 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Heterogeneous		100% Other	None Detected
05 / 16032999-005 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16032999-006 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Heterogeneous		100% Other	None Detected
06 / 16032999-006 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16032999-007 Wall Plaster W/ S/ C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	None Detected
07 / 16032999-007 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16032999-008 Wall Plaster W/ S/ C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	None Detected
08 / 16032999-008 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16032999-009 Wall Plaster W/ S/ C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	None Detected
09 / 16032999-009 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/17/2016

Approved Signatory:
Date: 9/19/2016

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Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16032999-010 Wall Plaster W/ S/ C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	None Detected
10 / 16032999-010 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16032999-011 Wall Plaster W/ S/ C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	None Detected
11 / 16032999-011 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16032999-012 Ceiling Paper	White Fibrous Heterogeneous		25% Other	75% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16032999-013 Ceiling Paper				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
14 / 16032999-014 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16032999-015 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/17/2016

Approved Signatory:
Date: 9/19/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16032999-016 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
17 / 16032999-017 Ceiling Tile	White Fibrous Heterogeneous	90% Cellulose	10% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
18 / 16032999-018 Ceiling Tile	White Fibrous Heterogeneous	90% Cellulose	10% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
19 / 16032999-019 Plaster W/ S/ C Over D/ W Board, Plaster	Grey Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
19 / 16032999-019 Plaster W/ S/ C Over D/ W Board, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected
19 / 16032999-019 Plaster W/ S/ C Over D/ W Board, Drywall	White Non-Fibrous Heterogeneous	20% Cellulose	80% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
20 / 16032999-020 Plaster W/ S/ C Over D/ W Board, Plaster	Grey Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
20 / 16032999-020 Plaster W/ S/ C Over D/ W Board, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected
20 / 16032999-020 Plaster W/ S/ C Over D/ W Board, Drywall	White Non-Fibrous Heterogeneous	20% Cellulose	80% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/17/2016

Approved Signatory:
Date: 9/19/2016

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Collected Date: 9/12/2016
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Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
21 / 16032999-021 Plaster W/ S/ C Over D/ W Board, Plaster	Grey Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
21 / 16032999-021 Plaster W/ S/ C Over D/ W Board, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected
21 / 16032999-021 Plaster W/ S/ C Over D/ W Board, Drywall	White Non-Fibrous Heterogeneous	20% Cellulose	80% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
22 / 16032999-022 D/ W W/ Skim Coat, Drywall	White Non-Fibrous Heterogeneous	10% Cellulose	90% Other	None Detected
22 / 16032999-022 D/ W W/ Skim Coat, Skim Coat	Brown Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
23 / 16032999-023 D/ W W/ Skim Coat, Drywall	White Non-Fibrous Heterogeneous	10% Cellulose	90% Other	None Detected
23 / 16032999-023 D/ W W/ Skim Coat, Skim Coat	Brown Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
24 / 16032999-024 D/ W W/ Skim Coat, Drywall	White Non-Fibrous Heterogeneous	10% Cellulose	90% Other	None Detected
24 / 16032999-024 D/ W W/ Skim Coat, Skim Coat	Brown Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/17/2016

Approved Signatory:
Date: 9/19/2016

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Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
25 / 16032999-025 Window Glazing	Grey Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
26 / 16032999-026 Window Glazing	Grey Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
27 / 16032999-027 Window Glazing	Tan Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
28 / 16032999-028 Window Glazing	Tan Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile

Certification

Analyst: Nathan Vaughan
Analysis Date: 9/17/2016

Approved Signatory:
Date: 9/19/2016

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Report Date: 9/19/2016 9:12:05 AM
Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
19 / 16032999-029 Plaster	Grey Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
20 / 16032999-030 Plaster	Grey Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
21 / 16032999-031 Plaster	Grey Non-Fibrous Heterogeneous		99.9% Other	0.1% Chrysotile

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/17/2016

Approved Signatory:
Date: 9/19/2016

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Collected Date: 9/12/2016
Received Date: 9/13/2016 10:35:00 AM
Report Date: 9/19/2016 9:12:05 AM
Analyst: Vaughan, Nathaniel

Asbestos Bulk EPA PLM 400 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
25 / 16032999-032 Window Glazing	Grey Non-Fibrous Heterogeneous		100% Other	< 0.25% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
26 / 16032999-033 Window Glazing	Grey Non-Fibrous Heterogeneous		100% Other	< 0.25% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
27 / 16032999-034 Window Glazing	Tan Non-Fibrous Heterogeneous		100% Other	< 0.25% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
28 / 16032999-035 Window Glazing	Tan Non-Fibrous Heterogeneous		100% Other	< 0.25% Chrysotile

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/17/2016

Approved Signatory:
Date: 9/19/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

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1160329991

Asbestos Chain of Custody

Company: HzW Environmental Consultants, LLC	Project #: H16201	Collected by:
Address: 6105 Heisley Road	Project Name: 15 Lansdowne Blvd	Phone #: 440-357-1260
City, St., Zip: Mentor, Ohio 44060	Date Collected:	Fax #: 440-357-1510
State of Collection: OH Account#:	P.O. Number:	Email: JSablar@Hzwenv.com

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Water

ABHE	EPA 100.2	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Matrix	Other

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start – Sto
01	Plaster w/ S/C over D/W				
02	Board		1,000 P.C		
03					
04	Ceiling Plaster w/ S/C				
05			1,000 P.C.		
06					
07	Wall plaster w/ S/C				
08					
09			1,000 P.C.		
10					
11					

Relinquished by	Date	Time	Received by	Date	Time
	09/12/16	9:00am	CW	SEP 13 2016	10:35am

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

1L0032999

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
12	Ceiling Paper				
13					
14	Skim Coat		1,000 p.c.		
15					
16					
17	Ceiling Tile				
18					
19	Plaster w/ s/c over D/W		1,000 p.c.		
20	Board				
21					
22	D/W w/ Skim coat		1,000 p.c.		
23					
24					
25	Window Glazing				
26					
27	Window Glazing				
28					

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
	09/12/16	9:00am	CEV	SEP 13 2016	10:35am

Unless scheduled, the turn around time for all samples received after 3 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.

P/C 29a or less
1,000 P/C when Indicated

Page ___of ___

HZW
Environmental
Consultants

October 3, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 687 Liberty Road, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HZW Environmental Consultants, LLC (HZW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 687 Liberty Road, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below:

Photograph 01
Exterior View of Residential Structure Located at
687 Liberty Road, Youngstown, Ohio

METHODS OF INVESTIGATION

General

During September 2016, a representative of HZW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HZW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HZW under the Miscellaneous Materials category.

Once categorized, HZW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HZW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HZW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HZW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HZW collected a minimum of seven (7) samples from this area/material.

- For TSI, HZW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HZW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HZW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HZW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HZW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HZW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HZW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HZW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HZW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HZW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HZW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HZW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos. Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HZW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HZW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HZW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HZW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Third Request\11 687 Liberty Road Asbestos Survey Report.docx

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 687 Liberty Road, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Drywall System – Ceiling and Wall	Throughout Structure	Minimum 5 Samples	01					3,422 sq.ft.		ND <0.25
				02							ND <0.25
				03							ND <0.25
				04							ND <0.25
				05							ND <0.25
B	Skim Coat – Ceiling, Sharp Ripple Pattern	Bathroom	<1,000 sq.ft.	06							ND
				07							ND
				08							ND
D	Floor Tile – 9-inch by 9-inch -Tan, Mastic	Basement	Minimum 2 Samples	09			X			312 sq.ft.	2 ND
				10							NA ND
E	Window Glazing	Basement Windows	Minimum 2 Samples	11							ND
				12							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 687 Liberty Road, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
C1-C2	Floor Tile – 12-inch by 12-inch), Mastic (2 Types)	Kitchen and Bathroom	Category I Nonfriable in Fair Condition, Not Sampled				X		223 sq.ft.		Assumed
F	Asphalt Shingle Roofing System – Gray	House Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		1,000 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

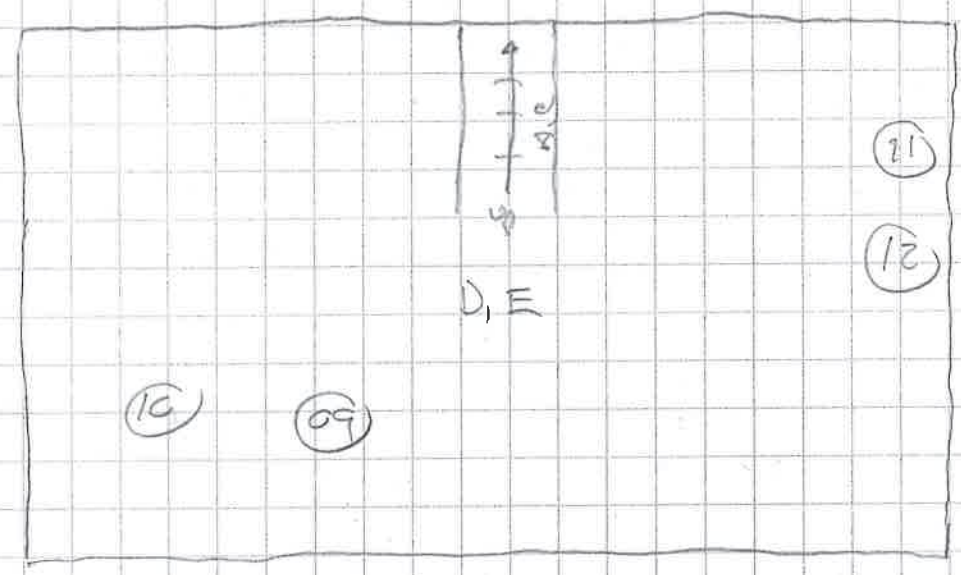
HZW ENVIRONMENTAL
CONSULTANTS, LLC

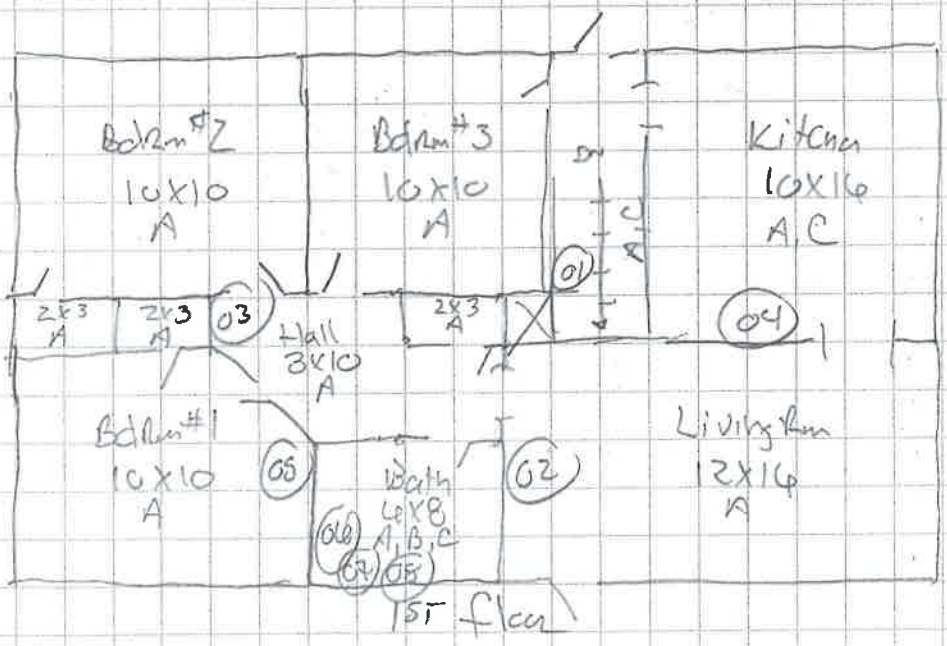
6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 6087 Liberty Rd
PROJECT NO. HLE201
PAGE NO. 2 OF 2
FIELD REPRESENTATIVE CR DATE 09/09/10
SCALE

INDICATE DIRECTION OF NORTH

← N





Dry Sewer!!
A = ZZ4
C = 1N

SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/19/2016
Project Name: 687 Liberty Rd
Project #: H16201
SanAir ID#: 16033006

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
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Web: http://www.sanair.com E-mail: iaq@sanair.com

HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 19, 2016

SanAir ID # 16033006
Project Name: 687 Liberty Rd
Project Number: H16201

Dear Joan Sablar,

We at SanAir would like to thank you for the work you recently submitted. The 17 sample(s) were received on Tuesday, September 13, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
17 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: http://www.sanair.com E-mail: iaq@sanair.com

SanAir ID Number
16033006
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 687 Liberty Rd

Collected Date: 9/12/2016
Received Date: 9/13/2016 10:35:00 AM
Report Date: 9/19/2016 9:09:54 AM
Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16033006-001 D/ W System, Drywall	White Non-Fibrous Heterogeneous	20% Cellulose	80% Other	None Detected
01 / 16033006-001 D/ W System, Joint Compound	White Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16033006-002 D/ W System, Drywall	White Non-Fibrous Heterogeneous	20% Cellulose	80% Other	None Detected
02 / 16033006-002 D/ W System, Joint Compound	White Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16033006-003 D/ W System, Drywall	White Non-Fibrous Heterogeneous	20% Cellulose	80% Other	None Detected
03 / 16033006-003 D/ W System, Joint Compound	White Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16033006-004 D/ W System, Drywall	White Non-Fibrous Heterogeneous	20% Cellulose	80% Other	None Detected
04 / 16033006-004 D/ W System, Joint Compound	White Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16033006-005 D/ W System, Drywall	White Non-Fibrous Heterogeneous	20% Cellulose	80% Other	None Detected
05 / 16033006-005 D/ W System, Joint Compound	White Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/17/2016

Approved Signatory:
Date: 9/19/2016

SanAir Technologies Laboratory, Inc.

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804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16033006-006 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16033006-007 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16033006-008 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16033006-009 F/ T W/ Mas, Floor Tile	Brown Non-Fibrous Heterogeneous		98% Other	2% Chrysotile
09 / 16033006-009 F/ T W/ Mas, Mastic	Black Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16033006-010 F/ T W/ Mas, Floor Tile				Not Analyzed
10 / 16033006-010 F/ T W/ Mas, Mastic	Black Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16033006-011 Window Glazing	White Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/17/2016

Approved Signatory:
Date: 9/19/2016

SanAir Technologies Laboratory, Inc.

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SanAir ID Number
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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16033006-012 Window Glazing	White Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/17/2016

Approved Signatory:
Date: 9/19/2016

SanAir Technologies Laboratory, Inc.

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Report Date: 9/19/2016 9:09:54 AM
Analyst: Vaughan, Nathaniel

Asbestos Bulk EPA PLM 400 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16033006-013 Joint Compound	White Non-Fibrous Heterogeneous		100% Other	< 0.25% Chrysotile
02 / 16033006-014 Joint Compound	White Non-Fibrous Heterogeneous		100% Other	< 0.25% Chrysotile
03 / 16033006-015 Joint Compound	White Non-Fibrous Heterogeneous		100% Other	< 0.25% Chrysotile
04 / 16033006-016 Joint Compound	White Non-Fibrous Heterogeneous		100% Other	< 0.25% Chrysotile
05 / 16033006-017 Joint Compound	White Non-Fibrous Heterogeneous		100% Other	< 0.25% Chrysotile

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/17/2016

Approved Signatory:
Date: 9/19/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

Disclaimer

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SanAir Technologies Laboratory

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www.sanair.com

Asbestos Chain of Custody

SanAir ID Number: 1610330006

Company: Haw Environmental		Project #: H16201	Collected by:
Address: 6605 Heisley Rd		Project Name: 687 Liberty Rd	Phone #:
City, St., Zip: Mentor, OH 44060		Date Collected:	Fax #:
State of Collection:	Account#:	P.O. Number:	Email:

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Water

ABHE	EPA 100.2	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Other

Matrix		
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
01	D/W system					
02						
03						
04						
05						
06	Skim Coat		1,000 pc.			
07						
08						
09	F/T w/ mas					
10						
11	Window Glazing					
12						

Relinquished by	Date	Time	Received by	Date	Time
[signature]	09/12/16	9:00am	CEN	SEP 13 2016	10:35am

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

Page ___ of ___

Please P/C 29a or less
1,000 P/C when Indicated.

HzW ENVIRONMENTAL
CONSULTANTS, LLC

September 16, 2016

Mr. Chuck Shasho, Deputy Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Structure Located at 1420 Logan Avenue, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HzW Environmental Consultants, LLC (HzW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 1420 Logan Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below.

Photograph 01
Exterior View of Residential Structure Located at
1420 Logan Avenue, Youngstown, Ohio

MENTOR **AKRON** **EUCLID** **CANTON**
6105 Heisley Road, Mentor, Ohio 44060 • phone 440-357-1260 • 800-804-8484 • fax 440-357-1510
www.hzwenv.com

METHODS OF INVESTIGATION

General

During August 2016, a representative of HzW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HzW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HzW under the Miscellaneous Materials category.

Once categorized, HzW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HzW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HzW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HzW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HzW collected a minimum of seven (7) samples from this area/material.

- For TSI, HzW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HzW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HzW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HzW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HzW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HzW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia, Louisiana, for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less percent asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HzW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HzW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HzW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HzW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HzW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HzW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos.

   Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HzW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HzW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HzW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HzW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Second Request\18 1420 Logan Avenue Asbestos Report.doc

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 1420 Logan Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Ceiling Plaster with Skim Coat - Smooth	Throughout Structure	<1,000 sq.ft.	01						813 sq.ft.	<0.1 ND
				02							ND ND
				03							<0.1 ND
B	Wall Plaster with Skim Coat - Smooth	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	04						3,000 sq.ft.	0.1 ND
				05							0.6 ND
				06							<0.1 ND
				07							0.1 ND
				08							<0.1 ND
C	Ceiling Tile – 1-foot by 1-foot, Smooth	Living And Dining Rooms	Minimum 2 Samples	09							ND ND
				10							ND ND
D	Drywall System – Wall	Living Room and Basement Stairwell	Minimum 3 Samples	11						85 sq.ft.	ND ND
				12							ND <0.25

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 1420 Logan Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
F	Skim Coat – Ceiling, Small Circle Pattern	Bedroom 1	<1,000 sq.ft.	13							ND
				14							ND
				15							ND
G	Skim Coat – Wall, Swirl Pattern	Second Floor Hallway	<1,000 sq.ft.	16							ND
				17							ND
				18							ND
J	Ceiling Plaster	Front Porch	<1,000 sq.ft.	19						168 sq.ft.	<0.1
				20							<0.1
				21							<0.1
M	Window Glazing	House Windows	Minimum 2 Samples	22							ND
				23							ND
E1-E5	Vinyl Sheet Flooring, Mastic (5 Types)	Various Areas Throughout	Category I Nonfriable in Fair Condition, Not Sampled				X		460 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 1420 Logan Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
H	Duct Seam Wrap	Basement	Assumed RACM			X			12 sq.ft.		Assumed
I	Duct Wrap Insulation	Throughout Structure	Assumed RACM			X			108 sq.ft.		Assumed
K	Light Heat Shield	Front Porch	Assumed RACM			X			1 sq.ft.		Assumed
L	Asphalt Shingle Roofing System – Black	House Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		900 sq.ft.		Assumed
N	Asphalt Shingle Roofing System – Black	Garage Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		600 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

HZW ENVIRONMENTAL
CONSULTANTS, LLC

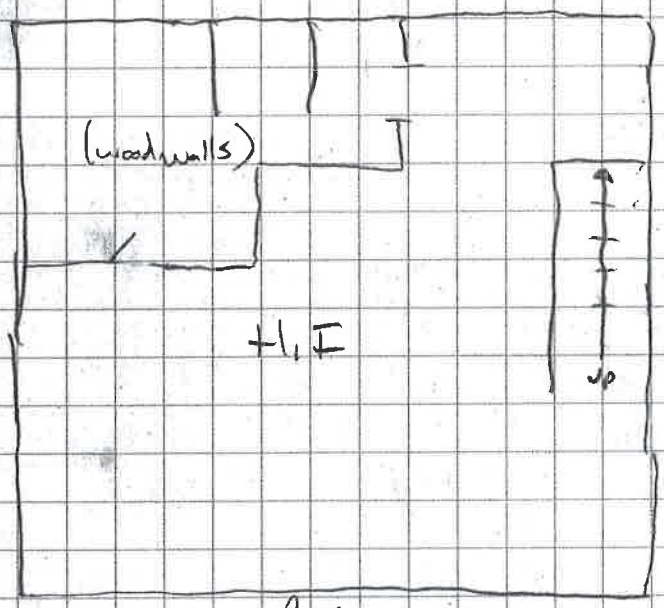
6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

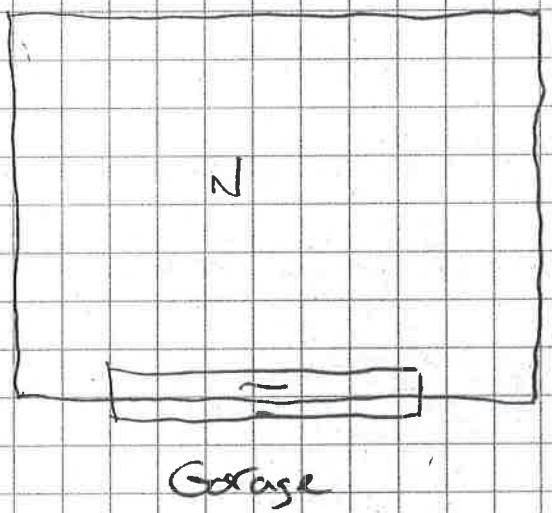
PROJECT 1420 Logan Ave
PROJECT NO. #16201
PAGE NO. 2 OF 2
FIELD REPRESENTATIVE Cr DATE 08/30/16
SCALE (1)

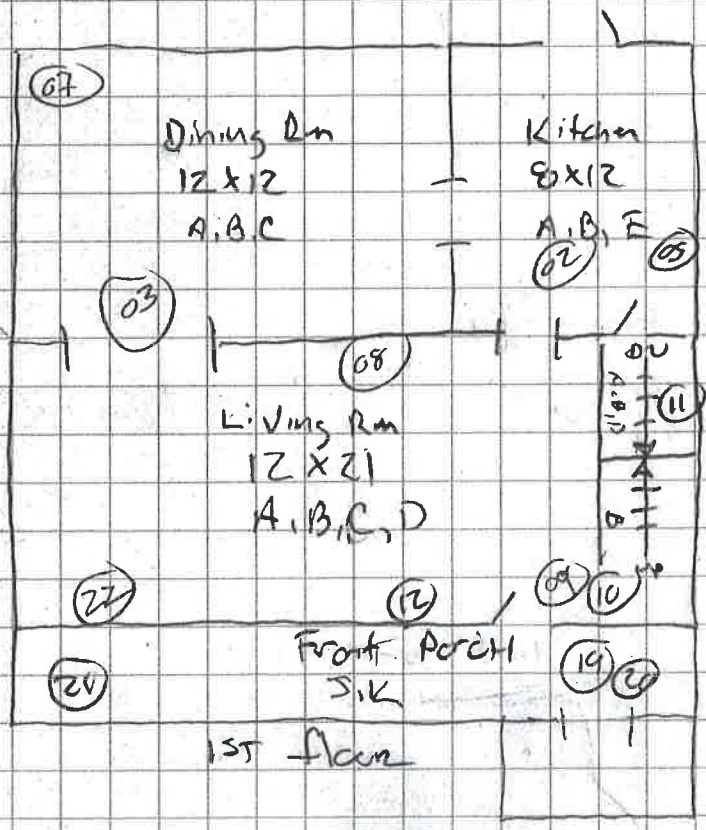
1 = Ceiling
2 = Wall
3 = Bath

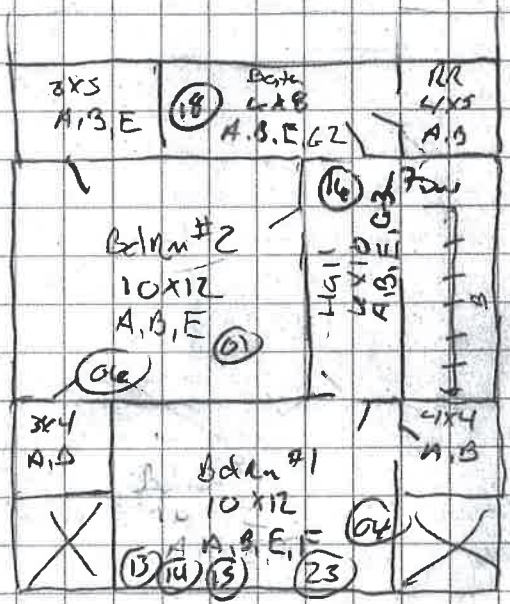
INDICATE DIRECTION OF NORTH

N →









SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/12/2016
Project Name: 1420 Logan Ave
Project #: H16201
SanAir ID#: 16031779

NVLAP LAB CODE 200870-0

Virginia SBE Certification # 652931

Texas Licensed Mold Analysis Laboratory License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

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

HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 12, 2016

SanAir ID # 16031779
Project Name: 1420 Logan Ave
Project Number: H16201

Dear Carmen Rocco,

We at SanAir would like to thank you for the work you recently submitted. The 24 sample(s) were received on Friday, September 02, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
34 sample(s) in Good condition 1 sample(s) in Layer Missing condition

SanAir Technologies Laboratory, Inc.

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

SanAir ID Number
16031779
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 1420 Logan Ave

Collected Date: 8/30/2016
Received Date: 9/2/2016 10:30:00 AM
Report Date: 9/12/2016 4:07:24 PM
Analyst: Fleming, Christopher

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16031779-001 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		98% Other	2% Chrysotile
01 / 16031779-001 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16031779-002 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous			Not Analyzed
02 / 16031779-002 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16031779-003 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous			Not Analyzed
03 / 16031779-003 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16031779-004 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		98% Other	2% Chrysotile
04 / 16031779-004 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16031779-005 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous			Not Analyzed
05 / 16031779-005 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16031779-006 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous			Not Analyzed
06 / 16031779-006 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16031779-007 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous			Not Analyzed
07 / 16031779-007 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous			Not Submitted

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16031779-008 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous			Not Analyzed
08 / 16031779-008 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16031779-009 Ceiling Tile W/ Mas, Ceiling Tile	Tan Fibrous Homogeneous	95% Cellulose	5% Other	None Detected
09 / 16031779-009 Ceiling Tile W/ Mas, Mastic	Brown Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16031779-010 Ceiling Tile W/ Mas, Ceiling Tile	Tan Fibrous Homogeneous	95% Cellulose	5% Other	None Detected
10 / 16031779-010 Ceiling Tile W/ Mas, Mastic	Brown Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16031779-011 D/ W System, Drywall	Off-White Non-Fibrous Homogeneous		100% Other	None Detected
11 / 16031779-011 D/ W System, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16031779-012 D/ W System, Drywall	Off-White Non-Fibrous Homogeneous		100% Other	None Detected
12 / 16031779-012 D/ W System, Joint Compound	White Non-Fibrous Homogeneous		98% Other	2% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16031779-013 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
14 / 16031779-014 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16031779-015 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16031779-016 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
17 / 16031779-017 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected
18 / 16031779-018 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected
19 / 16031779-019 Ceiling Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
20 / 16031779-020 Ceiling Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
21 / 16031779-021 Ceiling Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
22 / 16031779-022 Window Glazing	Off-White Non-Fibrous Homogeneous		100% Other	None Detected
23 / 16031779-023 Window Glazing	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Web: http://www.sanair.com E-mail: iaq@sanair.com

SanAir ID Number
16031779
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 1420 Logan Ave

Collected Date: 8/30/2016
Received Date: 9/2/2016 10:30:00 AM
Report Date: 9/12/2016 4:07:24 PM
Analyst: Fleming, Christopher

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16031779-024 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16031779-025 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16031779-026 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Tremolite

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16031779-027 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		99.9% Other	0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16031779-028 Wall Plaster W/ S/ C	Grey Non-Fibrous Homogeneous		99.4% Other	0.6% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16031779-029 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16031779-030 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		99.9% Other	0.1% Chrysotile

Certification

Analyst: [signature]
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Analyst: Fleming, Christopher

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16031779-031 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
19 / 16031779-033 Ceiling Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
20 / 16031779-034 Ceiling Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
21 / 16031779-035 Ceiling Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile

Certification

Analyst: [signature]
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Analyst: Fleming, Christopher

Asbestos Bulk EPA PLM 400 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16031779-032 D/W System, Joint Compound	White Non-Fibrous Homogeneous		100% Other	< 0.25% Chrysotile

Certification

Analyst: [signature]
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

Disclaimer

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804-897-1177 / 888-895-1177
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www.sanair.com

Asbestos Chain of Custody

SanAir ID Number: 16031779

Company: Haw Environmental		Project #: HW201	Collected by:
Address: 6605 Heisley Rd		Project Name: 1420 Logan Ave	Phone #:
City, St., Zip: Mentor, OH 44060		Date Collected:	Fax #:
State of Collection: OH	Account#:	P.O. Number:	Email:

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Water

ABHE	EPA 100.2	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Other

Matrix		
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start – Stop	
01	Ceiling Plaster w/ s/c		1,000 p.c.			
02						
03						
04	Wall Plaster w/ s/c		1,000 p.c.			
05						
06						
07						
08						
09	Ceiling Tile w/ mas					
10						
11	Duct System					
12						

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	08/30/14	4:30pm	MC	SEP 02 2016	10:30AM

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

Page ___ of ___

Please P/C 2% or less
1,000 P/C unless Indicated.

16031779

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
13	Skim Coat				
14			1.000 p.c.		
15					
16	Skim Coat				
17			1000 p.c.		
18					
19	Ceiling Flash				
20			1.000 p.c.		
21					
22	Window Glazing				
23					

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
CU	08/30/16	4:30 pm	MC	SEP 02 2016	10:39 am

Unless scheduled, the turn around time for all samples received after 3 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.

Page ___ of ___

HzW ENVIRONMENTAL
CONSULTANTS, LLC

September 16, 2016

Mr. Chuck Shasho, Deputy Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Structure Located at 1440 Logan Avenue, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HzW Environmental Consultants, LLC (HzW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 1440 Logan Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below.

Photograph 01
Exterior View of Residential Structure Located at
1440 Logan Avenue, Youngstown, Ohio

MENTOR **AKRON** **EUCLID** **CANTON**
6105 Heisley Road, Mentor, Ohio 44060 • phone 440-357-1260 • 800-804-8484 • fax 440-357-1510
www.hzwenv.com

METHODS OF INVESTIGATION

General

During August 2016, a representative of HzW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HzW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HzW under the Miscellaneous Materials category.

Once categorized, HzW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HzW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HzW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HzW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HzW collected a minimum of seven (7) samples from this area/material.

- For TSI, HzW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HzW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HzW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HzW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HzW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HzW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia, Louisiana, for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less percent asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HzW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HzW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HzW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HzW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HzW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HzW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos.

   Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HzW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HzW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HzW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HzW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Second Request\19 1440 Logan Avenue Asbestos Report.doc

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 1440 Logan Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Window Glazing	Building Windows	Minimum 2 Samples	01						5 sq.ft. (5 Wndws)	<0.25
				02							<0.25
B	Tar Roofing System - Black	Building Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		1,496 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected;

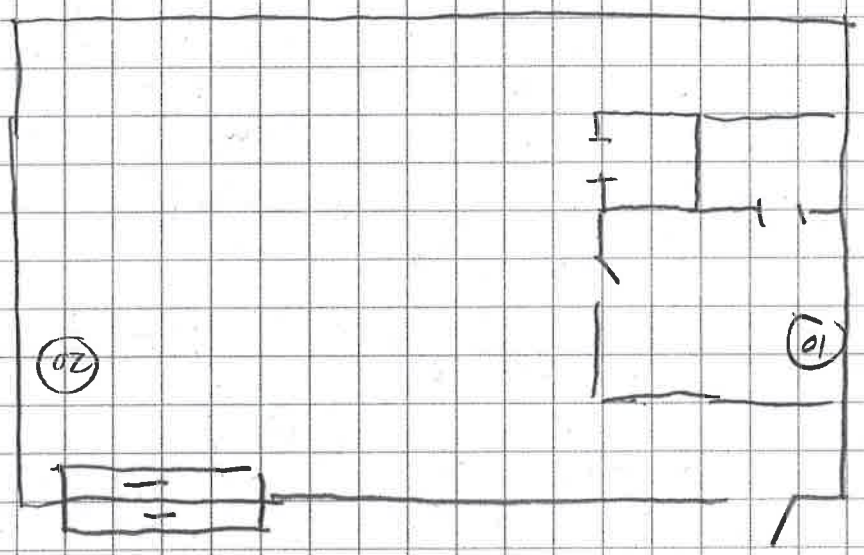
HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 1440 Logan Ave
PROJECT NO. H14201
PAGE NO. 2 OF 2
FIELD REPRESENTATIVE CR DATE 08/30/14
SCALE T

INDICATE DIRECTION OF NORTH

N →



SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/12/2016
Project Name: 1440 Logan Ave
Project #: H16201
SanAir ID#: 16031784

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

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HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 12, 2016

SanAir ID # 16031784
Project Name: 1440 Logan Ave
Project Number: H16201

Dear Carmen Rocco,

We at SanAir would like to thank you for the work you recently submitted. The 2 sample(s) were received on Friday, September 02, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
4 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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Project Name: 1440 Logan Ave

Collected Date: 8/30/2016
Received Date: 9/2/2016 10:30:00 AM
Report Date: 9/12/2016 5:44:20 PM
Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16031784-001 Window Glazing	Grey Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16031784-002 Window Glazing	Grey Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

SanAir Technologies Laboratory, Inc.

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Collected Date: 8/30/2016
Received Date: 9/2/2016 10:30:00 AM
Report Date: 9/12/2016 5:44:20 PM
Analyst: Vaughan, Nathaniel

Asbestos Bulk EPA PLM 400 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16031784-003 Window Glazing	Grey Non-Fibrous Heterogeneous		100% Other	< 0.25% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16031784-004 Window Glazing	Grey Non-Fibrous Heterogeneous		100% Other	< 0.25% Chrysotile

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

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SanAir Technologies Laboratory

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: 16031784

Company: Hzw Environmental		Project #: H16201	Collected by:
Address: 6185 Heisley Rd		Project Name: 1440 Logan Ave	Phone #:
City, St., Zip: Mentor, OH 44060		Date Collected:	Fax #:
State of Collection:	Account#:	P.O. Number:	Email:

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☐
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Water

ABHE	EPA 100.2	☐

Other

Matrix		
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
C1	Window Glazing					
C2						

Relinquished by	Date	Time	Received by	Date	Time
	08/30/16	4:30pm	CW	SEP 02 2016	10:30Am

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

Page ___ of ____

Please P/C 2% or less
1.0% P/C when Indicated.

HzW ENVIRONMENTAL
CONSULTANTS, LLC

September 16, 2016

Mr. Chuck Shasho, Deputy Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 2209 Logan Avenue, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HzW Environmental Consultants, LLC (HzW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 2209 Logan Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below.

Photograph 01
Exterior View of Residential Structure Located at
2209 Logan Avenue, Youngstown, Ohio

MENTOR **AKRON** **EUCLID** **CANTON**
6105 Heisley Road, Mentor, Ohio 44060 • phone 440-357-1260 • 800-804-8484 • fax 440-357-1510
www.hzwenv.com

METHODS OF INVESTIGATION

General

During August 2016, a representative of HzW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HzW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HzW under the Miscellaneous Materials category.

Once categorized, HzW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HzW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HzW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HzW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HzW collected a minimum of seven (7) samples from this area/material.

- For TSI, HzW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HzW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HzW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HzW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HzW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HzW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia, Louisiana, for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less percent asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HzW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HzW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HzW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HzW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HzW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HzW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos.

   Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HzW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HzW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HzW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HzW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Second Request\20 2209 Logan Avenue Asbestos Report.doc

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 2209 Logan Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Ceiling Plaster with Skim Coat - Smooth	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	01						1,124 sq.ft.	<0.1
				02							<0.1
				03							0.1
				04							<0.1
				05							0.1
B	Wall Plaster with Skim Coat - Smooth	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	06						3,366 sq.ft.	<0.1 ND
				07							<0.1 ND
				08							<0.1 ND
				09							<0.1 ND
				10							<0.1 ND
C	Ceiling Tile – 1-foot by 1-foot, Plasma Pattern	Living Room and Bedroom # 2	Minimum 2 Samples	11							ND
				12							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 2209 Logan Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
D	Skim Coat – Ceiling and Wall, Wave Pattern	Various Areas Throughout Structure	<1,000 sq.ft.	13							ND
				14							ND
				15							ND
E	Drywall System – Ceiling	Kitchen and Bathroom	Minimum 2 Samples	16							ND ND
				17							ND ND
F	Skim Coat – Ceiling, Rough Arc Pattern	Various Areas Throughout Structure	<1,000 sq.ft.	18							ND
				19							ND
				20							ND
G	Skim Coat – Wall, Smeared Blotch Pattern	Kitchen and Sun Porch	<1,000 sq.ft.	21							ND
				22							ND
				23							ND
I	Skim Coat – Wall, Rough Brush Stroke Pattern	Basement	<1,000 sq.ft.	24							ND
				25							ND
				26							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 2209 Logan Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
J	Window Glazing	Basement Windows	Minimum 2 Samples	27							ND
				28							ND
M	Asphalt Shingle Roofing System - Black	House Roof	Minimum 2 Samples	29							ND
				30							ND
N	Window Glazing	House Windows	Minimum 2 Samples	31						22 sq.ft.	<0.25
				32							<0.25
O	Asphalt Shingle Roofing System - Black	Garage Roof	Minimum 2 Samples	33							ND
				34							ND
P	Window Glazing	Garage Windows	Minimum 2 Samples	35							ND
				36							ND
H1-H2	Floor Tile – 12-inch by 12-inch, Mastic (2-Types)	Kitchen and Bathroom	Category I Nonfriable in Fair Condition, Not Sampled				X		200 sq.ft.		Assumed
K	Duct Seam Tape	Basement	Assumed RACM			X			22 sq.ft.		Assumed
L	Duct Wrap Insulation	Throughout Structure	Assumed RACM			X			100 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

HZW ENVIRONMENTAL
CONSULTANTS, LLC

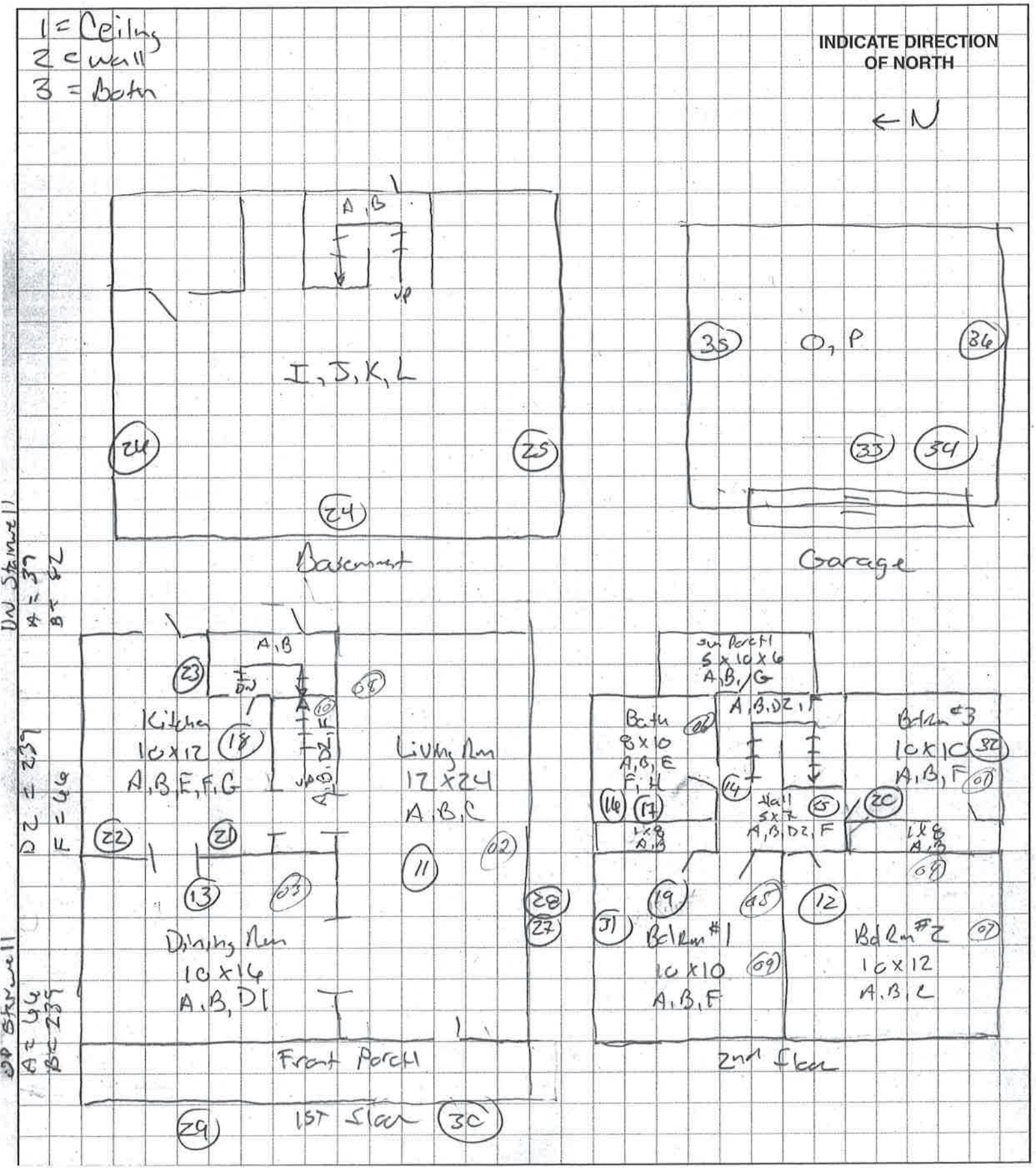
6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 2209 Logan Ave
PROJECT NO. H160201
PAGE NO. 2 OF 2
FIELD REPRESENTATIVE CA DATE 08/31/14
SCALE (W)

1 = Ceiling
2 = Wall
3 = Both

INDICATE DIRECTION OF NORTH

← N



SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/12/2016
Project Name: 2209 Logan Ave
Project #: H16201
SanAir ID#: 16031759

NVLAP LAB CODE 200870-0

Virginia SBE Certification # 652931

Texas Licensed Mold Analysis Laboratory License # LAB0166

SanAir Technologies Laboratory

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SanAir Technologies Laboratory, Inc.

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HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 12, 2016

SanAir ID # 16031759
Project Name: 2209 Logan Ave
Project Number: H16201

Dear Carmen Rocco,

We at SanAir would like to thank you for the work you recently submitted. The 46 sample(s) were received on Friday, September 02, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
43 sample(s) in Good condition 5 sample(s) in Layer Missing condition

SanAir Technologies Laboratory, Inc.

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Web: http://www.sanair.com E-mail: iaq@sanair.com

SanAir ID Number
16031759
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 2209 Logan Ave

Collected Date: 9/1/2016
Received Date: 9/2/2016 10:30:00 AM
Report Date: 9/12/2016 11:39:15 AM
Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16031759-001 Ceiling Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
01 / 16031759-001 Ceiling Plaster W/ S/C, Skim Coat				Not Submitted

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16031759-002 Ceiling Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
02 / 16031759-002 Ceiling Plaster W/ S/C, Skim Coat				Not Submitted

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16031759-003 Ceiling Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
03 / 16031759-003 Ceiling Plaster W/ S/C, Skim Coat				Not Submitted

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16031759-004 Ceiling Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
04 / 16031759-004 Ceiling Plaster W/ S/C, Skim Coat				Not Submitted

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16031759-005 Ceiling Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
05 / 16031759-005 Ceiling Plaster W/ S/C, Skim Coat				Not Submitted

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

SanAir Technologies Laboratory, Inc.

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SanAir ID Number
16031759
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 2209 Logan Ave

Collected Date: 9/1/2016
Received Date: 9/2/2016 10:30:00 AM
Report Date: 9/12/2016 11:39:15 AM
Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16031759-006 Wall Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
06 / 16031759-006 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16031759-007 Wall Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
07 / 16031759-007 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16031759-008 Wall Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
08 / 16031759-008 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16031759-009 Wall Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
09 / 16031759-009 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16031759-010 Wall Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
10 / 16031759-010 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

SanAir Technologies Laboratory, Inc.

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SanAir ID Number
16031759
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 2209 Logan Ave

Collected Date: 9/1/2016
Received Date: 9/2/2016 10:30:00 AM
Report Date: 9/12/2016 11:39:15 AM
Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16031759-011 Ceiling Tile	White Fibrous Heterogeneous	85% Cellulose	15% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16031759-012 Ceiling Tile	White Fibrous Heterogeneous	85% Cellulose	15% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16031759-013 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
14 / 16031759-014 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16031759-015 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16031759-016 Drywall System, Drywall	White Non-Fibrous Heterogeneous	10% Cellulose	90% Other	None Detected
16 / 16031759-016 Drywall System, Joint Compound	White Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
17 / 16031759-017 Drywall System, Drywall	White Non-Fibrous Heterogeneous	10% Cellulose	90% Other	None Detected
17 / 16031759-017 Drywall System, Joint Compound	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
18 / 16031759-018 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
19 / 16031759-019 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
20 / 16031759-020 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
21 / 16031759-021 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
22 / 16031759-022 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
23 / 16031759-023 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
24 / 16031759-024 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
25 / 16031759-025 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
26 / 16031759-026 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
27 / 16031759-027 Window Glazing	Grey Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
28 / 16031759-028 Window Glazing	Grey Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
29 / 16031759-029 Asphalt Roofing	Black Non-Fibrous Heterogeneous	40% Cellulose	60% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
30 / 16031759-030 Asphalt Roofing	Black Non-Fibrous Heterogeneous	40% Cellulose	60% Other	None Detected
31 / 16031759-031 Window Glazing	Beige Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
32 / 16031759-032 Window Glazing	Beige Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
33 / 16031759-033 Asphalt Roofing	Black Non-Fibrous Heterogeneous		100% Other	None Detected
34 / 16031759-034 Asphalt Roofing	Black Non-Fibrous Heterogeneous		100% Other	None Detected
35 / 16031759-035 Window Glazing	Tan Non-Fibrous Heterogeneous		100% Other	None Detected
36 / 16031759-036 Window Glazing	Tan Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16031759-037 Ceiling Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16031759-038 Ceiling Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16031759-039 Ceiling Plaster	Brown Non-Fibrous Heterogeneous		99.9% Other	0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16031759-040 Ceiling Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16031759-041 Ceiling Plaster	Brown Non-Fibrous Heterogeneous		99.9% Other	0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16031759-042 Wall Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16031759-043 Wall Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile

Certification

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Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16031759-044 Wall Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16031759-045 Wall Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16031759-046 Wall Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/12/2016

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Date: 9/12/2016

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Analyst: Vaughan, Nathaniel

Asbestos Bulk EPA PLM 400 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
31 / 16031759-047 Window Glazing	Beige Non-Fibrous Heterogeneous		100% Other	< 0.25% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
32 / 16031759-048 Window Glazing	Beige Non-Fibrous Heterogeneous		100% Other	< 0.25% Chrysotile

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

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SanAir Technologies Laboratory

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Asbestos Chain of Custody

SanAir ID Number: 16031759

Company: Hzw Environmental	Project #: H16201	Collected by:	
Address: 6605 Heisley Rd	Project Name: 2209 Logan Ave	Phone #:	
City, St., Zip: Mentor, OH 44060	Date Collected:	Fax #:	
State of Collection: OH	Account#:	P.O. Number:	Email:

Bulk

ABB	PLM EPA 600/R-93/116	☑
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☑
ABB1K	PLM EPA 1000 Point Count	☑
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Water

ABHE	EPA 100.2	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Other

Matrix		
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start – Stop	
01	Ceiling flask w/ s/c					
02						
03			1,000 p-C.			
04						
05						
06	Wall flask w/ s/c					
07						
08			1,000 p-C.			
09						
10						
11	Ceiling Tile					
12						

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	09/01/16	3:00pm	CW	SEP 02 2016	10:30AM

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

Page ___ of ____

Please P/C 29a or less
1,000 P/C when Indicated.

16031759

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
13	Skim Coat				
14			1,000p.c.		
15					
16	Drywall System				
17					
18	Skim Coat				
19			1,000p.c.		
20					
21	Skim Coat				
22			1,000p.c.		
23					
24	Skim Coat				
25			1,000p.c.		
26					
27	Window Glazing				
28					
29	Asphalt Roofing				
30					
31	Window Glazing				
32					
33	Asphalt Roofing				
34					
35	Window Glazing				
36					

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
	09/01/16	5:00pm	CN	SEP 02 2016	10:30AM

Unless scheduled, the turn around time for all samples received after 3 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.

Page ___of ___

HZW
Environmental
Consultants

October 3, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 1923 McGuffey Road, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HZW Environmental Consultants, LLC (HZW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 1923 McGuffey Road, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below:

Photograph 01
Exterior View of Residential Structure Located at
1923 McGuffey Road, Youngstown, Ohio

METHODS OF INVESTIGATION

General

During September 2016, a representative of HZW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HZW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HZW under the Miscellaneous Materials category.

Once categorized, HZW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HZW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HZW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HZW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HZW collected a minimum of seven (7) samples from this area/material.

- For TSI, HZW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HZW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HZW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HZW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HZW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HZW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HZW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HZW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HZW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HZW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HZW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HZW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos. Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HZW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HZW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HZW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HZW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Third Request\13 1923 McGuffey Road Asbestos Survey Report.docx

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 1923 McGuffey Road, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Ceiling Plaster with Skim Coat – Smooth	Throughout Structure	<1,000 sq.ft.	01							ND ND
				02							ND ND
				03							ND ND
B	Wall Plaster with Skim Coat – Smooth	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	04							ND ND
				05							ND ND
				06							ND ND
				07							ND ND
				08							ND ND
C	Ceiling Tile – 1-foot by 1-foot, Indent Pattern	Various Areas Throughout Structure	Minimum 2 Samples	11							ND
				12							ND
G	Ceiling Tile – 1-foot by 1-foot, Worm Hole Pattern	Various Areas Throughout Structure	Minimum 2 Samples	13							ND
				14							ND
H	Drywall Board - Wall	Eat in Kitchen Closet	Minimum 2 Samples	15							ND
				16							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 1923 McGuffey Road, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
I	Skim Coat – Wall, Rough Brush Stroke Pattern	Basement	<1,000 sq.ft.	17							ND
				18							ND
				19							ND
J	Window Glazing	Basement Windows	Minimum 2 Samples	20						1 sq.ft.	0.5
				21							0.25
O	Window Glazing	House Windows	Minimum 2 Samples	22						5 sq.ft.	0.5
				23							0.75
P	Vermiculite Insulation	Attic	Minimum 3 Samples	24			X		968 sq.ft.		<0.25
				25							<0.25
				26							<0.25
D	Vinyl Sheet Flooring, Mastic	Bathroom	Category I Nonfriable in Fair Condition, Not Sampled				X		48 sq.ft.		Assumed
E1-E2	Cove Base – 3-inch, Mastic (2 Types)	Various Areas Throughout Structure	Category I Nonfriable in Fair Condition, Not Sampled				X		25 sq.ft.		Assumed
F	Floor Tile – 9-inch by 9-inch, Mastic	Kitchen	Category I Nonfriable in Fair Condition, Not Sampled				X		279 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 1923 McGuffey Road, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
K	Duct Seam Tape	Basement	Assumed RACM			X				5 sq.ft.	Assumed
Duct Seam Tape Environmental Clean Up		Basement	Assumed RACM			X				30 sq.ft.	Assumed
L	Duct Wrap Insulation	Throughout Structure	Assumed RACM			X			20 sq.ft.		Assumed
M	Asphalt Shingle Roofing System – Gray	House Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		968 sq.ft.		Assumed
N	Asphalt Siding Shingles – Tan, Brick Pattern	House Exterior	Category I Nonfriable in Fair Condition, Not Sampled				X		1,320 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
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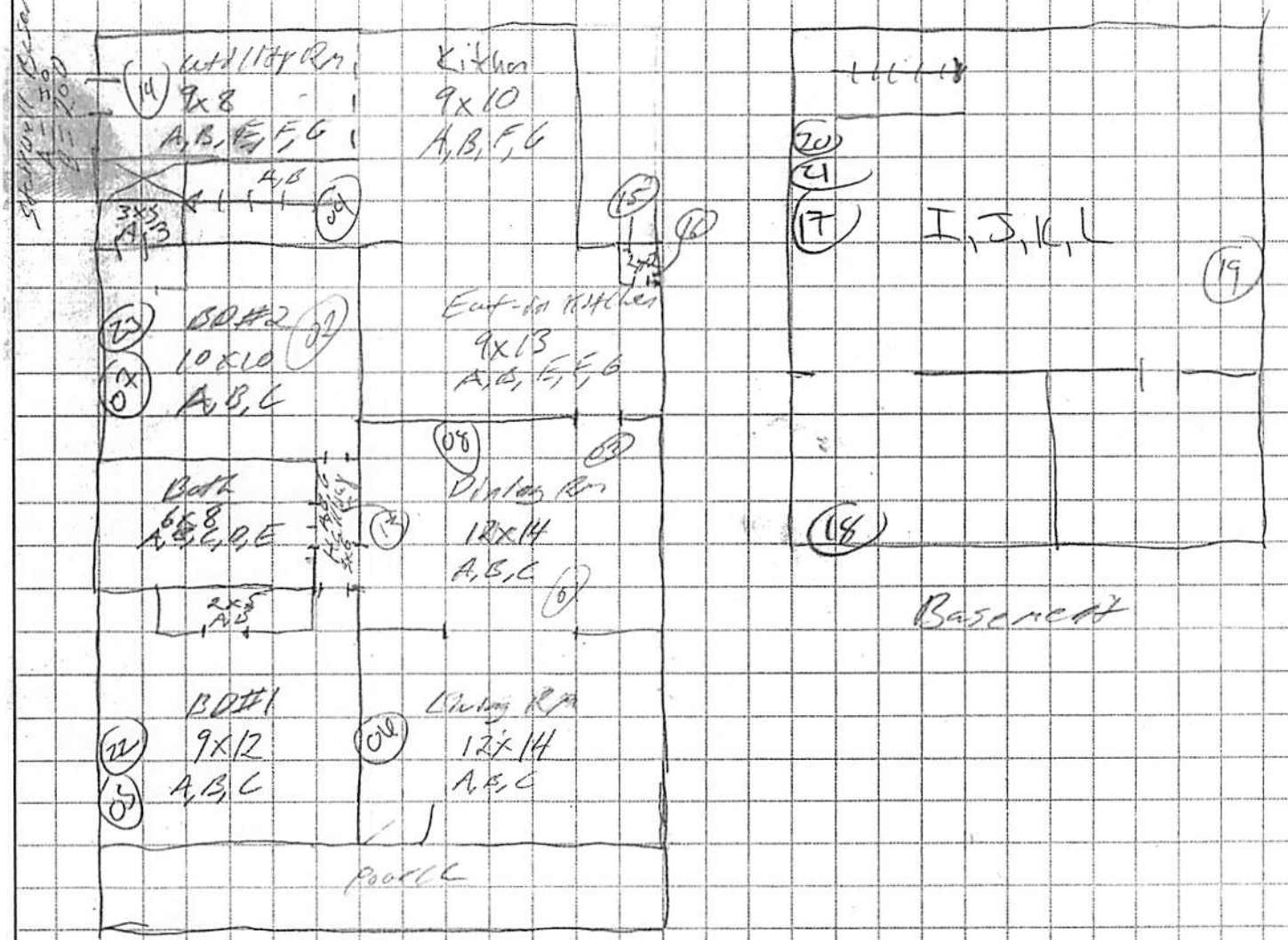
HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 1973 McCuffey Rd
PROJECT NO. H116201
PAGE NO. 2 OF
FIELD REPRESENTATIVE CR DATE 04/14/16
SCALE (W)

INDICATE DIRECTION OF NORTH

N



SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/26/2016
Project Name: 1923 McGuffey Rd
Project #: H16201
SanAir ID#: 16033827

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.
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Web: http://www.sanair.com E-mail: iaq@sanair.com

HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 26, 2016

SanAir ID # 16033827
Project Name: 1923 McGuffey Rd
Project Number: H16201

Dear Carmen Rocco,

We at SanAir would like to thank you for the work you recently submitted. The 21 sample(s) were received on Monday, September 19, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
25 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.
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Web: http://www.sanair.com E-mail: iaq@sanair.com

SanAir ID Number
16033827
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 1923 McGuffey Rd

Collected Date: 9/16/2016
Received Date: 9/19/2016 9:30:00 AM
Report Date: 9/26/2016 5:17:39 PM
Analyst: Robertson, Erin
Tallert, Jonathan
Toth, Elizabeth

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16033827-001 Ceiling Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous	5% Hair	95% Other	None Detected
01 / 16033827-001 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16033827-002 Ceiling Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous	5% Hair 3% Cellulose	92% Other	None Detected
02 / 16033827-002 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16033827-003 Ceiling Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous	5% Hair 5% Cellulose	90% Other	None Detected
03 / 16033827-003 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16033827-004 Wall Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous	5% Hair 2% Cellulose	93% Other	None Detected
04 / 16033827-004 Wall Plaster W/ S/C, Skim Coat	Aqua Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Elizabeth Toth
Analysis Date: 9/26/2016

Approved Signatory:
Date: 9/26/2016

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Tallert, Jonathan
Toth, Elizabeth

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16033827-005 Wall Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous	5% Hair	95% Other	None Detected
05 / 16033827-005 Wall Plaster W/ S/C, Skim Coat	Olive Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16033827-006 Wall Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous	5% Hair 5% Cellulose	90% Other	None Detected
06 / 16033827-006 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16033827-007 Wall Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous	5% Hair 5% Cellulose	90% Other	None Detected
07 / 16033827-007 Wall Plaster W/ S/C, Skim Coat	Grey Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16033827-008 Wall Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous	5% Hair 5% Cellulose	90% Other	None Detected
08 / 16033827-008 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Elizabeth Toth
Analysis Date: 9/26/2016

Approved Signatory:
Date: 9/26/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16033827-009 Ceiling Tile	White Fibrous Homogeneous	95% Cellulose	5% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16033827-010 Ceiling Tile	White Fibrous Homogeneous	95% Cellulose	5% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16033827-011 Ceiling Tile	White Fibrous Homogeneous	95% Cellulose	5% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
14 / 16033827-012 Ceiling Tile	White Fibrous Homogeneous	95% Cellulose	5% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16033827-013 D/W Board	Off-White Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16033827-014 D/W Board	Off-White Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected

Certification

Analyst: Elizabeth Toth
Analysis Date: 9/26/2016

Approved Signatory:
Date: 9/26/2016

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Tallert, Jonathan
Toth, Elizabeth

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
17 / 16033827-015 Skim Coat	Various Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
18 / 16033827-016 Skim Coat	Various Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
19 / 16033827-017 Skim Coat	Various Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
20 / 16033827-018 Window Glazing	Grey Non-Fibrous Homogeneous		98% Other	2% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
21 / 16033827-019 Window Glazing				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
22 / 16033827-020 Window Glazing	Grey Non-Fibrous Homogeneous		98% Other	2% Chrysotile

Certification

Analyst: Elizabeth Toth
Analysis Date: 9/26/2016

Approved Signatory:
Date: 9/26/2016

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Tallert, Jonathan
Toth, Elizabeth

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
23 / 16033827-021 Window Glazing				Not Analyzed

Certification

Analyst: Elizabeth Toth
Analysis Date: 9/26/2016

Approved Signatory:
Date: 9/26/2016

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Report Date: 9/26/2016 5:17:39 PM
Analyst: Robertson, Erin
Tallert, Jonathan
Toth, Elizabeth

Asbestos Bulk EPA PLM 400 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
20 / 16033827-025 Window Glazing	Grey Non-Fibrous Homogeneous		99.5% Other	0.5% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
21 / 16033827-026 Window Glazing	White Non-Fibrous Homogeneous		99.75% Other	0.25% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
22 / 16033827-027 Window Glazing	Grey Non-Fibrous Homogeneous		99.5% Other	0.5% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
23 / 16033827-028 Window Glazing	Grey Non-Fibrous Homogeneous		99.25% Other	0.75% Chrysotile

Certification

Analyst: Elizabeth Toth
Analysis Date: 9/26/2016

Approved Signatory:
Date: 9/26/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

Disclaimer

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SanAir Technologies Laboratory

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www.sanair.com

Asbestos Chain of Custody

SanAir ID Number: 16033827

Company: Hrw Environmental	Project #: H16201	Collected by:
Address: 6105 Heisley Rd	Project Name: 1923 McGuffey Rd	Phone #:
City, St., Zip: Mentor, OH 44060	Date Collected:	Fax #:
State of Collection: Account#:	P.O. Number:	Email:

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☒
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Water

ABHE	EPA 100.2	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Matrix	Other	
		☐

Turn Around Times	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions:

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
01	Ceiling Plaster w/ s/c	–				
02	"		1,000 p.c.			
03	"					
04	Wall plaster w/ s/c	–				
05						
06			1,000 p.c.			
07						
08						
11	Ceiling Tile					
12	"					
13	Ceiling Tile					
14	"					

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	09/16/16	09/16/16	[illegible]	9.19.16	9:30

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

Page ___ of ___

Please P/C 2% or less
1,000 P/C when Indicated.

16033827

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
15	Dlw Board				
16	)				
17	Skim coat				
18	)		1.0cap	C.	
19	)				
20	window Glazing				
21	)				
22	window Glazing				
23					
24	Vermiculite Insulation				
25	)				
26	)				

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
	09/16/16	12:00pm		9-19-16	9:30

Unless scheduled, the turn around time for all samples received after 3 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.

Page ___of ___

SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/26/2016
Project Name: 1923 McGuffey Rd
Project #: H16201
SanAir ID#: 16034812

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.
1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: http://www.sanair.com E-mail: iaq@sanair.com

HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 26, 2016

SanAir ID # 16034812
Project Name: 1923 McGuffey Rd
Project Number: H16201

Dear Joan Sablar,

We at SanAir would like to thank you for the work you recently submitted. The 3 sample(s) were received on Monday, September 19, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 24, 25, 26.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
3 sample(s) in Good condition

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Web: http://www.sanair.com E-mail: iaq@sanair.com

SanAir ID Number
16034812
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 1923 McGuffey Rd

Collected Date: 9/16/2016
Received Date: 9/19/2016 9:30:00 AM
Report Date: 9/26/2016 5:37:21 PM
Analyst: Tallert, Jonathan

Asbestos Soil/Vermiculite PLM CARB 435 (LOD <1%)

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
24 / 16034812-001 Vermiculite Insulation	Gold Non-Fibrous Heterogeneous		100% Other	< 1% Tremolite

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
25 / 16034812-002 Vermiculite Insulation	Gold Non-Fibrous Heterogeneous		100% Other	< 1% Tremolite

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
26 / 16034812-003 Vermiculite Insulation	Gold Non-Fibrous Heterogeneous		100% Other	< 1% Tremolite

Certification

Analyst: [signature]
Analysis Date: 9/26/2016

Approved Signatory: Sandra Sabino
Date: 9/26/2016

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, AIHA or any other agency of the U.S. government; *and may not be certified by every local, state and federal regulatory agencies.*

SanAir Technologies Laboratory

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: 16034812

~~16033827~~

Company: Hzw Environmental		Project #: H16201	Collected by:
Address: 6805 Heisley Rd		Project Name: 1923 McGuffey Rd	Phone #:
City, St., Zip: Mentor, OH 44060		Date Collected:	Fax #:
State of Collection:	Account#:	P.O. Number:	Email:

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☒
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Water

ABHE	EPA 100.2	☐

Matrix	Other	
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start – Stop	
01	Ceiling Plaster w/ s/c	–				
02	"		1,000 p.c.			
03	"					
04	Wall plaster w/ s/c	–				
05	"					
06	"		1,000 p.c.			
07	"					
08	"					
11	Ceiling Tile					
12	"					
13	Ceiling Tile					
14	"					

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	09/16/16	09/16/16	[illegible]	9.19.16	9:30

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

Please P/C 2% or less
1,000 P/C when Indicated.

Page ___ of ___

16034812
~~16033827~~

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
15	Dlw Board				
16	)				
17	Skim coat				
18	)		1.0cop	c.	
19	)				
20	window Glazing				
21	)				
22	window Glazing				
23					
24	Vermiculite Insulation				
25	)				
26	)				

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
	09/16/16	12:00pm		9-19-16	9:30

Unless scheduled, the turn around time for all samples received after 3 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.

Page ___of ___

SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 10/7/2016
Project Name: 1923 McGuffey Rd
Project #: H16201
SanAir ID#: 16035760

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

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Web: http://www.sanair.com E-mail: iaq@sanair.com

HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

October 7, 2016

SanAir ID # 16035760
Project Name: 1923 McGuffey Rd
Project Number: H16201

Dear Joan Sablar,

We at SanAir would like to thank you for the work you recently submitted. The 3 sample(s) were received on Tuesday, October 04, 2016 via Fax or Email request. The final report(s) is enclosed for the following sample(s): 24, 25, 26.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
3 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.
1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: http://www.sanair.com E-mail: iaq@sanair.com

SanAir ID Number
16035760
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 1923 McGuffey Rd

Collected Date: 9/16/2016
Received Date: 10/4/2016 8:00:00 AM
Report Date: 10/7/2016 3:33:43 PM
Analyst: Tallert, Jonathan

Asbestos Soil/Vermiculite PLM CARB 435 (LOD 0.25%)

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
24 / 16035760-001 Vermiculite Insulation	Gold Non-Fibrous Heterogeneous		100% Other	< 0.25% Tremolite

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
25 / 16035760-002 Vermiculite Insulation	Gold Non-Fibrous Heterogeneous		100% Other	< 0.25% Tremolite

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
26 / 16035760-003 Vermiculite Insulation	Gold Non-Fibrous Heterogeneous		99.75% Other	0.25% Tremolite

Certification

Analyst: [signature]
Analysis Date: 10/7/2016

Approved Signatory: Sandra Sobrino
Date: 10/7/2016

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, AIHA or any other agency of the U.S. government; *and may not be certified by every local, state and federal regulatory agencies.*

16035760
16034812

SanAir Technologies Laboratory

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: ~~16033827~~

Company: HRW Environmental	Project #: H16201	Collected by:
Address: 6105 Heisley Rd	Project Name: 1923 McGuffey Rd	Phone #:
City, St, Zip: Mentor, OH 44060	Date Collected:	Fax #:
State of Collection: Account#:	P.O. Number:	Email:

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA*	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☒
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Water

ABHE	EPA 100.2	☐

Matrix	Other	
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
01	Ceiling Plaster w/ S/C	–				
02			1,000 p.c.			
03						
04	Wall Plaster w/ S/C	–				
05						
06			1,000 p.c.			
07						
08						
11	Ceiling Tile					
12						
13	Ceiling Tile					
14						

Relinquished by	Date	Time	Received by	Date	Time
CM	09/16/16	09/16/16	EM	9.19.16	9:30

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

Please P/C 2% or less
1,000 P/C when Indicated.

Page ___ of ___

EM 10/3/16

1603576C
16034812
1603382 7

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
15	Dow Board				
16	)				
17	Skim coat				
18	)		1ccap	C.	
19	)				
20	window Glazing				
21	)				
22	window Glazing				
23					
24	Vermiculite Insulation				
25					
26	)				

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
	09/16/16	12:00pm	SM	9.19.16	9:30

Unless scheduled, the turn around time for all samples received after 3 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.

Page ___of ___

SM 10/3/16 Page 10 of 10

HZW
Environmental
Consultants

October 3, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 2675 McGuffey Road, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HZW Environmental Consultants, LLC (HZW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 2675 McGuffey Road, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below:

Photograph 01
Exterior View of Residential Structure Located at
2675 McGuffey Road, Youngstown, Ohio

METHODS OF INVESTIGATION

General

During September 2016, a representative of HZW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HZW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HZW under the Miscellaneous Materials category.

Once categorized, HZW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HZW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HZW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HZW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HZW collected a minimum of seven (7) samples from this area/material.

- For TSI, HZW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HZW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HZW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HZW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HZW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HZW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HZW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HZW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HZW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HZW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HZW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HZW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos. Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HZW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HZW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HZW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HZW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Third Request\14 2675 McGuffey Road Asbestos Survey Report.docx

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 2675 McGuffey Road, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Ceiling Plaster with Skim Coat – Swirled Pattern, Over Drywall Board	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	01							ND ND ND
				02							ND ND ND
				03							ND ND ND
				04							ND ND ND
				05							ND ND ND
B	Wall Plaster with Skim Coat – Swirled Pattern, Over Drywall Board	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	06							ND ND ND
				07							ND ND ND
				08							ND ND ND
				09							ND ND ND
				10							ND ND ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 2675 McGuffey Road, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
C	Decorative Ceiling Plaster - Smooth	Living Room	<1,000 sq.ft.	11							ND ND ND
				12							ND ND ND
				13							ND ND ND
E	Window Glazing	Basement Windows	Minimum 2 Samples	14			X			1 sq.ft. (4 Wndws)	5
				15							NA
F	Ceiling Panel – 2-foot by 4-foot, Indent Pattern	Basement	Minimum 2 Samples	16							ND
				17							ND
H	Window Glazing	House Windows	Minimum 2 Samples	18							ND
				19							ND
D	Vinyl Sheet Flooring, Mastic	Kitchen	Category I Nonfriable in Fair Condition, Not Sampled				X		144 sq.ft.		Assumed
H	Asphalt Shingle Roofing System – Gray	House Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		1,550 sq.ft.		Assumed

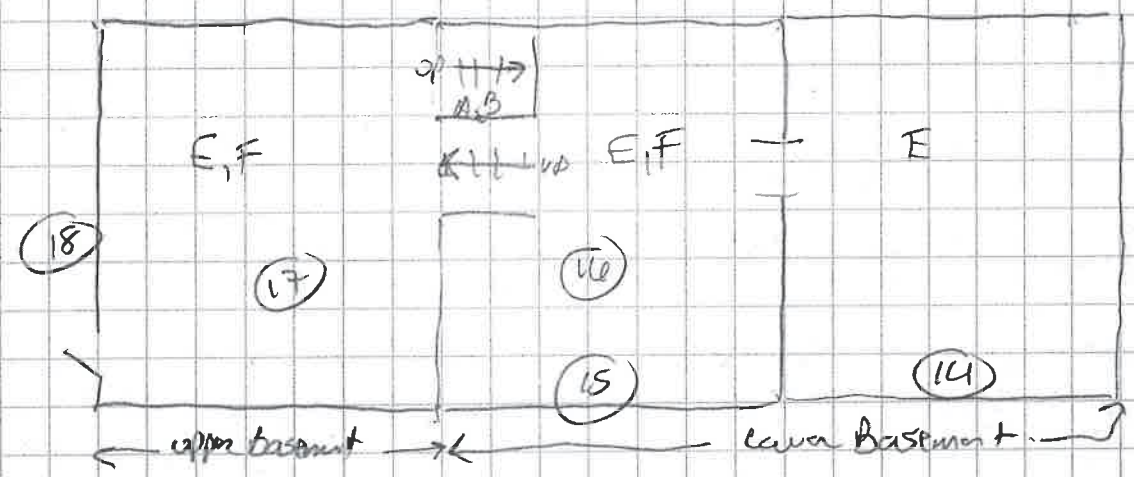
Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

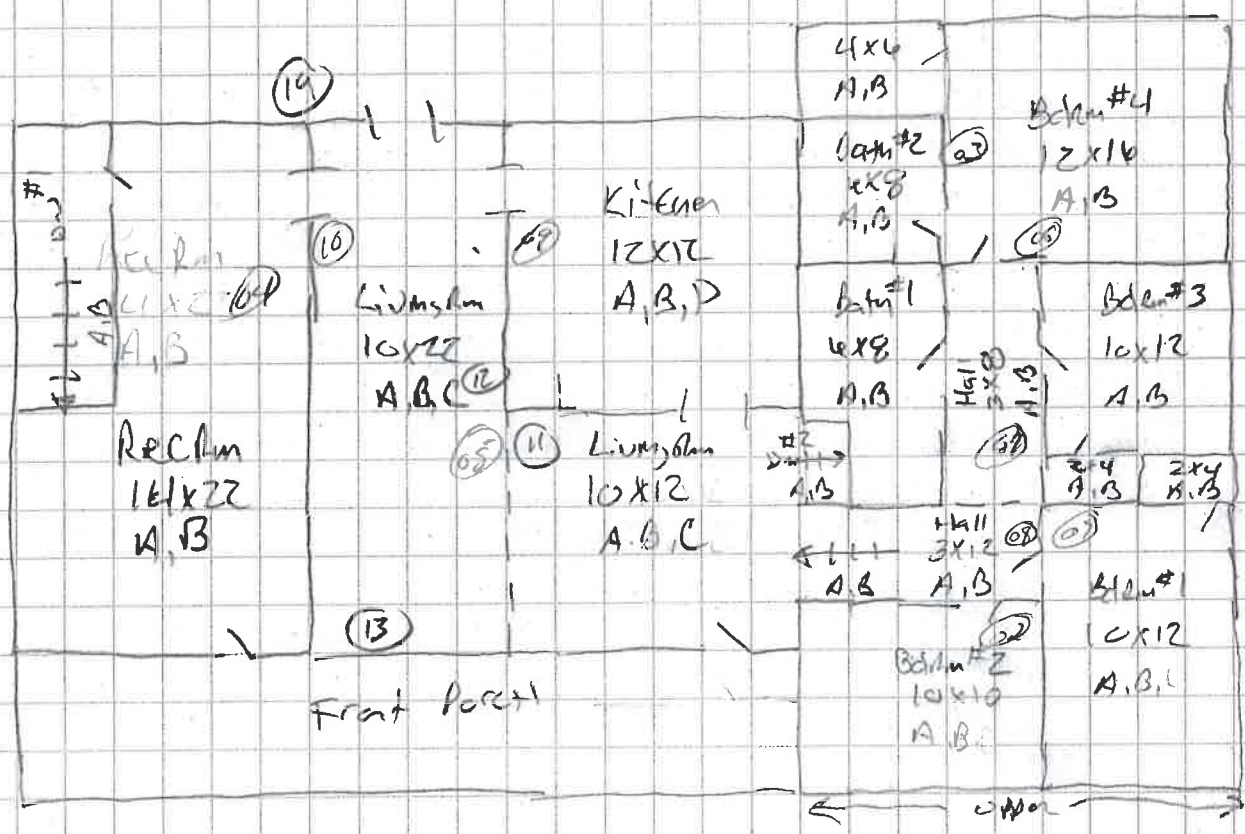
HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 2675 McGuffey Rd
PROJECT NO. H116201
PAGE NO. 2 OF 2
FIELD REPRESENTATIVE CL DATE 09/15/11 (TH)
SCALE

INDICATE DIRECTION OF NORTH
N





A = 42
B = 160

SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/26/2016
Project Name: 2675 McGuffey Rd
Project #: H16201
SanAir ID#: 16033842

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
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HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 26, 2016

SanAir ID # 16033842
Project Name: 2675 McGuffey Rd
Project Number: H16201

Dear Joan Sablar,

We at SanAir would like to thank you for the work you recently submitted. The 19 sample(s) were received on Monday, September 19, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
18 sample(s) in Good condition 1 sample(s) in Layer Missing condition

SanAir Technologies Laboratory, Inc.

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SanAir ID Number
16033842
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 2675 McGuffey Rd

Collected Date: 9/16/2016
Received Date: 9/19/2016 9:30:00 AM
Report Date: 9/26/2016 4:29:37 PM
Analyst: Rutter, Amber

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16033842-001 Ceiling Plaster W/ S/ C Over D/ W, Drywall	White Non-Fibrous Homogeneous	3% Cellulose	97% Other	None Detected
01 / 16033842-001 Ceiling Plaster W/ S/ C Over D/ W, Plaster	Grey Non-Fibrous Heterogeneous		100% Other	None Detected
01 / 16033842-001 Ceiling Plaster W/ S/ C Over D/ W, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16033842-002 Ceiling Plaster W/ S/ C Over D/ W, Drywall	White Non-Fibrous Homogeneous	3% Cellulose	97% Other	None Detected
02 / 16033842-002 Ceiling Plaster W/ S/ C Over D/ W, Plaster	Grey Non-Fibrous Heterogeneous		100% Other	None Detected
02 / 16033842-002 Ceiling Plaster W/ S/ C Over D/ W, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16033842-003 Ceiling Plaster W/ S/ C Over D/ W, Drywall	White Non-Fibrous Homogeneous	3% Cellulose	97% Other	None Detected
03 / 16033842-003 Ceiling Plaster W/ S/ C Over D/ W, Plaster	Grey Non-Fibrous Heterogeneous		100% Other	None Detected
03 / 16033842-003 Ceiling Plaster W/ S/ C Over D/ W, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16033842-004 Ceiling Plaster W/ S/ C Over D/ W, Drywall	White Non-Fibrous Homogeneous	3% Cellulose 2% Glass	95% Other	None Detected
04 / 16033842-004 Ceiling Plaster W/ S/ C Over D/ W, Plaster	Grey Non-Fibrous Heterogeneous		100% Other	None Detected
04 / 16033842-004 Ceiling Plaster W/ S/ C Over D/ W, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Approved Signatory:

Analysis Date: 9/26/2016 Date: 9/26/2016

SanAir Technologies Laboratory, Inc.

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16033842-005 Ceiling Plaster W/ S/ C Over D/ W, Drywall	White Non-Fibrous Homogeneous	3% Cellulose	97% Other	None Detected
05 / 16033842-005 Ceiling Plaster W/ S/ C Over D/ W, Plaster	Grey Non-Fibrous Heterogeneous		100% Other	None Detected
05 / 16033842-005 Ceiling Plaster W/ S/ C Over D/ W, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16033842-006 Wall Plaster W/ S/ C Over D/ W, Drywall	White Non-Fibrous Homogeneous	3% Cellulose	97% Other	None Detected
06 / 16033842-006 Wall Plaster W/ S/ C Over D/ W, Plaster	Grey Non-Fibrous Heterogeneous		100% Other	None Detected
06 / 16033842-006 Wall Plaster W/ S/ C Over D/ W, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16033842-007 Wall Plaster W/ S/ C Over D/ W, Drywall	White Non-Fibrous Homogeneous	3% Cellulose 2% Glass	95% Other	None Detected
07 / 16033842-007 Wall Plaster W/ S/ C Over D/ W, Plaster	Grey Non-Fibrous Heterogeneous		100% Other	None Detected
07 / 16033842-007 Wall Plaster W/ S/ C Over D/ W, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16033842-008 Wall Plaster W/ S/ C Over D/ W, Drywall	White Non-Fibrous Homogeneous	3% Cellulose 2% Glass	95% Other	None Detected
08 / 16033842-008 Wall Plaster W/ S/ C Over D/ W, Plaster	Grey Non-Fibrous Heterogeneous		100% Other	None Detected
08 / 16033842-008 Wall Plaster W/ S/ C Over D/ W, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Approved Signatory:

Analysis Date: 9/26/2016 Date: 9/26/2016

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Analyst: Rutter, Amber

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16033842-009 Wall Plaster W/ S/ C Over D/ W, Drywall	White Non-Fibrous Homogeneous	3% Cellulose 2% Glass	95% Other	None Detected
09 / 16033842-009 Wall Plaster W/ S/ C Over D/ W, Plaster	Grey Non-Fibrous Heterogeneous		100% Other	None Detected
09 / 16033842-009 Wall Plaster W/ S/ C Over D/ W, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16033842-010 Wall Plaster W/ S/ C Over D/ W, Drywall	White Non-Fibrous Homogeneous	3% Cellulose 2% Glass	95% Other	None Detected
10 / 16033842-010 Wall Plaster W/ S/ C Over D/ W, Plaster	Grey Non-Fibrous Heterogeneous		100% Other	None Detected
10 / 16033842-010 Wall Plaster W/ S/ C Over D/ W, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16033842-011 Decorative Plaster, Plaster	Grey Non-Fibrous Heterogeneous		100% Other	None Detected
11 / 16033842-011 Decorative Plaster, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected
11 / 16033842-011 Decorative Plaster, Texture	Pink Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16033842-012 Decorative Plaster, Plaster	Grey Non-Fibrous Heterogeneous		100% Other	None Detected
12 / 16033842-012 Decorative Plaster, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected
12 / 16033842-012 Decorative Plaster, Texture	Pink Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Approved Signatory:

Analysis Date: 9/26/2016 Date: 9/26/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16033842-013 Decorative Plaster, Plaster				Not Submitted
13 / 16033842-013 Decorative Plaster, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected
13 / 16033842-013 Decorative Plaster, Texture	Pink Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
14 / 16033842-014 Window Glazing	Various Non-Fibrous Homogeneous		95% Other	5% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16033842-015 Window Glazing				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16033842-016 Ceiling Panel	White Fibrous Homogeneous	40% Cellulose 40% Glass	20% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
17 / 16033842-017 Ceiling Panel	White Fibrous Homogeneous	40% Cellulose 40% Glass	20% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
18 / 16033842-018 Window Glazing	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Approved Signatory:

Analysis Date: 9/26/2016 Date: 9/26/2016

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Report Date: 9/26/2016 4:29:37 PM
Analyst: Rutter, Amber

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
19 / 16033842-019 Window Glazing	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Analysis Date: 9/26/2016

Approved Signatory: Date: 9/26/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

SanAir Technologies Laboratory
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: 16033842

Company: Hzw Environmental	Project #: HHe201	Collected by:
Address: 6605 Heisley Rd	Project Name: 2675 McGuffey Rd	Phone #:
City, St., Zip: Mentor, OH 44060	Date Collected:	Fax #:
State of Collection: OH Account#:	P.O. Number:	Email:

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Water

ABHE	EPA 100.2	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Other

Matrix		
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start – Stop	
01	Ceiling Plaster w/ S/C am					
02	D/W					
03			1,000 p.c.			
04						
05						
06	Wall Plaster w/ S/C am					
07	D/W					
08			1,000 P.C.			
09						
10						

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	09/16/16	12:00pm	[illegible]	SEP 19 2016	9:30AM

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

Page ___ of ___

Please P/C 2% or less
1,000 P/C when Indicated.

16033842

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
11	Decorative Plaster				
12	)		1.0cfpc.		
13					
14	Window Glazing				
15	)				
16	Ceiling Panel				
17	)				
18	Window Glazing				
19	)				

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	09/16/16	12:00pm	MC	SEP 19 2016	9:30AM

Unless scheduled, the turn around time for all samples received after 3 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.

Page ___of ___

HZW
Environmental
Consultants

October 3, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 891 McGuffey Road, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HZW Environmental Consultants, LLC (HZW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 891 McGuffey Road, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below:

Photograph 01
Exterior View of Residential Structure Located at
891 McGuffey Road, Youngstown, Ohio

METHODS OF INVESTIGATION

General

During September 2016, a representative of HZW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HZW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HZW under the Miscellaneous Materials category.

Once categorized, HZW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HZW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HZW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HZW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HZW collected a minimum of seven (7) samples from this area/material.

- For TSI, HZW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HZW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HZW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HZW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HZW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HZW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HZW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HZW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HZW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HZW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HZW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HZW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos. Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HZW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HZW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HZW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HZW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Third Request\12 891 McGuffey Road Asbestos Survey Report.docx

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 891 McGuffey Road, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Ceiling Plaster with Skim Coat – Smooth	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	01						1,172 sq.ft.	<0.1 ND
				02							0.1 ND
				03							<0.1 ND
				04							<0.1 ND
				05							<0.1 ND
B	Wall Plaster with Skim Coat – Smooth	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	06						4,372 sq.ft.	<0.1 ND
				07							<0.1 ND
				08							0.1 ND
				09							<0.1 ND
				10							<0.1 ND
D	Drywall System - Ceiling	Sun Room	Minimum 2 Samples	11			X			50 sq.ft.	ND 3
				12							ND NA

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 891 McGuffey Road, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
G	Drywall System – Ceiling and Wall	Basement	Minimum 2 Samples	13							ND ND
				14							ND ND
H	Window Glazing	Basement Windows	Minimum 2 Samples	15			X			2 sq.ft.	4
				16							NA
M	Window Glazing	House Windows	Minimum 2 Samples	17							ND
				18							ND
N	Vinyl Sheet Flooring – Tan with Rock Pattern, Mastic	Basement	Minimum 2 Samples	19							ND ND
				20							ND ND
O	Drywall Board - Piled	Back Porch	Minimum 2 Samples	21							ND
				22							ND
C1-C2	Vinyl Sheet Flooring, Mastic (2 Types)	Various Areas Throughout First Floor	Category I Nonfriable in Fair Condition, Not Sampled				X		324 sq.ft.		Assumed
E	Floor Tile – 9-inch by 9-inch, Mastic	Bedroom # 1	Category I Nonfriable in Fair Condition, Not Sampled				X		96 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
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ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 891 McGuffey Road, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
F1-F2	Floor Tile – 12-inch by 12-inch, Mastic (2 Types),	Hallway and Bathroom	Category I Nonfriable in Fair Condition, Not Sampled				X		100 sq.ft.		Assumed
I	Duct Seam Tape	Basement	Assumed RACM			X			2 sq.ft.		Assumed
J	Duct Wrap Insulation	Throughout Structure	Assumed RACM			X			106 sq.ft.		Assumed
K	Asphalt Shingle Roofing System – Black	House Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		960 sq.ft.		Assumed
L	Rolled Asphalt Roofing - Black	Sunporch	Category I Nonfriable in Fair Condition, Not Sampled				X		50 sq.ft.		Assumed
P	Asphalt Shingle Roofing System – Black	Garage Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		400 sq.ft.		Assumed

Notes: HzW was not able to obtain access to the garage. Additional building materials suspect for containing asbestos may be present in the garage.

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ND = No Asbestos Detected; NA = Not Analyzed

HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Heisley Road, Mentor, Ohio 44060
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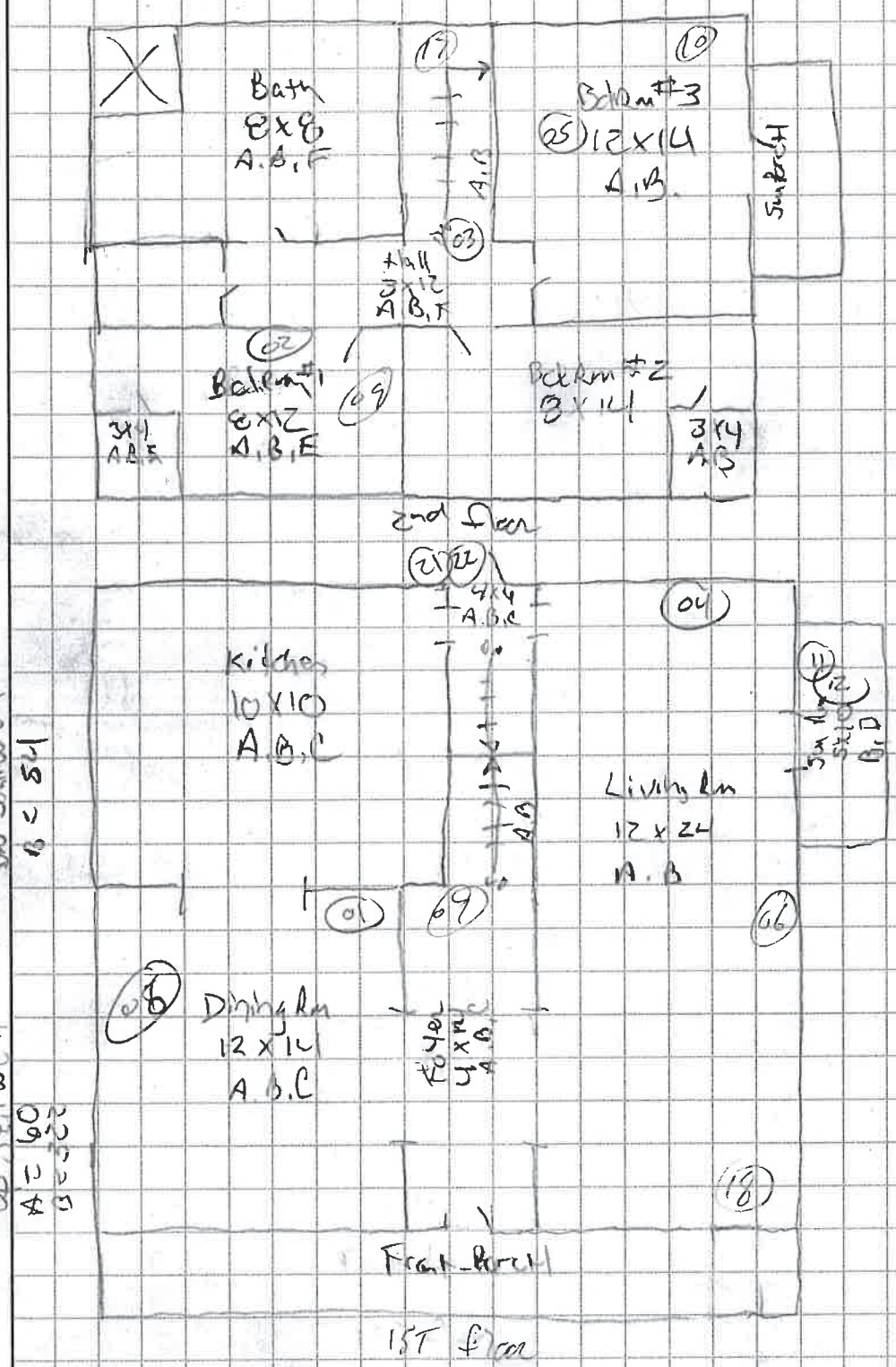
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 891 McGuffey Rd
PROJECT NO. H16201
PAGE NO. 2 OF
FIELD REPRESENTATIVE UR DATE 09/14/16
SCALE (W)

INDICATE DIRECTION OF NORTH

N



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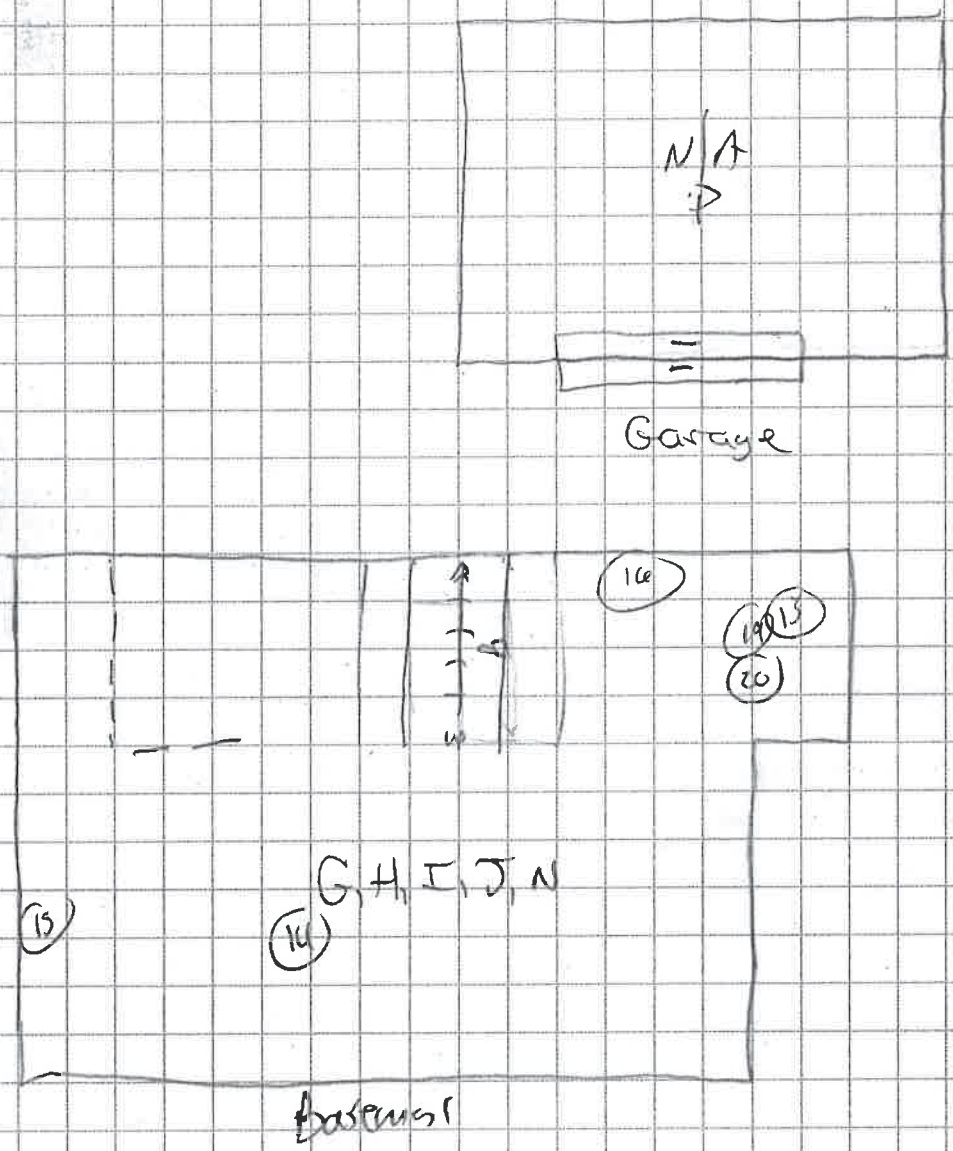
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 891 McGuffey Rd
PROJECT NO. H16201
PAGE NO. 3 OF
FIELD REPRESENTATIVE CR DATE 09/14/18
SCALE (W)

INDICATE DIRECTION OF NORTH

N



SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/26/2016
Project Name: 891 McGuffey Ave
Project #: H16201
SanAir ID#: 16033833

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

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HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 26, 2016

SanAir ID # 16033833
Project Name: 891 McGuffey Ave
Project Number: H16201

Dear Carmen Rocco,

We at SanAir would like to thank you for the work you recently submitted. The 32 sample(s) were received on Monday, September 19, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
32 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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Web: http://www.sanair.com E-mail: iaq@sanair.com

SanAir ID Number
16033833
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 891 McGuffey Ave

Collected Date: 9/16/2016
Received Date: 9/19/2016 9:30:00 AM
Report Date: 9/26/2016 4:55:38 PM
Analyst: Pisula, Nicholas

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16033833-001 Ceiling Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
01 / 16033833-001 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16033833-002 Ceiling Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
02 / 16033833-002 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16033833-003 Ceiling Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
03 / 16033833-003 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16033833-004 Ceiling Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
04 / 16033833-004 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16033833-005 Ceiling Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
05 / 16033833-005 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Nicholas Pisula
Analysis Date: 9/26/2016

Approved Signatory: [signature]
Date: 9/26/2016

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SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16033833-006 Wall Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
06 / 16033833-006 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16033833-007 Wall Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
07 / 16033833-007 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16033833-008 Wall Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
08 / 16033833-008 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16033833-009 Wall Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
09 / 16033833-009 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16033833-010 Wall Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
10 / 16033833-010 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Nicholas Pisula
Analysis Date: 9/26/2016

Approved Signatory:
Date: 9/26/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16033833-011 D/W System, Drywall	Grey Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
11 / 16033833-011 D/W System, Joint Compound	Tan Non-Fibrous Homogeneous		97% Other	3% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16033833-012 D/W System, Drywall	Grey Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
12 / 16033833-012 D/W System, Joint Compound				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16033833-013 D/W System, Drywall	Grey Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
13 / 16033833-013 D/W System, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
14 / 16033833-014 D/W System, Drywall	Grey Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
14 / 16033833-014 D/W System, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16033833-015 Window Glazing	White Non-Fibrous Homogeneous		96% Other	4% Chrysotile

Certification

Analyst: Nicholas Pisula
Analysis Date: 9/26/2016

Approved Signatory: [signature]
Date: 9/26/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16033833-016 Window Glazing				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
17 / 16033833-017 Window Glazing	Brown Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
18 / 16033833-018 Window Glazing	Brown Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
19 / 16033833-019 Vinyl Sheet Flooring W/ Mas., Sheet Flooring	Brown Non-Fibrous Homogeneous	20% Cellulose	80% Other	None Detected
19 / 16033833-019 Vinyl Sheet Flooring W/ Mas., Mastic	Brown Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
20 / 16033833-020 Vinyl Sheet Flooring W/ Mas., Sheet Flooring	Brown Non-Fibrous Homogeneous	20% Cellulose	80% Other	None Detected
20 / 16033833-020 Vinyl Sheet Flooring W/ Mas., Mastic	Brown Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
21 / 16033833-021 D/W Board	Off-White Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected

Certification

Analyst: Nicholas Pisula
Analysis Date: 9/26/2016

Approved Signatory: [signature]
Date: 9/26/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
22 / 16033833-022 D/W Board	Off-White Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected

Certification

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Analyst: Pisula, Nicholas

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16033833-023 Ceiling Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile
02 / 16033833-024 Ceiling Plaster	Grey Non-Fibrous Homogeneous		99.9% Other	0.1% Chrysotile
03 / 16033833-025 Ceiling Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile
04 / 16033833-026 Ceiling Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile
05 / 16033833-027 Ceiling Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile
06 / 16033833-028 Wall Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile
07 / 16033833-029 Wall Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile

Certification

Analyst: Nicholas Pisula
Analysis Date: 9/26/2016

Approved Signatory: [signature]
Date: 9/26/2016

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Analyst: Pisula, Nicholas

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16033833-030 Wall Plaster	Grey Non-Fibrous Homogeneous		99.9% Other	0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16033833-031 Wall Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16033833-032 Wall Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile

Certification

Analyst: Nicholas Pisula
Analysis Date: 9/26/2016

Approved Signatory:
Date: 9/26/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

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, AIHA or any other agency of the U.S. government; *and may not be certified by every local, state and federal regulatory agencies.*

SanAir Technologies Laboratory

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: 16033833

Company: Haw Environmental	Project #: H16201	Collected by:
Address: 6185 Heisley Rd	Project Name: 891 McGuffey Ave	Phone #:
City, St., Zip: Mentor, OH 44060	Date Collected:	Fax #:
State of Collection: Account#:	P.O. Number:	Email:

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop ☒	
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Water

ABHE	EPA 100.2	☐

Matrix	Other	
		☐

Turn Around Times	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
01	Ceiling Plaster w/ S/C					
02						
03			1,000 p/c			
04						
05						
06	Wall Plaster w/ S/C					
07						
08			1,000 p/c			
09						
10						
11	DLW System					
12						

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	09/16/16	12:00pm	EM	9.19.16	9:30

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

Page ___ of ____

Please P/C 29a or less
1,000 P/C when Indicated.

1L0033833

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
13	D/W System				
14	"				
15	Window Glazing				
16	"				
17	Window Glazing				
18	"				
19	Vinyl sheet flooring w/ MGS				
20	"				
21	D/W Board				
22	"				

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	09/16/16	12:00P	EM	9.19.16	9:20

Unless scheduled, the turn around time for all samples received after 3 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.

Page ___of ___

HZW
Environmental
Consultants

November 11, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Structure Located at 1161 McGuffey Road, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HZW Environmental Consultants, LLC (HZW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 1161 McGuffey Road, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below.

Photograph 01
Exterior View of Structure Located at
1161 McGuffey Road, Youngstown, Ohio

METHODS OF INVESTIGATION

General

During September 2016, a representative of HZW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HZW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HZW under the Miscellaneous Materials category.

Once categorized, HZW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HZW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HZW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HZW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HZW collected a minimum of seven (7) samples from this area/material. Drywall system was sampled in a similar manner.

- For TSI, HZW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HZW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HZW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HZW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HZW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HZW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to Crisp Analytical, L.L.C. (CA) of Baton Rouge, Louisiana for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HZW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HZW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HZW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HZW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HZW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HZW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos. Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HZW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HZW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HZW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HZW ENVIRONMENTAL CONSULTANTS, LLC

John Worthy
Asbestos Hazard Evaluation Specialist (AHES No. 34782)

Joan A. Sablar
Senior Industrial Hygienist

JER\jer\jas\H16201
Attachment
I:\2016\H16201\Fourth Request\01 1161 Mc Guffey Road Asbestos Survey Report.docx

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- CA LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 1161 Mc Guffey Road, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Smooth Ceiling Plaster	Throughout Structure, Except Bath 4	>7,000 sq.ft.	01						11,800 sq.ft.	ND ND 0.25
				02							ND ND 0.50
				03							ND ND Trace
				04							ND ND Trace
				05							ND ND 0.25
				06							ND ND 0.75
				07							ND ND 0.25
				08							ND ND Trace
				09							ND ND 0.75

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 1161 Mc Guffey Road, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
B	Texture (on Ceiling Plaster) - Stomp	Room 8	<1,000 sq.ft.	10							ND
				11							ND
				12							ND
C	Ceiling Tile – 2-foot by 4-foot - Pinholes	Bath 2	Minimum 2 Samples	13							ND ND
				14							ND ND
D	Textured Ceiling Plaster - Rough	Bath 4	<1,000 sq.ft.	15							ND ND ND
				16							ND ND ND
				17							ND ND ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 1161 Mc Guffey Road, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
E	Smooth Wall Plaster	Throughout Structure	>7,000 sq.ft.	18							ND ND
				19							ND ND
				20							ND ND
				21							ND ND
				22							ND ND
				23							ND ND
				24							ND ND
				25							ND ND
				26							ND ND
F	Smooth Wall Plaster on Drywall Backing	Room 12	<1,000 sq.ft.	27							ND ND ND
				28							ND ND ND
				29							ND ND ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 1161 Mc Guffey Road, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
G	Drywall System - Wall	Room 13, Room 16	<1,000 sq.ft.	30							ND ND
				31							ND ND
				32							ND ND
H	Plaster – Scratch Coat Only	On Interior Chimney Brick	<1,000 sq.ft.	33							ND
				34							ND
				35							ND
I	Window Glazing	Basement Windows	Minimum 2 Samples	36							ND
				37							ND
J1-J3	Cove Base – Mastic, (3 Types)	Various Areas Throughout	Category I Nonfriable in Fair Condition, Not Sampled				X		600 ln.ft.		Assumed
K1-K8	Floor Tile – Mastic (8 Types)	Various Areas Throughout	Category I Nonfriable in Fair Condition, Not Sampled				X		6,600 sq.ft.		Assumed
L	Stair Tread and Mastic	Stairwells	Category I Nonfriable in Fair Condition, Not Sampled				X		80 sq.ft.		Assumed
M	Aircell Pipe Insulation (And Debris)	Various Areas Throughout	Assumed RACM			X				580 ln.ft.	Assumed
N	Asphalt Shingle Roofing System	Building Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		4,500 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 1161 Mc Guffey Road, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
O	Asphalt Shingle Roofing System	Garage Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		350 sq.ft.		Assumed

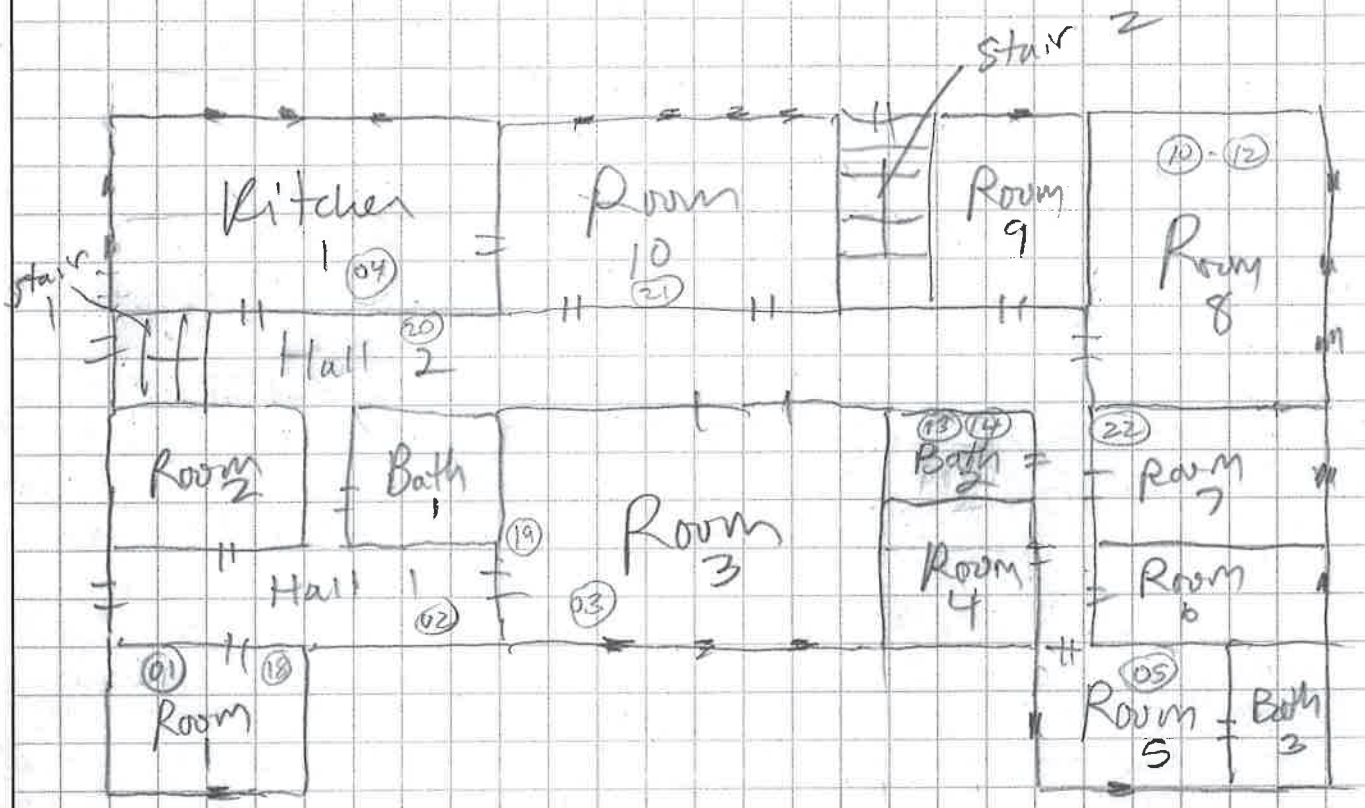
Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 1161 McGuffey Rd, Youngstown
PROJECT NO. H16201
PAGE NO. _____ OF _____
FIELD REPRESENTATIVE dw DATE 10-19-16
SCALE _____

INDICATE DIRECTION OF NORTH ↓
- Brick Exterior
- Vinyl



1st

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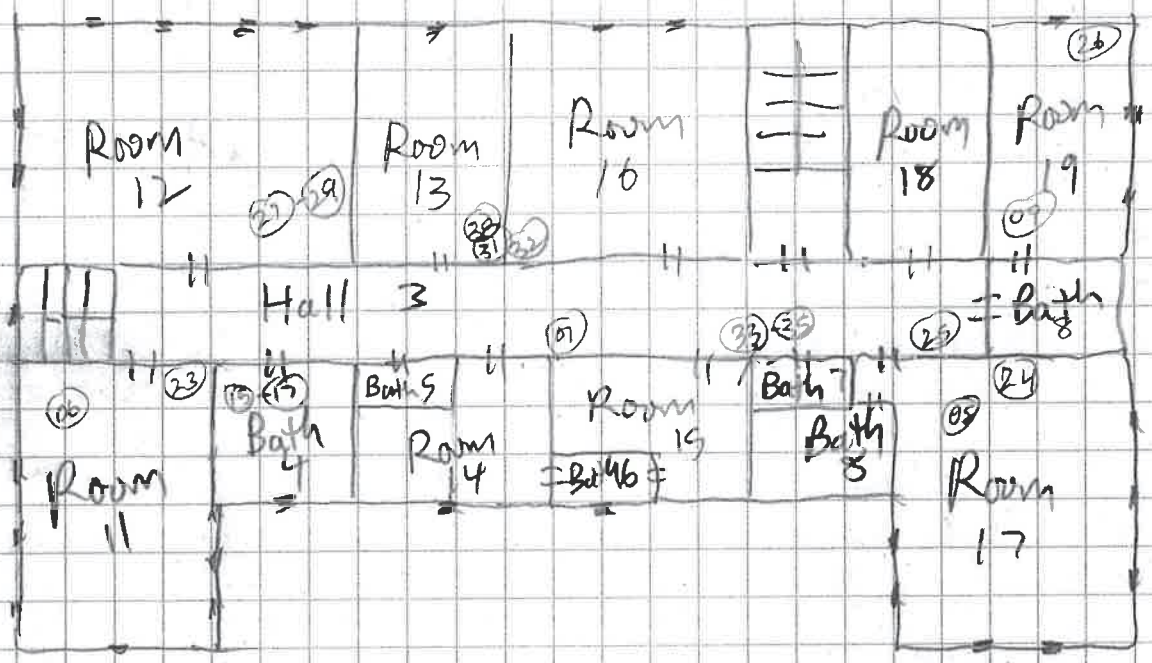
PROJECT 1161 McGuffey Rd
PROJECT NO. H16201
PAGE NO. _____ OF _____
FIELD REPRESENTATIVE JN DATE 10-19-16
SCALE _____

INDICATE DIRECTION OF NORTH



2nd

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CONSULTANTS, LLC

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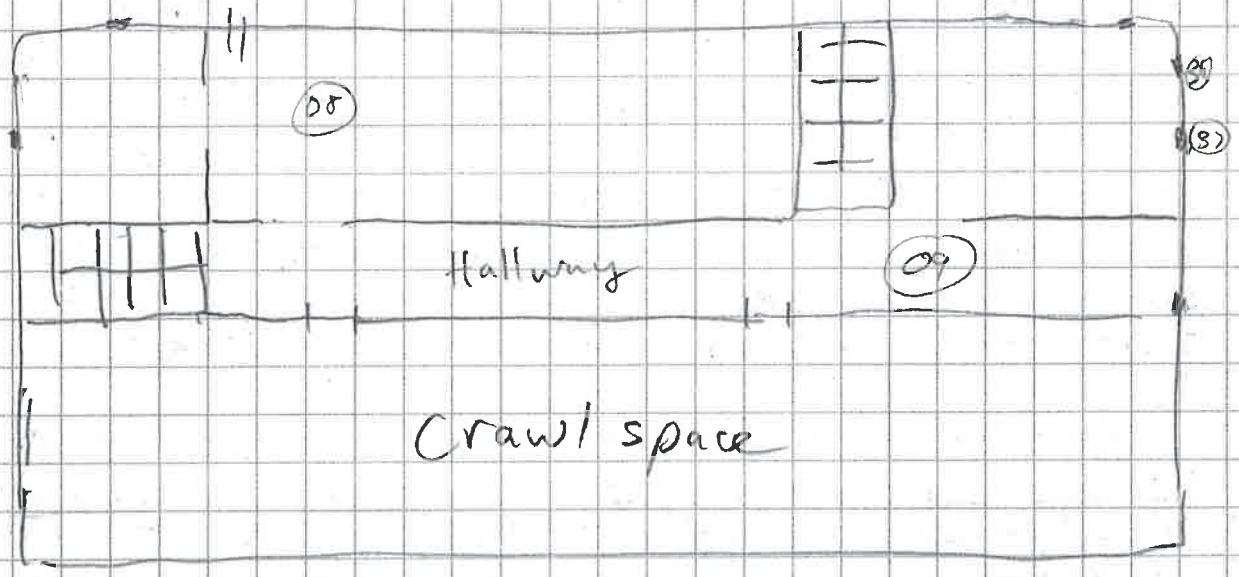
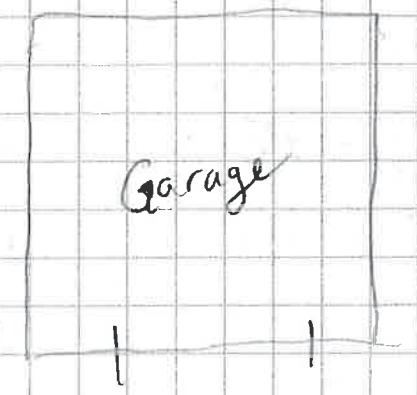
PROJECT 1161 McGuffey
PROJECT NO. H16201
PAGE NO. _____ OF _____
FIELD REPRESENTATIVE pw DATE 10-19-16
SCALE _____

INDICATE DIRECTION OF NORTH ↓



Basement



CA Labs
Dedicated to Quality

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Baton Rouge, LA 70809
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Fax 225-751-5634

Materials Characterization - Bulk Asbestos Analysis

Laboratory Analysis Report - Polarized Light

HzW Environmental Consultants
6105 Heisley Rd.
Mentor, OH 44060

Attn: Joan Sablar
Customer Project: 1161 McGuffey Rd H16201
Reference #: CBR16104238 Date: 10/27/2016

Analysis and Method

Summary of polarizing light microscopy (PLM / Stereomicroscopy bulk asbestos analysis) using the methods described in 40CFR Part 763 Appendix E to Subpart E (Interim and EPA 600 / R-93 / 116 (Improved). The sample is first viewed with the aid of stereomicroscopy. Numerous liquid slide preparations are created for analysis under the polarized microscope where identifications and quantifications are preformed. Calibrated liquid refractive oils are used as liquid mouting medium. These oils are used for identification (dispersion staining). A calibrated visual estimation is reported, should any asbestiform mineral be present. Other techniques such as acid washing are used in conjugation with refractive oils for detection of smaller quantities of asbestos. All asbestos percentages are based on calibrated visual estimation traceable to NIST standards for regulated of asbestos. Traceability to measurement and calibration is achieved by using known amounts and types of asbestos from standards where analyst and laboratory accuracy are measured. As little as 0.001% asbestos can be detected in favorable samples, while detection in unfavorable samples may approach the detection limit of 0.50% (well above the laboratory definition of trace).

Discussion

Vermiculite containing samples may have trace amounts of actinolite-tremolite, where not found be PLM should be analyzed using TEM methods and / or water separation techniques. Suspected actinolite/vermiculite presence will be indicated through the sample comment section of this report.

Fibrous talc containing samples may even contain a related asbestos fiber known as anthophyllite. Under certain conditions the same fiber may actually contain both talc and anthophyllite (a phenomenon called intergrowth). Again, TEM detection methods are recommended. CA Labs PLM report comments will denote suspected amounts of asbestiform anthophyllite with talc, where further analysis is recommended.

Some samples (floor tiles, surfacings, etc.) may contain fibers too small to be delectable by PLM analysis and should be analyzed by TEM bulk protocols.

A "trace asbestos" will be reported if the analyst observes far less than 1% asbestos. CA Labs defines "trace asbestos" as a few fibers detected by the analyst in several preparations and will indicate as such under these circumstances.

Quantification of <1% will actually be reported as <=1% (allowable variance close to 1% is high). Such results are ideal for point counting, and the technique is mandatory for friable samples (NESHAP, Nov. 1990 and clarification letter 8 May 1991) under 1% percent asbestos and the "trace asbestos". **In order to make all initial PLM reports issued from CA Labs NESHAP compliant, all <1% asbestos results (except floor tiles) will be point counted at no additional charge.**

Qualifications

CA Labs is accredited by the National Voluntary Accreditation Program (NVLAP) for selected test methods for airborne fiber analysis (TEM), and for bulk asbestos fiber analysis (PLM). All analysts have a college degree in a natural science (geology, biology, or environmental science) or are recognized by a state professional board in one these disciplines .Extensive in-house training programs are used to augment education background of the analyst. The group leader of polarized light has received supplemental McCrone Research training for asbestos identification. This report is not covered by the scope of AIHA accreditation. Analysis performed at CA Labs, LLC 12232 Industriplex, Suite 32 Baton Rouge, LA 70809.

Baton Rouge NVLAP Lab Code 200772-0 TEM/PLM *TDH 30-0370*
LDEQ

CA Labs
Dedicated to Quality

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Baton Rouge, LA 70809
Phone 225-751-5632
Fax 225-751-5634

Overview of Project Sample Material Containing Asbestos

Customer Project: 1161 McGuffey Rd H16201 **CA Labs Project #:** CBR16104238

Sample #	Layer #	Analysts Physical Description of Subsample	Asbestos type / calibrated visual estimate percent	List of Affected Building Material Types
				Tan Plaster
01	*3*	*Tan Plaster*	***2% Chrysotile***	
02	*3*	*Tan Plaster*	***2% Chrysotile***	
03	*3*	*Tan Plaster*	***2% Chrysotile***	
04	*3*	*Tan Plaster*	***2% Chrysotile***	
05	*3*	*Tan Plaster*	***2% Chrysotile***	
06	*3*	*Tan Plaster*	***2% Chrysotile***	
07	*3*	*Tan Plaster*	***2% Chrysotile***	
08	*3*	*Tan Plaster*	***2% Chrysotile***	

Baton Rouge NVLAP Lab Code 200772-0 TEM/PLM *TDH 30-0370*
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Glossary of abbreviations (non-asbestos fibers and non-fibrous minerals):

ca - carbonate
gypsum - gypsum
bi - binder
or - organic
ma - matrix
mi - mica
ve - vermiculite
ot - other

pe - perlite
qu - quartz

fg - fiberglass
mw - mineral wool
wo - wollastinite
ta - talc
sy - synthetic
ce - cellulose
br - brucite
ka - kaolin (clay)

pa - palygorskite (clay)

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Overview of Project Sample Material Containing Asbestos

Customer Project: 1161 McGuffey RdH16201 **CA Labs Project #:** CBR16104238

Sample #	Layer #	Analysts Physical Description of Subsample	Asbestos type / calibrated visual estimate percent	List of Affected Building Material Types
09	3	*Tan Plaster*	***2% Chrysotile***	

Baton Rouge NVLAP Lab Code 200772-0 TEM/PLM *TDH 30-0370*
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Glossary of abbreviations (non-asbestos fibers and non-fibrous minerals):

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bi - binder
or - organic
ma - matrix
mi - mica
ve - vermiculite
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Polarized Light Asbestiform Materials Characterization

Customer Info: **Attn:** Joan Sablar
HzW Environmental Consultants
6105 Heisley Rd.
Mentor, OH 44060

Phone # 440-357-1260
Fax # 440-357-1510

Customer Project:
1161 McGuffey Rd
H16201
Turnaround Time: 5 day

CA Labs Project #:
CBR16104238

Date: 10/27/2016
Samples Received: 10/21/2016
Date Of Sampling:
Purchase Order #:

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
01		1	*Black Covering*	Y	***None Detected***		100% ot
		2	*White Finishing Plaster*	Y	***None Detected***		100% qu, gy, ca
		3	*Tan Plaster*	Y	***2% Chrysotile***		98% ca, qu
02		1	*Black Covering*	Y	***None Detected***		100% ot
		2	*White Finishing Plaster*	Y	***None Detected***		100% qu, gy, ca
		3	*Tan Plaster*	Y	***2% Chrysotile***		98% ca, qu
03		1	*Black Covering*	Y	***None Detected***		100% ot

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Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

ca - carbonate	mi - mica	fg - fiberglass	ce - cellulose
gypsum - gypsum	ve - vermiculite	mw - mineral wool	br - brucite
bi - binder	ot -other	wo - wollastinite	ka - kaolin (clay)
or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

Approved Signatories:

Derek Fuselier
Analyst

Senior Analyst
Alicia Stretz

Laboratory Director
Chris Williams

1. Fire Damage significant fiber damage - reported percentages reflect unaltered fibers
2. Fire Damage no significant fiber damages effecting fibrous percentages
3. Actinolite in association with Vermiculite
4. Layer not analyzed - attached to previous positive layer and contamination is suspected
5. Not enough sample to analyze
6. Anthophyllite in association with Fibrous Talc
7. Contamination suspected from other building materials
8. Favorable scenario for water separation on vermiculite for possible analysis by another method
9. < 1% Result point counted positive
10. TEM analysis suggested

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1161 McGuffey Rd
H16201
Turnaround Time: 5 day

CA Labs Project #:
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Date: 10/27/2016
Samples Received: 10/21/2016
Date Of Sampling:
Purchase Order #:

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
		2	*White Finishing Plaster*	Y	***None Detected***		100% qu, gy, ca
		3	*Tan Plaster*	Y	***2% Chrysotile***		98% ca, qu
04		1	*Black Covering*	Y	***None Detected***		100% ot
		2	*White Finishing Plaster*	Y	***None Detected***		100% qu, gy, ca
		3	*Tan Plaster*	Y	***2% Chrysotile***		98% ca, qu
05		1	*Black Covering*	Y	***None Detected***		100% ot
		2	*White Finishing Plaster*	Y	***None Detected***		100% qu, gy, ca

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Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
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gypsum - gypsum	ve - vermiculite	mw - mineral wool	br - brucite
bi - binder	ot -other	wo - wollastinite	ka - kaolin (clay)
or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

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8. Favorable scenario for water separation on vermiculite for possible analysis by another method
9. < 1% Result point counted positive
10. TEM analysis suggested

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1161 McGuffey Rd
H16201
Turnaround Time: 5 day

CA Labs Project #:
CBR16104238

Date: 10/27/2016
Samples Received: 10/21/2016
Date Of Sampling:
Purchase Order #:

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
		3	*Tan Plaster*	Y	***2% Chrysotile***		98% ca, qu
06		1	*Black Covering*	Y	***None Detected***		100% ot
		2	*White Finishing Plaster*	Y	***None Detected***		100% qu, gy, ca
		3	*Tan Plaster*	Y	***2% Chrysotile***		98% ca, qu
07		1	*Black Covering*	Y	***None Detected***		100% ot
		2	*White Finishing Plaster*	Y	***None Detected***		100% qu, gy, ca
		3	*Tan Plaster*	Y	***2% Chrysotile***		98% ca, qu

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Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
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or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

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10. TEM analysis suggested

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1161 McGuffey Rd
H16201
Turnaround Time: 5 day

CA Labs Project #:
CBR16104238

Date: 10/27/2016
Samples Received: 10/21/2016
Date Of Sampling:
Purchase Order #:

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
08		1	*Black Covering*	Y	***None Detected***		100% ot
		2	*White Finishing Plaster*	Y	***None Detected***		100% qu, gy, ca
		3	*Tan Plaster*	Y	***2% Chrysotile***		98% ca, qu
09		1	*Black Covering*	Y	***None Detected***		100% ot
		2	*White Finishing Plaster*	Y	***None Detected***		100% qu, gy, ca
		3	*Tan Plaster*	Y	***2% Chrysotile***		98% ca, qu
10		1	*Tan Textured Surfacing*	N	***None Detected***		100% qu, pe, bi, ca

Baton Rouge NVLAP Lab Code 200772-0 TEM/PLM *TDH 30-0370*

LDEQ

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
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or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

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10. TEM analysis suggested

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Polarized Light Asbestiform Materials Characterization

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Customer Project:
1161 McGuffey Rd
H16201
Turnaround Time: 5 day

CA Labs Project #:
CBR16104238

Date: 10/27/2016
Samples Received: 10/21/2016
Date Of Sampling:
Purchase Order #:

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
11		1	*Tan Textured Surfacing*	*N*	***None Detected***		100% qu, pe, bi, ca
12		1	*Tan Textured Surfacing*	*N*	***None Detected***		100% qu, pe, bi, ca
13		1	*White Surfacing*	*Y*	***None Detected***		100% qu, bi
		2	*Tan Ceiling Tile*	*Y*	***None Detected***	20% fg 70% ce	10% qu, pe
14		1	*White Surfacing*	*Y*	***None Detected***		100% qu, bi
		2	*Tan Ceiling Tile*	*Y*	***None Detected***	20% fg 70% ce	10% qu, pe
15		1	*White Textured Surfacing*	*N*	***None Detected***		100% qu, mi, bi, ca

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Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

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or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

Approved Signatories:

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Polarized Light Asbestiform Materials Characterization

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Phone # 440-357-1260
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Customer Project:
1161 McGuffey Rd
H16201
Turnaround Time: 5 day

CA Labs Project #:
CBR16104238

Date: 10/27/2016
Samples Received: 10/21/2016
Date Of Sampling:
Purchase Order #:

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
		2	*Tan Surfaced White Finishing Plaster*	*N*	***None Detected***		100% qu, bi, ca
		3	*Tan Plaster*	*Y*	***None Detected***	2% ce	98% ca, qu
16		1	*White Textured Surfacing*	*N*	***None Detected***		100% qu, mi, bi, ca
		2	*Tan Surfaced White Finishing Plaster*	*N*	***None Detected***		100% qu, bi, ca
		3	*Tan Plaster*	*Y*	***None Detected***	2% ce	98% ca, qu
17		1	*White Textured Surfacing*	*N*	***None Detected***		100% qu, mi, bi, ca
		2	*Tan Surfaced White Finishing Plaster*	*N*	***None Detected***		100% qu, bi, ca

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		3	*Tan Plaster*	Y	***None Detected***	2% ce	98% ca, qu
18		1	*White Finishing Plaster*	Y	***None Detected***		100% qu, gy, ca
		2	*Tan Plaster*	Y	***None Detected***	2% ce	98% ca, qu
19		1	*White Finishing Plaster*	Y	***None Detected***		100% qu, gy, ca
		2	*Tan Plaster*	Y	***None Detected***	2% ce	98% ca, qu
20		1	*White Finishing Plaster*	Y	***None Detected***		100% qu, gy, ca
		2	*Tan Plaster*	Y	***None Detected***	2% ce	98% ca, qu

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10. TEM analysis suggested

CA Labs
Dedicated to Quality

Crisp Analytical, L.L.C.
1929 Old Denton Road
Carrollton, TX 75006
Phone 972-242-2754
Fax 972-242-2798

CA Labs, L.L.C.
12232 Industriplex, Suite 32
Baton Rouge, LA 70809
Phone 225-751-5632
Fax 225-751-5634

Polarized Light Asbestiform Materials Characterization

Customer Info: **Attn:** Joan Sablar
HzW Environmental Consultants
6105 Heisley Rd.
Mentor, OH 44060

Phone # 440-357-1260
Fax # 440-357-1510

Customer Project:
1161 McGuffey Rd
H16201
Turnaround Time: 5 day

CA Labs Project #:
CBR16104238

Date: 10/27/2016
Samples Received: 10/21/2016
Date Of Sampling:
Purchase Order #:

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
21		1	*Tan Surfaced White Finishing Plaster*	*N*	***None Detected***		100% qu, gy, bi, ca
		2	*Gray Plaster*	*Y*	***None Detected***	2% ce	98% ca, qu
22		1	*White Finishing Plaster*	*Y*	***None Detected***		100% qu, gy, ca
		2	*Gray Plaster*	*Y*	***None Detected***	2% ce	98% ca, qu
23		1	*White Finishing Plaster*	*Y*	***None Detected***		100% qu, gy, ca
		2	*Gray Plaster*	*Y*	***None Detected***	2% ce	98% ca, qu
24		1	*Green Surfaced White Finishing Plaster*	*N*	***None Detected***		100% qu, gy, bi, ca

Baton Rouge NVLAP Lab Code 200772-0 TEM/PLM *TDH 30-0370*

LDEQ

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
Preparation Method: HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion attaining / becke line method.

ca - carbonate	mi - mica	fg - fiberglass	ce - cellulose
gypsum - gypsum	ve - vermiculite	mw - mineral wool	br - brucite
bi - binder	ot -other	wo - wollastinite	ka - kaolin (clay)
or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

Approved Signatories:

Derek Fuselier
Analyst

Senior Analyst
Alicia Stretz

Laboratory Director
Chris Williams

1. Fire Damage significant fiber damage - reported percentages reflect unaltered fibers
2. Fire Damage no significant fiber damages effecting fibrous percentages
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4. Layer not analyzed - attached to previous positive layer and contamination is suspected
5. Not enough sample to analyze
6. Anthophyllite in association with Fibrous Talc
7. Contamination suspected from other building materials
8. Favorable scenario for water separation on vermiculite for possible analysis by another method
9. < 1% Result point counted positive
10. TEM analysis suggested

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Polarized Light Asbestiform Materials Characterization

Customer Info: **Attn:** Joan Sablar
HzW Environmental Consultants
6105 Heisley Rd.
Mentor, OH 44060

Phone # 440-357-1260
Fax # 440-357-1510

Customer Project:
1161 McGuffey Rd
H16201
Turnaround Time: 5 day

CA Labs Project #:
CBR16104238

Date: 10/27/2016
Samples Received: 10/21/2016
Date Of Sampling:
Purchase Order #:

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
		2	*Gray Plaster*	*Y*	***None Detected***	2% ce	98% ca, qu
25		1	*White Finishing Plaster*	*Y*	***None Detected***		100% qu, gy, ca
		2	*Gray Plaster*	*Y*	***None Detected***	2% ce	98% ca, qu
26		1	*White Finishing Plaster*	*Y*	***None Detected***		100% qu, gy, ca
		2	*Gray Plaster*	*Y*	***None Detected***	2% ce	98% ca, qu
27		1	*Tan Surfaced White Finishing Plaster*	*N*	***None Detected***		100% qu, gy, bi, ca
		2	*Gray Plaster*	*Y*	***None Detected***		100% ca, pe, qu

Baton Rouge NVLAP Lab Code 200772-0 TEM/PLM *TDH 30-0370*

LDEQ

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
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gypsum - gypsum	ve - vermiculite	mw - mineral wool	br - brucite
bi - binder	ot -other	wo - wollastinite	ka - kaolin (clay)
or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

Approved Signatories:

Derek Fuselier
Analyst

Senior Analyst
Alicia Stretz

Laboratory Director
Chris Williams

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Polarized Light Asbestiform Materials Characterization

Customer Info: **Attn:** Joan Sablar
HzW Environmental Consultants
6105 Heisley Rd.
Mentor, OH 44060

Phone # 440-357-1260
Fax # 440-357-1510

Customer Project:
1161 McGuffey Rd
H16201
Turnaround Time: 5 day

CA Labs Project #:
CBR16104238

Date: 10/27/2016
Samples Received: 10/21/2016
Date Of Sampling:
Purchase Order #:

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
		3	*White Drywall with Paper*	*N*	***None Detected***	10% ce	90% qu, gy
28		1	*White Finishing Plaster*	*Y*	***None Detected***		100% qu, gy, ca
		2	*Gray Plaster*	*Y*	***None Detected***		100% ca, pe, qu
		3	*White Drywall with Paper*	*N*	***None Detected***	10% ce	90% qu, gy
29		1	*Tan Surfaced White Finishing Plaster*	*N*	***None Detected***		100% qu, gy, bi, ca
		2	*Gray Plaster*	*Y*	***None Detected***		100% ca, pe, qu
		3	*White Drywall with Paper*	*N*	***None Detected***	10% ce	90% qu, gy

Baton Rouge NVLAP Lab Code 200772-0 TEM/PLM *TDH 30-0370*

LDEQ

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
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gypsum - gypsum	ve - vermiculite	mw - mineral wool	br - brucite
bi - binder	ot -other	wo - wollastinite	ka - kaolin (clay)
or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

Approved Signatories:

Derek Fuselier
Analyst

Senior Analyst
Alicia Stretz

Laboratory Director
Chris Williams

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10. TEM analysis suggested

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Baton Rouge, LA 70809
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Polarized Light Asbestiform Materials Characterization

Customer Info: **Attn:** Joan Sablar
HzW Environmental Consultants
6105 Heisley Rd.
Mentor, OH 44060

Phone # 440-357-1260
Fax # 440-357-1510

Customer Project:
1161 McGuffey Rd
H16201
Turnaround Time: 5 day

CA Labs Project #:
CBR16104238

Date: 10/27/2016
Samples Received: 10/21/2016
Date Of Sampling:
Purchase Order #:

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
30		1	*White Surfacing*	*Y*	***None Detected***		100% qu, bi
		2	*White Drywall with Paper*	*N*	***None Detected***	10% ce	90% qu, gy
31		1	*White Surfacing*	*Y*	***None Detected***		100% qu, bi
		2	*White Drywall with Paper*	*N*	***None Detected***	10% ce	90% qu, gy
32		1	*White Surfacing*	*Y*	***None Detected***		100% qu, bi
		2	*White Drywall with Paper*	*N*	***None Detected***	10% ce	90% qu, gy
33		1	*Gray Plaster*	*Y*	***None Detected***	2% ce	98% ca, qu

Baton Rouge NVLAP Lab Code 200772-0 TEM/PLM *TDH 30-0370*

LDEQ

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
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bi - binder	ot -other	wo - wollastinite	ka - kaolin (clay)
or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

Approved Signatories:

Derek Fuselier
Analyst

Senior Analyst
Alicia Stretz

Laboratory Director
Chris Williams

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Polarized Light Asbestiform Materials Characterization

Customer Info: **Attn:** Joan Sablar
HzW Environmental Consultants
6105 Heisley Rd.
Mentor, OH 44060

Phone # 440-357-1260
Fax # 440-357-1510

Customer Project:
1161 McGuffey Rd
H16201
Turnaround Time: 5 day

CA Labs Project #:
CBR16104238

Date: 10/27/2016
Samples Received: 10/21/2016
Date Of Sampling:
Purchase Order #:

Sample #	Comment	Layer #	Analysts Physical Description of Subsample	Homogeneous (Y/N)	Asbestos type / calibrated visual estimate percent	Non-asbestos fiber type / percent	Non-fibrous type / percent
34		1	*Gray Plaster*	Y	***None Detected***	2% ce	98% ca, qu
35		1	*Gray Plaster*	Y	***None Detected***	2% ce	98% ca, qu
36		1	*Gray Sealant*	Y	***None Detected***	2% wo	98% qu, bi, ca
37		1	*Gray Sealant*	Y	***None Detected***	2% wo	98% qu, bi, ca

Baton Rouge NVLAP Lab Code 200772-0 TEM/PLM *TDH 30-0370*

LDEQ

Analysis Method: Interim (40CFR Part 763 Appendix E to Subpart E) / Improved (EPA-600 / R-93/116)
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or - organic	pe - perlite	ta - talc	pa - palygorskite (clay)
ma - matrix	qu - quartz	sy - synthetic	

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12232 Industriplex, Suite 32
Baton Rouge, LA 70809
Phone 225-751-5632
Fax 225-751-5634

Polarized Light Asbestiform Materials Point Count

Laboratory Analysis Report - Point Count

Analysis and Method

Point counting was performed on a polarized light microscope with a calibrated reticle according to the revised NESHAP method of November 20, 1990 (Federal Register, V.55, N.224, 11/20/90). Origional asbestos content of bulk materials was determined using procedures outlined in the interim method (40 CFR part 763, Appendix E to subpart E) and AHERA method (EPA-600/R-93/116). Samples were prepared using HCL acid washing for carbonate based samples, chemical reduction for organically bound components, oil immersion for identification of asbestos types by dispersion staining / becke line method.

Qualifications

CA Labs is accredited by the National Voluntary Accreditation Program (NVLAP) for selected test methods for airborne fiber analysis (TEM), and for bulk asbestos fiber analysis (PLM). All analysts have a college degree in a natural science (geology, biology, or environmental science) or are recognized by a state professional board in one of these disciplines. Extensive in-house training programs are used to augment education background of the analyst. The group leader of polarized light has received supplemental McCrone Research training for asbestos identification. This report is not covered by the scope of NVLAP or AIHA accreditation. Analysis performed at CA Labs, LLC 12232 Industriplex, Suite 32 Baton Rouge, LA 70809.

Customer Info: **Attn:** Joan Sablar
HzW Environmental Consultants
6105 Heisley Rd.
Mentor, OH 44060

Phone # 440-357-1260
Fax # 440-357-1510

Customer Project:
1161 McGuffey Rd
H16201
Turnaround Time: 5 day

CA Labs Project #:
CBR16104238

Date: 10/27/2016
Samples Received: 10/21/2016
Date Of Sampling:
Purchase Order #:

Sample #	Layer #	Analysts Physical Description of Subsample	Homo-geneous (Y/N)	Point Counted % / Asbestos Type
01	3	*Tan Plaster*	*Y*	***0.25% Chrysotile***
02	3	*Tan Plaster*	*Y*	***0.50% Chrysotile***
03	3	*Tan Plaster*	*Y*	***Trace Chrysotile***

Baton Rouge NVLAP Lab Code 200772-0 TEM/PLM *TDH 30-0370*

LDEQ

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Approved Signatories:

Derek Fuselier
Analyst

Senior Analyst
Alicia Stretz

Laboratory Director
Chris Williams

CA Labs
Dedicated to Quality

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Carrollton, TX 75006
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Fax 972-242-2798

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12232 Industriplex, Suite 32
Baton Rouge, LA 70809
Phone 225-751-5632
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Polarized Light Asbestiform Materials Point Count

Laboratory Analysis Report - Point Count

Customer Info: **Attn:** Joan Sablar
HzW Environmental Consultants
6105 Heisley Rd.
Mentor, OH 44060

Phone # 440-357-1260
Fax # 440-357-1510

Customer Project:

1161 McGuffey Rd
H16201
Turnaround Time: 5 day

CA Labs Project #:
CBR16104238

Date: 10/27/2016
Samples Received: 10/21/2016
Date Of Sampling:
Purchase Order #:

Sample #	Layer #	Analysts Physical Description of Subsample	Homo-geneous (Y/N)	Point Counted % / Asbestos Type
04	3	*Tan Plaster*	*Y*	***Trace Chrysotile***
05	3	*Tan Plaster*	*Y*	***0.25% Chrysotile***
06	3	*Tan Plaster*	*Y*	***0.75% Chrysotile***
07	3	*Tan Plaster*	*Y*	***0.25% Chrysotile***
08	3	*Tan Plaster*	*Y*	***Trace Chrysotile***
09	3	*Tan Plaster*	*Y*	***0.75% Chrysotile***

Baton Rouge NVLAP Lab Code 200772-0.TEM/PLM *TDH 30-0370*

LDEQ

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Approved Signatories:

Derek Fuselier
Analyst

Senior Analyst
Alicia Stretz

Laboratory Director
Chris Williams

CA Labs

C.A. Labs, LLC.
12232 Industriplex
Suite 32
Baton Rouge, LA 70809

Phone: 225-751-5632
Fax: 225-751-5634
Mobile: 225-993-3471

Chain of Custody

16104238

Client Name: HzW Environmental
Client Address: 6105 Heisley Rd
Mentor, OH 44060

CA Labs ID # [redacted]

Billing Address: (if different)

phone number: 440-357-1260
fax number: 440-357-1510
*Project Number: H16201
Contact: Joan Sablar

Send Reports to: JSablar@Hzwenv.com
*Project Name: 1161 McGuffey Rd.
Reports Results VIA: EMAIL X FAX___ VERBAL___

Total # Samples Submitted:	Total # Samples to be Analyzed:	Material Matrix:
37	37	Air / Bulk / Water

Asbestos: *please call ahead for availability of all rush and/or after hours samples.*

TEM	TA Time	PLM	TA Time	Optical / IAQ	TA Time
Circle analysis and TA time		*Circle analysis and TA time*	*2 hour*	Allergen Particle:	*2 hour*
AHERA	*4 hour*	Improved	4 hour	tape/bulk/swab	4 hour
EPA Level II	8 hour	Interim	8 hour	Cyclex-d cassettes	8 hour
Drinking Water	16 hour		16 hour	Air-o-cell cassettes	16 hour
Wipe	24 hour	AHERA	24 hour	Anderson cultures	24 hour
Micro-vac	2 days		2 days	Bulk/swab cultures	2 days
NIOSH 7402	3 days	~~Point Count~~	3 days	Bacteria cultures	3 days
Chatfield Bulk	5 days	(NESHAPS)	5 days	PCM: NIOSH 7400	5-10 days

Lead: *Circle analysis and TA time*

Matrix:	Paint Chips	Soil	Air	Wipes	Wastewater	TCLP
TA Time:	*8 hour*	1 day	2 days	3 days	5 days	6-10 days

Sample Information:

Sample Number:	Sample Location:	Sample Date/Time:	Sample Volume (L)
01	Smooth CP		
02	"		
03	"		
04	"		
05	"		

* Please pt. ct. 2% or less and stop at 1st positive

Custody Information:
Samples relinquished: MW 10-20-16 / Signature / Date / Time
Samples received: [illegible] 10-21-16 9:40 / Signature / Date / Time
Samples relinquished: ___ / Signature / Date / Time
Samples received: ___ / Signature / Date / Time

2

CA Labs

12232 Industriplex
Suite 32
Baton Rouge, LA 70809

Phone: 225-751-5632
Fax: 225-751-5634
After hours Mobile: 225-993-3471

16104238

Client Name: Hzw Environmental
CALabs job/# CBR
Client Address: 6105 Heisley Rd.
Mentor, OH 44060
Billing Address: (if different)
phone number: 440-357-1260
fax number: 440-357-1510
Send Reports to: JSablar@Hzwenv.com
*Project Number: H16201
*Project Name: 1161 McCutcheon Rd.
Contact: Joan Sablar
Reports Results VIA: EMAIL X FAX ___ VERBAL ___

Sample Number:	Sample Location:	Sample Date/Time:	Sample Volume (L)
06	"		
07	"		
08	"		
09	"		
10	Texture		
11	"		
12	"		
13	CT - Pinholes		
14	"		
15	Textured CP - Rough		
16	"		
17	"		
18	Smooth WP		
19	"		
20	"		
21	"		
22	"		
23	"		
24	"		
25	"		
26	"		
27	Smooth WP on Drywall		
28	"		
29	"		

For internal use:
Any initial changes regarding project (indicate yes by checking line)_____

Custody Information:
Samples relinquished: [illegible] 10-20-16 — Signature / Date / Time
Samples received: [illegible] 10-21-16 9:40 — Signature / Date / Time
Samples relinquished: _____ Signature / Date / Time
Samples received: _____ Signature / Date / Time

3

CA Labs

12232 Industriplex
Suite 32
Baton Rouge, LA 70809

Phone: 225-751-5632
Fax: 225-751-5634
After hours Mobile: 225-993-3471

16104238

Client Name: Hzw Environmental
CA Labs job # - CBR
Client Address: 6105 Heisley Rd.
Mentor, OH 44060
Billing Address:
(if different)
phone number: 440-357-1260
fax number: 440-357-1510
Send Reports to: JSablar@Hzwenv.com
*Project Number: H16201
*Project Name: 1161 McGuffey Rd
Contact: Joan Sablar
Reports Results
VIA: EMAIL X FAX___ VERBAL___

Sample Number:	Sample Location:	Sample Date/Time:	Sample Volume (L)
30	Drywall System		
31	"		
32	"		
33	Plaster		
34	"		
35	"		
36	Window Glazing		
37	"		

For internal use:
Any initial changes regarding project (indicate yes by checking line)_____

Custody Information:
Samples relinquished: JW 10-20-16
Signature / Date / Time
Samples received: [illegible] 10-21-16 9:40
Signature / Date / Time
Samples relinquished:
Signature / Date / Time
Samples received:
Signature / Date / Time

HZW
Environmental
Consultants

ctober 3, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 1352 Miami Avenue, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HZW Environmental Consultants, LLC (HZW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 1352 Miami Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below:

Photograph 01
Exterior View of Residential Structure Located at
1352 Miami Avenue, Youngstown, Ohio

METHODS OF INVESTIGATION

General

During September 2016, a representative of HZW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HZW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HZW under the Miscellaneous Materials category.

Once categorized, HZW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HZW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HZW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HZW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HZW collected a minimum of seven (7) samples from this area/material.

- For TSI, HZW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HZW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HZW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HZW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HZW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HZW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HZW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HZW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HZW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HZW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HZW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HZW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos. Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HZW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HZW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HZW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HZW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Third Request\15 1352 Miami Avenue Asbestos Survey Report.docx

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 1352 Miami Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Drywall System – Ceiling and Wall	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	01					4,649 sq.ft.		ND <0.25
				02							ND 0.25
				03							ND <0.25
				04							ND 0.5
				05							ND <0.25
C	Skim Coat – Ceiling, Popcorn Pattern	Bedroom # 1	<1,000 sq.ft.	06							ND
				07							ND
				08							ND
F	Window Glazing	House Windows	Minimum 2 Samples	09						4 sq.ft. (10 Wndws)	1.0
				10							0.75

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 1352 Miami Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
B1-B4	Floor Tile – 12-inch by 12-inch, Mastic (4 Types)	Various Areas Throughout Structure	Category I Nonfriable in Fair Condition, Not Sampled				X		598 sq.ft.		Assumed
D1-D2	Floor Tile – 9-inch by 9-inch, Mastic (2 Types)	Various Areas Throughout Structure	Category I Nonfriable in Fair Condition, Not Sampled				X		112 sq.ft.		Assumed
E	Asphalt Shingle Roofing System – Black	House Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		800 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

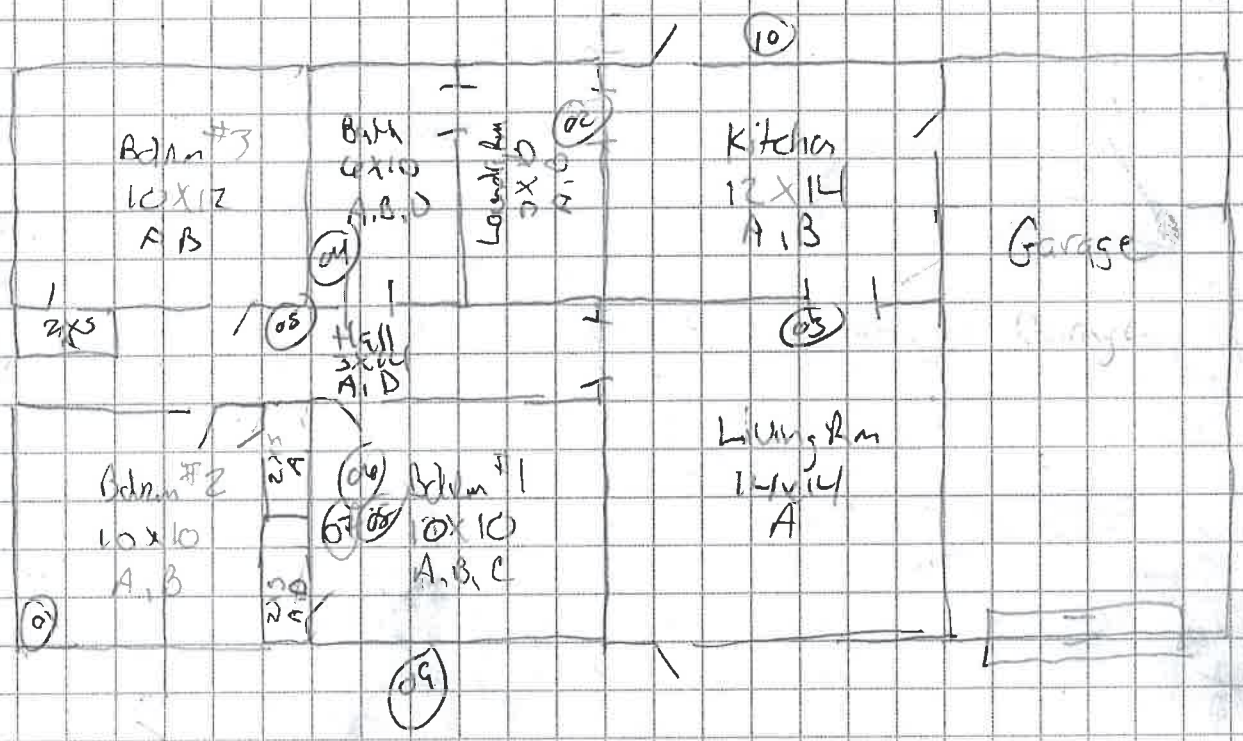
HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 1952 Miami Rd
PROJECT NO. 141620
PAGE NO. 2 OF 2
FIELD REPRESENTATIVE CK DATE 09/14/14
SCALE (W)

INDICATE DIRECTION OF NORTH

N →



SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/26/2016
Project Name: ~~1952~~ 1352 Miami Rd
Project #: H16201
SanAir ID#: 16033831

NVLAP LAB CODE 200870-0

Virginia SBE Certification # 652931

Texas Licensed Mold Analysis Laboratory License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

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

HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 26, 2016

SanAir ID # 16033831
Project Name: 1952 Miami Rd
Project Number: H16201

Dear Carmen Rocco,

We at SanAir would like to thank you for the work you recently submitted. The 10 sample(s) were received on Monday, September 19, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
17 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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

SanAir ID Number
16033831
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 1952 Miami Rd

Collected Date: 9/16/2016
Received Date: 9/19/2016 9:30:00 AM
Report Date: 9/26/2016 4:01:10 PM
Analyst: Pisula, Nicholas

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16033831-001 D/W/ System, Drywall	Grey Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
01 / 16033831-001 D/W/ System, Joint Compound	Tan Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16033831-002 D/W/ System, Drywall	Grey Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
02 / 16033831-002 D/W/ System, Joint Compound	Tan Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16033831-003 D/W/ System, Drywall	Grey Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
03 / 16033831-003 D/W/ System, Joint Compound	Tan Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16033831-004 D/W/ System, Drywall	Grey Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
04 / 16033831-004 D/W/ System, Joint Compound	Tan Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16033831-005 D/W/ System, Drywall	Grey Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
05 / 16033831-005 D/W/ System, Joint Compound	Tan Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile

Certification

Analyst: Nicholas Pisula
Analysis Date: 9/26/2016

Approved Signatory: [signature]
Date: 9/26/2016

SanAir Technologies Laboratory, Inc.

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804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
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Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
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Project Name: 1952 Miami Rd

Collected Date: 9/16/2016
Received Date: 9/19/2016 9:30:00 AM
Report Date: 9/26/2016 4:01:10 PM
Analyst: Pisula, Nicholas

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16033831-006 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected
07 / 16033831-007 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected
08 / 16033831-008 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected
09 / 16033831-009 Window Glazing	White Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
10 / 16033831-010 Window Glazing	White Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile

Certification

Analyst: Nicholas Pisula
Analysis Date: 9/26/2016

Approved Signatory:
Date: 9/26/2016

SanAir Technologies Laboratory, Inc.

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Collected Date: 9/16/2016
Received Date: 9/19/2016 9:30:00 AM
Report Date: 9/26/2016 4:01:10 PM
Analyst: Pisula, Nicholas

Asbestos Bulk EPA PLM 400 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16033831-011 D/W/ System	Tan Non-Fibrous Homogeneous		100% Other	< 0.25% Chrysotile
02 / 16033831-012 D/W/ System	Tan Non-Fibrous Homogeneous		99.75% Other	0.25% Chrysotile
03 / 16033831-013 D/W/ System	Tan Non-Fibrous Homogeneous		100% Other	< 0.25% Chrysotile
04 / 16033831-014 D/W/ System	Tan Non-Fibrous Homogeneous		99.5% Other	0.5% Chrysotile
05 / 16033831-015 D/W/ System	Tan Non-Fibrous Homogeneous		100% Other	< 0.25% Chrysotile
09 / 16033831-016 Window Glazing	White Non-Fibrous Homogeneous		99% Other	1% Chrysotile
10 / 16033831-017 Window Glazing	White Non-Fibrous Homogeneous		99.25% Other	0.75% Chrysotile

Certification

Analyst: Nicholas Pisula
Analysis Date: 9/26/2016

Approved Signatory: [signature]
Date: 9/26/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

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SanAir Technologies Laboratory

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www.sanair.com

Asbestos Chain of Custody

SanAir ID Number: 16033831

Company: Haw Environmental		Project #: H16201	Collected by:
Address: 6605 Heisley Rd		Project Name: 1952 Miami Rd	Phone #:
City, St., Zip: Mentor, OH 44060		Date Collected:	Fax #:
State of Collection:	Account#:	P.O. Number:	Email:

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop ☒	
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Water

ABHE	EPA 100.2	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Other

Matrix		
		☐

Turn Around Times	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
01	D/w system					
02						
03						
04						
05						
06	Skim Coat					
07			1,000 pc.			
08						
09	Window Glazing					
10						

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	09/16/16	12:00pm	[illegible]	9.19.16	9:30

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

Page ___ of ____

Please P/C 2% or less
1,000 P/C when Indicated.

HZW
Environmental
Consultants

October 3, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 1359 Miami Avenue, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HZW Environmental Consultants, LLC (HZW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 1359 Miami Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below:

Photograph 01
Exterior View of Residential Structure Located at
1359 Miami Avenue, Youngstown, Ohio

METHODS OF INVESTIGATION

General

During September 2016, a representative of HZW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HZW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HZW under the Miscellaneous Materials category.

Once categorized, HZW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HZW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HZW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HZW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HZW collected a minimum of seven (7) samples from this area/material.

- For TSI, HZW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HZW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HZW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HZW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HZW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HZW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HZW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HZW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HZW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HZW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HZW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HZW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos. Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HZW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HZW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HZW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HZW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Third Request\16 1359 Miami Avenue Asbestos Survey Report.docx

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 1359 Miami Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Drywall System – Ceiling and Wall	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	01			X	4,246 sq.ft.			ND 3
				02							ND NA
				03							ND NA
				04							ND NA
				05							ND NA
D1-D3	Floor Tile – 9-inch by 9-inch, Mastic (3 Types)	Various Areas Throughout Structure	Category I Nonfriable in Fair Condition, Not Sampled				X		1,024 sq.ft.		Assumed
E	Asphalt Shingle Roofing System – Black	House Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		800 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 1389 Miami Street
PROJECT NO. H16201
PAGE NO. 2 OF
FIELD REPRESENTATIVE JR DATE 9/14/16
SCALE

INDICATE DIRECTION OF NORTH

SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/26/2016
Project Name: 1359 Miami Rd
Project #: H16201
SanAir ID#: 16033843

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

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

HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 26, 2016

SanAir ID # 16033843
Project Name: 1359 Miami Rd
Project Number: H16201

Dear Carmen Rocco,

We at SanAir would like to thank you for the work you recently submitted. The 5 sample(s) were received on Monday, September 19, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
5 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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

SanAir ID Number
16033843
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 1359 Miami Rd

Collected Date: 9/16/2016
Received Date: 9/19/2016 9:30:00 AM
Report Date: 9/26/2016 2:54:33 PM
Analyst: Pisula, Nicholas

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16033843-001 D/ W System, Drywall	Grey Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
01 / 16033843-001 D/ W System, Joint Compound	Tan Non-Fibrous Homogeneous		97% Other	3% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16033843-002 D/ W System, Drywall	Grey Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
02 / 16033843-002 D/ W System, Joint Compound				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16033843-003 D/ W System, Drywall	Grey Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
03 / 16033843-003 D/ W System, Joint Compound				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16033843-004 D/ W System, Drywall	Grey Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
04 / 16033843-004 D/ W System, Joint Compound				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16033843-005 D/ W System, Drywall	Grey Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
05 / 16033843-005 D/ W System, Joint Compound				Not Analyzed

Certification

Analyst: Nicholas Pisula
Analysis Date: 9/26/2016

Approved Signatory: [signature]
Date: 9/26/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

SanAir Technologies Laboratory

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: 16033843

Company: Hzw Environmental	Project #: H16201	Collected by:
Address: 6105 Heisley Rd	Project Name: 1359 Miami Rd	Phone #:
City, St., Zip: Mentor, OH 44060	Date Collected:	Fax #:
State of Collection: OH Account#:	P.O. Number:	Email:

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☐
ABB1K	PLM EPA 1000 Point Count	☐
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Water

ABHE	EPA 100.2	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Other

Matrix		
		☐

Turn Around Times	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start – Stop	
01	Dlw System					
02						
03						
04						
05						

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	09/16/16	12:00pm	CEW	SEP 19 2016	9:30AM

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

Page ___ of ____

Please P/C 29a or less
1,000 P/C when Indicated.

HzW ENVIRONMENTAL
CONSULTANTS, LLC

September 16, 2016

Mr. Chuck Shasho, Deputy Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 723 Park Avenue, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HzW Environmental Consultants, LLC (HzW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 723 Park Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below.

Photograph 01
Exterior View of Residential Structure Located at
723 Park Avenue, Youngstown, Ohio

MENTOR **AKRON** **EUCLID** **CANTON**
6105 Heisley Road, Mentor, Ohio 44060 • phone 440-357-1260 • 800-804-8484 • fax 440-357-1510
www.hzwenv.com

METHODS OF INVESTIGATION

General

During August 2016, a representative of HzW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HzW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HzW under the Miscellaneous Materials category.

Once categorized, HzW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HzW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HzW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HzW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HzW collected a minimum of seven (7) samples from this area/material.

- For TSI, HzW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HzW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HzW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HzW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HzW collected from two (2) to three (3) bulk samples.

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In determining the condition of a material, HzW used the following guidelines.

General Damage Category	Criteria
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Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia, Louisiana, for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less percent asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

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The quantities of ACMs and assumed ACMs, as presented on HzW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos.

   Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HzW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HzW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HzW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HzW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Second Request\27 723 Park Avenue Asbestos Report.doc

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 723 Park Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Ceiling Plaster with Skim Coat - Smooth	Throughout Structure	<1,000 sq.ft.	01	X				744 sq.ft.		1.4 ND
				02							NA ND
				03							NA ND
B	Wall Plaster with Skim Coat - Smooth	Throughout Structure	<1,000 sq.ft. <5,000 sq.ft.	04	X				2,394 sq.ft.		1.3 ND
				05							NA ND ND
				06							NA ND
				07							NA ND
				08							NA ND
D	Ceiling Tile – 1-foot by 1-foot, Smooth	Kitchen	Minimum 2 Samples	09							ND
				10							ND
F	Skim Coat – Wall, Rough Brush Stroke Pattern	Basement	<1,000 sq.ft.	11							ND ND
				12							ND ND
				13							ND ND
G	Window Glazing	Basement Windows	Minimum 2 Samples	14							ND
				15							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 723 Park Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
K	Window Glazing	House Windows	Minimum 2 Samples	16			X			12 sq.ft. (12 Wndws)	3
				17							NA
O	Window Glazing	Shed Windows	Minimum 2 Samples	18			X			2 sq.ft. (2 Wndws)	3
				19							NA
C	Vinyl Sheet Flooring, Mastic	Kitchen and Second Floor Stairwell	Category I Nonfriable in Fair Condition, Not Sampled				X		40 sq.ft.		Assumed
E	Floor Tile – 12-inch by 12-inch, Mastic	Bathroom	Category I Nonfriable in Fair Condition, Not Sampled				X		3 sq.ft.		Assumed
H	Duct Seam Tape	Basement	Assumed RACM			X			2 sq.ft.		Assumed
I	Duct Wrap Insulation	Throughout Structure	Assumed RACM			X			40 sq.ft.		Assumed
J	Asphalt Shingle Roofing System - Black	House Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		500 sq.ft.		Assumed
L	Asphalt Siding Shingles – Brown Brick Pattern Pattern	House Exterior	Category I Nonfriable in Fair Condition, Not Sampled				X		1,560 sq.ft.		Assumed
M	Rolled Asphalt Roofing - Green	Shed Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		128 sq.ft.		Assumed
N	Asphalt Siding Shingles – Brown Brick Pattern	Shed Exterior	Category I Nonfriable in Fair Condition, Not Sampled				X		352 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

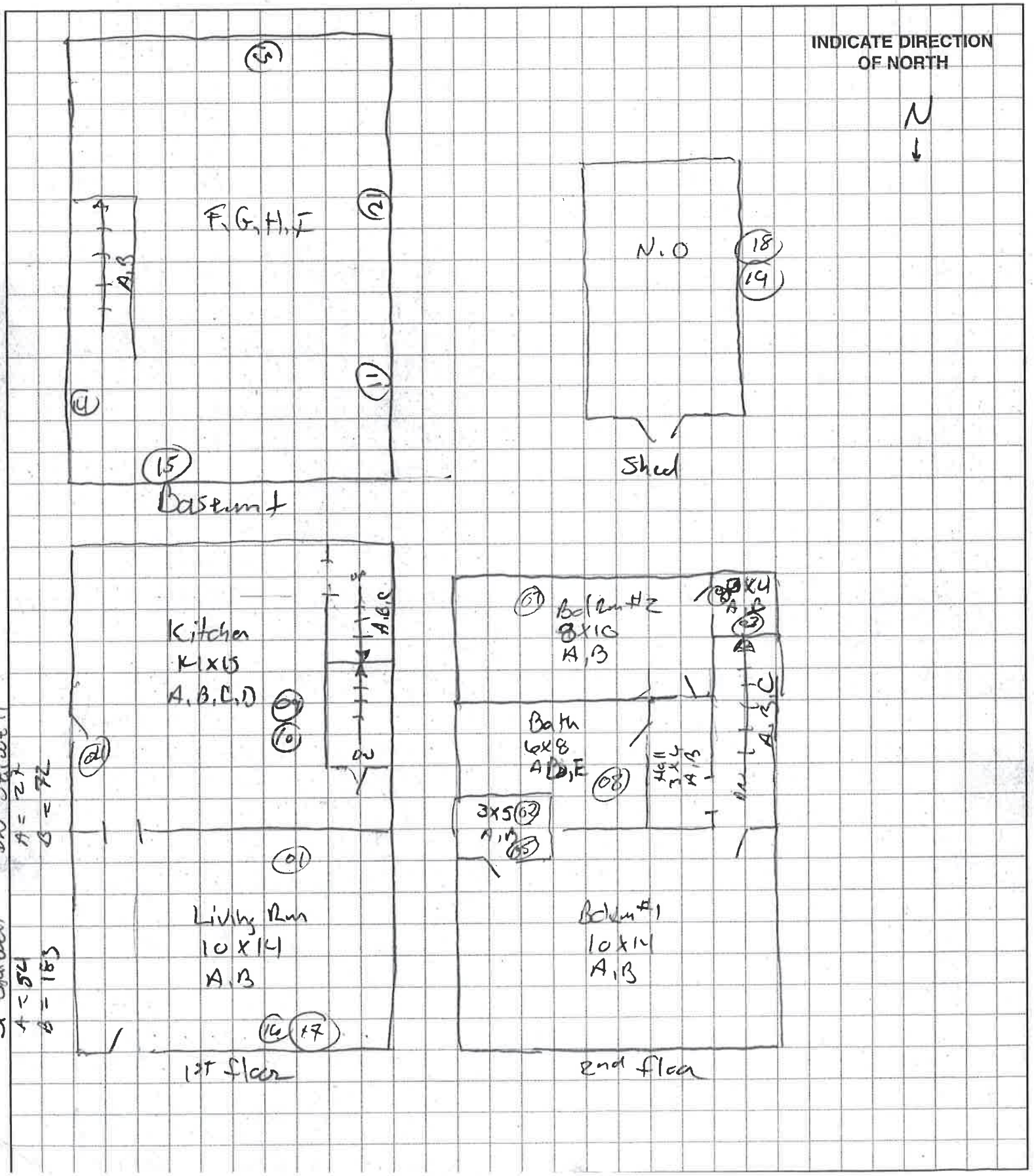
HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 723 Park Ave
PROJECT NO. H16701
PAGE NO. 2 OF 2
FIELD REPRESENTATIVE CR DATE 08/31/14
SCALE (W)

INDICATE DIRECTION OF NORTH

N



SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/12/2016
Project Name: 723 Park Ave
Project #: H16201
SanAir ID#: 16031776

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
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Web: http://www.sanair.com E-mail: iaq@sanair.com

HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 12, 2016

SanAir ID # 16031776
Project Name: 723 Park Ave
Project Number: H16201

Dear Carmen Rocco,

We at SanAir would like to thank you for the work you recently submitted. The 27 sample(s) were received on Friday, September 02, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
26 sample(s) in Good condition 1 sample(s) in Layer Missing condition

SanAir Technologies Laboratory, Inc.

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804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: http://www.sanair.com E-mail: iaq@sanair.com

SanAir ID Number
16031776
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 723 Park Ave

Collected Date: 9/1/2016
Received Date: 9/2/2016 10:30:00 AM
Report Date: 9/12/2016 4:27:21 PM
Analyst: Childress, Susan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16031776-001 Ceiling Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous		98% Other	2% Chrysotile
01 / 16031776-001 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16031776-002 Ceiling Plaster W/ S/C, Plaster				Not Analyzed
02 / 16031776-002 Ceiling Plaster W/ S/C, Skim Coat	Beige Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16031776-003 Ceiling Plaster W/ S/C, Plaster				Not Analyzed
03 / 16031776-003 Ceiling Plaster W/ S/C, Skim Coat				Not Submitted

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16031776-004 Wall Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous		98% Other	2% Chrysotile
04 / 16031776-004 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16031776-005 Wall Plaster W/ S/C, Plaster				Not Analyzed
05 / 16031776-005 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected
05 / 16031776-005 Wall Plaster W/ S/C, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Susan P. Childress
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Received Date: 9/2/2016 10:30:00 AM
Report Date: 9/12/2016 4:27:21 PM
Analyst: Childress, Susan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16031776-006 Wall Plaster W/ S/C, Plaster				Not Analyzed
06 / 16031776-006 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16031776-007 Wall Plaster W/ S/C, Plaster				Not Analyzed
07 / 16031776-007 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16031776-008 Wall Plaster W/ S/C, Plaster				Not Analyzed
08 / 16031776-008 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16031776-009 Ceiling Tile	White Fibrous Homogeneous	85% Cellulose	15% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16031776-010 Ceiling Tile	White Fibrous Homogeneous	85% Cellulose	15% Other	None Detected

Certification

Analyst: Susan L. Childress
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

SanAir Technologies Laboratory, Inc.

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SanAir ID Number
16031776
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 723 Park Ave

Collected Date: 9/1/2016
Received Date: 9/2/2016 10:30:00 AM
Report Date: 9/12/2016 4:27:21 PM
Analyst: Childress, Susan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16031776-011 Skim Coat, Plaster	Brown Non-Fibrous Homogeneous		100% Other	None Detected
11 / 16031776-011 Skim Coat, Skim Coat	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16031776-012 Skim Coat, Plaster	Brown Non-Fibrous Homogeneous		100% Other	None Detected
12 / 16031776-012 Skim Coat, Skim Coat	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16031776-013 Skim Coat, Plaster	Brown Non-Fibrous Homogeneous		100% Other	None Detected
13 / 16031776-013 Skim Coat, Skim Coat	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
14 / 16031776-014 Window Glazing	Tan Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16031776-015 Window Glazing	Tan Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Susan L. Childress
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Received Date: 9/2/2016 10:30:00 AM
Report Date: 9/12/2016 4:27:21 PM
Analyst: Childress, Susan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16031776-016 Window Glazing	White Non-Fibrous Homogeneous		97% Other	3% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
17 / 16031776-017 Window Glazing				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
18 / 16031776-018 Window Glazing	Off-White Non-Fibrous Homogeneous		97% Other	3% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
19 / 16031776-019 Window Glazing				Not Analyzed

Certification

Analyst: Susan L. Childress
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobering
Date: 9/12/2016

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Project Name: 723 Park Ave

Collected Date: 9/1/2016
Received Date: 9/2/2016 10:30:00 AM
Report Date: 9/12/2016 4:27:21 PM
Analyst: Childress, Susan

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16031776-020 Ceiling Plaster	Grey Non-Fibrous Homogeneous		98.6% Other	1.4% Chrysotile
02 / 16031776-021 Ceiling Plaster				Not Analyzed
03 / 16031776-022 Ceiling Plaster				Not Analyzed
04 / 16031776-023 Wall Plaster	Grey Non-Fibrous Homogeneous		98.7% Other	1.3% Chrysotile
05 / 16031776-024 Wall Plaster				Not Analyzed
06 / 16031776-025 Wall Plaster				Not Analyzed
07 / 16031776-026 Wall Plaster				Not Analyzed

Certification

Analyst: Susan P. Childress
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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SanAir ID Number
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Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 723 Park Ave

Collected Date: 9/1/2016
Received Date: 9/2/2016 10:30:00 AM
Report Date: 9/12/2016 4:27:21 PM
Analyst: Childress, Susan

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16031776-027 Wall Plaster				Not Analyzed

Certification

Analyst: Susan L. Childress
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

Disclaimer

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SanAir Technologies Laboratory

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Asbestos Chain of Custody

SanAir ID Number: 160317716

Company: Haw Environmental		Project #: H16201	Collected by:
Address: 6605 Heisley Rd		Project Name: 723 Park Ave	Phone #:
City, St., Zip: Mentor, OH 44060		Date Collected:	Fax #:
State of Collection: OH	Account#:	P.O. Number:	Email:

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Water

ABHE	EPA 100.2	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Other

Matrix		
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start – Stop	
01	Ceiling Plaster w/ S/C					
02			1,000 p.c.			
03						
04	wall Plaster w/ S/C					
05						
06			1,000 p.c.			
07						
08						
09	Ceiling Tile					
10						

Relinquished by	Date	Time	Received by	Date	Time
[signature]	09/01/16	5:30pm	CW	SEP 02 2016	10:30am

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

Page ___ of ____

Please P/C 2% or less
1,000 P/C when Indicated.

16031776

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
11	Skim Coat				
12	)		1.000pc.		
13					
14	Window Glazing				
15	)				
16	Window Glazing				
17	)				
18	Window Glazing				
19	)				

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
	09/01/16	5:30pm	CW	SEP 02 2016	10:30AM

Unless scheduled, the turn around time for all samples received after 3 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.

Page ___of ___

HZW
Environmental
Consultants

October 3, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 1646 Stewart Avenue, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HZW Environmental Consultants, LLC (HZW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 1646 Stewart Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below:

Photograph 01
Exterior View of Residential Structure Located at
1646 Stewart Avenue, Youngstown, Ohio

METHODS OF INVESTIGATION

General

During September 2016, a representative of HZW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HZW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HZW under the Miscellaneous Materials category.

Once categorized, HZW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HZW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HZW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HZW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HZW collected a minimum of seven (7) samples from this area/material.

- For TSI, HZW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HZW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HZW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HZW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HZW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HZW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HZW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HZW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HZW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HZW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HZW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HZW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos. Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HZW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HZW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HZW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HZW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Third Request\17 1646 Stewart Avenue Asbestos Survey Report.docx

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 1646 Stewart Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Ceiling Plaster with Skim Coat – Smooth	Throughout Structure	>1000 sq.ft. <5,000 sq.ft.	01					1,145 sq.ft.		<0.1 ND
				02							0.3 ND
				03							<0.1 ND
				04							0.4 ND
				05							0.3 ND
B	Wall Plaster with Skim Coat – Smooth	Various Areas Throughout Structure	>1000 sq.ft. <5,000 sq.ft.	06	X				4,047 sq.ft.		4 ND
				07							NA ND
				08							NA ND
				09							NA ND
				10							NA ND
E	Ceiling and Wall Plaster with Skim Coat - Smooth	Kitchen Addition	<1,000 sq.ft.	11							ND ND
				12							ND ND
				13							ND ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 1646 Stewart Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

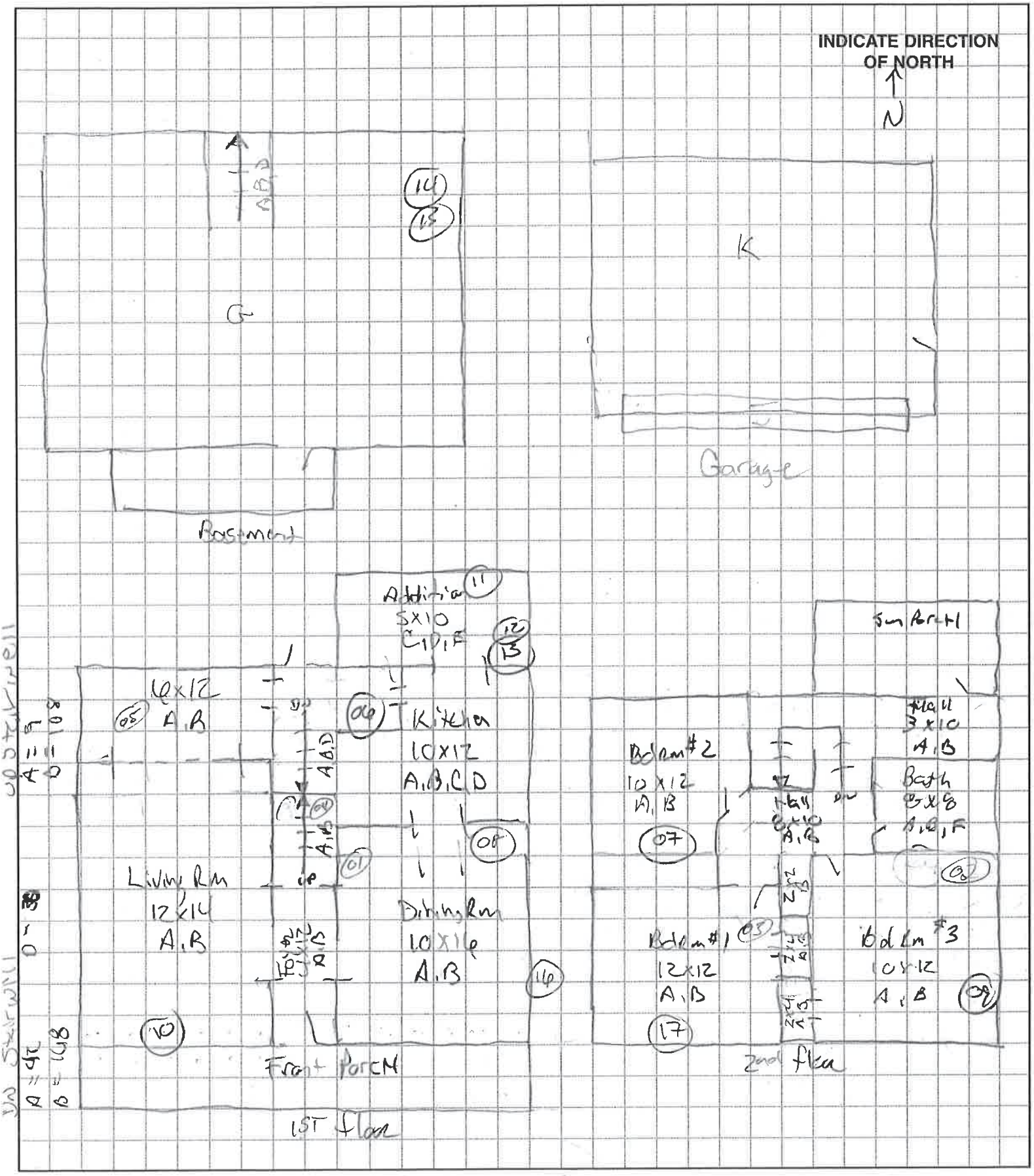
HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
G	Window Glazing	Basement Windows	Minimum 2 Samples	14							ND
				15							ND
J	Window Glazing	House Windows	Minimum 2 Samples	16							ND
				17							ND
C	Cove Base – 3-inch, Mastic	Kitchen	Category I Nonfriable in Fair Condition, Not Sampled				X		16 sq.ft.		Assumed
D	Vinyl Sheet Flooring, Mastic	Kitchen	Category I Nonfriable in Fair Condition, Not Sampled				X		200 sq.ft.		Assumed
F	Floor Tile – 12-inch by 12-inch, Mastic	Bathroom	Category I Nonfriable in Fair Condition, Not Sampled				X		64 sq.ft.		Assumed
H	Duct Wrap Insulation	Throughout Structure	Assumed RACM			X			120 sq.ft.		Assumed
I	Asphalt Shingle Roofing System – Black	House Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		850 sq.ft. Each		Assumed
K	Asphalt Shingle Roofing System – Black	Garage Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		400 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 1646 Stewart Ave
PROJECT NO. H116701
PAGE NO. 2 OF 2
FIELD REPRESENTATIVE CR DATE 09/15/14
SCALE (TH)



SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/26/2016
Project Name: 1646 Stewart Ave
Project #: H16201
SanAir ID#: 16033840

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

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HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 26, 2016

SanAir ID # 16033840
Project Name: 1646 Stewart Ave
Project Number: H16201

Dear Joan Sablar,

We at SanAir would like to thank you for the work you recently submitted. The 17 sample(s) were received on Monday, September 19, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
22 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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

SanAir ID Number
16033840
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 1646 Stewart Ave

Collected Date: 9/16/2016
Received Date: 9/19/2016 9:30:00 AM
Report Date: 9/26/2016 5:23:42 PM
Analyst: Tallert, Jonathan
Fleming, Christopher

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
01 / 16033840-001 Ceiling Plaster W/ S/ C, Plaster	Off-White Non-Fibrous Heterogeneous		98% Other	2% Chrysotile
01 / 16033840-001 Ceiling Plaster W/ S/ C, Skim coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
02 / 16033840-002 Ceiling Plaster W/ S/ C, Plaster				Not Analyzed
02 / 16033840-002 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
03 / 16033840-003 Ceiling Plaster W/ S/ C, Plaster				Not Analyzed
03 / 16033840-003 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
04 / 16033840-004 Ceiling Plaster W/ S/ C, Plaster				Not Analyzed
04 / 16033840-004 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
05 / 16033840-005 Ceiling Plaster W/ S/ C, Plaster				Not Analyzed
05 / 16033840-005 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Chris Fleming
Analysis Date: 9/26/2016

Approved Signatory: J B Tallert
Date: 9/26/2016

SanAir Technologies Laboratory, Inc.

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Address: 6105 Heisley Road
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Project Number: H16201
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Analyst: Tallert, Jonathan
Fleming, Christopher

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16033840-006 Wall Plaster W/ S/ C, Plaster	Tan Non-Fibrous Heterogeneous		96% Other	4% Chrysotile
06 / 16033840-006 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16033840-007 Wall Plaster W/ S/ C, Plaster				Not Analyzed
07 / 16033840-007 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16033840-008 Wall Plaster W/ S/ C, Plaster				Not Analyzed
08 / 16033840-008 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16033840-009 Wall Plaster W/ S/ C, Plaster				Not Analyzed
09 / 16033840-009 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16033840-010 Wall Plaster W/ S/ C, Plaster				Not Analyzed
10 / 16033840-010 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Alex Fleming
Analysis Date: 9/26/2016

Approved Signatory: J B Tallert
Date: 9/26/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16033840-011 Plaster W/ S/ C, Plaster	Grey Non-Fibrous Heterogeneous		100% Other	None Detected
11 / 16033840-011 Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16033840-012 Plaster W/ S/ C, Plaster	Grey Non-Fibrous Heterogeneous		100% Other	None Detected
12 / 16033840-012 Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16033840-013 Plaster W/ S/ C, Plaster	Grey Non-Fibrous Heterogeneous		100% Other	None Detected
13 / 16033840-013 Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
14 / 16033840-014 Window Glazing	Tan Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16033840-015 Window Glazing	Tan Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Approved Signatory:

Analysis Date: 9/26/2016 Date: 9/26/2016

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SanAir ID Number
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Fleming, Christopher

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16033840-016 Window Glazing	Tan Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
17 / 16033840-017 Window Glazing	Tan Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Chris Fleming
Analysis Date: 9/26/2016

Approved Signatory: J B Tallert
Date: 9/26/2016

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Analyst: Tallert, Jonathan
Fleming, Christopher

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16033840-018 Ceiling Plaster W/ S/ C, Plaster	Off-White Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16033840-019 Ceiling Plaster W/ S/ C, Plaster	Off-White Non-Fibrous Heterogeneous		99.7% Other	0.3% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16033840-020 Ceiling Plaster W/ S/ C, Plaster	Off-White Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16033840-023 Ceiling Plaster W/ S/ C, Plaster	Off-White Non-Fibrous Heterogeneous		99.6% Other	0.4% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16033840-024 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		99.7% Other	0.3% Chrysotile

Certification

Analyst: Analysis Date: 9/26/2016

Approved Signatory: Date: 9/26/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

Disclaimer

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www.sanair.com

Asbestos Chain of Custody

SanAir ID Number: 16033840

Company: Haw Environmental	Project #: H14201	Collected by:
Address: 6605 Heisley Rd	Project Name: 1644 Stewart Ave	Phone #:
City, St., Zip: Mentor, OH 44060	Date Collected:	Fax #:
State of Collection: OH Account#:	P.O. Number:	Email:

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Water

ABHE	EPA 100.2	☐

Other

Matrix		
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start – Stop	
01	Ceiling Plaster w/ S/C	–				
02						
03			1,000 p.c.			
04						
05		–				
06	Wall Plaster w/ S/C	–				
07						
08			1,000 p.c.			
09						
10		–				

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	09/16/16	12:00pm	MC	SEP 19 2016	9:30AM

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

Page ___ of ____

Please P/C 2% or less
1,000 P/C when Indicated.

1603384U

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
11	Plaster w/ S/C				
12	"		1.0 cop.C.		
13	"				
14	Window Glazing				
15	"				
16	Window Glazing				
17	"				

Special Instructions	Samples for 1000 Point Count are noted, all other are 400 Point Co

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	09/16/16	12:00pm	MC	SEP 19 2016	9:30AM

Unless scheduled, the turn around time for all samples received after 3 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.

Page 2 of 2

Point Count all Samples identified at 2% or less

HZW
Environmental
Consultants

October 3, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 1717 Stewart Avenue, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HZW Environmental Consultants, LLC (HZW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 1717 Stewart Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below:

Photograph 01
Exterior View of Residential Structure Located at
1717 Stewart Avenue, Youngstown, Ohio

METHODS OF INVESTIGATION

General

During September 2016, a representative of HZW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HZW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HZW under the Miscellaneous Materials category.

Once categorized, HZW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HZW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HZW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HZW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HZW collected a minimum of seven (7) samples from this area/material.

- For TSI, HZW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HZW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HZW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HZW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HZW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HZW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HZW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HZW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HZW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HZW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HZW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HZW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos. Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HZW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HZW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HZW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HZW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Third Request\18 1717 Stewart Avenue Asbestos Survey Report.docx

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 1717 Stewart Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Ceiling Plaster with Skim Coat – Smooth	Various Areas Throughout Structure	Minimum 3 Samples	01						Unknown Quantity	0.4 ND
				02							0.5 ND
				03							0.1 ND
B	Wall Plaster with Skim Coat – Smooth	Various Areas Throughout Structure	Minimum 3 Samples	04						Unknown Quantity	0.2 ND
				05							<0.1 ND
				06							<0.1 ND
C	Drywall System – Ceiling	Living Room and Kitchen	Minimum 2 Samples	07							ND ND
				08							ND ND
E	Drywall System – Ceiling and Wall	Kitchen Addition	Minimum 2 Samples	09							ND ND
				10							ND ND
F	Ceiling Plaster with Skim Coat – Smooth, Over Drywall Board	Dining Room	<1,000 sq.ft.	11							ND ND ND
				12							ND ND ND
				13							ND ND ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 1717 Stewart Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
G	Window Glazing	Basement Windows	Minimum 2 Samples	14							ND
				15							ND
K	Window Glazing	House Windows	Minimum 2 Samples	16							ND
				17							ND
L	Asphalt Shingle Roofing System - Black	Garage Roof	Minimum 2 Samples	18							ND
				19							ND
D	Floor Tile – 12-inch by 12-inch, Mastic	Kitchen	Category I Nonfriable in Fair Condition, Not Sampled				X		208 sq.ft.		Assumed
H	Duct Wrap Insulation	Throughout Structure	Assumed RACM			X			130 sq.ft.		Assumed
I	Asphalt Shingle Roofing System – Black	House Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		900 sq.ft.		Assumed
J	Asphalt Siding Shingles – Red Brick Pattern	House Exterior	Category I Nonfriable in Fair Condition, Not Sampled				X		2,400 sq.ft.		Assumed

Note: HZW collected all bulk samples from the first floor. HZW was no able to access the second floor and basement level of the structure due to fire damage. Additional building materials suspect for containing asbestos may be present on the second floor and basement level.

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

HZW ENVIRONMENTAL
CONSULTANTS, LLC

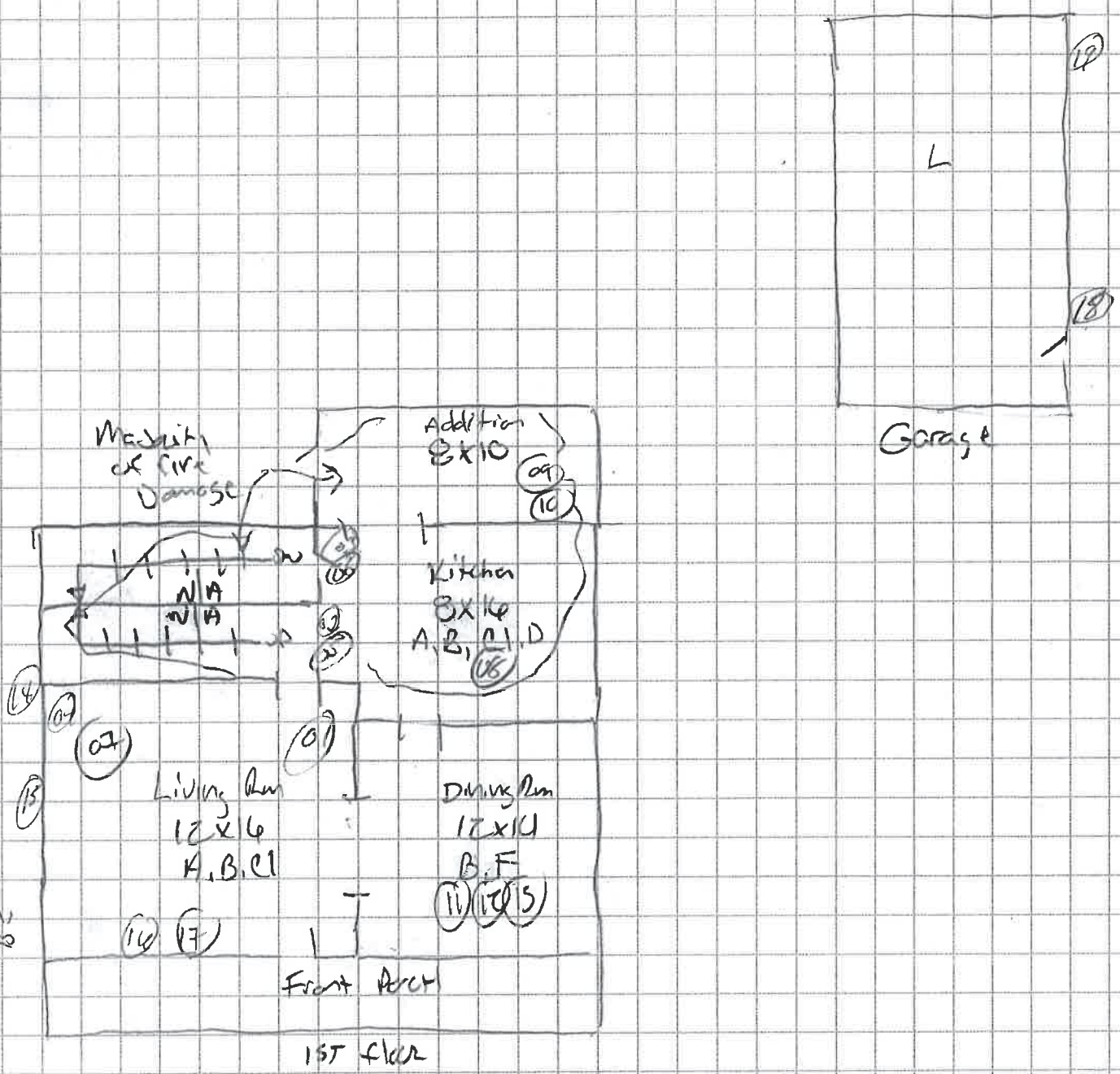
6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 1717 Stewart Ave
PROJECT NO. 411020 1
PAGE NO. 2 OF
FIELD REPRESENTATIVE CR DATE 09/15/14
SCALE TH

1 = Ceiling
2 = wall
3 = Bath

INDICATE DIRECTION OF NORTH

N



SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/26/2016
Project Name: 1717 Stewart Ave
Project #: H16201
SanAir ID#: 16033841

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

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

HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 26, 2016

SanAir ID # 16033841
Project Name: 1717 Stewart Ave
Project Number: H16201

Dear Carmen Rocco,

We at SanAir would like to thank you for the work you recently submitted. The 19 sample(s) were received on Monday, September 19, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
25 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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

SanAir ID Number
16033841
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 1717 Stewart Ave

Collected Date: 9/16/2016
Received Date: 9/19/2016 9:30:00 AM
Report Date: 9/26/2016 4:06:17 PM
Analyst: Fleming, Christopher

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16033841-001 Ceiling Plaster W/ S/C, Plaster	Grey Non-Fibrous Heterogeneous		98% Other	2% Chrysotile
01 / 16033841-001 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16033841-002 Ceiling Plaster W/ S/C, Plaster	Grey Non-Fibrous Heterogeneous			Not Analyzed
02 / 16033841-002 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16033841-003 Ceiling Plaster W/ S/C, Plaster	Grey Non-Fibrous Heterogeneous			Not Analyzed
03 / 16033841-003 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16033841-004 Wall Plaster W/ S/C, Plaster	Grey Non-Fibrous Heterogeneous		98% Other	2% Chrysotile
04 / 16033841-004 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16033841-005 Wall Plaster W/ S/C, Plaster	Grey Non-Fibrous Heterogeneous			Not Analyzed
05 / 16033841-005 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Chris Fleming
Analysis Date: 9/26/2016

Approved Signatory:
Date: 9/26/2016

SanAir Technologies Laboratory, Inc.

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804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
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SanAir ID Number
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Name: HzW Environmental Consultants LLC
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Report Date: 9/26/2016 4:06:17 PM
Analyst: Fleming, Christopher

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16033841-006 Wall Plaster W/ S/C, Plaster	Grey Non-Fibrous Heterogeneous			Not Analyzed
06 / 16033841-006 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16033841-007 D/W System, Drywall	Off-White Non-Fibrous Homogeneous		100% Other	None Detected
07 / 16033841-007 D/W System, Joint Compound	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16033841-008 D/W System, Drywall	Off-White Non-Fibrous Homogeneous		100% Other	None Detected
08 / 16033841-008 D/W System, Joint Compound	Tan Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16033841-009 D/W System, Drywall	Off-White Non-Fibrous Homogeneous		100% Other	None Detected
09 / 16033841-009 D/W System, Joint Compound	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16033841-010 D/W System, Drywall	Off-White Non-Fibrous Homogeneous		100% Other	None Detected
10 / 16033841-010 D/W System, Joint Compound	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Approved Signatory:

Analysis Date: 9/26/2016 Date: 9/26/2016

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SanAir ID Number
16033841
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 1717 Stewart Ave

Collected Date: 9/16/2016
Received Date: 9/19/2016 9:30:00 AM
Report Date: 9/26/2016 4:06:17 PM
Analyst: Fleming, Christopher

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16033841-011 Ceiling Plaster W/ S/C Over D/W Board, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
11 / 16033841-011 Ceiling Plaster W/ S/C Over D/W Board, Skim Coat	Off-White Non-Fibrous Homogeneous		100% Other	None Detected
11 / 16033841-011 Ceiling Plaster W/ S/C Over D/W Board, Drywall	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16033841-012 Ceiling Plaster W/ S/C Over D/W Board, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
12 / 16033841-012 Ceiling Plaster W/ S/C Over D/W Board, Skim Coat	Off-White Non-Fibrous Homogeneous		100% Other	None Detected
12 / 16033841-012 Ceiling Plaster W/ S/C Over D/W Board, Drywall	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16033841-013 Ceiling Plaster W/ S/C Over D/W Board, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
13 / 16033841-013 Ceiling Plaster W/ S/C Over D/W Board, Skim Coat	Off-White Non-Fibrous Homogeneous		100% Other	None Detected
13 / 16033841-013 Ceiling Plaster W/ S/C Over D/W Board, Drywall	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
14 / 16033841-014 Window Glazing	Various Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Chris Fleming
Analysis Date: 9/26/2016

Approved Signatory: [signature]
Date: 9/26/2016

SanAir Technologies Laboratory, Inc.

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SanAir ID Number
16033841
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 1717 Stewart Ave

Collected Date: 9/16/2016
Received Date: 9/19/2016 9:30:00 AM
Report Date: 9/26/2016 4:06:17 PM
Analyst: Fleming, Christopher

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16033841-015 Window Glazing	Various Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16033841-016 Window Glazing	Various Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
17 / 16033841-017 Window Glazing	Various Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
18 / 16033841-018 Asphalt Roofing Shingles	Black Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
19 / 16033841-019 Asphalt Roofing Shingles	Black Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Chris Fleming
Analysis Date: 9/26/2016

Approved Signatory: [signature]
Date: 9/26/2016

SanAir Technologies Laboratory, Inc.

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

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Collected Date: 9/16/2016
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Analyst: Fleming, Christopher

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
01 / 16033841-020 Ceiling Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous		99.6% Other	0.4% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
02 / 16033841-021 Ceiling Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous		99.5% Other	0.5% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
03 / 16033841-022 Ceiling Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous		99.9% Other	0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
04 / 16033841-023 Wall Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous		99.8% Other	0.2% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
05 / 16033841-024 Wall Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
06 / 16033841-025 Wall Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile

Certification

Analyst: Chris Fleming
Analysis Date: 9/26/2016

Approved Signatory:
Date: 9/26/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

Disclaimer

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SanAir Technologies Laboratory
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Powhatan, VA 23139
804-897-1177 / 888-895-1177
Fax 804-897-0070
www.sanair.com

Asbestos Chain of Custody

SanAir ID Number: 16033841

Company: Haw Environmental	Project #: H16201	Collected by:
Address: 6605 Heisley Rd	Project Name: 1717 Stewart Ave	Phone #:
City, St., Zip: Mentor, OH 44060	Date Collected:	Fax #:
State of Collection: Account#:	P.O. Number:	Email:

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Water

ABHE	EPA 100.2	☐

Other

Matrix		
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
01	Ceiling Flash w/ S/C					
02			1,000 p.c.			
03						
04	Wall Flash w/ S/C					
05			1,000 p.c.			
06						
07	D/W System					
08						
09	D/W system					
10						

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	09/16/16	12:00pm	EM	9.19.16	9:30

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

Page ___ of ___

Please P/C 29a or less
1,000 P/C when Indicated.

16033841

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
11	Ceiling Mastic w/ S/C Over	T			
12	Dlw Board	T	1000 p.c.		
13	"				
14	Window Glazing				
15	"				
16	Window Glazing				
17	"				
18	Asphalt Roofing Shingles				
19	"				

Special Instructions	Samples for 1000 Point Count are noted, all other are 400 Point Co

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	09/16/16	12:00pm	EM	9-19-16	9:30

Unless scheduled, the turn around time for all samples received after 3 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.

Page 2 of 2

Point Count all Samples identified at 2% or less

HZW
Environmental
Consultants

October 3, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 423 Sunshine Avenue, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HZW Environmental Consultants, LLC (HZW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 423 Sunshine Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below:

Photograph 01
Exterior View of Residential Structure Located at
423 Sunshine Avenue, Youngstown, Ohio

METHODS OF INVESTIGATION

General

During September 2016, a representative of HZW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HZW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HZW under the Miscellaneous Materials category.

Once categorized, HZW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HZW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HZW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HZW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HZW collected a minimum of seven (7) samples from this area/material.

- For TSI, HZW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HZW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HZW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HZW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HZW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HZW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HZW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HZW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HZW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HZW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HZW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HZW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos. Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HZW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HZW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HZW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HZW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Third Request\19 423 Sunshine Avenue Asbestos Survey Report.docx

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 423 Sunshine Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Ceiling Plaster with Skim Coat – Smooth	Various Areas Throughout Structure	<1,000 sq.ft.	01							ND ND
				02							ND ND
				03							ND ND
B	Wall Plaster with Skim Coat – Smooth	Various Areas Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	04							ND
				05							ND ND
				06							ND ND
				07							ND ND
				08							ND ND
C	Drywall System – Ceiling and Wall	Various Areas Throughout Structure	Minimum 3 Samples	09					968 sq.ft.		ND 0.25
				10							ND ND
				11							ND ND
D	Skim Coat – Ceiling and Wall, Thick, Sharp Point Pattern	Various Areas Throughout Structure	<1,000 sq.ft.	12							ND
				13							ND
				14							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 423 Sunshine Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
F	Ceiling and Wall Plaster with Skim Coat – Smooth, Over Drywall Board	Kitchen	<1,000 sq.ft.	15							ND ND ND
				16							ND ND ND
				17							ND ND ND ND
H	Drywall Board - Wall	Kitchen Addition	Minimum 2 Samples	18							ND
				19							ND
I	Drywall Board - Stacked	Kitchen Addition	Minimum 2 Samples	20							ND
				21							ND
K	Ceiling Tile – 1-foot by 1-foot, Smooth	Basement	Minimum 2 Samples	22							ND
				23							ND
L	Drywall Board - Wall	Basement	Minimum 2 Samples	24							ND
				25							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 423 Sunshine Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
M	Window Glazing	Basement Windows	Minimum 2 Samples	26			X			1 sq.ft.	5
				27							NA
Q	Window Glazing	House Windows	Minimum 2 Samples	28							ND
				29							ND
R	Drywall System - Ceiling	Garage	Minimum 2 Samples	30			X			192 sq.ft.	ND 4
				31							ND NA
E1-E3	Vinyl Sheet Flooring, Mastic (3 Types)	Various Areas Throughout Structure	Category I Nonfriable in Fair Condition, Not Sampled				X		512 sq.ft.		Assumed
G1-G5	Floor Tile – 12-inch by 12-inch, Mastic (5 Types)	Various Areas Throughout Structure	Category I Nonfriable in Fair Condition, Not Sampled				X		383 sq.ft.		Assumed
J	Floor Tile – 9-inch by 9-inch, Mastic	Bedroom # 4	Category I Nonfriable in Fair Condition, Not Sampled				X		80 sq.ft.		Assumed
N	Duct Seam Tape	Basement	Assumed RACM			X			4 sq.ft.		Assumed
O	Duct Wrap Insulation	Throughout Structure	Assumed RACM			X			70 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 423 Sunshine Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

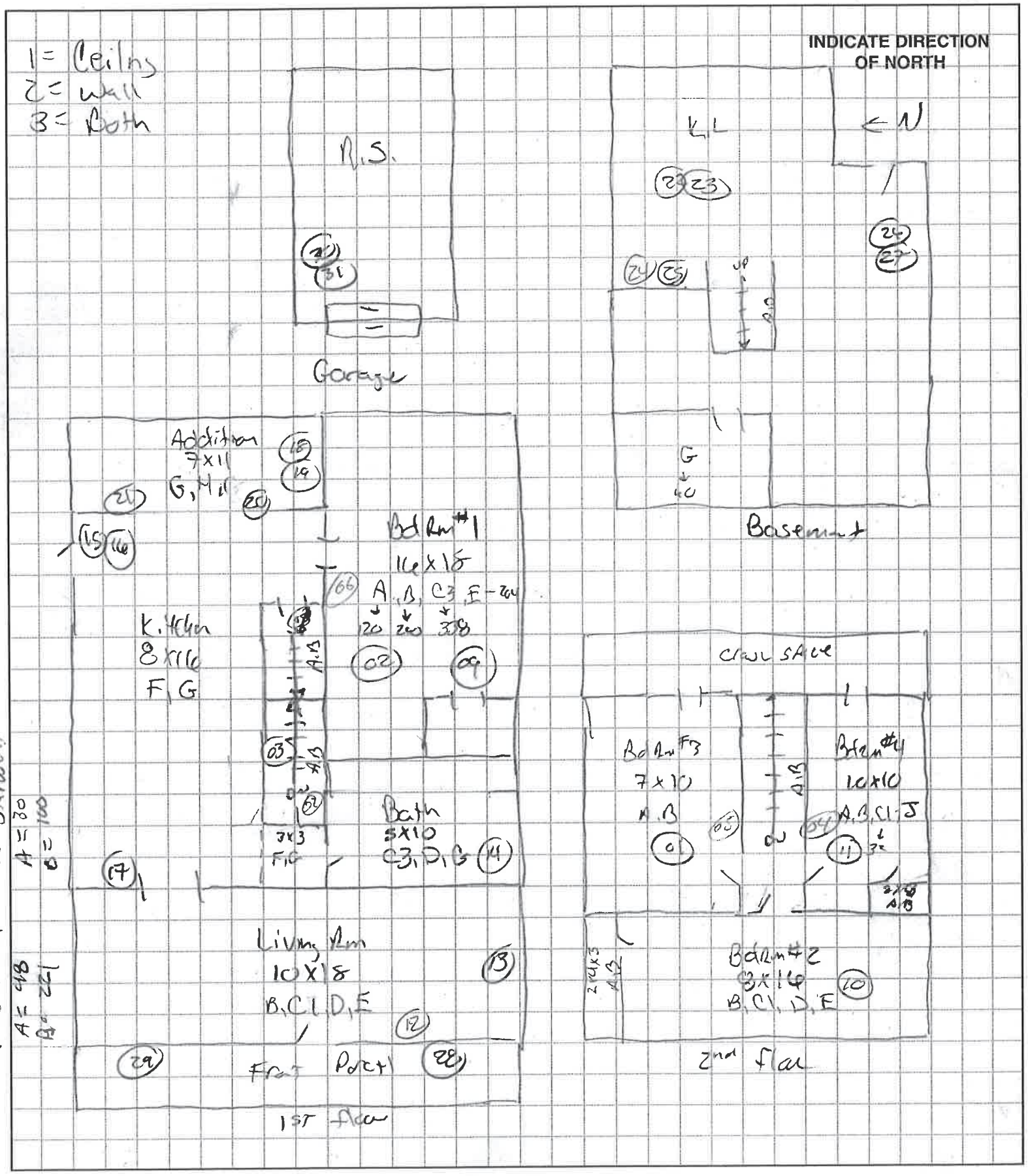
HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
P	Asphalt Shingle Roofing System – Black	House Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		800 sq.ft.		Assumed
S	Asphalt Shingle Roofing System – Reddish Gray	Garage Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		200 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 473 Sunshine Ave
PROJECT NO. H16261
PAGE NO. 2 OF 2
FIELD REPRESENTATIVE CR DATE 09/15/16
SCALE (TH)



SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/26/2016
Project Name: 423 Sunshine Ave
Project #: H16201
SanAir ID#: 16033837

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

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SanAir Technologies Laboratory, Inc.

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HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 26, 2016

SanAir ID # 16033837
Project Name: 423 Sunshine Ave
Project Number: H16201

Dear Joan Sablar,

We at SanAir would like to thank you for the work you recently submitted. The 31 sample(s) were received on Monday, September 19, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
31 sample(s) in Good condition 1 sample(s) in Layer Missing condition

SanAir Technologies Laboratory, Inc.

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

SanAir ID Number
16033837
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 423 Sunshine Ave

Collected Date: 9/16/2016
Received Date: 9/19/2016 9:30:00 AM
Report Date: 9/26/2016 4:56:21 PM
Analyst: Robertson, Erin

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16033837-001 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
01 / 16033837-001 Ceiling Plaster W/ S/ C, Skim Coat	Cream Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16033837-002 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
02 / 16033837-002 Ceiling Plaster W/ S/ C, Skim Coat	Cream Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16033837-003 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
03 / 16033837-003 Ceiling Plaster W/ S/ C, Skim Coat	Cream Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16033837-004 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
04 / 16033837-004 Wall Plaster W/ S/ C, Skim Coat				Not Submitted

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16033837-005 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
05 / 16033837-005 Wall Plaster W/ S/ C, Skim Coat	Cream Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Erin Robertson
Analysis Date: 9/26/2016

Approved Signatory:
Date: 9/26/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16033837-006 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
06 / 16033837-006 Wall Plaster W/ S/ C, Skim Coat	Cream Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16033837-007 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
07 / 16033837-007 Wall Plaster W/ S/ C, Skim Coat	Cream Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16033837-008 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
08 / 16033837-008 Wall Plaster W/ S/ C, Skim Coat	Cream Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16033837-009 D/ W System, Drywall	Off-White Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
09 / 16033837-009 D/ W System, Joint Compound	Beige Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16033837-010 D/ W System, Drywall	Grey Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
10 / 16033837-010 D/ W System, Joint Compound	White Non-Fibrous Heterogeneous		100% Other	None Detected

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16033837-011 D/ W System, Drywall	Off-White Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
11 / 16033837-011 D/ W System, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16033837-012 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16033837-013 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
14 / 16033837-014 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16033837-015 Plaster W S/ C Over D/ W Board, Drywall	Off-White Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
15 / 16033837-015 Plaster W S/ C Over D/ W Board, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
15 / 16033837-015 Plaster W S/ C Over D/ W Board, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16033837-016 Plaster W S/ C Over D/ W Board, Drywall	Off-White Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
16 / 16033837-016 Plaster W S/ C Over D/ W Board, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
16 / 16033837-016 Plaster W S/ C Over D/ W Board, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
17 / 16033837-017 Plaster W S/ C Over D/ W Board, Drywall	Off-White Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
17 / 16033837-017 Plaster W S/ C Over D/ W Board, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
17 / 16033837-017 Plaster W S/ C Over D/ W Board, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected
17 / 16033837-017 Plaster W S/ C Over D/ W Board, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
18 / 16033837-018 D/ W Board	Off-White Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
19 / 16033837-019 D/ W Board	Off-White Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected

Certification

Analyst: Erin Robertson
Analysis Date: 9/26/2016

Approved Signatory:
Date: 9/26/2016

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Analyst: Robertson, Erin

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
20 / 16033837-020 D/ W Board	Off-White Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
21 / 16033837-021 D/ W Board	Off-White Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
22 / 16033837-022 Ceiling Tile	White Fibrous Homogeneous	95% Cellulose	5% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
23 / 16033837-023 Ceiling Tile	White Fibrous Homogeneous	95% Cellulose	5% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
24 / 16033837-024 D/ W Board	Beige Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
25 / 16033837-025 D/ W Board	Beige Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
26 / 16033837-026 Window Glazing	Beige Non-Fibrous Homogeneous		95% Other	5% Chrysotile

Certification

Analyst: Erin Robertson
Analysis Date: 9/26/2016

Approved Signatory:
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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
27 / 16033837-027 Window Glazing				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
28 / 16033837-028 Window Glazing	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
29 / 16033837-029 Window Glazing	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
30 / 16033837-030 D/ W System, Drywall	Off-White Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
30 / 16033837-030 D/ W System, Joint Compound	Beige Non-Fibrous Homogeneous		96% Other	4% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
31 / 16033837-031 D/ W System, Drywall	Off-White Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
31 / 16033837-031 D/ W System, Joint Compound				Not Analyzed

Certification

Analyst: Erin Robertson
Analysis Date: 9/26/2016

Approved Signatory:
Date: 9/26/2016

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Analyst: Robertson, Erin

Asbestos Bulk EPA PLM 400 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16033837-032 D/ W System, Joint Compound	Beige Non-Fibrous Homogeneous		99.75% Other	0.25% Chrysotile

Certification

Analyst: Erin Robertson
Analysis Date: 9/26/2016

Approved Signatory:
Date: 9/26/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

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SanAir Technologies Laboratory

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Asbestos Chain of Custody

SanAir ID Number: 16033837

Company: Haw Environmental	Project #: H16201	Collected by:
Address: 6685 Heisley Rd	Project Name: 423 Sunshine Ave	Phone #:
City, St., Zip: Mentor, OH 44060	Date Collected:	Fax #:
State of Collection: OH Account#:	P.O. Number:	Email:

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Water

ABHE	EPA 100.2	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Other

Matrix		
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
01	Ceiling Plaster w/ s/c					
02			1,000 p.c.			
03						
04	Wall Plaster w/ s/c					
05						
06			1,000 p.c.			
07						
08						
09	Plw System					
10						
11						

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	09/16/16	12:00pm	MC	SEP 19 2016	~~8:00~~ 9:30AM

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

Page ___ of ___

Please P/C 2% or less
1,000 P/C when Indicated.

16033837

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
12	Skim Coat				
13			1,000 p.c.		
14					
15	Plaster w Sk over D/w				
16	Board		1,000 p.c.		
17					
18	D/w Board				
19					
20	D/w Board				
21					
22	Ceiling Tile				
23					
24	D/w Board				
25					
26	Window Glazing				
27					
28	Window Glazing				
29					
30	D/w System				
31					

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	09/16/16	12:00pm	MC	SEP 19 2016	9:30AM

Unless scheduled, the turn around time for all samples received after 3 pm Friday will begin at 8 am Monday morning.
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Page ___of ___

HZW
Environmental
Consultants

October 3, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 839 Sunshine Avenue, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HZW Environmental Consultants, LLC (HZW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 839 Sunshine Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below:

Photograph 01
Exterior View of Residential Structure Located at
839 Sunshine Avenue, Youngstown, Ohio

METHODS OF INVESTIGATION

General

During September 2016, a representative of HZW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HZW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HZW under the Miscellaneous Materials category.

Once categorized, HZW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HZW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HZW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HZW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HZW collected a minimum of seven (7) samples from this area/material.

- For TSI, HZW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HZW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HZW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HZW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HZW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HZW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HZW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HZW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HZW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HZW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HZW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HZW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos. Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HZW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HZW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HZW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HZW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Third Request\21 839 Sunshine Avenue Asbestos Survey Report.docx

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 839 Sunshine, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Ceiling Plaster with Skim Coat – Smooth	Throughout Structure	<1,000 sq.ft.	01	X				918 sq.ft.		1.2 ND
				02							NA ND
				03							NA ND
B	Wall Plaster with Skim Coat – Smooth	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	04	X				3,024 sq.ft.		0.3 ND
				05							1.1 ND
				06							NA ND
				07							NA ND
				08							NA ND
C	Ceiling Panel – 2-foot by 4-foot, Smooth	Kitchen	Minimum 2 Samples	09							ND
				10							ND
E	Drywall System - Wall	Mud Room	Minimum 2 Samples	11							ND ND
				12							ND ND
F	Window Glazing	Mud Room Windows	Minimum 2 Samples	13							ND
				14							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 839 Sunshine, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
G	Ceiling Panel – 2-foot by 4-foot, Pinhole with Nick Pattern	Bedroom # 1	Minimum 2 Samples	15							ND
				16							ND
H	Drywall System - Wall	Bathroom	Minimum 2 Samples	17							ND ND
				18							ND ND
J	Skim Coat – Wall, Rough Brush Stroke Pattern	Basement	<1,000 sq.ft.	19							ND
				20							ND
				21							ND
K	Window Glazing	Basement Windows	Minimum 2 Samples	22							ND
				23							ND
O	Window Glazing	Living Room and Bath Windows	Minimum 2 Samples	24							ND
				25							ND
Q	Window Glazing	Garage Windows	Minimum 2 Samples	26			X			6 sq.ft.	5
				27							NA

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 839 Sunshine, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
D	Floor Tile – 9-inch by 9-inch, Mastic	Kitchen	Category I Nonfriable in Fair Condition, Not Sampled				X		144 sq.ft.		Assumed
I	Cove Base – 3-inch, Mastic	Bathroom	Category I Nonfriable in Fair Condition, Not Sampled				X		7 sq.ft.		Assumed
L	Duct Seam Tape	Basement	Assumed RACM			X			8 sq.ft.		Assumed
M	Duct Wrap Insulation	Throughout Structure	Assumed RACM			X			108 sq.ft.		Assumed
N	Asphalt Shingle Roofing System – Black	House Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		900 sq.ft.		Assumed
P	Asphalt Shingle Roofing System – Black	Garage Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		360 sq.ft.		Assumed

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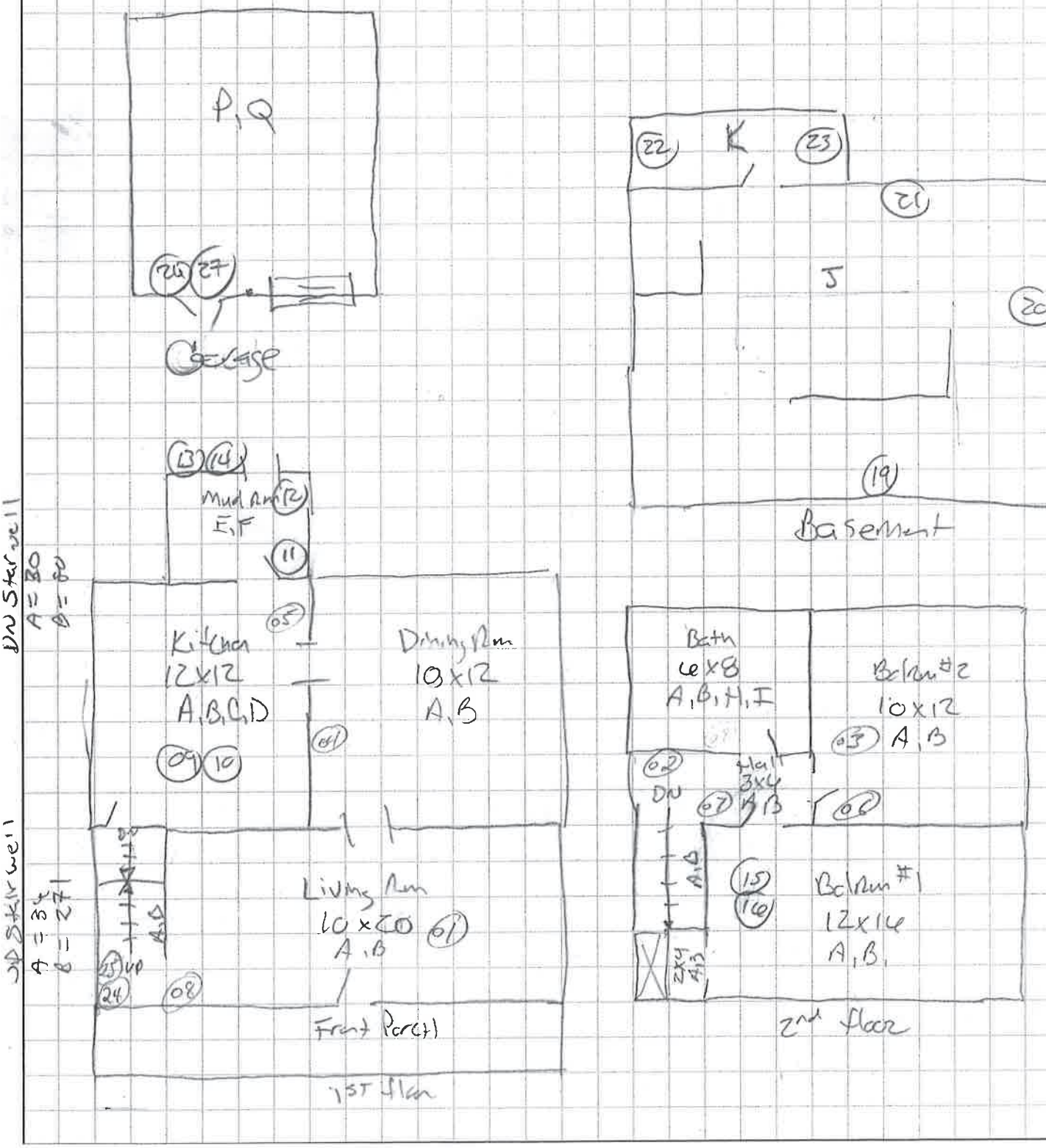
HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 839 Sunshine Ave
PROJECT NO. H16201
PAGE NO. 2 OF 2
FIELD REPRESENTATIVE CL DATE 09/15/16
SCALE (171)

INDICATE DIRECTION OF NORTH

← N



SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/26/2016
Project Name: 839 Sunshine Ave
Project #: H16201
SanAir ID#: 16033839

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

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HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 26, 2016

SanAir ID # 16033839
Project Name: 839 Sunshine Ave
Project Number: H16201

Dear Carmen Rocco,

We at SanAir would like to thank you for the work you recently submitted. The 35 sample(s) were received on Monday, September 19, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
35 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
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SanAir ID Number
16033839
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 839 Sunshine Ave

Collected Date: 9/16/2016
Received Date: 9/19/2016 9:30:00 AM
Report Date: 9/26/2016 5:04:04 PM
Analyst: Childress, Susan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16033839-001 Ceiling Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous	< 1% Cellulose	98% Other	2% Chrysotile
01 / 16033839-001 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16033839-002 Ceiling Plaster W/ S/C, Plaster				Not Analyzed
02 / 16033839-002 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16033839-003 Ceiling Plaster W/ S/C, Plaster				Not Analyzed
03 / 16033839-003 Ceiling Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16033839-004 Wall Plaster W/ S/C, Plaster	Grey Non-Fibrous Homogeneous	< 1% Hair	98% Other	2% Chrysotile
04 / 16033839-004 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16033839-005 Wall Plaster W/ S/C, Plaster				Not Analyzed
05 / 16033839-005 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Susan L. Childress
Analysis Date: 9/26/2016

Approved Signatory:
Date: 9/26/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16033839-006 Wall Plaster W/ S/C, Plaster				Not Analyzed
06 / 16033839-006 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16033839-007 Wall Plaster W/ S/C, Plaster				Not Analyzed
07 / 16033839-007 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16033839-008 Wall Plaster W/ S/C, Plaster				Not Analyzed
08 / 16033839-008 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16033839-009 Ceiling Panel	White Fibrous Homogeneous	85% Cellulose	15% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16033839-010 Ceiling Panel	White Fibrous Homogeneous	85% Cellulose	15% Other	None Detected

Certification

Analyst: Susan L. Childress
Analysis Date: 9/26/2016

Approved Signatory:
Date: 9/26/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16033839-011 D/W System, Drywall	Off-White Non-Fibrous Homogeneous	3% Cellulose	97% Other	None Detected
11 / 16033839-011 D/W System, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16033839-012 D/W System, Drywall	Off-White Non-Fibrous Homogeneous	3% Cellulose	97% Other	None Detected
12 / 16033839-012 D/W System, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16033839-013 Window Glazing	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
14 / 16033839-014 Window Glazing	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16033839-015 Ceiling Panel	White Fibrous Homogeneous	60% Cellulose 20% Glass	20% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16033839-016 Ceiling Panel	White Fibrous Homogeneous	60% Cellulose 20% Glass	20% Other	None Detected

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Analysis Date: 9/26/2016

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Analyst: Childress, Susan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
17 / 16033839-017 D/W System, Drywall	Off-White Non-Fibrous Homogeneous	2% Cellulose	98% Other	None Detected
17 / 16033839-017 D/W System, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
18 / 16033839-018 D/W System, Drywall	Off-White Non-Fibrous Homogeneous	2% Cellulose	98% Other	None Detected
18 / 16033839-018 D/W System, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
19 / 16033839-019 Skim Coat	Various Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
20 / 16033839-020 Skim Coat	Various Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
21 / 16033839-021 Skim Coat	Various Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
22 / 16033839-022 Window Glazing	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

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Analyst: Susan L. Childress
Analysis Date: 9/26/2016

Approved Signatory:
Date: 9/26/2016

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Analyst: Childress, Susan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
23 / 16033839-023 Window Glazing	Off-White Non-Fibrous Homogeneous		100% Other	None Detected
24 / 16033839-024 Window Glazing	Tan Non-Fibrous Homogeneous		100% Other	None Detected
25 / 16033839-025 Window Glazing	Tan Non-Fibrous Homogeneous		100% Other	None Detected
26 / 16033839-026 Window Glazing	Grey Non-Fibrous Homogeneous		95% Other	5% Chrysotile
27 / 16033839-027 Window Glazing				Not Analyzed

Certification

Analyst: Susan L. Childress
Analysis Date: 9/26/2016

Approved Signatory:
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Report Date: 9/26/2016 5:04:04 PM
Analyst: Childress, Susan

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16033839-028 Ceiling Plaster	Grey Non-Fibrous Homogeneous		98.8% Other	1.2% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16033839-029 Ceiling Plaster				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16033839-030 Ceiling Plaster				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16033839-031 Wall Plaster	Grey Non-Fibrous Homogeneous		99.7% Other	0.3% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16033839-032 Wall Plaster	Grey Non-Fibrous Homogeneous		98.9% Other	1.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16033839-033 Wall Plaster				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16033839-034 Wall Plaster				Not Analyzed

Certification

Analyst: Susan L. Childress
Analysis Date: 9/26/2016

Approved Signatory:
Date: 9/26/2016

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Analyst: Childress, Susan

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16033839-035 Wall Plaster				Not Analyzed

Certification

Analyst: Susan L. Childress
Analysis Date: 9/26/2016

Approved Signatory:
Date: 9/26/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

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SanAir Technologies Laboratory
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: 16033839

Company: Hzw Environmental	Project #: H16201	Collected by:	
Address: 6605 Heisley Rd	Project Name: 839 Sunshine Ave	Phone #:	
City, St., Zip: Mentor, OH 44060	Date Collected:	Fax #:	
State of Collection: OH Account#:	P.O. Number:	Email:	

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Water

ABHE	EPA 100.2	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Other

Matrix		
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
01	Ceiling Plaster w/ S/C					
02			1,000 p.c.			
03						
04	Wall Plaster w/ S/C					
05						
06			1,000 p.c.			
07						
08						
09	Ceiling Panel					
10						
11	D/W System					
12						

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	09/16/16	12:00pm	[illegible]	9.19.16	9:30

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

Page ___ of ____

Please P/C 29a or less
1,000 P/C when Indicated.

16033839

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
13	Window Glazing				
14	"				
15	Ceiling Panel				
16	"				
17	D/W System				
18	"				
19	Skim Coat				
20	"		1000 p.c.		
21	"				
22	Window Glazing				
23	"				
24	Window Glazing				
25	"				
26	Window Glazing				
27	"				

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	09/16/16	12:00pm	[illegible]	9-19-16	9:30

Unless scheduled, the turn around time for all samples received after 3 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.

Page ___of ___

HZW
Environmental
Consultants

October 3, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 841 Sunshine Avenue, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HZW Environmental Consultants, LLC (HZW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 841 Sunshine Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below:

Photograph 01
Exterior View of Residential Structure Located at
841 Sunshine Avenue, Youngstown, Ohio

METHODS OF INVESTIGATION

General

During September 2016, a representative of HZW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HZW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HZW under the Miscellaneous Materials category.

Once categorized, HZW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HZW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HZW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HZW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HZW collected a minimum of seven (7) samples from this area/material.

- For TSI, HZW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HZW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HZW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HZW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HZW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HZW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HZW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HZW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HZW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HZW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HZW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HZW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos. Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HZW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HZW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HZW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HZW ENVIRONMENTAL CONSULTANTS, LLC

John Worthy
Asbestos Hazard Evaluation Specialist (AHES No. 34782)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Third Request\22 841 Sunshine Avenue Asbestos Survey Report.docx

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 841 Sunshine Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Smooth Ceiling Plaster	Room 1, Room 2, Room 3, Room 4, Bath, Hall	<1,000 sq.ft.	01					800 sq.ft.		0.2 ND
				02							0.3 ND
				03							0.4 ND
B	Texture on Ceiling - Heavy	Room 1, Room 4	<1,000 sq.ft.	04							ND
				05							ND
				06							ND
C	Texture on Ceiling - Streaks	Room 2	<1,000 sq.ft.	07							ND
				08							ND
				09							ND
D	Texture on Ceiling - Rough	Bath, Hall	<1,000 sq.ft.	10							ND
				11							ND
				12							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 841 Sunshine Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
E	Textured Ceiling Drywall - Rough	Kitchen, Room 5, Room 6	<1,000 sq.ft.	13							ND ND
				14							ND ND
				15							ND ND
F	Textured Ceiling Tile – 2-foot by 4-foot - Light	Room 3, Basement	<1,000 sq.ft.	16							ND ND
				17							ND ND
				18							ND ND
G	Smooth Wall Plaster	Room 1, Room 2, Room 3, Room 4, Kitchen, Hall, Bath, Stair 1, Stair 2	>1,000 sq.ft. <5,000 sq.ft.	19					2,800 sq.ft.		0.4 ND
				20							0.5 ND
				21							0.5 ND
				22							0.2 ND
				23							0.4 ND
H	Texture on Wall - Streaks	Room 1, Room 4, Stair 2, Stair 1	<1,000 sq.ft.	24							ND
				25							ND
				26							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 841 Sunshine Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
I	Texture on Wall - Swirl	Room 2, Hall	<1,000 sq.ft.	27							ND
				28							ND
				29							ND
J	Drywall - Ceiling	Basement	Minimum 2 Samples	30							ND
				31							ND
K	Textured Wall Drywall - Swirl	Room 5, Room 6	<1,000 sq.ft.	32							ND ND
				33							ND ND
				34							ND ND
L	Window Glazing	House Windows	Minimum 2 Samples	35							ND
				36							ND
M	Asphalt Shingles	House Roof	Minimum 2 Samples	37							ND
				38							ND
N	Asphalt Shingles	Garage Roof	Minimum 2 Samples	39							ND
				40							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 841 Sunshine Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
O	Blown-in Insulation	Ceilings	Minimum 3 Samples	41							ND
				42							ND
				43							ND
P1-P3	Floor Tile, Mastic (3 Types)	Kitchen, Bath, Stair 1	Category I Nonfriable in Fair Condition, Not Sampled				X		160 sq.ft.		Assumed
Q	Wall Tile Mastic	Kitchen, Bath, Room 1	Category I Nonfriable in Fair Condition, Not Sampled				X		160 sq.ft.		Assumed
R	Duct Insulation	Throughout Structure	Assumed RACM			X			60 sq.ft.		Assumed

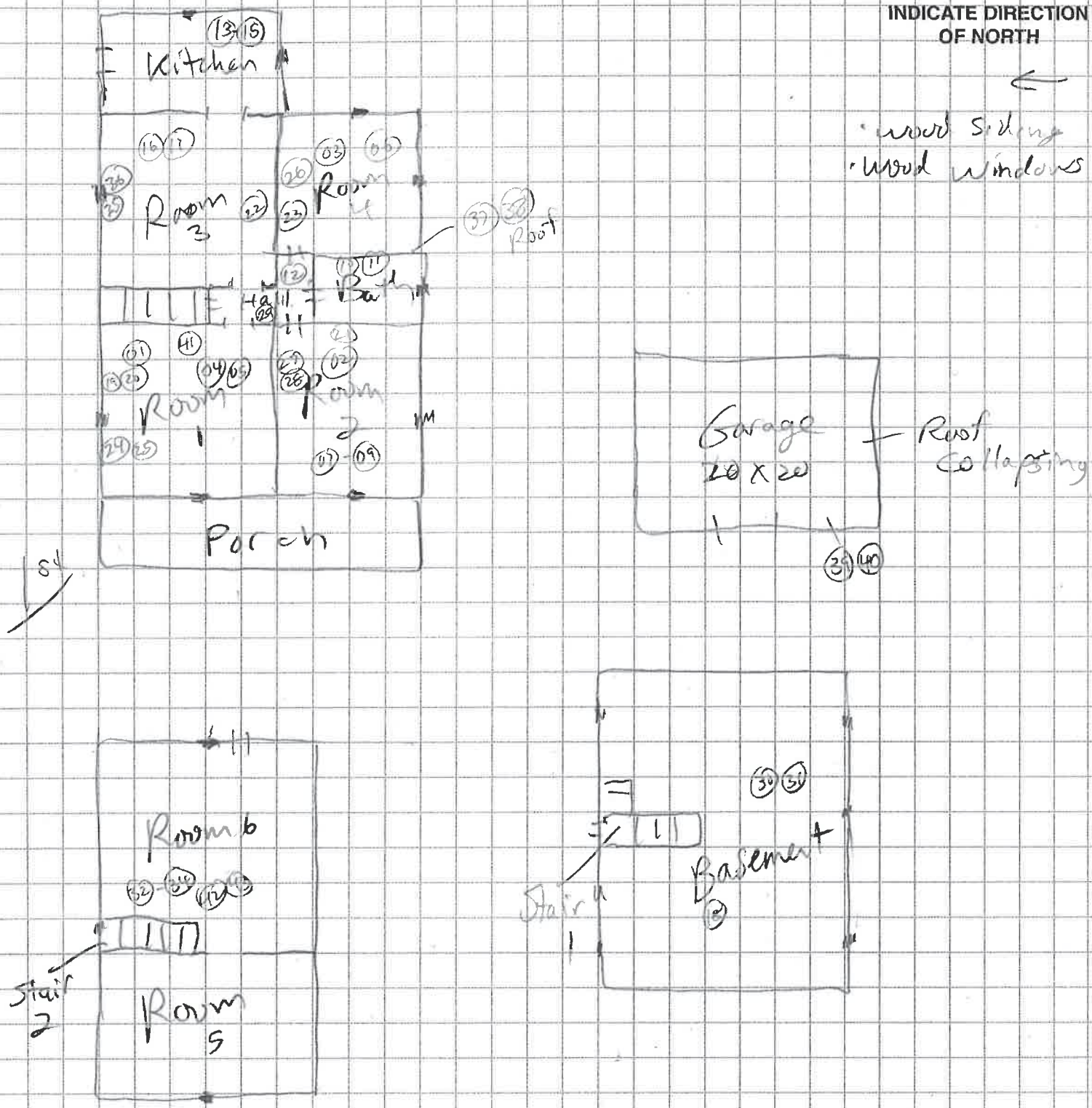
Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 841 Sunshine Ave
PROJECT NO. H16 207
PAGE NO. 3rd OF
FIELD REPRESENTATIVE JW DATE 9-8-10
SCALE

INDICATE DIRECTION OF NORTH



· wood siding
· wood windows

Limited Access due to debris and collapsed ceiling

SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/19/2016
Project Name: 841 Sunshine Ave.
Project #: H16201
SanAir ID#: 16032755

NVLAP LAB CODE 200870-0

Virginia SBE Certification # 652931

Texas Licensed Mold Analysis Laboratory License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

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

HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 19, 2016

SanAir ID # 16032755
Project Name: 841 Sunshine Ave.
Project Number: H16201

Dear JW,

We at SanAir would like to thank you for the work you recently submitted. The 43 sample(s) were received on Monday, September 12, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
51 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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

SanAir ID Number
16032755
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number: 0007-16
Project Name: 841 Sunshine Ave.

Collected Date: 9/8/2016
Received Date: 9/12/2016 10:35:00 AM
Report Date: 9/19/2016 5:21:37 PM
Analyst: Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16032755-001 CP, Plaster	Grey Non-Fibrous Homogeneous		98% Other	2% Chrysotile
01 / 16032755-001 CP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16032755-002 CP, Plaster				Not Analyzed
02 / 16032755-002 CP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16032755-003 CP, Plaster				Not Analyzed
03 / 16032755-003 CP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16032755-004 Texture - Heavy	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16032755-005 Texture - Heavy	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 9/19/2016

Approved Signatory: Sandra Sobrino
Date: 9/19/2016

SanAir Technologies Laboratory, Inc.

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

SanAir ID Number
16032755
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number: 0007-16
Project Name: 841 Sunshine Ave.

Collected Date: 9/8/2016
Received Date: 9/12/2016 10:35:00 AM
Report Date: 9/19/2016 5:21:37 PM
Analyst: Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16032755-006 Texture - Heavy	White Non-Fibrous Homogeneous		100% Other	None Detected
07 / 16032755-007 Texture - Streaks	Tan Non-Fibrous Homogeneous		100% Other	None Detected
08 / 16032755-008 Texture - Streaks	Tan Non-Fibrous Homogeneous		100% Other	None Detected
09 / 16032755-009 Texture - Streaks	Tan Non-Fibrous Homogeneous		100% Other	None Detected
10 / 16032755-010 Texture - Rough	White Non-Fibrous Homogeneous		100% Other	None Detected
11 / 16032755-011 Texture - Rough	White Non-Fibrous Homogeneous		100% Other	None Detected
12 / 16032755-012 Texture - Rough	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 9/19/2016

Approved Signatory: Sandra Sobiing
Date: 9/19/2016

SanAir Technologies Laboratory, Inc.

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Web: http://www.sanair.com E-mail: iaq@sanair.com

SanAir ID Number
16032755
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number: 0007-16
Project Name: 841 Sunshine Ave.

Collected Date: 9/8/2016
Received Date: 9/12/2016 10:35:00 AM
Report Date: 9/19/2016 5:21:37 PM
Analyst: Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16032755-013 Textured CD - Rough, Drywall	White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected
13 / 16032755-013 Textured CD - Rough, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
14 / 16032755-014 Textured CD - Rough, Drywall	White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected
14 / 16032755-014 Textured CD - Rough, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16032755-015 Textured CD - Rough, Drywall	White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected
15 / 16032755-015 Textured CD - Rough, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16032755-016 Textured CT, Ceiling Tile	Tan Fibrous Homogeneous	98% Cellulose	2% Other	None Detected
16 / 16032755-016 Textured CT, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
17 / 16032755-017 Textured CT, Ceiling Tile	Tan Fibrous Homogeneous	98% Cellulose	2% Other	None Detected
17 / 16032755-017 Textured CT, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 9/19/2016

Approved Signatory: Sandra Sobrino
Date: 9/19/2016

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Analyst: Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
18 / 16032755-018 Textured CT, Ceiling Tile	Tan Fibrous Homogeneous	98% Cellulose	2% Other	None Detected
18 / 16032755-018 Textured CT, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
19 / 16032755-019 WP, Plaster	Grey Non-Fibrous Homogeneous		98% Other	2% Chrysotile
19 / 16032755-019 WP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
20 / 16032755-020 WP, Plaster				Not Analyzed
20 / 16032755-020 WP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
21 / 16032755-021 WP, Plaster				Not Analyzed
21 / 16032755-021 WP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
22 / 16032755-022 WP, Plaster				Not Analyzed
22 / 16032755-022 WP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 9/19/2016

Approved Signatory: Sandra Sobrino
Date: 9/19/2016

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Analyst: Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
23 / 16032755-023 WP, Plaster				Not Analyzed
23 / 16032755-023 WP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
24 / 16032755-024 Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
25 / 16032755-025 Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
26 / 16032755-026 Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
27 / 16032755-027 Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
28 / 16032755-028 Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 9/19/2016

Approved Signatory: Sandra Sobrino
Date: 9/19/2016

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Analyst: Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
29 / 16032755-029 Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
30 / 16032755-030 Drywall	White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
31 / 16032755-031 Drywall	White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
32 / 16032755-032 Textured WD, Drywall	White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected
32 / 16032755-032 Textured WD, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
33 / 16032755-033 Textured WD, Drywall	White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected
33 / 16032755-033 Textured WD, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
34 / 16032755-034 Textured WD, Drywall	White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected
34 / 16032755-034 Textured WD, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 9/19/2016

Approved Signatory: Sandra Sobrino
Date: 9/19/2016

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Analyst: Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
35 / 16032755-035 Window Glazing	Grey Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
36 / 16032755-036 Window Glazing	Grey Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
37 / 16032755-037 Asphalt Shingle - House	Black Non-Fibrous Homogeneous	15% Cellulose	85% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
38 / 16032755-038 Asphalt Shingle - House	Black Non-Fibrous Homogeneous	15% Cellulose	85% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
39 / 16032755-039 Asphalt Shingle - Garage	Black Non-Fibrous Homogeneous	15% Glass	85% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
40 / 16032755-040 Asphalt Shingle - Garage	Black Non-Fibrous Homogeneous	15% Glass	85% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
41 / 16032755-041 Blow-In Insulation	Brown Fibrous Homogeneous	98% Cellulose	2% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 9/19/2016

Approved Signatory: Sandra Sobrino
Date: 9/19/2016

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Analyst: Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
42 / 16032755-042 Blow-In Insulation	Brown Fibrous Homogeneous	98% Cellulose	2% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
43 / 16032755-043 Blow-In Insulation	Brown Fibrous Homogeneous	98% Cellulose	2% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 9/19/2016

Approved Signatory: Sandra Sobrino
Date: 9/19/2016

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Analyst: Tallert, Jonathan

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16032755-044 CP, Plaster	Grey Non-Fibrous Homogeneous		99.8% Other	0.2% Chrysotile
02 / 16032755-045 CP, Plaster	Grey Non-Fibrous Homogeneous		99.7% Other	0.3% Chrysotile
03 / 16032755-046 CP, Plaster	Grey Non-Fibrous Homogeneous		99.6% Other	0.4% Chrysotile
19 / 16032755-047 WP, Plaster	Grey Non-Fibrous Homogeneous		99.6% Other	0.4% Chrysotile
20 / 16032755-048 WP, Plaster	Grey Non-Fibrous Homogeneous		99.5% Other	0.5% Chrysotile
21 / 16032755-049 WP, Plaster	Grey Non-Fibrous Homogeneous		99.5% Other	0.5% Chrysotile
22 / 16032755-050 WP, Plaster	Grey Non-Fibrous Homogeneous		99.8% Other	0.2% Chrysotile

Certification

Analyst: [signature]
Analysis Date: 9/19/2016

Approved Signatory: Sandra Sobrino
Date: 9/19/2016

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Analyst: Tallert, Jonathan

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
23 / 16032755-051 WP, Plaster	Grey Non-Fibrous Homogeneous		99.6% Other	0.4% Chrysotile

Certification

Analyst: [signature]
Analysis Date: 9/19/2016

Approved Signatory: Sandra Sobring
Date: 9/19/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

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Asbestos Chain of Custody

SanAir ID Number:

Company: HzW Environmental Consultants, LLC	Project #: H16201	Collected by: JW
Address: 6105 Heisley Road	Project Name: 841 Sunshine Ave.	Phone #: 440-357-1260
City, St., Zip: Mentor, Ohio 44060	Date Collected: 9-8-16	Fax #: 440-357-1510
State of Collection: OH Account#:	P.O. Number: 0007-16	Email: JSablar@Hzwenv.com

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop ☒	
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Water

ABHE	EPA 100.2	☐

Other

Matrix		
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start – Stop	
01	Smooth CP					
02	"					
03	"					
04	Texture - Heavy					
05	"					
06	"					
07	Texture - Streaks					
08	"					
09	"					
10	Texture - Rough					
11	"					
12	"					

Relinquished by	Date	Time	Received by	Date	Time
JW	9-9-16	4pm	MC	SEP 12 2016	10:35AM

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

16032733
841 Sunshine

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
13	Textured CD - Rough				
14	"				
15	"				
16	Textured CT				
17	"				
18	"				
19	Smooth WP				
20	"				
21	"				
22	"				
23	"				
24	Texture - Streaks				
25	"				
26	"				
27	Texture - Swirl				
28	"				
29	"				
30	Dry wall				
31	"				
32	textured WD - Swirl				
33	"				
34	"				
35	Window Glazing				
36	"				
37	Asphalt Shingle - House				
38	"				
39	Asphalt Shingle - Garage				
40	"				
41	Blow-in Insulation				
42	"				
43	"				

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	9-9-16	4pm	MC	SEP 12 2016	10:35AM

Unless scheduled, the turn around time for all samples received after 3 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.

Page 2 of 2

HZW
Environmental
Consultants

October 3, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 858 Sunshine Avenue, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HZW Environmental Consultants, LLC (HZW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 858 Sunshine Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below:

Photograph 01
Exterior View of Residential Structure Located at
858 Sunshine Avenue, Youngstown, Ohio

METHODS OF INVESTIGATION

General

During September 2016, a representative of HZW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HZW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HZW under the Miscellaneous Materials category.

Once categorized, HZW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HZW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HZW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HZW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HZW collected a minimum of seven (7) samples from this area/material.

- For TSI, HZW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HZW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HZW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HZW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HZW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HZW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HZW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HZW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HZW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HZW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HZW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HZW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos. Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HZW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HZW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HZW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HZW ENVIRONMENTAL CONSULTANTS, LLC

John Worthy
Asbestos Hazard Evaluation Specialist (AHES No. 34782)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Third Request\23 858 Sunshine Avenue Asbestos Survey Report.docx

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 858 Sunshine Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Textured Ceiling Plaster - Streaks	Room 1	<1,000 sq.ft.	01					180 sq.ft.		ND <0.1 ND
				02							ND <0.1 ND
				03							ND <0.1 ND
B	Smooth Ceiling Plaster	Room 2, Bath, Room 4, Hall, Stair1, Stair 2	<1,000 sq.ft.	04					650 sq.ft.		0.2 ND
				05							<0.1 ND
				06							<0.1 ND
C	Textured Ceiling Plaster - Heavy	Kitchen	<1,000 sq.ft.	07					120 sq.ft.		ND <0.1 ND
				08							ND 0.1 ND
				09							ND <0.1 ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 858 Sunshine Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
D	Textured Ceiling Plaster - Rough	Room 3	<1,000 sq.ft.	10					200 sq.ft.		ND <0.1 ND
				11							ND <0.1 ND
				12							ND 0.1 ND
E	Smooth Wall Plaster	Room 1, Kitchen, Stair1, Stair 2, Room 3, Room 4, Hall, Bath	>1,000 sq.ft. <5,000 sq.ft.	13					2,800 sq.ft.		0.2 ND
				14							<0.1 ND
				15							<0.1 ND
				16							0.1 ND
				17							<0.1 ND
F	Textured Wall Plaster - Streaks	Room 2	<1,000 sq.ft.	18					300 sq.ft.		ND <0.1 ND
				19							ND 0.3 ND
				20							ND <0.1 ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
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ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 858 Sunshine Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
G	Drywall Backing - Walls	Throughout Structure	Minimum 2 Samples	21							ND
				22							ND
H	Window Glazing	House Windows	Minimum 2 Samples	23						6 sq.ft.	<0.25
				24							<0.25
I	Asphalt Shingles	House Roof	Minimum 2 Samples	25							ND
				26							ND
J1-J5	Floor Tile, Mastic (5 Types)	Bath, Stair 1, Kitchen, Rear Porch, Basement	Category I Nonfriable in Fair Condition, Not Sampled				X		330 sq.ft.		Assumed
K1-K2	Floor Sheeting, Mastic (2 Types)	Bath, Stair 1, Hall, Room 2	Category I Nonfriable in Fair Condition, Not Sampled				X		90 sq.ft.		Assumed
L	Duct Insulation	Throughout Structure	Assumed RACM			X			90 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

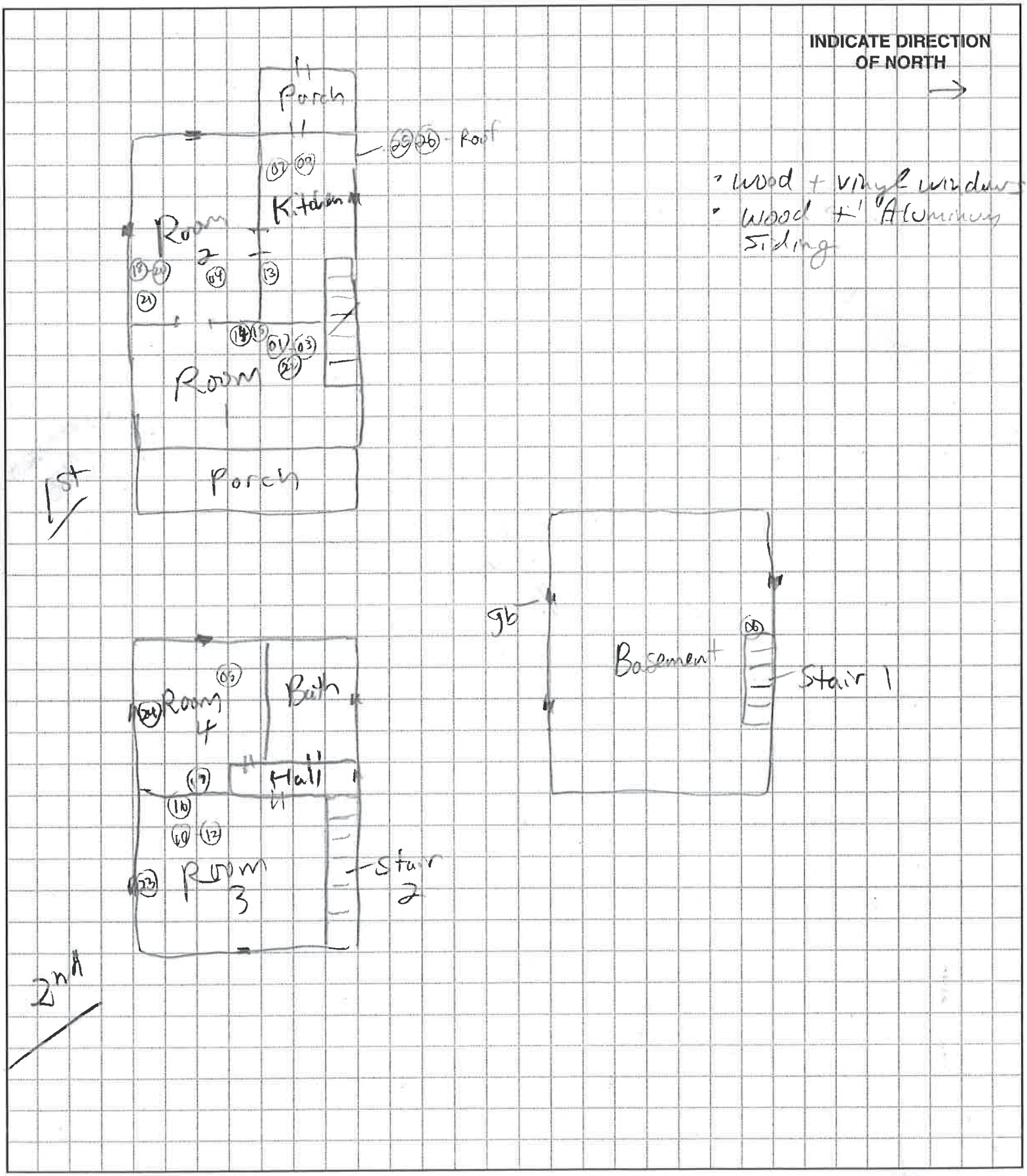
HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Helsley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

(2nd)

PROJECT 858 Sunshine
PROJECT NO. H16201
PAGE NO. _____ OF _____
FIELD REPRESENTATIVE JW DATE 9-8-16
SCALE _____

INDICATE DIRECTION OF NORTH →



- Wood + vinyl windows
- Wood + 1" Aluminum Siding

SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/19/2016
Project Name: 858 Sunshine Ave
Project #: H16201
SanAir ID#: 16032757

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

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HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 19, 2016

SanAir ID # 16032757
Project Name: 858 Sunshine Ave
Project Number: H16201

Dear JW,

We at SanAir would like to thank you for the work you recently submitted. The 26 sample(s) were received on Monday, September 12, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
48 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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

SanAir ID Number
16032757
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number: 0007-16
Project Name: 858 Sunshine Ave

Collected Date: 9/8/2016
Received Date: 9/12/2016 10:35:00 AM
Report Date: 9/19/2016 4:27:04 PM
Analyst: Fleming, Christopher

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16032757-001 Textured CP, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected
01 / 16032757-001 Textured CP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
01 / 16032757-001 Textured CP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16032757-002 Textured CP, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected
02 / 16032757-002 Textured CP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
02 / 16032757-002 Textured CP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16032757-003 Textured CP, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected
03 / 16032757-003 Textured CP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
03 / 16032757-003 Textured CP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16032757-004 CP, Plaster	Grey Non-Fibrous Homogeneous		98% Other	2% Chrysotile
04 / 16032757-004 CP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Chris Fleming
Analysis Date: 9/19/2016

Approved Signatory: [signature]
Date: 9/19/2016

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SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16032757-005 CP, Plaster	Grey Non-Fibrous Homogeneous			Not Analyzed
05 / 16032757-005 CP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16032757-006 CP, Plaster	Grey Non-Fibrous Homogeneous			Not Analyzed
06 / 16032757-006 CP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16032757-007 Textured CP, Texture	Off-White Non-Fibrous Homogeneous		100% Other	None Detected
07 / 16032757-007 Textured CP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Tremolite
07 / 16032757-007 Textured CP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16032757-008 Textured CP, Texture	Off-White Non-Fibrous Homogeneous		100% Other	None Detected
08 / 16032757-008 Textured CP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Tremolite
08 / 16032757-008 Textured CP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Approved Signatory:

Analysis Date: 9/19/2016 Date: 9/19/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16032757-009 Textured CP, Texture	Off-White Non-Fibrous Homogeneous		100% Other	None Detected
09 / 16032757-009 Textured CP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Tremolite
09 / 16032757-009 Textured CP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16032757-010 Textured CP - Rough, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected
10 / 16032757-010 Textured CP - Rough, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
10 / 16032757-010 Textured CP - Rough, Skim Coat	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16032757-011 Textured CP - Rough, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected
11 / 16032757-011 Textured CP - Rough, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
11 / 16032757-011 Textured CP - Rough, Skim Coat	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16032757-012 Textured CP - Rough, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected
12 / 16032757-012 Textured CP - Rough, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
12 / 16032757-012 Textured CP - Rough, Skim Coat	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Chris Fleming
Analysis Date: 9/19/2016

Approved Signatory: [signature]
Date: 9/19/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16032757-013 WP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Tremolite
13 / 16032757-013 WP, Skim Coat			< 1% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
14 / 16032757-014 WP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Tremolite
14 / 16032757-014 WP, Skim Coat			< 1% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16032757-015 WP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Tremolite
15 / 16032757-015 WP, Skim Coat			< 1% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16032757-016 WP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
16 / 16032757-016 WP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
17 / 16032757-017 WP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
17 / 16032757-017 WP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Approved Signatory:

Analysis Date: 9/19/2016 Date: 9/19/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
18 / 16032757-018 Textured WP, Texture	Beige Non-Fibrous Homogeneous		100% Other	None Detected
18 / 16032757-018 Textured WP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
18 / 16032757-018 Textured WP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
19 / 16032757-019 Textured WP, Texture	Beige Non-Fibrous Homogeneous		100% Other	None Detected
19 / 16032757-019 Textured WP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
19 / 16032757-019 Textured WP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
20 / 16032757-020 Textured WP, Texture	Beige Non-Fibrous Homogeneous		100% Other	None Detected
20 / 16032757-020 Textured WP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
20 / 16032757-020 Textured WP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
21 / 16032757-021 Drywall	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Chris Fleming
Analysis Date: 9/19/2016

Approved Signatory: [signature]
Date: 9/19/2016

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SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
22 / 16032757-022 Drywall	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
23 / 16032757-023 Window Glazing	Various Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
24 / 16032757-024 Window Glazing	Various Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
25 / 16032757-025 Asphalt Shingle	Black Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
26 / 16032757-026 Asphalt Shingle	Black Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Chris Fleming
Analysis Date: 9/19/2016

Approved Signatory: J B Patchett
Date: 9/19/2016

SanAir Technologies Laboratory, Inc.

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

SanAir ID Number
16032757
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number: 0007-16
Project Name: 858 Sunshine Ave

Collected Date: 9/8/2016
Received Date: 9/12/2016 10:35:00 AM
Report Date: 9/19/2016 4:27:04 PM
Analyst: Fleming, Christopher

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16032757-027 Textured CP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16032757-028 Textured CP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16032757-029 Textured CP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16032757-030 CP, Plaster	Grey Non-Fibrous Homogeneous		99.8% Other	0.2% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16032757-031 CP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16032757-032 CP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16032757-033 Textured CP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Tremolite

Certification

Analyst: Chris Fleming
Analysis Date: 9/19/2016

Approved Signatory: [signature]
Date: 9/19/2016

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Analyst: Fleming, Christopher

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16032757-034 Textured CP, Plaster	Grey Non-Fibrous Homogeneous		99.9% Other	0.1% Tremolite
09 / 16032757-035 Textured CP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Tremolite
10 / 16032757-036 Textured CP - Rough, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile
11 / 16032757-037 Textured CP - Rough, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile
12 / 16032757-038 Textured CP - Rough, Plaster	Grey Non-Fibrous Homogeneous		99.9% Other	0.1% Chrysotile
13 / 16032757-039 WP, Plaster	Grey Non-Fibrous Homogeneous		99.8% Other	0.2% Tremolite
14 / 16032757-040 WP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Tremolite

Certification

Analyst: Approved Signatory:

Analysis Date: 9/19/2016 Date: 9/19/2016

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Analyst: Fleming, Christopher

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16032757-041 WP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Tremolite

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16032757-042 WP, Plaster	Grey Non-Fibrous Homogeneous		99.9% Other	0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
17 / 16032757-043 WP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
18 / 16032757-044 Textured WP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
19 / 16032757-045 Textured WP, Plaster	Grey Non-Fibrous Homogeneous		99.7% Other	0.3% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
20 / 16032757-046 Textured WP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile

Certification

Analyst: Analysis Date: 9/19/2016

Approved Signatory: Date: 9/19/2016

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Project Name: 858 Sunshine Ave

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Received Date: 9/12/2016 10:35:00 AM
Report Date: 9/19/2016 4:27:04 PM
Analyst: Fleming, Christopher

Asbestos Bulk EPA PLM 400 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
23 / 16032757-047 Window Glazing	Various Non-Fibrous Homogeneous		100% Other	< 0.25% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
24 / 16032757-048 Window Glazing	Various Non-Fibrous Homogeneous		100% Other	< 0.25% Chrysotile

Certification

Analyst: Analysis Date: 9/19/2016

Approved Signatory: Date: 9/19/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

Disclaimer

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SanAir Technologies Laboratory
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www.sanair.com

Asbestos Chain of Custody

SanAir ID Number: [redacted]

Company: HzW Environmental Consultants, LLC	Project #: H16201	Collected by: JW
Address: 6105 Heisley Road	Project Name: 858 Sunshine Ave	Phone #: 440-357-1260
City, St., Zip: Mentor, Ohio 44060	Date Collected: 9-8-16	Fax #: 440-357-1510
State of Collection: OH Account#:	P.O. Number: 0007-16	Email: JSablar@Hzwenv.com

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop ☒	
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Water

ABHE	EPA 100.2	☐

Other

Matrix		
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start – Stop	
01	Textured CP - Streaks					
02	"					
03	"					
04	Smooth CP					
05	"					
06	"					
07	Textured CP - Heavy					
08	"					
09	"					
10	Textured CP - Rough					
11	"					
12	"					

Relinquished by	Date	Time	Received by	Date	Time
JW	9-9-16	4pm	MC	SEP 12 2016	10:35AM

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

160327S7
858 Sunshine

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
13	Smooth WP				
14	"				
15	"				
16	"				
17	"				
18	Textured WP - Streaks				
19	"				
20	"				
21	Drywall				
22	"				
23	Window Glazing				
24	"				
25	Asphalt Shingle				
26	"				

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	9-9-16	4pm	[illegible]	SEP 19 2016	10:35AM

Unless scheduled, the turn around time for all samples received after 3 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.

Page 2 of 2

HzW ENVIRONMENTAL
CONSULTANTS, LLC

September 16, 2016

Mr. Chuck Shasho, Deputy Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 18 Tacoma Avenue, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HzW Environmental Consultants, LLC (HzW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 18 Tacoma Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below.

Photograph 01
Exterior View of Residential Structure Located at
18 Tacoma Avenue, Youngstown, Ohio

MENTOR **AKRON** **EUCLID** **CANTON**
6105 Heisley Road, Mentor, Ohio 44060 • phone 440-357-1260 • 800-804-8484 • fax 440-357-1510
www.hzwenv.com

METHODS OF INVESTIGATION

General

During September 2016, a representative of HzW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HzW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HzW under the Miscellaneous Materials category.

Once categorized, HzW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HzW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HzW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HzW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HzW collected a minimum of seven (7) samples from this area/material.

- For TSI, HzW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HzW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HzW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HzW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HzW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HzW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia, Louisiana, for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less percent asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HzW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HzW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HzW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HzW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HzW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HzW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos.

   Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HzW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HzW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HzW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HzW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Second Request\38 18 Tacoma Avenue Asbestos Report.doc

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 18 Tacoma Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Ceiling Plaster with Skim Coat - Smooth	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	01	X					1,788 sq.ft.	4 ND
				02							NA ND
				03							NA ND
				04							NA ND
				05							NA ND
B	Wall Plaster with Skim Coat - Smooth	Throughout Structure	>1,000sq.ft. <5,000sq.ft.	06	X				4,861 sq.ft.		4 ND
				07							NA ND
				08							NA ND
				09							NA ND
				10							NA ND
C	Fire Place Logs	Living Room	Minimum 2 Samples	11							ND
				12							ND
F	Skim Coat – Ceiling, Ripple Pattern	Dining Room	<1,000 sq.ft.	13							ND
				14							ND
				15							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 18 Tacoma Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
G	Drywall System - Wall	Bedrooms # 1and 2	Minimum 2 Samples	16							ND
				17							ND
H	Vinyl Sheet Flooring – Red, Mastic	Bedroom # 2	Minimum 2 Samples	18							ND ND
				19							ND ND
I	Window Glazing	Basement Windows	Minimum 2 Samples	20							ND
				21							ND
J	Ceiling Panel – 2-foot by 4-foot, Pinhole with Fissure Pattern	Basement in pile	Minimum 2 Samples	22							ND
				23							ND
N	Window Glazing	House Windows	Minimum 2 Samples	24						7 sq.ft. (26 Wndws)	<0.25
				25							<0.25
D1-D2	Vinyl Sheet Flooring, Mastic (2-Types)	Kitchen and Bathroom	Category I Nonfriable in Fair Condition, Not Sampled				X		218 sq.ft.		Assumed
E	Cove Base – 3-inch, Mastic	Kitchen and Bathroom	Category I Nonfriable in Fair Condition, Not Sampled				X		17 sq.ft.		Assumed
K	Duct Seam Tape	Basement	Assumed RACM			X			1 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 18 Tacoma Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

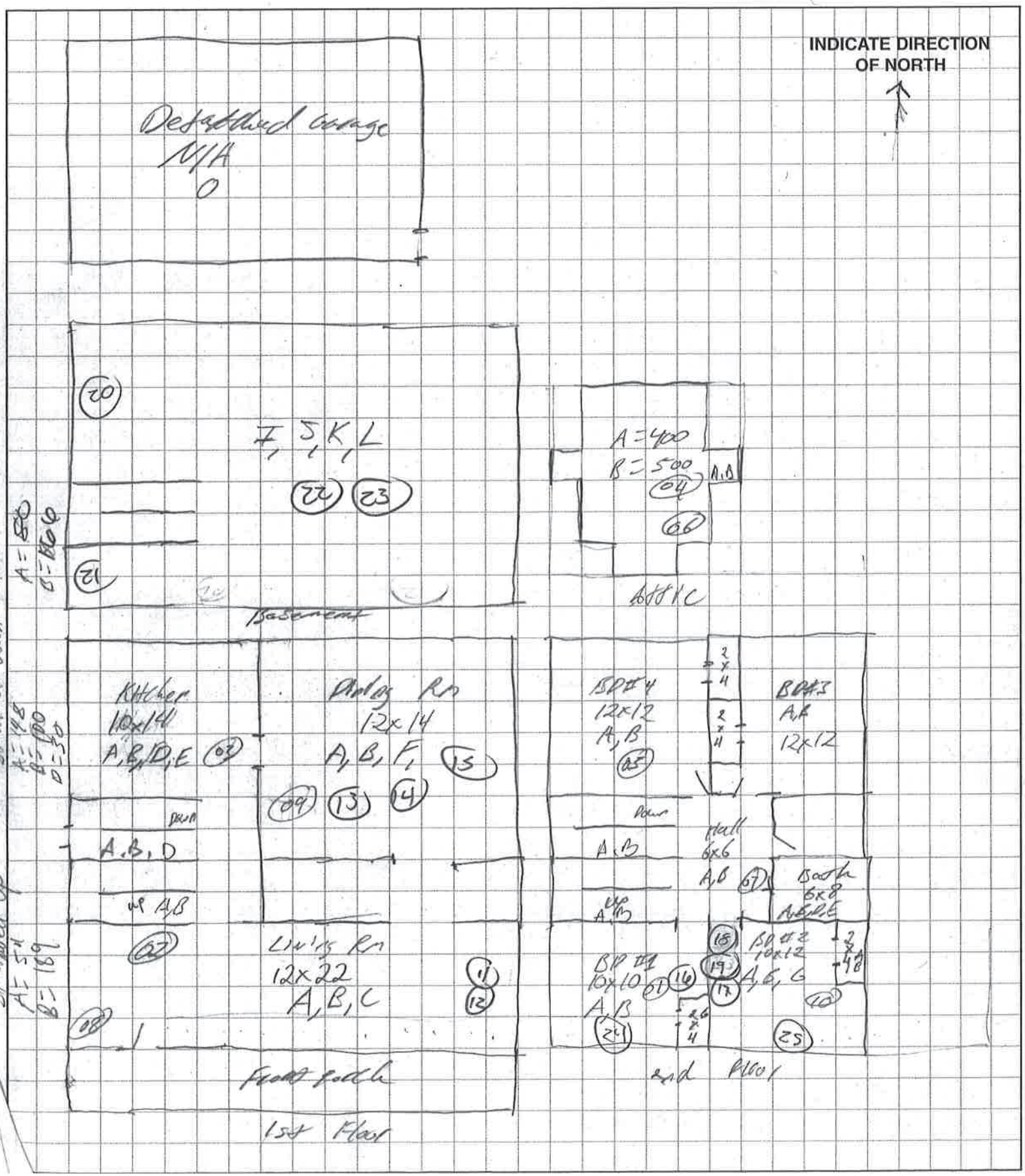
HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
L	Duct Wrap Insulation	Throughout Structure	Assumed RACM			X			130 sq.ft.		Assumed
M	Asphalt Shingle Roofing System - Black	House Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		800 sq.ft.		Assumed
O	Asphalt Shingle Roofing System - Black	Garage Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		400 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 18 Tacoma
PROJECT NO. H16201
PAGE NO. 2 OF
FIELD REPRESENTATIVE JR DATE 9/1/16
SCALE



SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/12/2016
Project Name: 18 Tacoma Ave
Project #: H16201
SanAir ID#: 16031771

NVLAP LAB CODE 200870-0

Virginia SBE Certification # 652931

Texas Licensed Mold Analysis Laboratory License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
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HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 12, 2016

SanAir ID # 16031771
Project Name: 18 Tacoma Ave
Project Number: H16201

Dear Carmen Rocco,

We at SanAir would like to thank you for the work you recently submitted. The 25 sample(s) were received on Friday, September 02, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
27 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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SanAir ID Number
16031771
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 18 Tacoma Ave

Collected Date: 9/1/2016
Received Date: 9/2/2016 10:30:00 AM
Report Date: 9/12/2016 12:31:14 PM
Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16031771-001 Ceiling Plaster W/ S/ C, Plaster	Brown Non-Fibrous Heterogeneous		96% Other	4% Chrysotile
01 / 16031771-001 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16031771-002 Ceiling Plaster W/ S/ C, Plaster				Not Analyzed
02 / 16031771-002 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16031771-003 Ceiling Plaster W/ S/ C, Plaster				Not Analyzed
03 / 16031771-003 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16031771-004 Ceiling Plaster W/ S/ C, Plaster				Not Analyzed
04 / 16031771-004 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16031771-005 Ceiling Plaster W/ S/ C, Plaster				Not Analyzed
05 / 16031771-005 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/11/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

SanAir Technologies Laboratory, Inc.

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Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16031771-006 Wall Plaster W/ S/ C, Plaster	Brown Non-Fibrous Heterogeneous		96% Other	4% Chrysotile
06 / 16031771-006 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16031771-007 Wall Plaster W/ S/ C, Plaster				Not Analyzed
07 / 16031771-007 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16031771-008 Wall Plaster W/ S/ C, Plaster				Not Analyzed
08 / 16031771-008 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16031771-009 Wall Plaster W/ S/ C, Plaster				Not Analyzed
09 / 16031771-009 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16031771-010 Wall Plaster W/ S/ C, Plaster				Not Analyzed
10 / 16031771-010 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/11/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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SanAir ID Number
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Collected Date: 9/1/2016
Received Date: 9/2/2016 10:30:00 AM
Report Date: 9/12/2016 12:31:14 PM
Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16031771-011 Fire Place Logs	Brown Non-Fibrous Heterogeneous		100% Other	None Detected
12 / 16031771-012 Fire Place Logs	Brown Non-Fibrous Heterogeneous		100% Other	None Detected
13 / 16031771-013 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected
14 / 16031771-014 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected
15 / 16031771-015 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected
16 / 16031771-016 Drywall System	White Non-Fibrous Heterogeneous	10% Cellulose	90% Other	None Detected
17 / 16031771-017 Drywall System	White Non-Fibrous Heterogeneous	10% Cellulose	90% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/11/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
18 / 16031771-018 VSF W/ Mas, Vinyl Sheet Flooring	Black Fibrous Heterogeneous	65% Cellulose	35% Other	None Detected
18 / 16031771-018 VSF W/ Mas, Mastic	Brown Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
19 / 16031771-019 VSF W/ Mas, Vinyl Sheet Flooring	Black Fibrous Heterogeneous	65% Cellulose	35% Other	None Detected
19 / 16031771-019 VSF W/ Mas, Mastic	Brown Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
20 / 16031771-020 Window Glazing	Grey Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
21 / 16031771-021 Window Glazing	Grey Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
22 / 16031771-022 Ceiling Panel	Beige Fibrous Heterogeneous	85% Cellulose	15% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
23 / 16031771-023 Ceiling Panel	Beige Fibrous Heterogeneous	85% Cellulose	15% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/11/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
24 / 16031771-024 Window Glazing	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
25 / 16031771-025 Window Glazing	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/11/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Report Date: 9/12/2016 12:31:14 PM
Analyst: Vaughan, Nathaniel

Asbestos Bulk EPA PLM 400 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
24 / 16031771-026 Window Glazing	Brown Non-Fibrous Heterogeneous		100% Other	< 0.25% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
25 / 16031771-027 Window Glazing	Brown Non-Fibrous Heterogeneous		100% Other	< 0.25% Chrysotile

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/11/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

Disclaimer

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SanAir Technologies Laboratory

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804-897-1177 / 888-895-1177
Fax 804-897-0070
www.sanair.com

Asbestos Chain of Custody

SanAir ID Number: 16031771

Company: Haw Environmental		Project #: H16201	Collected by:
Address: 6105 Heisley Rd		Project Name: 18 Tacoma Ave	Phone #:
City, St., Zip: Mentor, OH 44060		Date Collected:	Fax #:
State of Collection:	Account#:	P.O. Number:	Email:

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Water

ABHE	EPA 100.2	☐

Matrix	Other	
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
01	Ceiling Plaster w/ S/C					
02						
03			1,000 p.c.			
04						
05						
06	Wall plaster w/ S/C					
07						
08			1,000 p.c.			
09						
10						
11	Fire place logs					
12						

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	09/01/16	5:00 pm	[illegible]	SEP 02 2016	10:30 Am

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

Page ___ of ___

Please P/C 29a or less
1,000 P/C when Indicated.

16031771

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
13	Skim Coat				
14	"		1000p.c.		
15	"				
16	Drywall System				
17	"				
18	VSF w/ mas				
19	"				
20	window Glazing				
21	"				
22	Ceiling Panel				
23	"				
24	window Glazing				
25	"				

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	09/01/16	5:00pm	[illegible]	SEP 02 2016	10:30am

Unless scheduled, the turn around time for all samples received after 3 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.

Page ___of ___

HzW ENVIRONMENTAL
CONSULTANTS, LLC

August 30, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 53 Tacoma Avenue, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HzW Environmental Consultants, LLC (HzW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 53 Tacoma Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below.

Photograph 01
Exterior View of Residential Structure Located at
53 Tacoma Avenue, Youngstown, Ohio

MENTOR **AKRON** **EUCLID** **CANTON**
6105 Heisley Road, Mentor, Ohio 44060 • phone 440-357-1260 • 800-804-8484 • fax 440-357-1510
www.hzwenv.com

METHODS OF INVESTIGATION

General

During August 2016, a representative of HzW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HzW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HzW under the Miscellaneous Materials category.

Once categorized, HzW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HzW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HzW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HzW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HzW collected a minimum of seven (7) samples from this area/material.

- For TSI, HzW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HzW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HzW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HzW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HzW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HzW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia, Louisiana, for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less percent asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HzW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HzW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HzW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HzW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HzW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HzW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos.

   Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HzW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HzW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HzW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HzW ENVIRONMENTAL CONSULTANTS, LLC

John Worthy
Asbestos Hazard Evaluation Specialist (AHES No. 34782)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Second Request\39 53 Tacoma Avenue Asbestos Report.doc

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 53 Tacoma Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Smooth Ceiling Drywall	Room 1, Kitchen, Room 4	Minimum 3 Samples	01							ND ND
				02							ND ND
				03							ND ND
B	Smooth Ceiling Plaster	Entry, Rooms 1 through 5, Kitchen, Stairwell 1 and 2, Hallway, Bath	<1,000 sq.ft.	04						960 sq.ft.	0.2 ND
				05							0.4 ND
				06							0.1 ND
C	Smooth Wall Plaster	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	07						2,800 sq.ft.	0.2 ND
				08							0.2 ND
				09							0.2 ND
				10							0.1 ND
				11							0.2 ND
D	Blown-in Insulation	Above Ceiling Throughout	Minimum 3 Samples	12							ND
				13							ND
				14							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 53 Tacoma Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
E	Window Glazing	House Windows	Minimum 2 Samples	15			X			15 sq.ft.	1.25
				16							NA
F	Asphalt Shingle Roofing	Roof	Minimum 2 Samples	17							ND
				18							ND
G	Wall Tile Mastic	Kitchen	Category I Nonfriable in Fair Condition, Not Sampled				X		60 sq.ft.		Assumed
H	Duct Wrap Insulation	Throughout Structure	Assumed RACM			X			80 sq.ft.		Assumed
I	Transite Siding	House Exterior	Assumed RACM				X		2,100 sq.ft.		Assumed
J1, J2	Floor Tile – 12-inch by 12-inch, Mastic (2-Types)	Entry and Kitchen	Category I Nonfriable in Fair Condition, Not Sampled				X		120 sq.ft.		Assumed
K	Siding Felt Paper	House Exterior	Category I Nonfriable in Fair Condition, Not Sampled				X		2,100 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

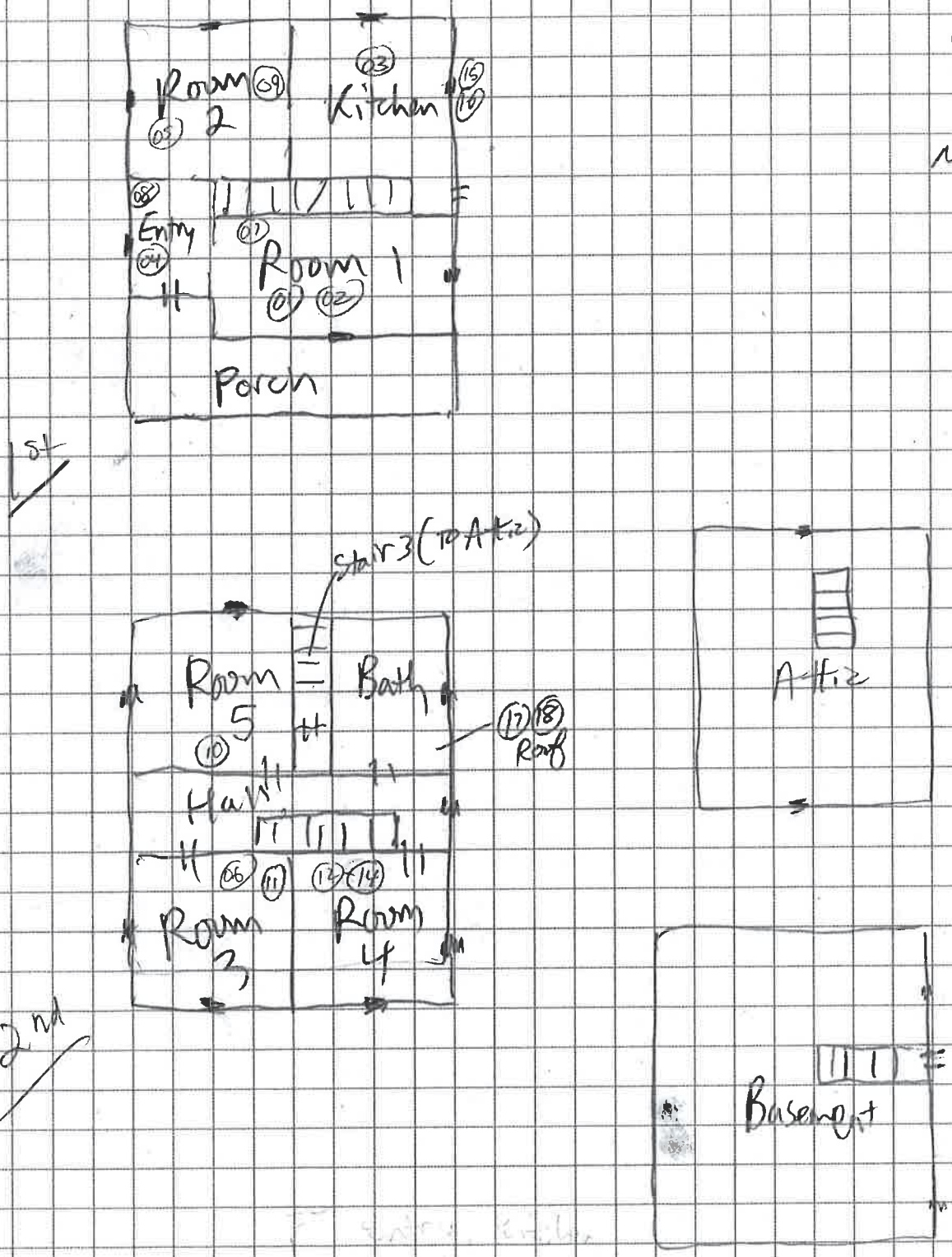
(3rd)

PROJECT 53 Tacoma Ave, Ytown
PROJECT NO. H16201
PAGE NO. OF
FIELD REPRESENTATIVE JW DATE 8-18-16
SCALE

INDICATE DIRECTION OF NORTH

- Transite siding
- wood windows

Note: Nearly all ceilings are on the floor



SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 8/29/2016
Project Name: 53 Tacoma Ave.
Project #: H16201
SanAir ID#: 16029870

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

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HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

August 29, 2016

SanAir ID # 16029870
Project Name: 53 Tacoma Ave.
Project Number: H16201

Dear JW,

We at SanAir would like to thank you for the work you recently submitted. The 18 sample(s) were received on Monday, August 22, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
28 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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Web: http://www.sanair.com E-mail: iaq@sanair.com

SanAir ID Number
16029870
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number: 0007-16
Project Name: 53 Tacoma Ave.

Collected Date: 8/18/2016
Received Date: 8/22/2016 8:50:00 AM
Report Date: 8/29/2016 6:03:15 PM
Analyst: Toth, Elizabeth
Robertson, Erin
Rutter, Amber

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16029870-001 CD, Drywall	White Non-Fibrous Homogeneous	3% Cellulose	97% Other	None Detected
01 / 16029870-001 CD, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16029870-002 CD, Drywall	White Non-Fibrous Homogeneous	3% Cellulose	97% Other	None Detected
02 / 16029870-002 CD, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16029870-003 CD, Drywall	White Non-Fibrous Homogeneous	3% Cellulose	97% Other	None Detected
03 / 16029870-003 CD, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16029870-004 CP, Plaster	Grey Non-Fibrous Heterogeneous	3% Hair	95% Other	2% Chrysotile
04 / 16029870-004 CP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Approved Signatory:

Analysis Date: 8/29/2016 Date: 8/29/2016

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Robertson, Erin
Rutter, Amber

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16029870-005 CP, Plaster				Not Analyzed
05 / 16029870-005 CP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16029870-006 CP, Plaster				Not Analyzed
06 / 16029870-006 CP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16029870-007 WP, Plaster	Grey Non-Fibrous Heterogeneous	3% Hair	95% Other	2% Chrysotile
07 / 16029870-007 WP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16029870-008 WP, Plaster				Not Analyzed
08 / 16029870-008 WP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Approved Signatory:

Analysis Date: 8/29/2016 Date: 8/29/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16029870-009 WP, Plaster				Not Analyzed
09 / 16029870-009 WP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16029870-010 WP, Plaster				Not Analyzed
10 / 16029870-010 WP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16029870-011 WP, Plaster				Not Analyzed
11 / 16029870-011 WP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16029870-012 Blow-In Insulation	Brown Fibrous Homogeneous	95% Cellulose	5% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16029870-013 Blow-In Insulation	Brown Fibrous Homogeneous	95% Cellulose	5% Other	None Detected

Certification

Analyst: Approved Signatory:

Analysis Date: 8/29/2016 Date: 8/29/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
14 / 16029870-014 Blow-In Insulation	Brown Fibrous Homogeneous	95% Cellulose	5% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16029870-015 Window Glazing	Beige Non-Fibrous Homogeneous		98% Other	2% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16029870-016 Window Glazing				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
17 / 16029870-017 Shingle	Various Non-Fibrous Heterogeneous	15% Cellulose	85% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
18 / 16029870-018 Shingle	Various Non-Fibrous Heterogeneous	15% Cellulose	85% Other	None Detected

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Analyst: Toth, Elizabeth
Robertson, Erin
Rutter, Amber

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16029870-019 CP	Grey Non-Fibrous Heterogeneous		99.8% Other	0.2% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16029870-020 CP	Grey Non-Fibrous Heterogeneous		99.6% Other	0.4% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16029870-021 CP	Grey Non-Fibrous Heterogeneous		99.9% Other	0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16029870-024 WP	Grey Non-Fibrous Heterogeneous		99.8% Other	0.2% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16029870-025 WP	Grey Non-Fibrous Heterogeneous		99.8% Other	0.2% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16029870-026 WP	Grey Non-Fibrous Homogeneous		99.8% Other	0.2% Chrysotile

Certification

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Robertson, Erin
Rutter, Amber

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
10 / 16029870-027 WP	Grey Non-Fibrous Homogeneous		99.9% Other	0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
11 / 16029870-028 WP	Grey Non-Fibrous Homogeneous		99.8% Other	0.2% Chrysotile

Certification

Analyst: Approved Signatory:

Analysis Date: 8/29/2016 Date: 8/29/2016

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Report Date: 8/29/2016 6:03:15 PM
Analyst: Toth, Elizabeth
Robertson, Erin
Rutter, Amber

Asbestos Bulk EPA PLM 400 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16029870-022 Window Glazing	Beige Non-Fibrous Homogeneous		98.75% Other	1.25% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16029870-023 Window Glazing				Not Analyzed

Certification

Analyst: Approved Signatory:

Analysis Date: 8/29/2016 Date: 8/29/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

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SanAir Technologies Laboratory
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Powhatan, VA 23139
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www.sanair.com

Asbestos Chain of Custody

Company: HzW Environmental Consultants, LLC	Project #: H16201	Collected by: JW
Address: 6105 Heisley Road	Project Name: 53 Tacoma Ave,	Phone #: 440-357-1260
City, St., Zip: Mentor, Ohio 44060	Date Collected: 8-18-16	Fax #: 440-357-1510
State of Collection: OH Account#:	P.O. Number: 0007-16	Email: JSablar@Hzwenv.com

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop ☒	
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Water

ABHE	EPA 100.2	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Other

Matrix		
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start – Stop	
01	Smooth CD					
02	"					
03	"					
04	Smooth CP					
05	"					
06	"					
07	Smooth WP					
08	"					
09	"					
10	"					
11	"					
12	Blow-in Insulation					

Relinquished by	Date	Time	Received by	Date	Time
JW	8-19-16	9 pm	MC	AUG 19 2016	8:50AM

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

SanAir Technologies Laboratory
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

Company: HzW Environmental Consultants, LLC	Project #:	Collected by: JW
Address: 6105 Heisley Road	Project Name: 53 Tacoma	Phone #: 440-357-1260
City, St., Zip: Mentor, Ohio 44060	Date Collected:	Fax #: 440-357-1510
State of Collection: OH Account#:	P.O. Number:	Email: JSablar@Hzwenv.com

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop ☒	
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Water

ABHE	EPA 100.2	☐

Other

Matrix		
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start – Stop	
13	"					
14	"					
15	Window Glazing					
16	"					
17	Shingle					
18	"					

Relinquished by	Date	Time	Received by	Date	Time
JW	8-19-16	4pm	MC	AUG 22 2016	8:50am

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

HzW ENVIRONMENTAL
CONSULTANTS, LLC

September 19, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 16 Thornton Avenue, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HzW Environmental Consultants, LLC (HzW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at one (1) residential structure located at 16 Thornton Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below.

Photograph 01
Exterior View of Structure Located at
16 Thornton Avenue, Youngstown, Ohio

MENTOR AKRON EUCLID CANTON
6105 Heisley Road, Mentor, Ohio 44060 • phone 440-357-1260 • 800-804-8484 • fax 440-357-1510
www.hzwenv.com

METHODS OF INVESTIGATION

General

During August 2016, a representative of HzW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HzW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HzW under the Miscellaneous Materials category.

Once categorized, HzW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HzW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HzW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HzW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HzW collected a minimum of seven (7) samples from this area/material.

- For TSI, HzW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HzW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HzW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HzW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HzW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HzW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia, Louisiana, for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less percent asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HzW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HzW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HzW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HzW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HzW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HzW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos.

   Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HzW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HzW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HzW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HzW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Second Request\45 16 Thornton Avenue Asbestos Report.doc

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 16 Thornton Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Ceiling Plaster with Skim Coat - smooth	Throughout Structure	<1,000 sq.ft.	01					935 sq.ft.		0.2 ND
				02							0.7 ND
				03							0.3 ND
B	Wall Plaster with Skim Coat- smooth	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	04					3,239 sq.ft.		0.4 ND
				05							0.7 ND
				06							0.5 ND
				07							0.3 ND
				08							0.4 ND
G	Skim Coat, - Wall, Rough Brush Stroke Pattern	Basement	<1,000 sq.ft.	09							ND
				10							ND
				11							ND
H	Window Glazing	Basement	Minimum 2 Samples	13							ND
				14							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 16 Thornton Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
K	Asphalt Shingle Roofing System	House Roof	Minimum 2 Samples	15							ND
				16							ND
L	Ceiling Panel, Unknown Size, Pin Hole with Fissure	Piled on Back Poarch	Minimum 2 Samples	17							ND
				18							ND
M	Window Glazing	House Windows	Minimum 2 Samples	19							ND
				20							ND
C	Cove Base -3-inch, Mastic (2 Types)	Kitchen and Bath	Category I Nonfriable in Fair Condition, Not Sampled				X		19 sq.ft.		Assumed
D	Floor Tile – 9-inch by 9-inch, Mastic (2 Types)	Kitchen	Category I Nonfriable in Fair Condition, Not Sampled				X		124 sq.ft.		Assumed
E	Floor Tile – 12-inch by 12-inch, Mastic	Bath	Category I Nonfriable in Fair Condition, Not Sampled				X		86 sq.ft.		Assumed
F	Electrical Backing Pad	Basement Stairwell	Category I Nonfriable in Fair Condition, Not Sampled			X			1 sq.ft.		Assumed
I	Duct Seam Tape	Basement	Category I Nonfriable in Fair Condition, Not Sampled			X			7 sq.ft.		Assumed
J	Duct Wrap Insulation	Throughout Structure	Category I Nonfriable in Fair Condition, Not Sampled			X			160 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 16 Thornton Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
N	Asphalt Shingle Roofing System	Garage Roof	Category I Nonfriable in Fair Condition, Not Sampled		X				400 sq.ft.		Assumed

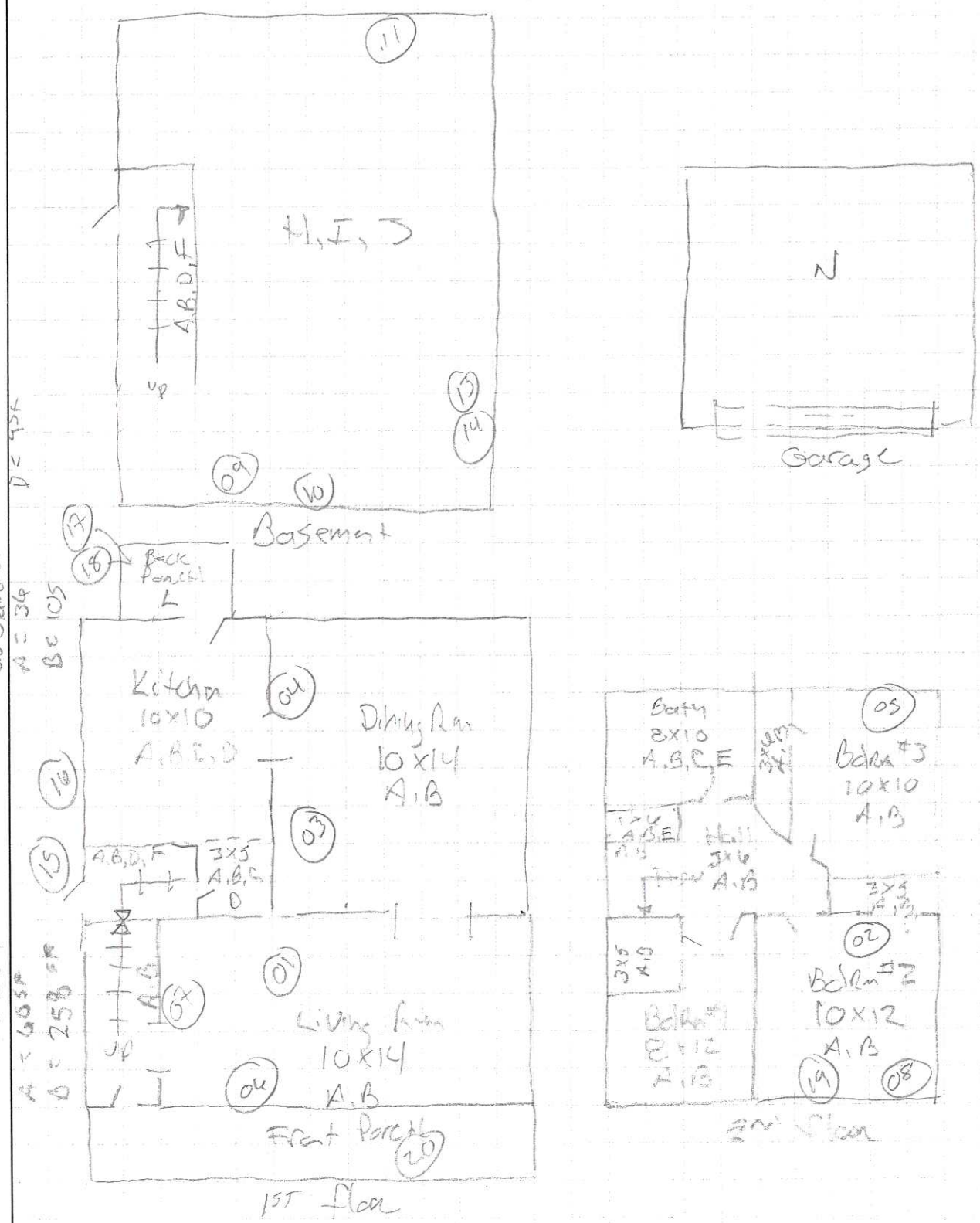
Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 16 Thorton Ave
PROJECT NO. H16201
PAGE NO. 2 OF 2
FIELD REPRESENTATIVE CA DATE 08/30/16
SCALE

INDICATE DIRECTION OF NORTH



SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/12/2016
Project Name: 16 Thorton Ave
Project #: H16201
SanAir ID#: 16031782

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

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

HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 12, 2016

SanAir ID # 16031782
Project Name: 16 Thorton Ave
Project Number: H16201

Dear Carmen Rocco,

We at SanAir would like to thank you for the work you recently submitted. The 27 sample(s) were received on Friday, September 02, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 13, 14, 15, 16, 17, 18, 19, 20.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
27 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.
1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: http://www.sanair.com E-mail: iaq@sanair.com

SanAir ID Number
16031782
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 16 Thorton Ave

Collected Date: 8/30/2016
Received Date: 9/2/2016 10:30:00 AM
Report Date: 9/12/2016 5:11:25 PM
Analyst: Rutter, Amber
Robertson, Erin

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16031782-001 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		98% Other	2% Chrysotile
01 / 16031782-001 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16031782-002 Ceiling Plaster W/ S/ C, Plaster				Not Analyzed
02 / 16031782-002 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16031782-003 Ceiling Plaster W/ S/ C, Plaster				Not Analyzed
03 / 16031782-003 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16031782-004 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		98% Other	2% Chrysotile
04 / 16031782-004 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16031782-005 Wall Plaster W/ S/ C, Plaster				Not Analyzed
05 / 16031782-005 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Erin Robertson
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
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Name: HzW Environmental Consultants LLC
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Analyst: Rutter, Amber
Robertson, Erin

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16031782-006 Wall Plaster W/ S/ C, Plaster				Not Analyzed
06 / 16031782-006 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16031782-007 Wall Plaster W/ S/ C, Plaster				Not Analyzed
07 / 16031782-007 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16031782-008 Wall Plaster W/ S/ C, Plaster				Not Analyzed
08 / 16031782-008 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16031782-009 Skim Coat	Off-White Non-Fibrous Homogeneous	2% Cellulose	98% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16031782-010 Skim Coat	Off-White Non-Fibrous Homogeneous	2% Cellulose	98% Other	None Detected

Certification

Analyst: Erin Robertson
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

SanAir Technologies Laboratory, Inc.
1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
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SanAir ID Number
16031782
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 16 Thorton Ave

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Analyst: Rutter, Amber
Robertson, Erin

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16031782-011 Skim Coat	Off-White Non-Fibrous Homogeneous	2% Cellulose	98% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16031782-012 Window Glazing	Beige Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
14 / 16031782-013 Window Glazing	Beige Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16031782-014 Asphalt Roofing	Black Non-Fibrous Heterogeneous	20% Cellulose	80% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16031782-015 Asphalt Roofing	Black Non-Fibrous Heterogeneous	20% Cellulose	80% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
17 / 16031782-016 Ceiling Panel	White Fibrous Homogeneous	40% Cellulose 40% Min. Wool	20% Other	None Detected

Certification

Analyst: Erin Robertson
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

SanAir Technologies Laboratory, Inc.
1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: http://www.sanair.com E-mail: iaq@sanair.com

SanAir ID Number
16031782
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 16 Thorton Ave

Collected Date: 8/30/2016
Received Date: 9/2/2016 10:30:00 AM
Report Date: 9/12/2016 5:11:25 PM
Analyst: Rutter, Amber
Robertson, Erin

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
18 / 16031782-017 Ceiling Panel	White Fibrous Homogeneous	40% Cellulose 40% Min. Wool	20% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
19 / 16031782-018 Window Glazing	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
20 / 16031782-019 Window Glazing	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Erin Robertson
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Report Date: 9/12/2016 5:11:25 PM
Analyst: Rutter, Amber
Robertson, Erin

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16031782-020 Plaster	Grey Non-Fibrous Homogeneous		99.8% Other	0.2% Chrysotile
02 / 16031782-021 Plaster	Grey Non-Fibrous Homogeneous		99.3% Other	0.7% Chrysotile
03 / 16031782-022 Plaster	Grey Non-Fibrous Homogeneous		99.7% Other	0.3% Chrysotile
04 / 16031782-023 Plaster	Grey Non-Fibrous Homogeneous		99.6% Other	0.4% Chrysotile
05 / 16031782-024 Plaster	Grey Non-Fibrous Homogeneous		99.3% Other	0.7% Chrysotile
06 / 16031782-025 Plaster	Grey Non-Fibrous Homogeneous		99.5% Other	0.5% Chrysotile

Certification

Analyst: Erin Robertson
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Analyst: Rutter, Amber
Robertson, Erin

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16031782-026 Plaster	Grey Non-Fibrous Heterogeneous		99.7% Other	0.3% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16031782-027 Plaster	Grey Non-Fibrous Heterogeneous		99.6% Other	0.4% Chrysotile

Certification

Analyst: Erin Robertson
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

Disclaimer

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SanAir Technologies Laboratory

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Powhatan, VA 23139
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www.sanair.com

Asbestos Chain of Custody

SanAir ID Number: 16031782

Company: Hzw Environmental		Project #: 4116201	Collected by:
Address: 6605 Heisley Rd		Project Name: 116 Thorton Ave	Phone #:
City, St., Zip: Mentor, OH 44060		Date Collected:	Fax #:
State of Collection: OH	Account#:	P.O. Number:	Email:

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Water

ABHE	EPA 100.2	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Other

Matrix		
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start – Stop	
01	Ceiling Plaster w/ S/C					
02			1,000 P.C.			
03						
04	Wall Plaster w/ S/C					
05						
06			1,000 P.C.			
07						
08						
09	Skim Coat					
10			1,000 P.C			
11						

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	08/30/14	4:30pm	[illegible]	SEP 02 2014	10:30AM

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

Page ___ of ____

Please P/C 2% or less
1,000 P/C when Indicated.

16031782

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
13	window Glazing				
14					
15	Asphalt Roofing				
16					
17	Ceiling Panel				
18					
19	window Glazing				
20					

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	08/30/14	4:30pm	MC	SEP 02 2014	10:30AM

Unless scheduled, the turn around time for all samples received after 3 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.

Page ___of ___

HzW ENVIRONMENTAL
CONSULTANTS, LLC

August 30, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 17 Thornton Avenue, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HzW Environmental Consultants, LLC (HzW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 17 Thornton Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below.

Photograph 01
Exterior View of Residential Structure Located at
17 Thornton Avenue, Youngstown, Ohio

MENTOR **AKRON** **EUCLID** **CANTON**
6105 Heisley Road, Mentor, Ohio 44060 • phone 440-357-1260 • 800-804-8484 • fax 440-357-1510
www.hzwenv.com

METHODS OF INVESTIGATION

General

During August 2016, a representative of HzW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HzW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HzW under the Miscellaneous Materials category.

Once categorized, HzW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HzW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HzW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HzW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HzW collected a minimum of seven (7) samples from this area/material.

- For TSI, HzW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HzW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HzW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HzW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HzW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HzW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia, Louisiana, for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less percent asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HzW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HzW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HzW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HzW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HzW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HzW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos.

   Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HzW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HzW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HzW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HzW ENVIRONMENTAL CONSULTANTS, LLC

John Worthy
Asbestos Hazard Evaluation Specialist (AHES No. 34782)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Second Request\40 17 Thornton Avenue Asbestos Report.doc

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 17 Thornton Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Textured Ceiling Plaster	Room 1	<1,000 sq.ft.	01							ND ND ND
				02							ND ND ND
				03							ND ND ND
B	Smooth Ceiling Plaster	Rooms 2 through 5, Kitchen, Bath 2, Hallway, Stairwell 1 and 2	<1,000 sq.ft.	04							ND ND
				05							ND ND
				06							ND ND
C	Smooth Wall Plaster	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	07							ND ND
				08							ND ND
				09							ND ND
				10							ND ND
				11							ND ND
D	Window Glazing	House Windows	Minimum 2 Samples	12							ND
				13							ND
E1-E3	Floor Sheeting (3 Types)	Bath 2, Kitchen and Room 5	Category I Nonfriable in Fair Condition, Not Sampled				X		270 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 17 Thornton Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
F	Duct Wrap Insulation	Throughout Structure	Assumed RACM			X			80 sq.ft.		Assumed
G	Asphalt Shingle Roofing System	House Room	Category I Nonfriable in Fair Condition, Not Sampled				X		900 sq.ft.		Assumed
H	Siding Felt Paper	House Exterior	Category I Nonfriable in Fair Condition, Not Sampled				X		2,000 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

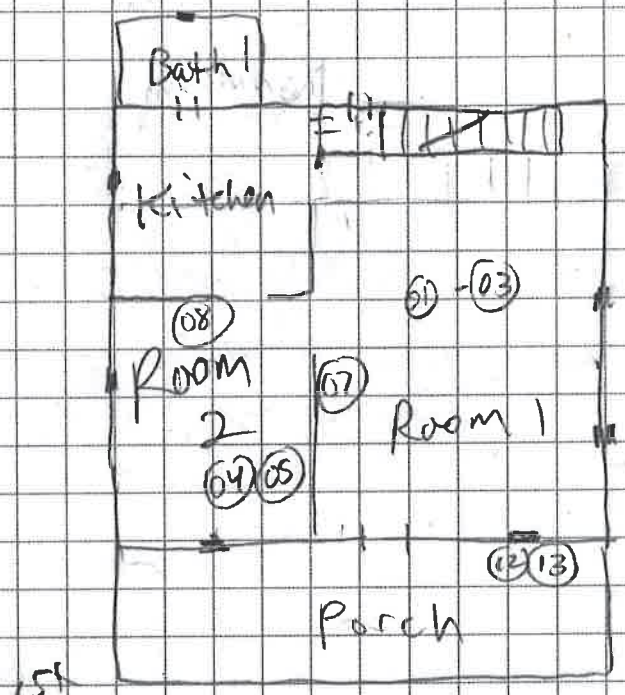
HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Helsley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

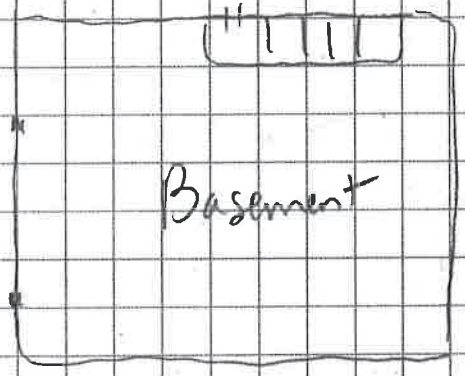
PROJECT 17 Thornton Ave, Youngstown
PROJECT NO. H16 201
PAGE NO. _____ OF _____
FIELD REPRESENTATIVE JW DATE 8-18-16
SCALE _____

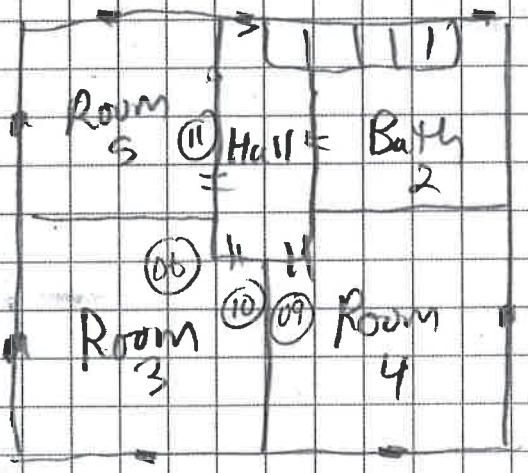
INDICATE DIRECTION OF NORTH

- Filled w/ debris
- wood windows
- wood siding



1st





2nd

SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 8/29/2016
Project Name: 17 Thornton
Project #: H16201
SanAir ID#: 16029868

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
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Web: http://www.sanair.com E-mail: iaq@sanair.com

HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

August 29, 2016

SanAir ID # 16029868
Project Name: 17 Thornton
Project Number: H16201

Dear JW,

We at SanAir would like to thank you for the work you recently submitted. The 13 sample(s) were received on Monday, August 22, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
13 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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

SanAir ID Number
16029868
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number: 0007-16
Project Name: 17 Thornton

Collected Date: 8/18/2016
Received Date: 8/22/2016 8:50:00 AM
Report Date: 8/29/2016 5:24:31 PM
Analyst: Fleming, Christopher

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16029868-001 Textured CP, Texture	Beige Non-Fibrous Homogeneous		100% Other	None Detected
01 / 16029868-001 Textured CP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected
01 / 16029868-001 Textured CP, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16029868-002 Textured CP, Texture	Beige Non-Fibrous Homogeneous		100% Other	None Detected
02 / 16029868-002 Textured CP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected
02 / 16029868-002 Textured CP, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16029868-003 Textured CP, Texture	Beige Non-Fibrous Homogeneous		100% Other	None Detected
03 / 16029868-003 Textured CP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected
03 / 16029868-003 Textured CP, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16029868-004 CP, Plaster	Beige Non-Fibrous Homogeneous		100% Other	None Detected
04 / 16029868-004 CP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Approved Signatory:

Analysis Date: 8/29/2016 Date: 8/29/2016

SanAir Technologies Laboratory, Inc.

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

SanAir ID Number
16029868
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number: 0007-16
Project Name: 17 Thornton

Collected Date: 8/18/2016
Received Date: 8/22/2016 8:50:00 AM
Report Date: 8/29/2016 5:24:31 PM
Analyst: Fleming, Christopher

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16029868-005 CP, Plaster	Beige Non-Fibrous Homogeneous		100% Other	None Detected
05 / 16029868-005 CP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16029868-006 CP, Plaster	Beige Non-Fibrous Homogeneous		100% Other	None Detected
06 / 16029868-006 CP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16029868-007 WP, Plaster	Beige Non-Fibrous Homogeneous		100% Other	None Detected
07 / 16029868-007 WP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16029868-008 WP, Plaster	Beige Non-Fibrous Homogeneous		100% Other	None Detected
08 / 16029868-008 WP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16029868-009 WP, Plaster	Beige Non-Fibrous Homogeneous		100% Other	None Detected
09 / 16029868-009 WP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Chris Fleming
Analysis Date: 8/29/2016

Approved Signatory: [signature]
Date: 8/29/2016

SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16029868-010 WP, Plaster	Beige Non-Fibrous Homogeneous		100% Other	None Detected
10 / 16029868-010 WP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16029868-011 WP, Plaster	Beige Non-Fibrous Homogeneous		100% Other	None Detected
11 / 16029868-011 WP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16029868-012 Window Glazing	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16029868-013 Window Glazing	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 8/29/2016

Approved Signatory: [signature]
Date: 8/29/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

SanAir Technologies Laboratory
1551 Oakbridge Drive Suite B
Powhatan, VA 23139
804-897-1177 / 888-895-1177
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www.sanair.com

Asbestos Chain of Custody

166 29968
Sanair Job Number

Company: HzW Environmental Consultants, LLC		Project #: H16201	Collected by: JW
Address: 6105 Heisley Road		Project Name: 17 Thornton	Phone #: 440-357-1260
City, St., Zip: Mentor, Ohio 44060		Date Collected: 8-18-16	Fax #: 440-357-1510
State of Collection: OH	Account#:	P.O. Number: 0007-16	Email: JSablar@Hzwenv.com

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop ☒	
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Water

ABHE	EPA 100.2	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Other

Matrix		
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
01	Textured CP					
02	"					
03	"					
04	Smooth CP					
05	"					
06	"					
07	Smooth WP					
08	"					
09	"					
10	"					
11	"					
12	Window Glazing					
13	"					

Relinquished by	Date	Time	Received by	Date	Time
JW	8-14-16	9 pm	MC	AUG 22 2016	8:15AM

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

HzW ENVIRONMENTAL
CONSULTANTS, LLC

September 23, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at a Four (4) Unit Apartment Complex Located at 27 Thornton Avenue, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HzW Environmental Consultants, LLC (HzW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 27 Thornton Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below.

Photograph 01
Exterior View of the Four (4) Unit Apartment Complex Located at
27 Thornton Avenue, Youngstown, Ohio

MENTOR **AKRON** **EUCLID** **CANTON**
6105 Heisley Road, Mentor, Ohio 44060 • phone 440-357-1260 • 800-804-8484 • fax 440-357-1510
www.hzwenv.com

METHODS OF INVESTIGATION

General

During August 2016, a representative of HzW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HzW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HzW under the Miscellaneous Materials category.

Once categorized, HzW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HzW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HzW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HzW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HzW collected a minimum of seven (7) samples from this area/material.

- For TSI, HzW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HzW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HzW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HzW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HzW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HzW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia, Louisiana, for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less percent asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HzW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HzW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HzW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HzW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HzW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HzW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos.

   Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HzW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HzW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HzW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HzW ENVIRONMENTAL CONSULTANTS, LLC

Matthew Fergus
Asbestos Hazard Evaluation Specialist (AHES No. 33228)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Second Request\41 27 Thornton Avenue Asbestos Report.doc

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 27 Thornton Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Ceiling Plaster with Skim Coat - Smooth	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	01	X					4,000 sq.ft.	1.4 ND
				02							NA ND
				03							NA ND
				04							NA ND
				05							NA ND
B	Wall Plaster with Skim Coat - Smooth	Throughout Structure	>5,000sq.ft.	06	X					14,843 sq.ft.	1.4 ND
				07							NA ND
				08							NA ND
				09							NA ND
				10							NA ND
				11							NA ND
				12							NA
C	Ceiling Plaster on Metal Lathe	Basement, Room # 27	<1,000sq.ft.	13	X					640 sq.ft.	4
				14							NA
				15							NA

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 27 Thornton Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
D	Ceiling Plaster on Wood Lathe	Basement, Room #'s 28 and 31	<1,000sq.ft.	16	X					468 sq.ft.	1.3
				17							NA
				18							NA
E	Textured Skim Coat - Ceiling	Stairwell	Minimum 3 Samples	19							ND
				20							ND
				21							ND
F	Textured Skim Coat - Wall	Stairwell, Bathrooms # 1 and 2	Minimum 3 Samples	22							ND
				23							ND
				24							ND
G	Textured Skim Coat - Ceiling	Room # 2	Minimum 3 Samples	25							ND
				26							ND
				27							ND
H	Textured Skim Coat - Ceiling	Room #'s 7, 8, 9, 10, 11 and Hallway # 2	Minimum 3 Samples	28							ND
				29							ND
				30							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 27 Thornton Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
I	Textured Drywall Ceiling	Room # 24	Minimum 3 Samples	31							ND ND
				32							ND ND
				33							ND ND
J	Ceiling Plaster on Drywall	Room #'s 13 and 19	Minimum 3 Samples	34							ND ND ND ND
				35							ND ND ND ND
				36							ND ND ND ND
K	Drywall System - Ceiling	Room # 4	Minimum 3 Samples	37			X		120 sq.ft.		ND 4
				38							ND NA
				39							ND NA
L	Ceiling Tile – 1-foot by 1-foot, Smooth	Bathroom # 1	Minimum 2 Samples	40							ND
				41							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 27 Thornton Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
M	Window Glazing	Building Windows	Minimum 2 Samples	42						21 sq.ft. (40 Wndws)	ND
				43							<0.25
N	Window Glazing	Basement Windows	Minimum 2 Samples	44							ND
				45							ND
O	Light Heat Shield	Bathroom # 3	Assumed RACM			X			1 sq.ft.		Assumed
P	Duct Wrap Insulation and Debris	Throughout Structure, Debris in Basement	Assumed RACM			X			550 sq.ft.	700 sq.ft. area	Assumed
Q1-Q4	Floor Tile – 12-inch by 12-inch, Mastic (4-Types)	Kitchens and Bathrooms	Category I Nonfriable in Fair Condition, Not Sampled				X		816 sq.ft.		Assumed
R	Vinyl Sheet Flooring, Mastic	Room # 22	Category I Nonfriable in Fair Condition, Not Sampled				X		120 sq.ft.		Assumed
S	Built up Asphalt Roofing - Black	Structure Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		2,800 sq.ft.		Assumed
T	Tarred Roof Flashing	Structure Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		780 sq.ft.		Assumed
U	Stair Tread, Mastic	Stairwell	Category I Nonfriable in Fair Condition, Not Sampled				X		150 sq.ft.		Assumed

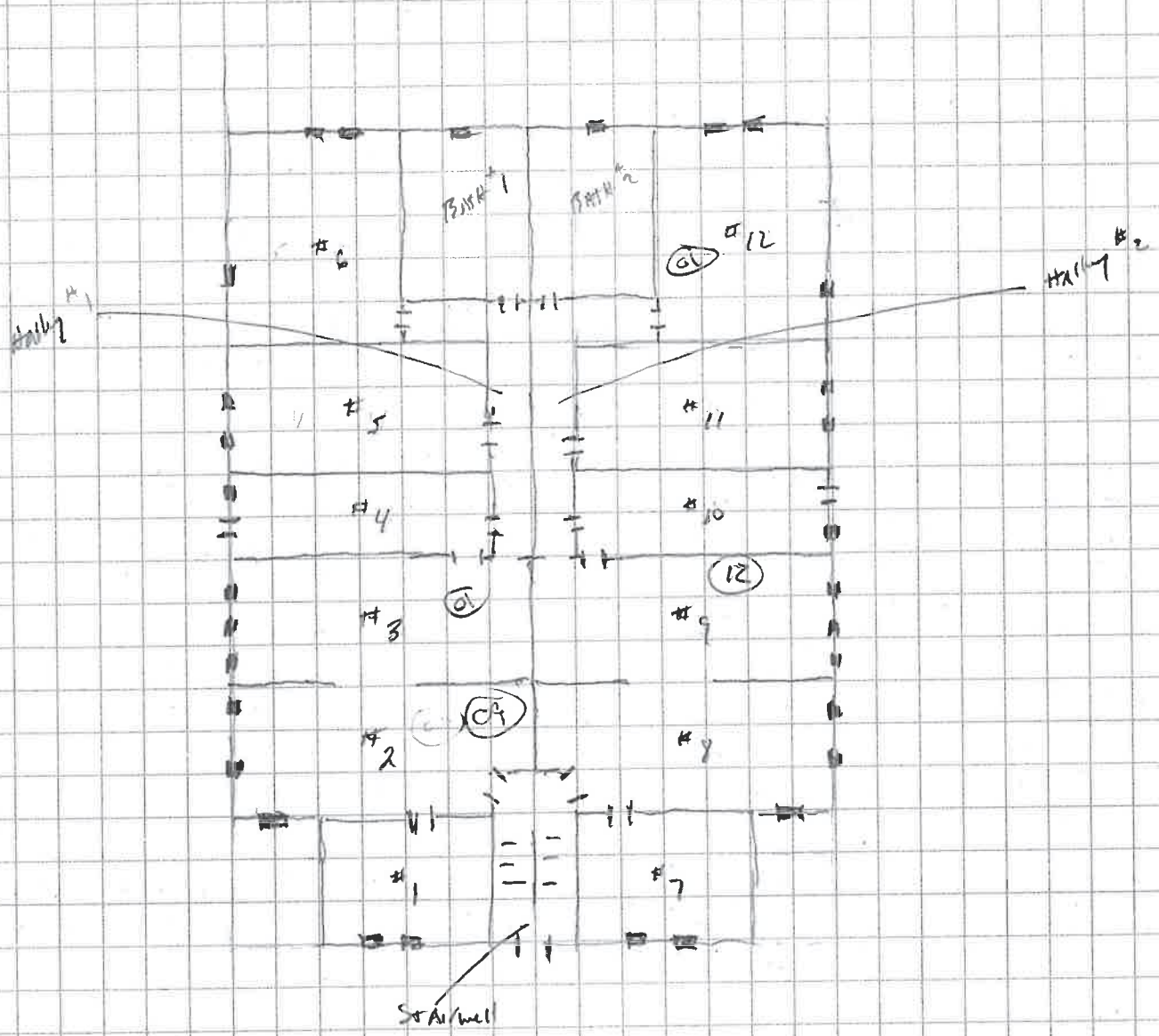
Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 27 THORNTON AVE
PROJECT NO. H16201
PAGE NO. 2 OF 4
FIELD REPRESENTATIVE
DATE 8/25/16
SCALE

INDICATE DIRECTION OF NORTH



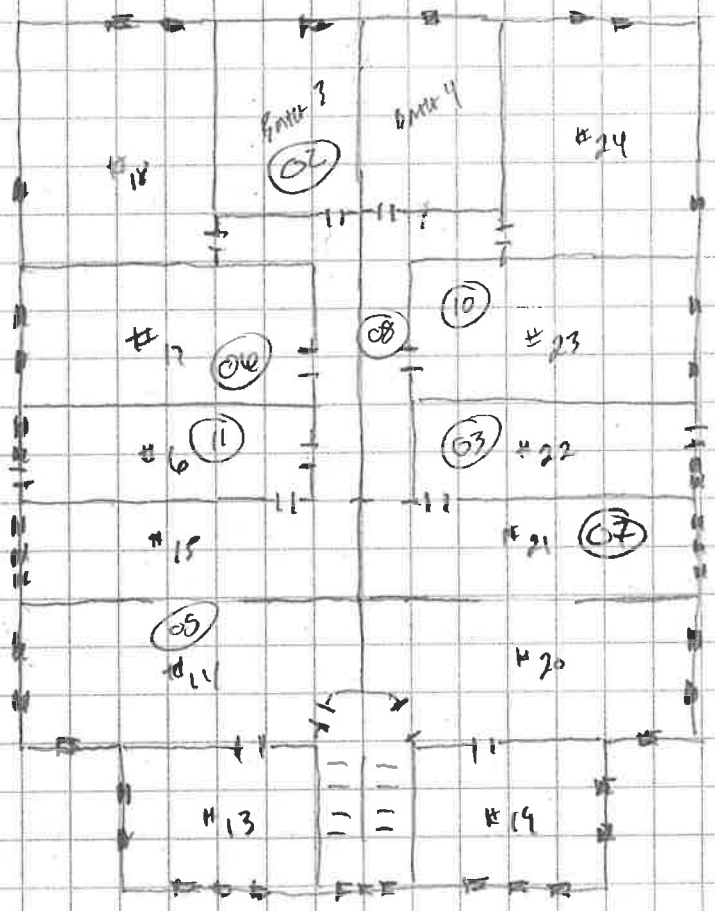
FIRST FLOOR

HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Helsley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 27 THORNTON AVE
PROJECT NO. H16201
PAGE NO. 3 OF 4
FIELD REPRESENTATIVE
DATE 8/25/16
SCALE

INDICATE DIRECTION OF NORTH



Second floor

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PROJECT 27 THORNTON AVE
PROJECT NO. H16201
PAGE NO. 4 OF 4
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DATE 8/25/16
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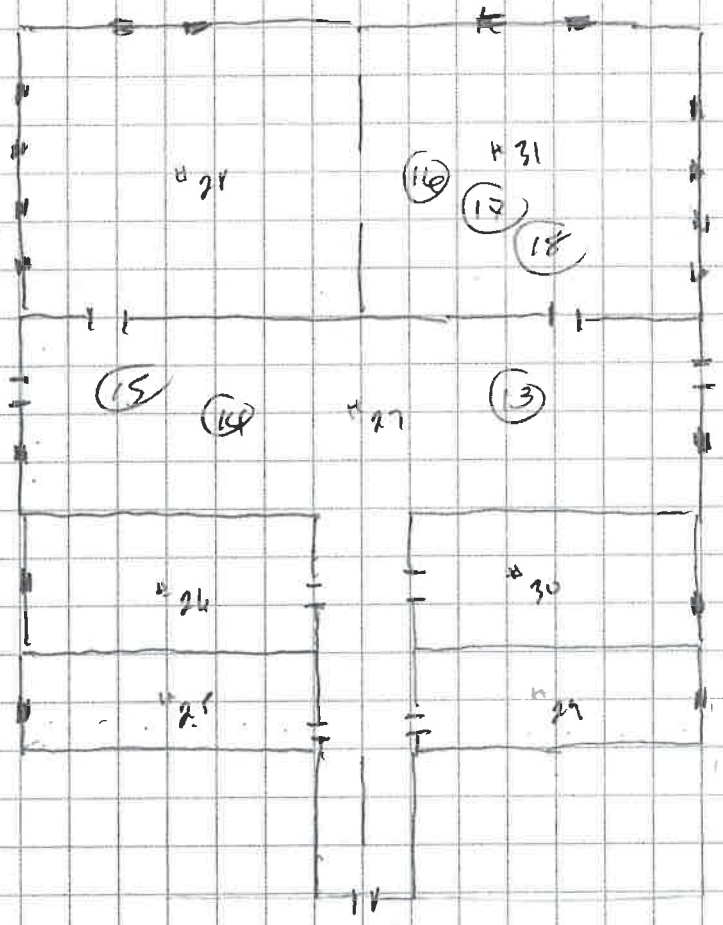
INDICATE DIRECTION OF NORTH



BASEMENT FLOOR

SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/20/2016
Project Name: 27 Thornton, Amended Report SS
Project #: H16201
SanAir ID#: 16031117

NVLAP LAB CODE 200870-0

Virginia SBE Certification # 652931

Texas Licensed Mold Analysis Laboratory License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

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HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 20, 2016

SanAir ID # 16031117
Project Name: 27 Thornton, Amended Report SS
Project Number: H16201

Dear Matt Fergus,

We at SanAir would like to thank you for the work you recently submitted. The 45 sample(s) were received on Tuesday, August 30, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
61 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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SanAir ID Number
16031117
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number: 0007-16
Project Name: 27 Thornton, Amended Report SS

Collected Date: 8/25/2016
Received Date: 8/30/2016 11:00:00 AM
Report Date: 9/20/2016 3:03:30 PM
Analyst: Pisula, Nicholas

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16031117-001 Ceiling Plaster, Plaster	Grey Non-Fibrous Homogeneous		98% Other	2% Chrysotile
01 / 16031117-001 Ceiling Plaster, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16031117-002 Ceiling Plaster, Plaster				Not Analyzed
02 / 16031117-002 Ceiling Plaster, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16031117-003 Ceiling Plaster, Plaster				Not Analyzed
03 / 16031117-003 Ceiling Plaster, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16031117-004 Ceiling Plaster, Plaster				Not Analyzed
04 / 16031117-004 Ceiling Plaster, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16031117-005 Ceiling Plaster, Plaster				Not Analyzed
05 / 16031117-005 Ceiling Plaster, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Nicholas Pisula
Analysis Date: 9/20/2016

Approved Signatory: [signature]
Date: 9/20/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16031117-006 Wall Plaster, Plaster	Brown Non-Fibrous Homogeneous		98% Other	2% Chrysotile
06 / 16031117-006 Wall Plaster, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16031117-007 Wall Plaster, Plaster				Not Analyzed
07 / 16031117-007 Wall Plaster, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16031117-008 Wall Plaster, Plaster				Not Analyzed
08 / 16031117-008 Wall Plaster, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16031117-009 Wall Plaster, Plaster				Not Analyzed
09 / 16031117-009 Wall Plaster, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16031117-010 Wall Plaster, Plaster				Not Analyzed
10 / 16031117-010 Wall Plaster, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Nicholas Pisula
Analysis Date: 9/20/2016

Approved Signatory: [signature]
Date: 9/20/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16031117-011 Wall Plaster, Plaster				Not Analyzed
11 / 16031117-011 Wall Plaster, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16031117-012 Wall Plaster				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16031117-013 Ceiling Plaster	Brown Non-Fibrous Homogeneous		96% Other	4% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
14 / 16031117-014 Ceiling Plaster				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16031117-015 Ceiling Plaster				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16031117-016 Ceiling Plaster	Brown Non-Fibrous Homogeneous		98% Other	2% Chrysotile

Certification

Analyst: Nicholas Pisula
Analysis Date: 9/20/2016

Approved Signatory: [signature]
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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
17 / 16031117-017 Ceiling Plaster				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
18 / 16031117-018 Ceiling Plaster				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
19 / 16031117-019 Textured Skim Coating	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
20 / 16031117-020 Textured Skim Coating	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
21 / 16031117-021 Textured Skim Coating	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
22 / 16031117-022 Textured Skim Coating	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
23 / 16031117-023 Textured Skim Coating	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Nicholas Pisula
Analysis Date: 9/20/2016

Approved Signatory: [signature]
Date: 9/20/2016

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Analyst: Pisula, Nicholas

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
24 / 16031117-024 Textured Skim Coating	White Non-Fibrous Homogeneous		100% Other	None Detected
25 / 16031117-025 Textured Skim Coating	White Non-Fibrous Homogeneous		100% Other	None Detected
26 / 16031117-026 Textured Skim Coating	White Non-Fibrous Homogeneous		100% Other	None Detected
27 / 16031117-027 Textured Skim Coating	White Non-Fibrous Homogeneous		100% Other	None Detected
28 / 16031117-028 Textured Skim Coating	White Non-Fibrous Homogeneous		100% Other	None Detected
29 / 16031117-029 Textured Skim Coating	White Non-Fibrous Homogeneous		100% Other	None Detected
30 / 16031117-030 Textured Skim Coating	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Analysis Date: 9/20/2016

Approved Signatory: Date: 9/20/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
31 / 16031117-031 Textured Drywall Ceiling, Drywall	Grey Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
31 / 16031117-031 Textured Drywall Ceiling, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
32 / 16031117-032 Textured Drywall Ceiling, Drywall	Grey Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
32 / 16031117-032 Textured Drywall Ceiling, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
33 / 16031117-033 Textured Drywall Ceiling, Drywall	Grey Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
33 / 16031117-033 Textured Drywall Ceiling, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
34 / 16031117-034 Ceiling Plaster On Drywall, Drywall	Grey Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
34 / 16031117-034 Ceiling Plaster On Drywall, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
34 / 16031117-034 Ceiling Plaster On Drywall, Skim Coat	Tan Non-Fibrous Homogeneous		100% Other	None Detected
34 / 16031117-034 Ceiling Plaster On Drywall, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Nicholas Pisula
Analysis Date: 9/20/2016

Approved Signatory: [signature]
Date: 9/20/2016

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Analyst: Pisula, Nicholas

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
35 / 16031117-035 Ceiling Plaster On Drywall, Drywall	Grey Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
35 / 16031117-035 Ceiling Plaster On Drywall, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
35 / 16031117-035 Ceiling Plaster On Drywall, Skim Coat	Tan Non-Fibrous Homogeneous		100% Other	None Detected
35 / 16031117-035 Ceiling Plaster On Drywall, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
36 / 16031117-036 Ceiling Plaster On Drywall, Drywall	Grey Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
36 / 16031117-036 Ceiling Plaster On Drywall, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
36 / 16031117-036 Ceiling Plaster On Drywall, Skim Coat	Tan Non-Fibrous Homogeneous		100% Other	None Detected
36 / 16031117-036 Ceiling Plaster On Drywall, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
37 / 16031117-037 Drywall System, Drywall	Grey Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
37 / 16031117-037 Drywall System, Joint Compound	White Non-Fibrous Homogeneous		96% Other	4% Chrysotile

Certification

Analyst: Nicholas Pisula
Analysis Date: 9/20/2016

Approved Signatory: [signature]
Date: 9/20/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
38 / 16031117-038 Drywall System, Drywall	Grey Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
38 / 16031117-038 Drywall System, Joint Compound				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
39 / 16031117-039 Drywall System, Drywall	Grey Non-Fibrous Homogeneous	5% Cellulose	95% Other	None Detected
39 / 16031117-039 Drywall System, Joint Compound				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
40 / 16031117-040 Ceiling Tile	White Fibrous Homogeneous	95% Cellulose	5% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
41 / 16031117-041 Ceiling Tile	White Fibrous Homogeneous	95% Cellulose	5% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
42 / 16031117-042 Window Glazing	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
43 / 16031117-043 Window Glazing	White Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile

Certification

Analyst: Nicholas Pisula
Analysis Date: 9/20/2016

Approved Signatory: [signature]
Date: 9/20/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
44 / 16031117-044 Window Glazing	Beige Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
45 / 16031117-045 Window Glazing	Beige Non-Fibrous Homogeneous		100% Other	None Detected

Amended Report: Additional analysis

Certification

Analyst: Nicholas Pisula
Analysis Date: 9/20/2016

Approved Signatory: [signature]
Date: 9/20/2016

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Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16031117-046 Ceiling Plaster	Grey Non-Fibrous Homogeneous		98.6% Other	1.4% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16031117-047 Ceiling Plaster				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16031117-048 Ceiling Plaster				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16031117-049 Ceiling Plaster				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16031117-050 Ceiling Plaster				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16031117-051 Wall Plaster	Brown Non-Fibrous Homogeneous		98.6% Other	1.4% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16031117-052 Wall Plaster				Not Analyzed

Certification

Analyst: Nicholas Pisula
Analysis Date: 9/20/2016

Approved Signatory: J B Patterson
Date: 9/20/2016

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Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16031117-053 Wall Plaster				Not Analyzed
09 / 16031117-054 Wall Plaster				Not Analyzed
10 / 16031117-055 Wall Plaster				Not Analyzed
11 / 16031117-056 Wall Plaster				Not Analyzed
12 / 16031117-057 Wall Plaster				Not Analyzed
16 / 16031117-059 Ceiling Plaster	Brown Non-Fibrous Homogeneous		98.7% Other	1.3% Chrysotile
17 / 16031117-060 Ceiling Plaster				Not Analyzed

Certification

Analyst: [signature]
Analysis Date: 9/20/2016

Approved Signatory: [signature]
Date: 9/20/2016

SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
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SanAir ID Number
16031117
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number: 0007-16
Project Name: 27 Thornton, Amended Report SS

Collected Date: 8/25/2016
Received Date: 8/30/2016 11:00:00 AM
Report Date: 9/20/2016 3:03:30 PM
Analyst: Pisula, Nicholas

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
18 / 16031117-061 Ceiling Plaster				Not Analyzed

Certification

Analyst: [signature]
Analysis Date: 9/20/2016

Approved Signatory: [signature]
Date: 9/20/2016

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Analyst: Pisula, Nicholas

Asbestos Bulk EPA PLM 400 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
43 / 16031117-058 Window Glazing	White Non-Fibrous Homogeneous		100% Other	< 0.25% Chrysotile

Certification

Analyst: [signature]
Analysis Date: 9/20/2016

Approved Signatory: [signature]
Date: 9/20/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

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SanAir Technologies Laboratory

1551 Oakbridge Drive Suite B
Powhatan, VA 23139
804-897-1177 / 888-895-1177
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www.sanair.com

Asbestos Chain of Custody

SanAir ID Number: 16031117

Company: HzW Environmental Consultants, LLC	Project #: H16201	Collected by: MMR/CK
Address: 6105 Heisley Road	Project Name: 27 THORNTON	Phone #: (440) 357-1260
City, St., Zip: Mentor, Ohio 44060	Date Collected: 8/25/16	Fax #: (440) 357-1510
State of Collection: Oh Account#:	P.O. Number: 0007-16	Email: jsablar@hzwenv.com

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop ☒	
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Water

ABHE	EPA 100.2	☐

Other

Matrix		
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
01	Ceiling Plaster	1000 PL				
02						
03						
04						
05						
06	Wall Plaster	1000 PL				
07						
08						
09						
10						
11						
12						

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	8/29/16	1:00	MC	AUG 30 2016	11:00AM

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

Page 1 of 3

1603117

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
13	Ceiling Plaster	1000 Pc			
14					
15					
16	Ceiling Plaster	1000 Pc			
17					
18					
19	Textured Skim Coating	1000 Pc			
20					
21					
22	Textured Skim Coating	1000 Pc			
23					
24					
25	Textured Skim Coating	1000 Pc			
26					
27					
28	Textured Skim Coating	1000 Pc			
29					
30					
31	Textured Drywall Ceiling	1000 Pc			
32					
33					
34	Ceiling Plaster on Drywall	1000 Pc			
35					
36					
37	Drywall System				
38					
39					
40	Ceiling Tile				
41					
42	Window Glazing				
43					

Special Instructions	Samples for 1000 Point Count are noted, all other are 400 Point Coun

Relinquished by	Date	Time	Received by	Date	Time
			MC	AUG 30 2016	11:00AM

Unless scheduled, the turn around time for all samples received after 3 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.

Page 2 of 3

Point Count all Samples identified at 2% or less

1603117

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
44	window glazing				
45					

Special Instructions

Relinquished by	Date	Time	Received by	Date	Time
			MC	AUG 30 2016	11:00AM

Unless scheduled, the turn around time for all samples received after 3 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.

Point Count all Samples identified at 2% or less

Page 2 of 2

HzW ENVIRONMENTAL
CONSULTANTS, LLC

September 19, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at a Four (4) Unit Apartment Complex Located at 31 Thornton Avenue, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HzW Environmental Consultants, LLC (HzW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at a four (4) unit apartment complex located at 31 Thornton Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below.

Photograph 01
Exterior View of the Apartment Complex Located at
31 Thornton Avenue, Youngstown, Ohio

METHODS OF INVESTIGATION

General

During August 2016, a representative of HzW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HzW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HzW under the Miscellaneous Materials category.

Once categorized, HzW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HzW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HzW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HzW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HzW collected a minimum of seven (7) samples from this area/material.

- For TSI, HzW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HzW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HzW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HzW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HzW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HzW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia, Louisiana, for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less percent asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HzW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HzW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HzW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HzW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HzW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HzW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos.

   Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HzW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HzW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HzW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HzW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Second Request\42 31 Thorton Avenue Asbestos Report.doc

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 31 Thornton Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Ceiling Plaster with Skim Coat - Smooth	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	01						4,000 sq.ft.	0.4 ND
				02							<0.1 ND
				03							0.2 ND
				04							0.1 ND
				05							0.3 ND
B	Wall Plaster with Skim Coat - Smooth	Throughout Structure	>5,000 sq.ft.	06						14,843 sq.ft.	0.8 ND
				07							0.7 ND
				08							0.5 ND
				09							0.4 ND
				10							0.5 ND
				11							0.3 ND
				12							0.4 ND
C	Skim Coat – Ceiling, Sharp Blotch Pattern	Throughout Structure	<1,000 sq.ft.	13							ND
				14							ND
				15							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 31 Thornton Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
D	Drywall System – Ceiling and Wall	Various Areas Throughout Structure	Minimum 3 Samples	16							ND ND
				17							ND ND
				18							ND ND
E	Ceiling Panel – 2-foot by 4-foot, Pinhole with Fissure Pattern	Front Room # 1 and Bedroom # 8	Minimum 2 Samples	19							ND
				20							ND
F	Drywall Board	Over Windows Throughout Structure	Minimum 2 Samples	21							ND
				22							ND
J	Skim Coat – Wall, Thick Smear Pattern	Dining Room # 2	<1,000 sq.ft.	23							ND
				24							ND
				25							ND
L	Skim Coat – Wall, Ripple Pattern	Bathroom # 2	<1,000 sq.ft.	26							ND
				27							ND
				28							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 31 Thornton Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
M	Skim Coat – Ceiling, Swirl Pattern	Second Floor Stairwell Landing	<1,000 sq.ft.	29							ND
				30							ND
				31							ND
N	Ceiling Panel – 2-foot by 4-foot, Ripple Pattern	Throughout Stairwell	Minimum 2 Samples	32							ND
				33							ND
O	Window Glazing	Basement Windows	Minimum 2 Samples	34			X			7 sq.ft. (16 Wndws)	3
				35							NA
P	Ceiling Plaster – over Metal Lathe	Basement	<1,000 sq.ft.	36						640 sq.ft.	0.5
				37							0.2
				38							0.5
Q	Ceiling Plaster – over Wood Lathe	Basement	<1,000 sq.ft.	39						468 sq.ft.	0.5
				40							0.2
				41							0.3

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 31 Thornton Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
V	Window Glazing	Building Windows	Minimum 2 Samples	42			X			21 sq.ft. (39 Wndws)	4
				43							NA
G	Light Heat Shield	Kitchen #1	Assumed RACM			X			1 sq.ft.		Assumed
H1-H2	Cove Base – 3-inch, Mastic (2-Types)	Kitchen # 1and Bathroom # 3	Category I Nonfriable in Fair Condition, Not Sampled				X		21 sq.ft.		Assumed
I	Vinyl Sheet Flooring, Mastic	Kitchen #1	Category I Nonfriable in Fair Condition, Not Sampled				X		120 sq.ft.		Assumed
K1-K7	Floor Tile – 12-inch by 12-inch, Mastic (7-Types)	Various Areas Throughout Structure	Category I Nonfriable in Fair Condition, Not Sampled				X		860 sq.ft.		Assumed
R	Duct Seam Tape	Basement	Assumed RACM			X				55 sq.ft.	Assumed
S	Duct Wrap Insulation	Throughout Structure	Assumed RACM			X				750 sq.ft.	Assumed
		Throughout Basement	Assumed RACM			X				950 sq.ft. area	Assumed
T	Electrical Backing Paper	Basement Room # 5	Assumed RACM			X			8 sq.ft.		Assumed
U	Tar Roofing System - Black	Building Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		2,800 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

HZW ENVIRONMENTAL
CONSULTANTS, LLC

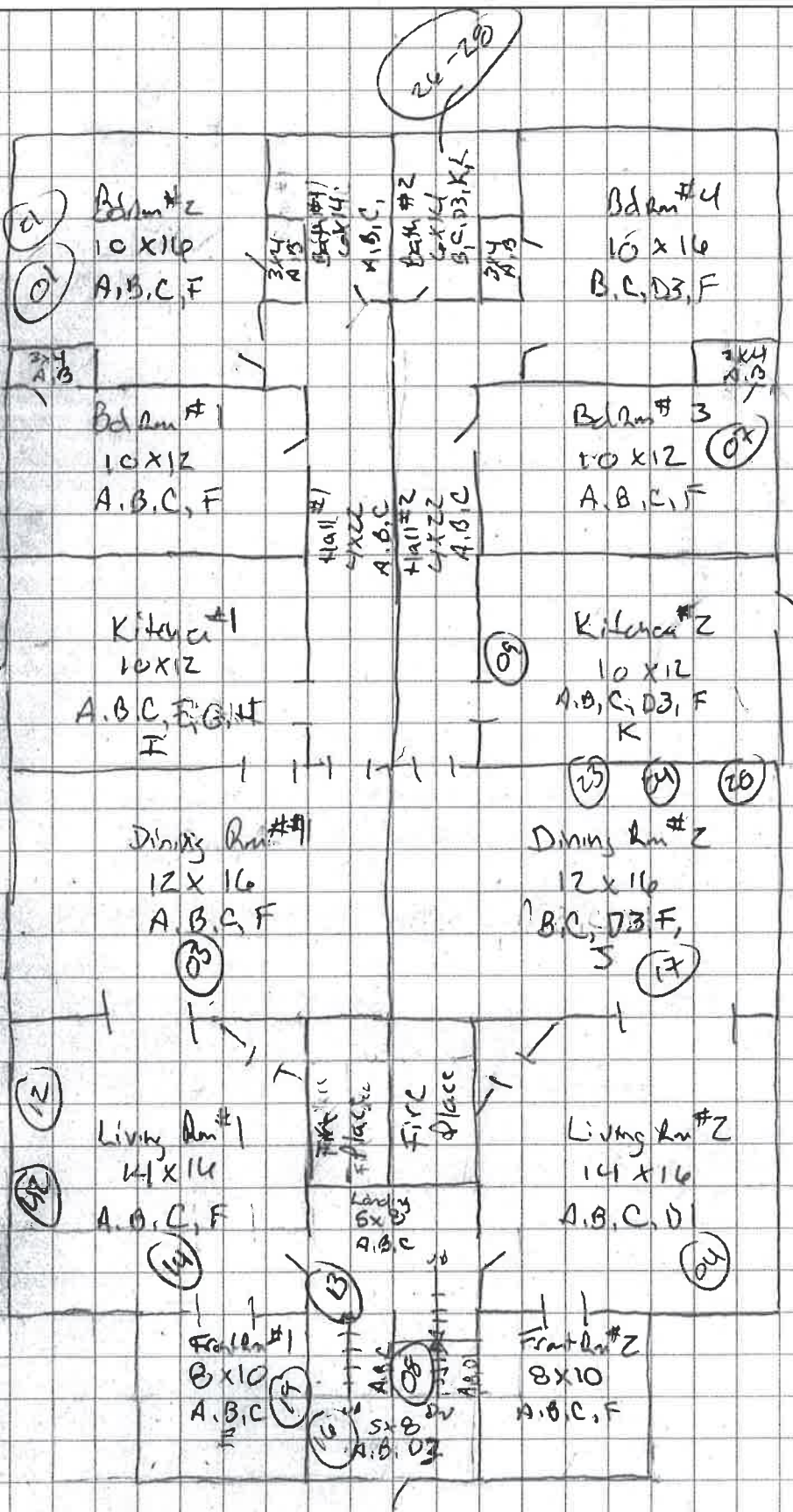
6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 31 Thorton Ave
PROJECT NO. H16201
PAGE NO. 3 OF 5
FIELD REPRESENTATIVE CR DATE 08/29/14
SCALE (m)

INDICATE DIRECTION OF NORTH

N

1 = Ceiling
2 = Wall
3 = Bom



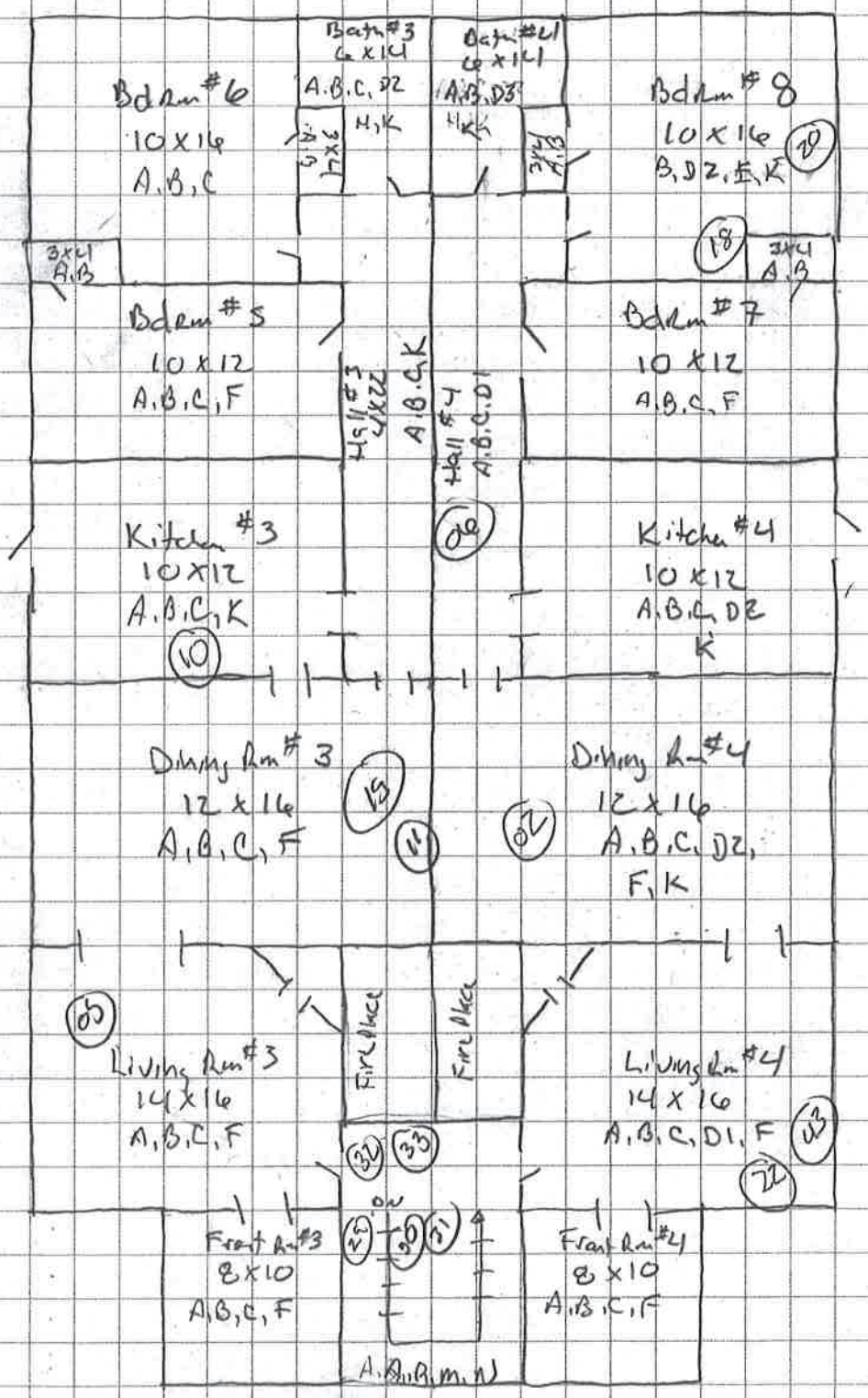
1ST floor

HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 31 Thorton Ave
PROJECT NO. H14201
PAGE NO. 4 OF 5
FIELD REPRESENTATIVE CR DATE 08/29/16
SCALE (m)

INDICATE DIRECTION OF NORTH



1 = Ceiling
2 = wall
3 = Both

2nd floor

HZW ENVIRONMENTAL
CONSULTANTS, LLC

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PROJECT 31 Thorton Ave
PROJECT NO. H16201
PAGE NO. 5 OF 5
FIELD REPRESENTATIVE CL DATE 08/29/14
SCALE

INDICATE DIRECTION OF NORTH

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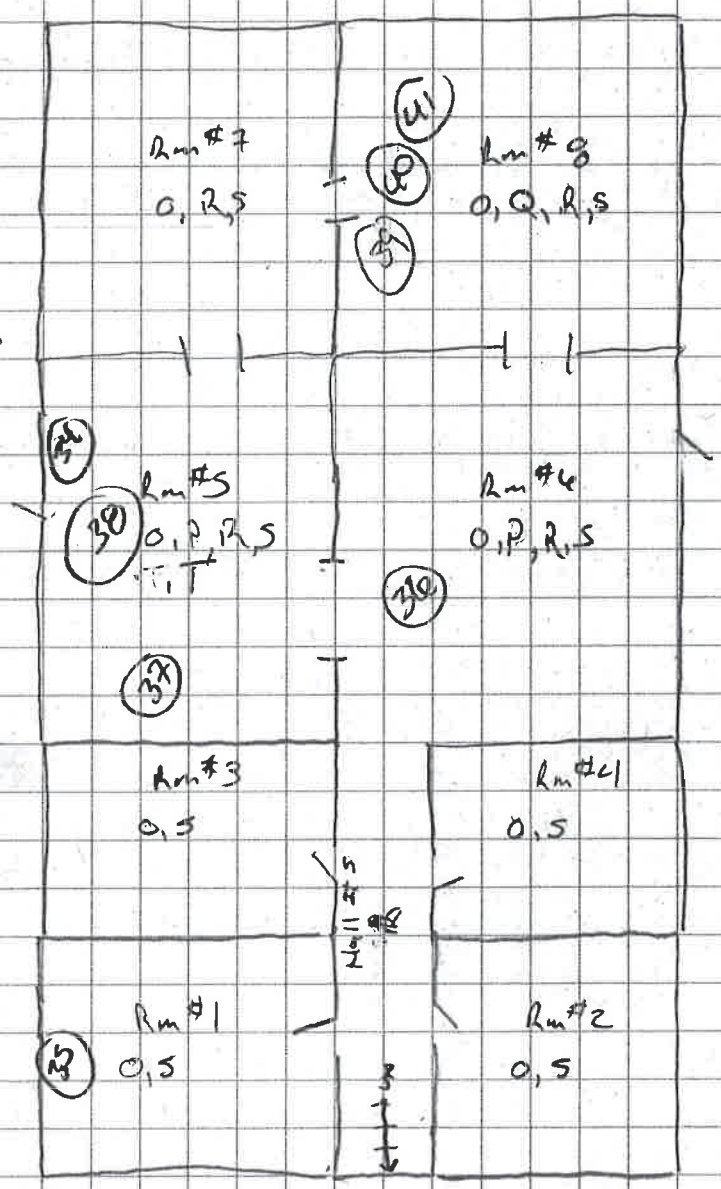

Basement

SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/12/2016
Project Name: 31 Thorton Ave
Project #: H16201
SanAir ID#: 16031772

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

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

HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 12, 2016

SanAir ID # 16031772
Project Name: 31 Thorton Ave
Project Number: H16201

Dear Carmen Rocco,

We at SanAir would like to thank you for the work you recently submitted. The 55 sample(s) were received on Friday, September 02, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
61 sample(s) in Good condition

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SanAir ID Number
16031772
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 31 Thorton Ave

Collected Date: 8/30/2016
Received Date: 9/2/2016 10:30:00 AM
Report Date: 9/12/2016 5:01:55 PM
Analyst: Sobrino, Sandra

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16031772-001 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
01 / 16031772-001 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16031772-002 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
02 / 16031772-002 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16031772-003 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
03 / 16031772-003 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16031772-004 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
04 / 16031772-004 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16031772-005 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
05 / 16031772-005 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Sandra Sobrino
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16031772-006 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Heterogeneous		98% Other	2% Chrysotile
06 / 16031772-006 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16031772-007 Wall Plaster W/ S/ C, Plaster				Not Analyzed
07 / 16031772-007 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16031772-008 Wall Plaster W/ S/ C, Plaster				Not Analyzed
08 / 16031772-008 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16031772-009 Wall Plaster W/ S/ C, Plaster				Not Analyzed
09 / 16031772-009 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16031772-010 Wall Plaster W/ S/ C, Plaster				Not Analyzed
10 / 16031772-010 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

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SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16031772-011 Wall Plaster W/ S/ C, Plaster				Not Analyzed
11 / 16031772-011 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16031772-012 Wall Plaster W/ S/ C, Plaster				Not Analyzed
12 / 16031772-012 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16031772-013 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
14 / 16031772-014 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16031772-015 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16031772-016 D/ W System, Drywall	White Non-Fibrous Homogeneous	2% Cellulose	98% Other	None Detected
16 / 16031772-016 D/ W System, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
17 / 16031772-017 D/ W System, Drywall	White Non-Fibrous Homogeneous	2% Cellulose	98% Other	None Detected
17 / 16031772-017 D/ W System, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
18 / 16031772-018 D/ W System, Drywall	White Non-Fibrous Homogeneous	2% Cellulose	98% Other	None Detected
18 / 16031772-018 D/ W System, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
19 / 16031772-019 Ceiling Panel	White Fibrous Homogeneous	45% Cellulose 40% Glass	15% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
20 / 16031772-020 Ceiling Panel	White Fibrous Homogeneous	45% Cellulose 40% Glass	15% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
21 / 16031772-021 D/ W Board	White Non-Fibrous Homogeneous	2% Cellulose	98% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
22 / 16031772-022 D/ W Board	White Non-Fibrous Homogeneous	2% Cellulose	98% Other	None Detected

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
23 / 16031772-023 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
24 / 16031772-024 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
25 / 16031772-025 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
26 / 16031772-026 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
27 / 16031772-027 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
28 / 16031772-028 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
29 / 16031772-029 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
30 / 16031772-030 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
31 / 16031772-031 Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
32 / 16031772-032 Ceiling Panel	Tan Fibrous Homogeneous	99% Cellulose	1% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
33 / 16031772-033 Ceiling Panel	Tan Fibrous Homogeneous	99% Cellulose	1% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
34 / 16031772-034 Window Glazing	Grey Non-Fibrous Homogeneous		97% Other	3% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
35 / 16031772-035 Window Glazing				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
36 / 16031772-036 Ceiling Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile

Certification

Analyst: Sandra Sobrino
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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
37 / 16031772-037 Ceiling Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
38 / 16031772-038 Ceiling Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
39 / 16031772-039 Ceiling Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
40 / 16031772-040 Ceiling Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
41 / 16031772-041 Ceiling Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
42 / 16031772-042 Window Glazing	Grey Non-Fibrous Homogeneous		96% Other	4% Chrysotile
43 / 16031772-043 Window Glazing				Not Analyzed

Certification

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Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16031772-044 Ceiling Plaster	Grey Non-Fibrous Heterogeneous		99.6% Other	0.4% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16031772-045 Ceiling Plaster	Grey Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16031772-046 Ceiling Plaster	Grey Non-Fibrous Homogeneous		99.8% Other	0.2% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16031772-047 Ceiling Plaster	Grey Non-Fibrous Heterogeneous		99.9% Other	0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16031772-048 Ceiling Plaster	Grey Non-Fibrous Heterogeneous		99.7% Other	0.3% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16031772-049 Wall Plaster	Grey Non-Fibrous Heterogeneous		99.3% Other	0.7% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16031772-050 Wall Plaster	Grey Non-Fibrous Heterogeneous		99.5% Other	0.5% Chrysotile

Certification

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Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
09 / 16031772-051 Wall Plaster	Grey Non-Fibrous Heterogeneous		99.6% Other	0.4% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
10 / 16031772-052 Wall Plaster	Grey Non-Fibrous Heterogeneous		99.5% Other	0.5% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
11 / 16031772-053 Wall Plaster	Grey Non-Fibrous Heterogeneous		99.7% Other	0.3% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
12 / 16031772-054 Wall Plaster	Grey Non-Fibrous Heterogeneous		99.6% Other	0.4% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
36 / 16031772-055 Ceiling Plaster	Brown Non-Fibrous Heterogeneous		99.5% Other	0.5% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
37 / 16031772-056 Ceiling Plaster	Brown Non-Fibrous Heterogeneous		99.8% Other	0.2% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	% Non-Fibrous	Asbestos Fibers
38 / 16031772-057 Ceiling Plaster	Brown Non-Fibrous Heterogeneous		99.5% Other	0.5% Chrysotile

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SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
39 / 16031772-058 Ceiling Plaster	Brown Non-Fibrous Heterogeneous		99.5% Other	0.5% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
40 / 16031772-059 Ceiling Plaster	Brown Non-Fibrous Heterogeneous		99.8% Other	0.2% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
41 / 16031772-060 Ceiling Plaster	Brown Non-Fibrous Heterogeneous		99.7% Other	0.3% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16031772-061 Wall Plaster	Grey Non-Fibrous Heterogeneous		99.2% Other	0.8% Chrysotile

Certification

Analyst: Sandra Sobrino
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Date: 9/12/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

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Asbestos Chain of Custody

SanAir ID Number: 1603172

Company: Hew Environmental	Project #: HIE201	Collected by:	
Address: 6105 Heisley Rd	Project Name: 31 Thorton Ave	Phone #:	
City, St., Zip: Mentor, OH 44060	Date Collected:	Fax #:	
State of Collection: OH	Account#:	P.O. Number:	Email:

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Water

ABHE	EPA 100.2	☐

Other

Matrix		
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start – Stop	
01	Ceiling Plaster w/ S/C					
02						
03			1,000 p.c.			
04						
05						
06	Wall plaster w/ S/C					
07						
08			1,000 p.c.			
09						
10						
11						
12						

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	08/30/14	4:30pm	[illegible]	SEP 02 2014	10:39AM

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

Page ___ of ____

Please P/C 2% or less
1,000 P/C when Indicated.

1603172

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
13	Skim Coat				
14			1,000 p.c.		
15					
16	D/W System				
17					
18					
19	Ceiling Panel				
20					
21	D/W Board				
22					
23	Skim coat				
24			1,000 p.c.		
25					
26	Skim coat				
27			1,000 p.c.		
28					
29	Skim Coat				
30			1,000 p.c.		
31					
32	Ceiling Panel				
33					
34	Window Glazing				
35					
36	Ceiling Plaster				
37			1,000 p.c.		
38					
39	Ceiling Plaster				
40			1,000 p.c.		
41					
42	Window Glazing				
43					

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
	08/30/16	4:30 PM	MC	SEP 02 2016	10:30AM

Unless scheduled, the turn around time for all samples received after 3 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.

Page ___of ___

HzW ENVIRONMENTAL
CONSULTANTS, LLC

September 19, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 35 Thornton Avenue, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HzW Environmental Consultants, LLC (HzW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at one (1) residential structure located at 35 Thornton Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below.

Photograph 01
Exterior View of Structure Located at
35 Thornton Avenue, Youngstown, Ohio

MENTOR AKRON EUCLID CANTON
6105 Heisley Road, Mentor, Ohio 44060 • phone 440-357-1260 • 800-804-8484 • fax 440-357-1510
www.hzwenv.com

METHODS OF INVESTIGATION

General

During August 2016, a representative of HzW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HzW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HzW under the Miscellaneous Materials category.

Once categorized, HzW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HzW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HzW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HzW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HzW collected a minimum of seven (7) samples from this area/material.

- For TSI, HzW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HzW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HzW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HzW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HzW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HzW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia, Louisiana, for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less percent asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HzW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HzW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HzW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HzW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HzW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HzW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos.

   Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HzW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HzW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HzW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HzW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Second Request\47 35 Thornton Avenue Asbestos Report.doc

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 35 Thornton Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Ceiling Plaster with Skim Coat - Smooth	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	01						1,530 sq.ft.	ND ND
				02							ND ND
				03							ND ND 0.8
				04							ND ND
				05							ND ND
B	Wall Plaster with Skim Coat - Smooth	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	06							ND ND
				07							ND ND
				08							ND ND
				09							ND ND
				10							ND ND
C	Skim Coat – Ceiling, Blotch Pattern	Various Areas Throughout Structure	<1,000 sq.ft.	11	X				736 sq.ft.		1.1
				12							NA
				13							NA
F	Ceiling Tile – 1-foot by 1-foot, Plasma Pattern	Basement Stairwell	Minimum 2 Samples	16							ND
				17							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 35 Thornton Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
G	Window Glazing	Front Porch Windows	Minimum 2 Samples	18			X			5 sq.ft. (9 Wndws)	4
				19							NA
I	Window Glazing	Basement Windows	Minimum 2 Samples	20			X			1 sq.ft. (2 Wndws)	4
				21							NA
M	Window Glazing	House Windows	Minimum 2 Samples	22			X			8 sq.ft. (19 Wndws)	4
				23							NA
D1-D5	Vinyl Sheet Flooring Mastic (5-Types)	Various Areas Throughout Structure	Category I Nonfriable in Fair Condition, Not Sampled				X		716 sq.ft.		Assumed
J	Duct Seam Tape	Basement	Assumed RACM			X			8 sq.ft.		Assumed
K	Duct Wrap Insulation	Throughout Structure	Assumed RACM			X			108 sq.ft.		Assumed
L	Asphalt Shingle Roofing System - Black	House Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		1,000 sq.ft.		Assumed

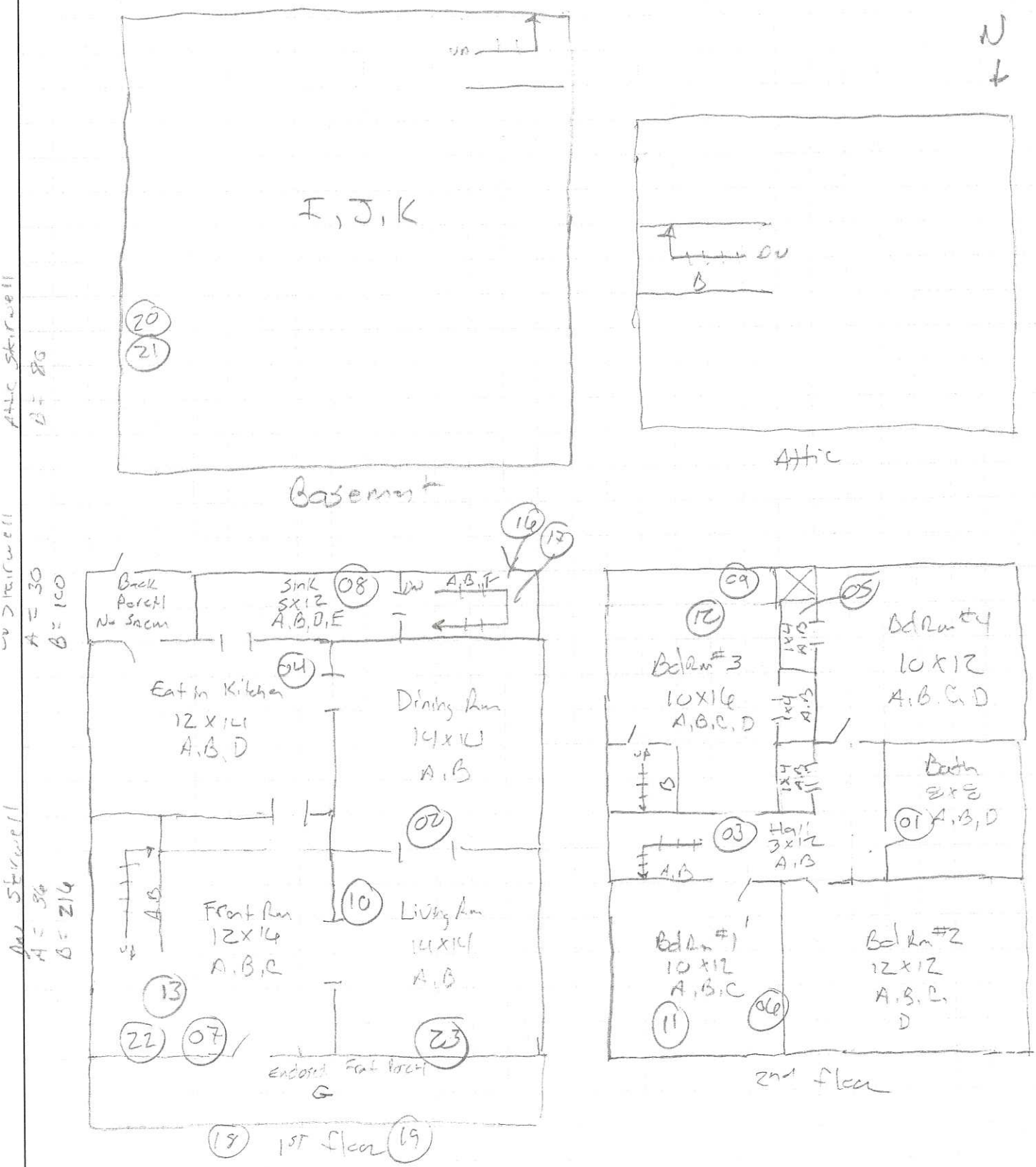
Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

HZW ENVIRONMENTAL
CONSULTANTS, LLC

6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 35 Thorton Ave
PROJECT NO. H16201
PAGE NO. 2 OF 2
FIELD REPRESENTATIVE CR DATE 08/29/14
SCALE NA

INDICATE DIRECTION OF NORTH



SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/12/2016
Project Name: 35 Thorton Ave
Project #: H16201
SanAir ID#: 16031777

NVLAP LAB CODE 200870-0

Virginia SBE Certification # 652931

Texas Licensed Mold Analysis Laboratory License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

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

HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 12, 2016

SanAir ID # 16031777
Project Name: 35 Thorton Ave
Project Number: H16201

Dear Carmen Rocco,

We at SanAir would like to thank you for the work you recently submitted. The 22 sample(s) were received on Friday, September 02, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 16, 17, 18, 19, 20, 21, 22, 23.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
25 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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

SanAir ID Number
16031777
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 35 Thorton Ave

Collected Date: 8/30/2016
Received Date: 9/2/2016 10:30:00 AM
Report Date: 9/12/2016 5:32:35 PM
Analyst: Childress, Susan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16031777-001 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous	< 1% Hair	100% Other	None Detected
01 / 16031777-001 Ceiling Plaster W/ S/ C, Skim Coat	Beige Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16031777-002 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous	< 1% Hair	100% Other	None Detected
02 / 16031777-002 Ceiling Plaster W/ S/ C, Skim Coat	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16031777-003 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous	< 1% Hair	100% Other	None Detected
03 / 16031777-003 Ceiling Plaster W/ S/ C, Skim Coat	Beige Non-Fibrous Homogeneous		100% Other	None Detected
03 / 16031777-003 Ceiling Plaster W/ S/ C, Texture	Brown Non-Fibrous Homogeneous		98% Other	2% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16031777-004 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous		100% Other	None Detected
04 / 16031777-004 Ceiling Plaster W/ S/ C, Skim Coat	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Susan L. Childress
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

SanAir Technologies Laboratory, Inc.
1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: http://www.sanair.com E-mail: iaq@sanair.com

SanAir ID Number
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FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
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Project Name: 35 Thorton Ave

Collected Date: 8/30/2016
Received Date: 9/2/2016 10:30:00 AM
Report Date: 9/12/2016 5:32:35 PM
Analyst: Childress, Susan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16031777-005 Ceiling Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous	< 1% Hair	100% Other	None Detected
05 / 16031777-005 Ceiling Plaster W/ S/ C, Skim Coat	Beige Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16031777-006 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous	< 1% Hair	100% Other	None Detected
06 / 16031777-006 Wall Plaster W/ S/ C, Skim Coat	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16031777-007 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous	< 1% Hair	100% Other	None Detected
07 / 16031777-007 Wall Plaster W/ S/ C, Skim Coat	Off-White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16031777-008 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous	< 1% Hair	100% Other	None Detected
08 / 16031777-008 Wall Plaster W/ S/ C, Skim Coat	Beige Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16031777-009 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous	< 1% Hair	100% Other	None Detected
09 / 16031777-009 Wall Plaster W/ S/ C, Skim Coat	Yellow Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: Susan L. Childress
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

SanAir Technologies Laboratory, Inc.
1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: http://www.sanair.com E-mail: iaq@sanair.com

SanAir ID Number
16031777
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 35 Thorton Ave

Collected Date: 8/30/2016
Received Date: 9/2/2016 10:30:00 AM
Report Date: 9/12/2016 5:32:35 PM
Analyst: Childress, Susan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16031777-010 Wall Plaster W/ S/ C, Plaster	Grey Non-Fibrous Homogeneous	< 1% Hair	100% Other	None Detected
10 / 16031777-010 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16031777-011 Skim Coat	Beige Non-Fibrous Homogeneous		98% Other	2% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16031777-012 Skim Coat				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16031777-013 Skim Coat				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16031777-014 Ceiling Tile	White Fibrous Homogeneous	85% Cellulose	15% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
17 / 16031777-015 Ceiling Tile	White Fibrous Homogeneous	85% Cellulose	15% Other	None Detected

Certification

Analyst: Susan L. Childress
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

SanAir Technologies Laboratory, Inc.

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

SanAir ID Number
16031777
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 35 Thorton Ave

Collected Date: 8/30/2016
Received Date: 9/2/2016 10:30:00 AM
Report Date: 9/12/2016 5:32:35 PM
Analyst: Childress, Susan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
18 / 16031777-016 Window Glazing	Grey Non-Fibrous Homogeneous		96% Other	4% Chrysotile
19 / 16031777-017 Window Glazing				Not Analyzed
20 / 16031777-018 Window Glazing	White Non-Fibrous Homogeneous		96% Other	4% Chrysotile
21 / 16031777-019 Window Glazing				Not Analyzed
22 / 16031777-020 Window Glazing	White Non-Fibrous Homogeneous		96% Other	4% Chrysotile
23 / 16031777-021 Window Glazing				Not Analyzed

Certification

Analyst: Susan L. Childress
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Analyst: Childress, Susan

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16031777-022 Texture	Brown Non-Fibrous Homogeneous		99.2% Other	0.8% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16031777-023 Skim Coat	Beige Non-Fibrous Homogeneous		98.9% Other	1.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16031777-024 Skim Coat				Not Analyzed

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16031777-025 Skim Coat				Not Analyzed

Certification

Analyst: Susan L. Childress
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

Disclaimer

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Asbestos Chain of Custody

SanAir ID Number: 16031777

Company: Haw Environmental	Project #: H116201	Collected by:	
Address: 6605 Heisley Rd	Project Name: 35 Thorton Ave	Phone #:	
City, St., Zip: Mentor, OH 44060	Date Collected:	Fax #:	
State of Collection: OH Account#:	P.O. Number:	Email:	

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Water

ABHE	EPA 100.2	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Other

Matrix		
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
01	Ceiling Plaster w/ s/c					
02						
03			1,000 p.c.			
04						
05						
06	Wall Plaster w/ s/c					
07						
08			1,000 p.c.			
09						
10						

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	08/30/16	4:30pm	MC	SEP 02 2016	10:30AM

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

Page ___ of ____

Please P/C 2% or less
1,000 P/C when Indicated.

16031777

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
11	Skim Coat				
12			1,000 cc		
13					
16	Ceiling Tile				
17					
18	Window Glazing				
19					
20	Window Glazing				
21					
22	Window Glazing				
23					

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
	08/30/16	4:30 pm	MC	SEP 02 2016	10:30 AM

Unless scheduled, the turn around time for all samples received after 3 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.

Page ___ of ___

HzW ENVIRONMENTAL
CONSULTANTS, LLC

September 19, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 61 Thornton Avenue, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HzW Environmental Consultants, LLC (HzW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 61 Thornton Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below.

Photograph 01
Exterior View of Residential Structure Located at
61 Thornton Avenue, Youngstown, Ohio

MENTOR **AKRON** **EUCLID** **CANTON**
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METHODS OF INVESTIGATION

General

During August 2016, a representative of HzW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HzW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HzW under the Miscellaneous Materials category.

Once categorized, HzW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HzW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HzW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HzW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HzW collected a minimum of seven (7) samples from this area/material.

- For TSI, HzW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HzW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HzW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HzW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HzW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HzW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia, Louisiana, for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less percent asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HzW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HzW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HzW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HzW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HzW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HzW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos.

   Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HzW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HzW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HzW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HzW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Second Request\43 61 Thorton Avenue Asbestos Report.doc

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 61 Thornton Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Ceiling Plaster with Skim Coat - Smooth	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	01						1,527 sq.ft.	<0.1 ND
				02							<0.1 ND
				03							0.1 ND
				04							<0.1 ND
				05							<0.1 ND
B	Wall Plaster with Skim Coat - Smooth	Throughout Structure	>1,000 sq.ft. <5,000 sq.ft.	06					4,997 sq.ft.		0.2 ND
				07							0.1 ND
				08							<0.1 ND
				09							0.1 ND
				10							<0.1 ND
D	Drywall System – Wall	Restroom	Minimum 2 Samples	11							ND ND
				12							ND ND
E	Ceiling Panel – 2-foot by 4-foot, Pinhole with Fissure Pattern	Restroom and Dining Room	Minimum 2 Samples	13							ND
				14							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 61 Thornton Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
F	Ceiling Tile – 2-foot by 3-foot, Smooth	Kitchen	Minimum 2 Samples	15							ND
				16							ND
L	Skim Coat – Wall, Rough Brush Stroke Pattern	Basement	<1,000 sq.ft.	19							ND
				20							ND
				21							ND
M	Window Glazing	Basement Windows	Minimum 2 Samples	22						6 sq.ft.	<0.25
				23							<0.25
P	Mixed Debris Pile	Front Porch	Minimum 2 Samples	24			X			30 cu.ft.	4 ND ND ND
				25							NA ND ND ND
Q	Drywall Board - Ceiling	Front Porch	Minimum 2 Samples	26							ND
				27							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 61 Thornton Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
S	Window Glazing	House Windows	Minimum 2 Samples	28							ND
				29							ND
U	Window Glazing	Garage Windows	Minimum 2 Samples	30							ND
				31							ND
C1-C3	Floor Tile – 12-inch by 12-inch, Mastic (3-Types)	Various Areas Throughout Structure	Category I Nonfriable in Fair Condition, Not Sampled				X		512 sq.ft.		Assumed
H	Light Heat Shield	Sink Area	Assumed RACM			X			1 sq.ft.		Assumed
I	Cove Base – 3-Inch Mastic	Sink Area	Category I Nonfriable in Fair Condition, Not Sampled				X		11 sq.ft.		Assumed
J	Vinyl Sheet Flooring, Mastic	Second Floor Hallway and Attic	Category I Nonfriable in Fair Condition, Not Sampled				X		460 sq.ft.		Assumed
K	Floor Tile – 9-inch by 9-inch, Mastic	Basement and Basement Stairwell	Category I Nonfriable in Fair Condition, Not Sampled				X		300 sq.ft.		
N	Duct Seam Tape	Basement	Assumed RACM			X			5 sq.ft.	10 sq.ft. area	Assumed
O	Duct Wrap Insulation	Throughout Structure	Assumed RACM			X			160 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 61 Thornton Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
R	Asphalt Shingle Roofing System - Black	House Roof	Assumed RACM				X		1,200 sq.ft.		Assumed
T	Asphalt Shingle Roofing System - Black	Garage Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		460 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

HZW ENVIRONMENTAL
CONSULTANTS, LLC

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phone 440-357-1260 • 800-804-8484
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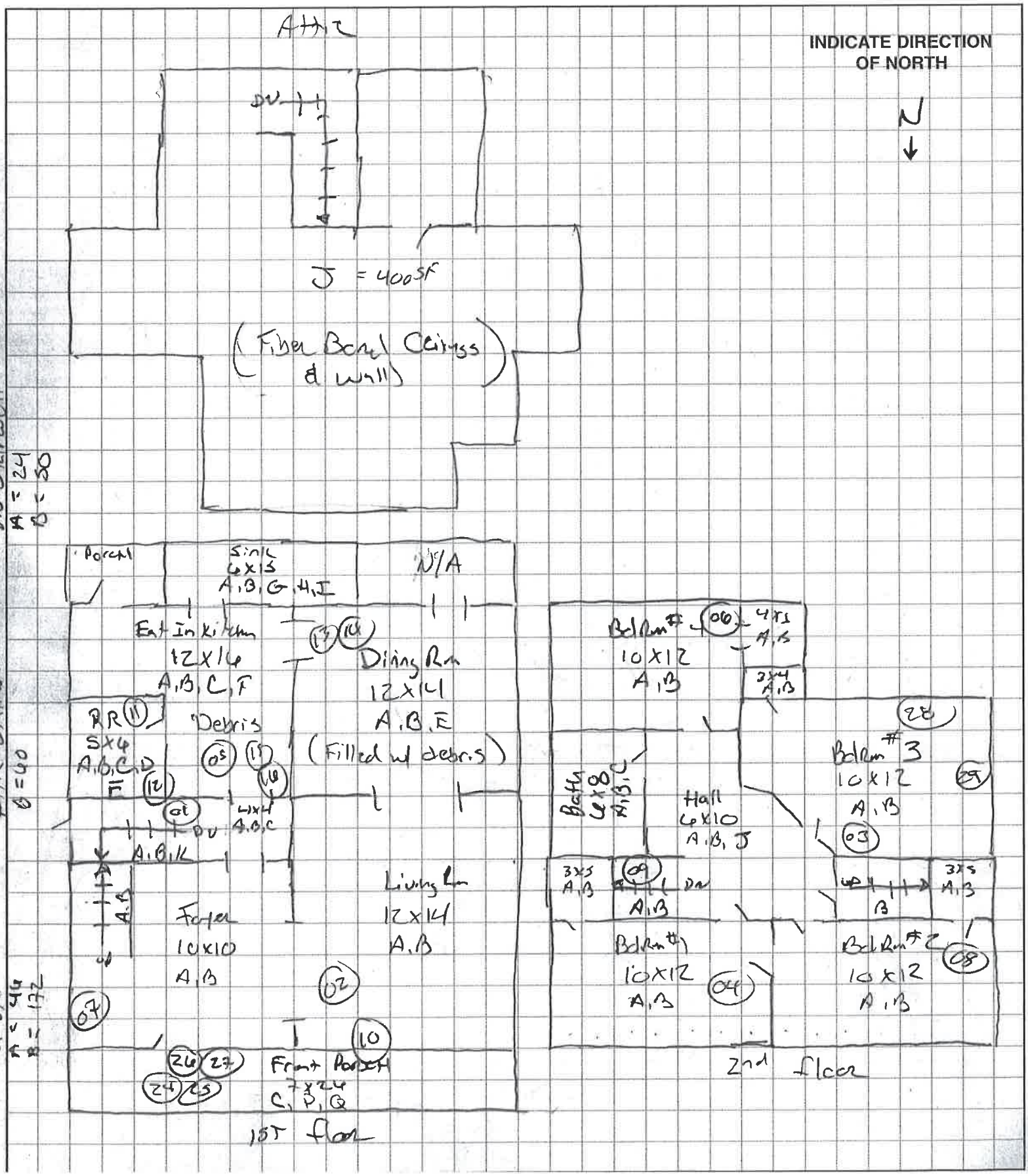
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 61 Thorton Ave
PROJECT NO. H16201
PAGE NO. 2 OF 3
FIELD REPRESENTATIVE CR DATE 08/30/16
SCALE (T)



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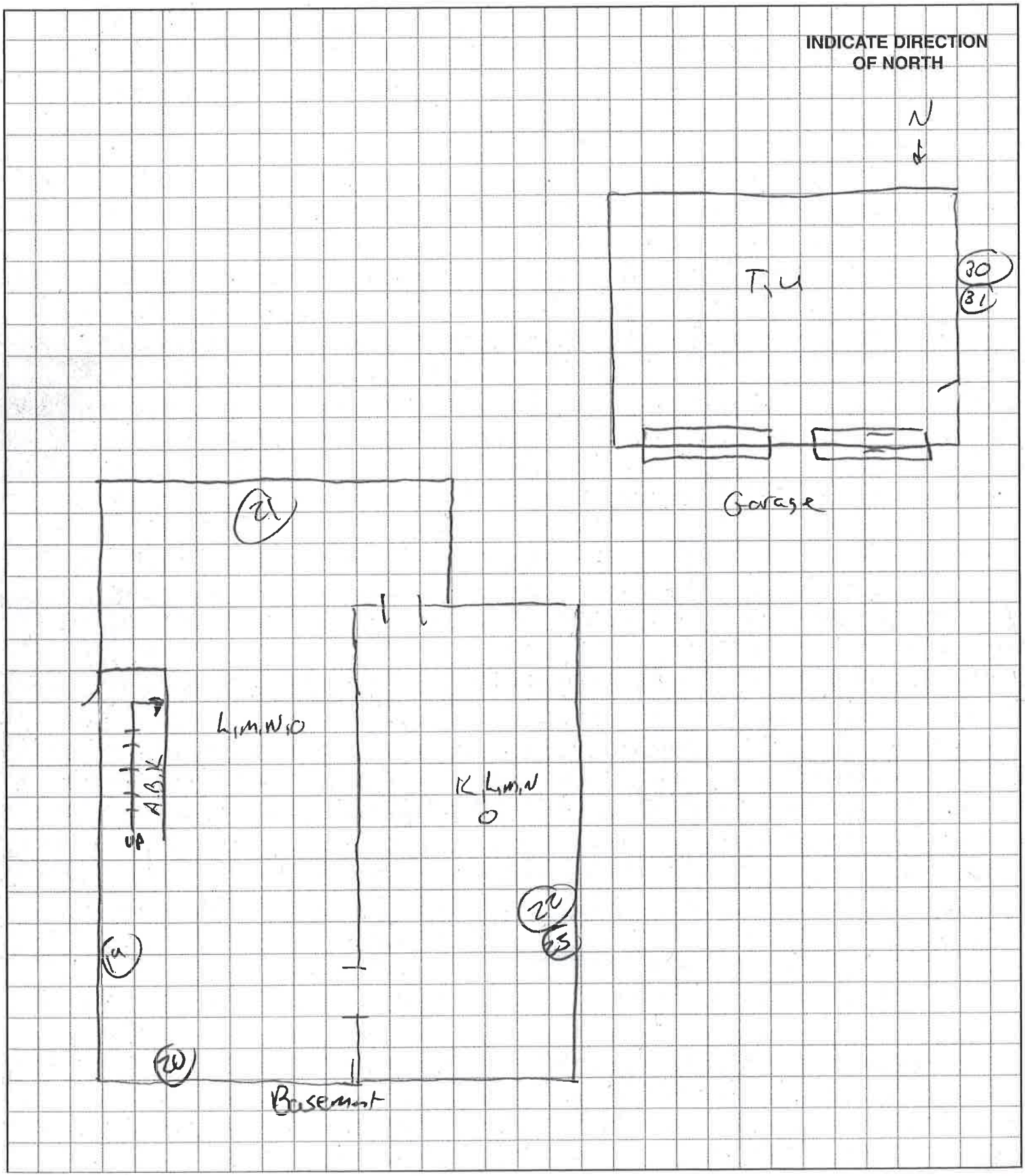
PROJECT 61 Thorton Ave
PROJECT NO. H16201
PAGE NO. 3 OF 3
FIELD REPRESENTATIVE CR DATE 08/30/16
SCALE (T)



SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/12/2016
Project Name: 61 Thorton Ave
Project #: H16201
SanAir ID#: 16031774

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

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SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
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Web: http://www.sanair.com E-mail: iaq@sanair.com

HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 12, 2016

SanAir ID # 16031774
Project Name: 61 Thorton Ave
Project Number: H16201

Dear Carmen Rocco,

We at SanAir would like to thank you for the work you recently submitted. The 39 sample(s) were received on Friday, September 02, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
41 sample(s) in Good condition

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SanAir ID Number
16031774
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 61 Thorton Ave

Collected Date: 8/30/2016
Received Date: 9/2/2016 10:30:00 AM
Report Date: 9/12/2016 3:47:07 PM
Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16031774-001 Ceiling Plaster W/ S/ C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
01 / 16031774-001 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16031774-002 Ceiling Plaster W/ S/ C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
02 / 16031774-002 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16031774-003 Ceiling Plaster W/ S/ C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
03 / 16031774-003 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16031774-004 Ceiling Plaster W/ S/ C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
04 / 16031774-004 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16031774-005 Ceiling Plaster W/ S/ C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
05 / 16031774-005 Ceiling Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16031774-006 Wall Plaster W/ S/ C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
06 / 16031774-006 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16031774-007 Wall Plaster W/ S/ C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
07 / 16031774-007 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16031774-008 Wall Plaster W/ S/ C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
08 / 16031774-008 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16031774-009 Wall Plaster W/ S/ C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
09 / 16031774-009 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16031774-010 Wall Plaster W/ S/ C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
10 / 16031774-010 Wall Plaster W/ S/ C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/12/2016

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Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16031774-011 D/ W System, Drywall	White Non-Fibrous Heterogeneous	10% Cellulose	90% Other	None Detected
11 / 16031774-011 D/ W System, Joint Compound	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16031774-012 D/ W System, Drywall	White Non-Fibrous Heterogeneous	10% Cellulose	90% Other	None Detected
12 / 16031774-012 D/ W System, Joint Compound	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16031774-013 Ceiling Panel	White Fibrous Heterogeneous	85% Cellulose	15% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
14 / 16031774-014 Ceiling Panel	White Fibrous Heterogeneous	85% Cellulose	15% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16031774-015 Ceiling Tile	Brown Fibrous Heterogeneous	90% Cellulose	10% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16031774-016 Ceiling Tile	Brown Fibrous Heterogeneous	90% Cellulose	10% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
19 / 16031774-017 Skim Coat	Various Non-Fibrous Heterogeneous		100% Other	None Detected
20 / 16031774-018 Skim Coat	Various Non-Fibrous Heterogeneous		100% Other	None Detected
21 / 16031774-019 Skim Coat	Various Non-Fibrous Heterogeneous		100% Other	None Detected
22 / 16031774-020 Window Glazing	White Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
23 / 16031774-021 Window Glazing	White Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
24 / 16031774-022 Debris, Plaster	Brown Non-Fibrous Heterogeneous		96% Other	4% Chrysotile
24 / 16031774-022 Debris, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected
24 / 16031774-022 Debris, Ceiling Tile	White Fibrous Heterogeneous	85% Cellulose	15% Other	None Detected
24 / 16031774-022 Debris, Floor Tile	Brown Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
25 / 16031774-023 Debris, Plaster				Not Analyzed
25 / 16031774-023 Debris, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected
25 / 16031774-023 Debris, Ceiling Tile	White Fibrous Heterogeneous	85% Cellulose	15% Other	None Detected
25 / 16031774-023 Debris, Floor Tile	Brown Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
26 / 16031774-024 D/ W Board	White Non-Fibrous Heterogeneous	20% Cellulose	80% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
27 / 16031774-025 D/ W Board	White Non-Fibrous Heterogeneous	20% Cellulose	80% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
28 / 16031774-026 Window Glazing	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
29 / 16031774-027 Window Glazing	White Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
30 / 16031774-028 Window Glazing	Grey Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
31 / 16031774-029 Window Glazing	Grey Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughan
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16031774-030 Ceiling Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile
02 / 16031774-031 Ceiling Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile
03 / 16031774-032 Ceiling Plaster	Brown Non-Fibrous Heterogeneous		99.9% Other	0.1% Chrysotile
04 / 16031774-033 Ceiling Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile
05 / 16031774-034 Ceiling Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile
06 / 16031774-035 Wall Plaster	Brown Non-Fibrous Heterogeneous		99.8% Other	0.2% Chrysotile
07 / 16031774-036 Wall Plaster	Brown Non-Fibrous Heterogeneous		99.9% Other	0.1% Chrysotile

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16031774-037 Wall Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16031774-038 Wall Plaster	Brown Non-Fibrous Heterogeneous		99.9% Other	0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16031774-039 Wall Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobering
Date: 9/12/2016

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Report Date: 9/12/2016 3:47:07 PM
Analyst: Vaughan, Nathaniel

Asbestos Bulk EPA PLM 400 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
22 / 16031774-040 Window Glazing	White Non-Fibrous Heterogeneous		100% Other	< 0.25% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
23 / 16031774-041 Window Glazing	White Non-Fibrous Heterogeneous		100% Other	< 0.25% Chrysotile

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/12/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

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Fax 804-897-0070
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Asbestos Chain of Custody

SanAir ID Number: 16031774

Company: Hzw Environmental	Project #: 4K6201	Collected by:
Address: 6105 Heisley Rd	Project Name: 61 Thorton Ave	Phone #:
City, St., Zip: Mentor, OH 44060	Date Collected:	Fax #:
State of Collection: OH Account#:	P.O. Number:	Email:

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Water

ABHE	EPA 100.2	☐

Matrix	Other	
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
01	Ceiling Plaster w/ S/C					
02						
03			1,000 p.c.			
04						
05						
06	Wall plaster w/ S/C					
07						
08			1,000 p.c.			
09						
10						
11	D/W System					
12						

Relinquished by	Date	Time	Received by	Date	Time
[signature]	08/30/14	4:30 pm	MC	SEP 02 2014	10:30AM

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

Please P/C 2% or less
1,000 P/C when Indicated.

Page ___ of ___

16031774

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
13	Ceiling Panel				
14	"				
15	Ceiling Tile				
16	"				
19	Skim Coat				
20	"		1.0 cop.c.		
21	"				
22	Window Glazing				
23	"				
24	Debris				
25	"				
26	Dlw Board				
27	"				
28	Window Glazing				
29	"				
30	Window Glazing				
31	"				

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	08/30/16	4:30pm	MC	SEP 02 2016	10:30am

Unless scheduled, the turn around time for all samples received after 3 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.

Page ___of ___

HzW ENVIRONMENTAL
CONSULTANTS, LLC

September 19, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Structure Located at 86-88 Thornton Avenue, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HzW Environmental Consultants, LLC (HzW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at one (1) structure located at 86-88 Thornton Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below.

Photograph 01
Exterior View of Structure Located at
86-88 Thornton Avenue, Youngstown, Ohio

MENTOR AKRON EUCLID CANTON
6105 Heisley Road, Mentor, Ohio 44060 • phone 440-357-1260 • 800-804-8484 • fax 440-357-1510
www.hzwenv.com

METHODS OF INVESTIGATION

General

During August 2016, a representative of HzW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HzW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HzW under the Miscellaneous Materials category.

Once categorized, HzW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HzW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HzW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HzW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HzW collected a minimum of seven (7) samples from this area/material.

- For TSI, HzW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HzW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HzW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HzW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HzW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HzW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia, Louisiana, for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less percent asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HzW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HzW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HzW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HzW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HzW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HzW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos.

   Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HzW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HzW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HzW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HzW ENVIRONMENTAL CONSULTANTS, LLC

Carmen Rocco
Asbestos Hazard Evaluation Specialist (AHES No. 33794)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Second Request\44 86-88 Thornton Avenue Asbestos Report.doc

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 86-88 Thornton Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Ceiling Plaster with Skim Coat - Smooth	Throughout Second Floor and Stairwell	>1,000 sq.ft. <5,000 sq.ft.	01	X					1,528 sq.ft.	4 ND
				02							NA ND
				03							NA ND
				04							NA ND
				05							NA ND
B	Wall Plaster with Skim Coat - Smooth	Throughout Structure	>5,000 sq.ft.	06						7,226 sq.ft.	<0.1 ND
				07							<0.1 ND
				08							<0.1 ND
				09							<0.1 ND
				10							<0.1 ND
				11							<0.1 ND
				12							<0.1 ND
C	Drywall System – Ceiling and Wall	Throughout First Floor	Minimum 3 Samples	13							ND
				14							ND
				15							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 86-88 Thornton Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
D	Skim Coat – Ceiling and Wall, Blotch Pattern	Room # 3	<1,000 sq.ft.	16							ND
				17							ND
				18							ND
G	Drywall System – Ceiling and Wall	Various Areas Throughout Second Floor	Minimum 2 Samples	19							ND ND
				20							ND ND
H	Skim Coat – Ceiling, Circular Blotch Pattern	Various Areas Throughout Second Floor	<1,000 sq.ft.	21						984 sq.ft.	<0.1
				22							<0.1
				23							0.1
J	Skim Coat – Ceiling, Ripple Pattern	Room # 11	<1,000 sq.ft.	24						168 sq.ft	<0.1
				25							<0.1
				26							<0.1
K	Window Glazing	Basement, Stacked	Minimum 2 Samples	27							ND
				28							ND
P	Window Glazing	Building Windows	Minimum 2 Samples	29			X			44 sq.ft. (11 Wndws)	3
				30							NA

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 86-88 Thornton Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
E	Electrical Backing Pad	Room # 3	Assumed RACM			X			2 sq.ft.		Assumed
F	Vinyl Sheet Flooring, Mastic	Room # 3	Category I Nonfriable in Fair Condition, Not Sampled				X		200 sq.ft.		Assumed
I	Light Heat Shield	Second Floor Stairwell	Assumed RACM			X			1 sq.ft.		Assumed
L	Duct Seam Tape	Basement	Assumed RACM			X			15 sq.ft.		Assumed
M	Duct Wrap Insulation	Throughout Structure	Assumed RACM			X			305 sq.ft.		Assumed
N	Tar Roofing System - Black	Building Roof	Category I Nonfriable in Fair Condition, Not Sampled				X		1,440 sq.ft.		Assumed
O	Asphalt Siding Shingles - Black	Building Exterior	Category I Nonfriable in Fair Condition, Not Sampled				X		250 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
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HZW ENVIRONMENTAL
CONSULTANTS, LLC

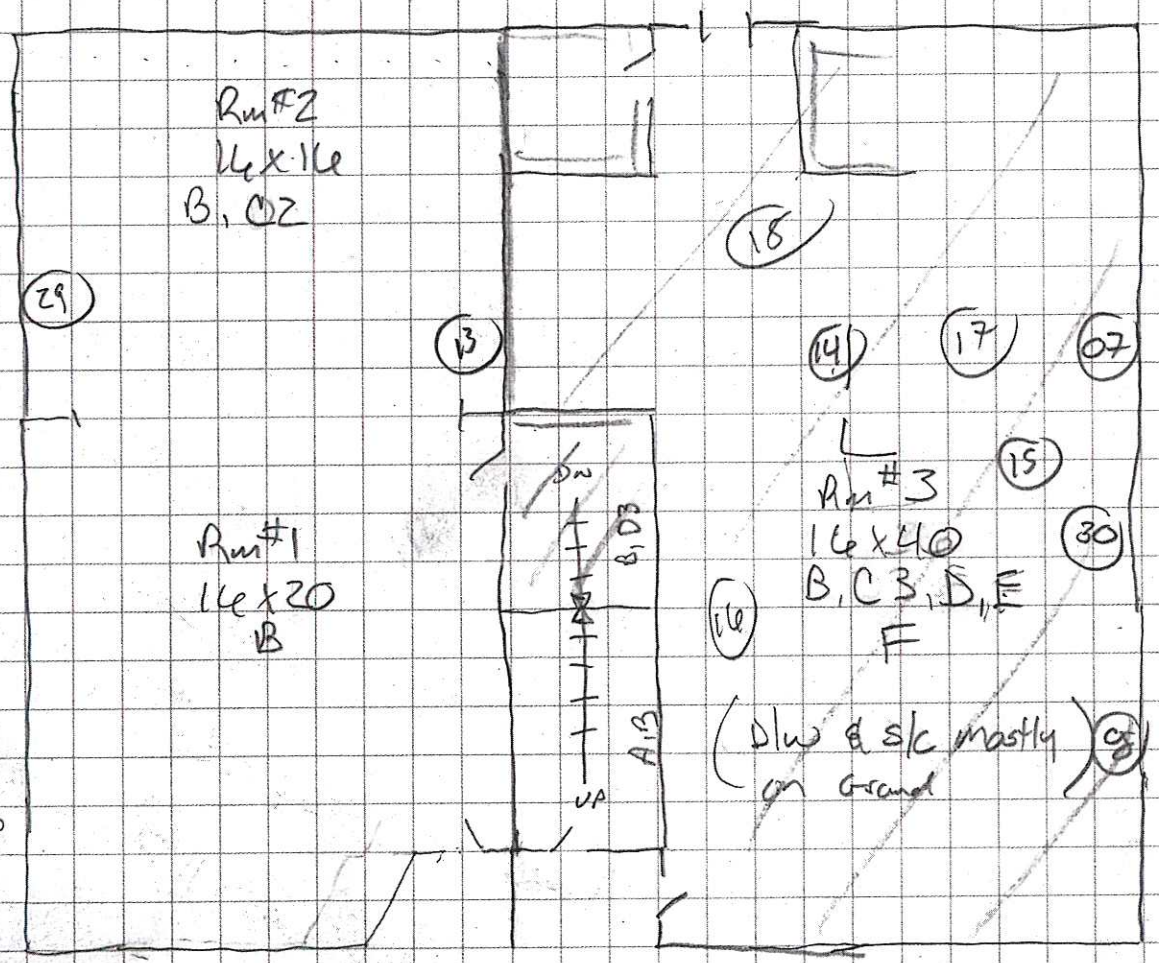
6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 86-88 Thornton Ave
PROJECT NO. HIC201
PAGE NO. 2 OF 4
FIELD REPRESENTATIVE CL DATE 08/31/14
SCALE

INDICATE DIRECTION OF NORTH
↑ N

1 = Ceiling
2 = wall
3 = Both

— = D/W System



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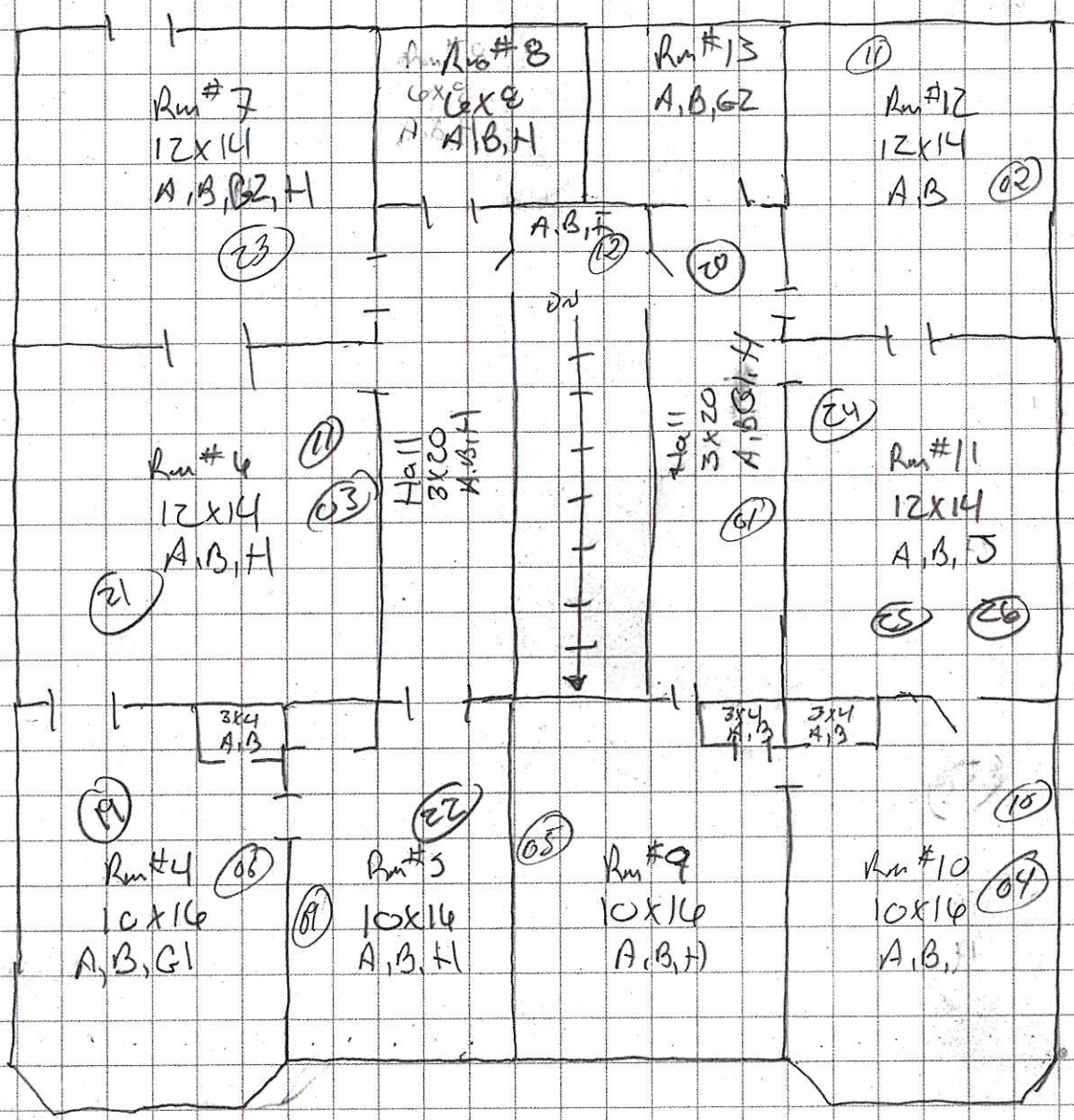
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 86-88 thornton Ave
PROJECT NO. H16201
PAGE NO. 3 OF 4
FIELD REPRESENTATIVE CR DATE 08/31/16
SCALE

INDICATE DIRECTION OF NORTH



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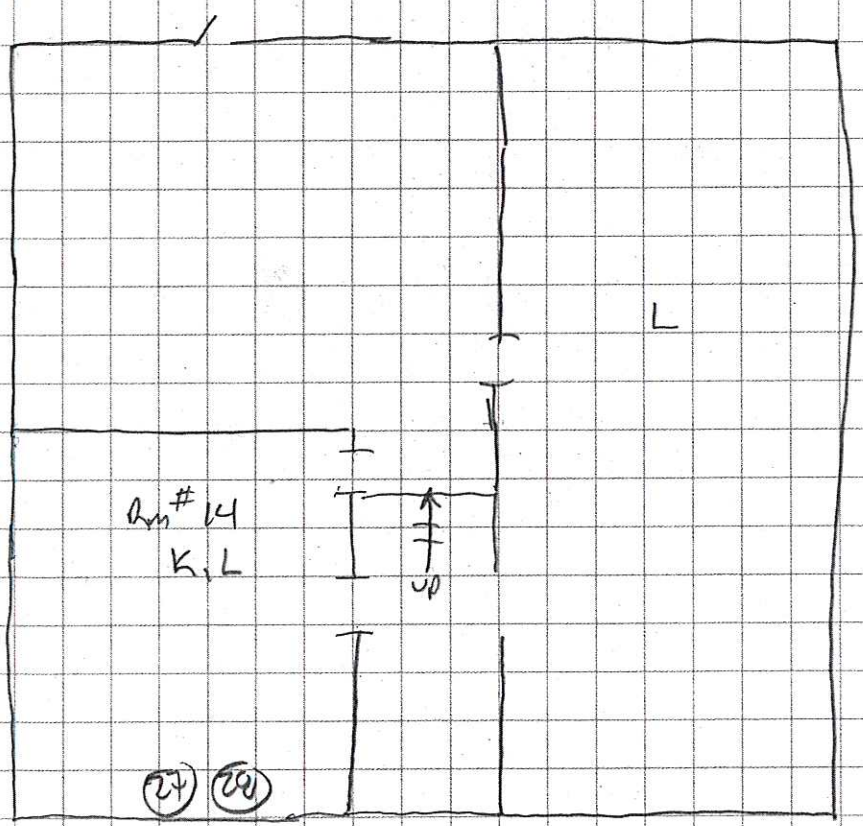
A WOMAN-OWNED BUSINESS ENTERPRISE

PROJECT 86-88 Thornton Ave
PROJECT NO. 1116201
PAGE NO. 4 OF 4
FIELD REPRESENTATIVE CR DATE 08/31/16
SCALE (W)

INDICATE DIRECTION OF NORTH



SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 9/12/2016
Project Name: 86-88 Thornton Ave
Project #: H16201
SanAir ID#: 16031766

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

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804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: http://www.sanair.com E-mail: iaq@sanair.com

HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

September 12, 2016

SanAir ID # 16031766
Project Name: 86-88 Thornton Ave
Project Number: H16201

Dear Carmen Rocco,

We at SanAir would like to thank you for the work you recently submitted. The 37 sample(s) were received on Friday, September 02, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
43 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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804.897.1177 Toll Free: 888.895.1177 Fax: 804.897.0070
Web: http://www.sanair.com E-mail: iaq@sanair.com

SanAir ID Number
16031766
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 86-88 Thornton Ave

Collected Date: 9/1/2016
Received Date: 9/2/2016 10:30:00 AM
Report Date: 9/12/2016 11:14:15 AM
Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16031766-001 Ceiling Plaster W S/C, Plaster	Brown Non-Fibrous Heterogeneous		96% Other	4% Chrysotile
01 / 16031766-001 Ceiling Plaster W S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16031766-002 Ceiling Plaster W S/C, Plaster				Not Analyzed
02 / 16031766-002 Ceiling Plaster W S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16031766-003 Ceiling Plaster W S/C, Plaster				Not Analyzed
03 / 16031766-003 Ceiling Plaster W S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16031766-004 Ceiling Plaster W S/C, Plaster				Not Analyzed
04 / 16031766-004 Ceiling Plaster W S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16031766-005 Ceiling Plaster W S/C, Plaster				Not Analyzed
05 / 16031766-005 Ceiling Plaster W S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/11/2016

Approved Signatory: Sandra Sabino
Date: 9/12/2016

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SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16031766-006 Wall Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
06 / 16031766-006 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16031766-007 Wall Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
07 / 16031766-007 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16031766-008 Wall Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
08 / 16031766-008 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16031766-009 Wall Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
09 / 16031766-009 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16031766-010 Wall Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
10 / 16031766-010 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/11/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16031766-011 Wall Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
11 / 16031766-011 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16031766-012 Wall Plaster W/ S/C, Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
12 / 16031766-012 Wall Plaster W/ S/C, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16031766-013 D/ W System	White Non-Fibrous Heterogeneous	12% Cellulose	88% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
14 / 16031766-014 D/ W System	White Non-Fibrous Heterogeneous	12% Cellulose	88% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16031766-015 D/ W System	White Non-Fibrous Heterogeneous	12% Cellulose	88% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16031766-016 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/11/2016

Approved Signatory: Sandra Sabino
Date: 9/12/2016

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Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
17 / 16031766-017 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
18 / 16031766-018 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
19 / 16031766-019 D/ W System, Drywall	White Non-Fibrous Heterogeneous	10% Cellulose	90% Other	None Detected
19 / 16031766-019 D/ W System, Joint Compound	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
20 / 16031766-020 D/ W System, Drywall	White Non-Fibrous Heterogeneous	10% Cellulose	90% Other	None Detected
20 / 16031766-020 D/ W System, Joint Compound	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
21 / 16031766-021 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
22 / 16031766-022 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/11/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

SanAir Technologies Laboratory, Inc.

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

SanAir ID Number
16031766
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number:
Project Name: 86-88 Thornton Ave

Collected Date: 9/1/2016
Received Date: 9/2/2016 10:30:00 AM
Report Date: 9/12/2016 11:14:15 AM
Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
23 / 16031766-023 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
24 / 16031766-024 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
25 / 16031766-025 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
26 / 16031766-026 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	< 1% Chrysotile
27 / 16031766-027 Window Glazing	Tan Non-Fibrous Heterogeneous		100% Other	None Detected
28 / 16031766-028 Window Glazing	Tan Non-Fibrous Heterogeneous		100% Other	None Detected
29 / 16031766-029 Window Glazing	Grey Non-Fibrous Heterogeneous		97% Other	3% Chrysotile

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/11/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
30 / 16031766-030 Window Glazing				Not Analyzed

Certification

Analyst: Nathan Vaughan
Analysis Date: 9/11/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16031766-031 Wall Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile
07 / 16031766-032 Wall Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile
08 / 16031766-033 Wall Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile
09 / 16031766-034 Wall Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile
10 / 16031766-035 Wall Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile
11 / 16031766-036 Wall Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile
12 / 16031766-037 Wall Plaster	Brown Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/11/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

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Analyst: Vaughan, Nathaniel

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
21 / 16031766-038 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
22 / 16031766-039 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
23 / 16031766-040 Skim Coat	White Non-Fibrous Heterogeneous		99.9% Other	0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
24 / 16031766-041 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
25 / 16031766-042 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
26 / 16031766-043 Skim Coat	White Non-Fibrous Heterogeneous		100% Other	< 0.1% Chrysotile

Certification

Analyst: Nathan Vaughn
Analysis Date: 9/11/2016

Approved Signatory: Sandra Sobrino
Date: 9/12/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

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SanAir Technologies Laboratory

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www.sanair.com

Asbestos Chain of Custody

SanAir ID Number: 16037466

Company: Haw Environmental	Project #: H16201	Collected by:
Address: 6605 Heisley Rd	Project Name: 86-88 Thornton Ave	Phone #:
City, St., Zip: Mentor, OH 44060	Date Collected:	Fax #:
State of Collection: OH Account#:	P.O. Number:	Email:

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop	☒
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Water

ABHE	EPA 100.2	☐

Other

Matrix		
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
01	Ceiling flash w/ S/C					
02						
03			1,000 p-C			
04						
05						
06	Wall flash w/ S/C					
07						
08						
09			1,000 p-C			
10						
11						
12						

Relinquished by	Date	Time	Received by	Date	Time
	09/01/16	5:00pm	CW	SEP 02 2016	10:30am

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

Please P/C 29a or less
1,000 P/C when Indicated.

Page ___ of ____

16031766

Sample #	Sample Identification/Location	Sample Type	Flow Rate*	Time* Start – Stop	
13	D/w System				
14	)				
15					
16	Skim Coat				
17	)		1.ccap.c		
18					
19	D/w System				
20	)				
21	Skim Coat				
22	)		1.ccap.c.		
23					
24	Skim Coat				
25	)		1.ccap.c.		
26					
27	Window Glazing				
28	)				
29	Window Glazing				
30	)				

Special Instructions	

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	09/01/16	5:00pm	[illegible]	SEP 02 2016	10:30AM

Unless scheduled, the turn around time for all samples received after 3 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.

Page ___of ___

HzW ENVIRONMENTAL
CONSULTANTS, LLC

August 30, 2016

Mr. Chuck Shasho, Deputy. Dir. Public Works
City of Youngstown
Fifth Floor, City Hall
26 South Phelps Street
Youngstown, Ohio 44503

Subject: ***Report of Findings of an Asbestos Survey Conducted at One (1) Residential Structure Located at 35 Woodbine Avenue, Youngstown, Mahoning County, Ohio (H16201)***

Dear Mr. Shasho:

HzW Environmental Consultants, LLC (HzW) is pleased to submit this letter of report which present's the findings of an asbestos survey conducted at 35 Woodbine Avenue, Youngstown, Mahoning County, Ohio, herein referred to as the "subject structure". The purpose of the asbestos survey was to identify asbestos-containing materials (ACMs) located at the subject structure prior to manual demolition activities being performed. A photograph depicting the exterior of the structure is provided below.

Photograph 01
Exterior View of Residential Structure Located at
35 Woodbine Avenue, Youngstown, Ohio

MENTOR **AKRON** **EUCLID** **CANTON**
6105 Heisley Road, Mentor, Ohio 44060 • phone 440-357-1260 • 800-804-8484 • fax 440-357-1510
www.hzwenv.com

METHODS OF INVESTIGATION

General

During August 2016, a representative of HzW, certified as an Asbestos Hazard Evaluation Specialist (AHES), performed the asbestos survey at the subject structure. This certification is required to be maintained by the inspector in accordance with the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) and the Ohio Department of Health (ODH) asbestos regulations.

The asbestos survey was conducted in accordance with the National Emissions Standard for Hazardous Air Pollutants (NESHAP) survey protocol. NESHAP regulations require no specific survey protocol be followed; however, the Asbestos Hazard Emergency Response Act (AHERA) protocol is recommended. Therefore, the asbestos survey at the structure was conducted in accordance with AHERA protocol, which initially requires that all functional spaces (i.e. different building constructions or renovated areas) be identified. Once the functional spaces are identified, then all homogeneous areas of building materials located in a specific functional space and suspected of containing asbestos are subsequently identified. A homogeneous area is a building material/area that is uniform in texture, color, date of application, use or system and appears identical in every other respect.

Bulk Sampling Protocol

In accordance with AHERA, HzW classified each suspect homogeneous area/building material into one (1) of three (3) categories, based on the material's ability to be crumbled, pulverized, or reduced to powder by hand pressure (herein referred as "friable"), prior to performing the bulk sampling activities. These three (3) categories are as follows:

1. Surfacing Materials: Examples include fireproofing and acoustical plaster.

2. Thermal System Insulation (TSI): Examples include, but are not limited to, the following: pipe lagging, pipe wrap, block insulation, batt insulation and mudded fitting insulation.

3. Miscellaneous Materials: Examples include, but are not limited, to the following: ceiling tile, drywall and joint compound. It should be noted that nonfriable homogeneous areas/building materials, such as floor tile and mastic, roofing materials and transite, are also included by HzW under the Miscellaneous Materials category.

Once categorized, HzW subsequently determined the quantity of that homogeneous area/building material within the subject structure. HzW based the bulk sampling protocol on the AHERA category assigned to a specific homogeneous area/building material and the quantity of that area/material identified. The bulk sampling protocol performed at the subject structure consisted of the following:

- For Surfacing Materials, if the quantity of the homogeneous area/material is less than 1,000 square feet (ft^2), HzW collected a minimum of three (3) samples from this area/material. If the size of the homogeneous area/material was between 1,000 and 5,000 ft^2 then HzW collected a minimum of five (5) samples from this area/material. If the size of the homogeneous area/material was greater than 5,000 ft^2 then HzW collected a minimum of seven (7) samples from this area/material.

- For TSI, HzW collected at least three (3) samples from each homogeneous area/material identified, with the following exceptions:

  - If only a small section of patched insulation (less than six linear or square feet), then HzW only collected one (1) sample,
  - For mudded fittings, such as fittings, tees, and valves, the number of samples collected will be determined by the inspector, however, HzW typically collects a minimum of three (3) samples.
  - Suspect duct seam wrap and duct wrap insulation were not sampled, but assumed to contain asbestos.

  It should be noted, that building materials comprised of fibrous glass, foam glass, rubber and styrofoam were not be sampled by HzW unless they potentially covered up a suspect material.

- For Miscellaneous and Nonfriable Materials, HzW collected from two (2) to three (3) bulk samples.

Condition Categorization

In determining the condition of a material, HzW used the following guidelines.

General Damage Category	Criteria
Good	No Damage
Fair	Up to 10% overall damage Up to 25% localized damage
Poor	Over 10% overall damage Over 25% localized damage

Analytical Laboratory

Any bulk samples collected were submitted to SanAir Technologies Laboratory, Inc. (SanAir) of Powahatan, Virginia, Louisiana, for analysis of asbestos content by polarized light microscopy (PLM) using the Environmental Protection Agency (EPA) Method 600/R-93/116. Building materials identified by PLM as containing 2 percent or less percent asbestos were subsequently analyzed by either 1000 or 400 point count methodology. ***NESHAP defines an ACM as any material containing more than one percent (1%) asbestos as determined by Polarized Light Microscopy (PLM).***

ASBESTOS REGULATIONS

The Occupational Safety and Health Administration's (OSHA's) Asbestos Standard for the Construction Industry (29 CFR 1926.1101) **regulates** all renovation and demolition work involving building materials which contain any amount of asbestos. Building owners and/or contractors who perform renovation and/or demolition activities which disturb building materials identified as containing asbestos are required to be in compliance with OSHA's Asbestos Standard.

The Ohio Department of Health (ODH) governs asbestos certification and licensure in Ohio under chapter 3710 of the Ohio Revised Code and chapter 3701-34 of the Ohio Administrative Code. ODH defines an asbestos hazard abatement activity to mean any activity involving the removal, renovation, enclosure, repair, or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet. In addition, ODH requires that an asbestos hazard abatement activity be conducted by a licensed asbestos hazard abatement contractor in accordance with the decontamination procedures, project containment procedures and asbestos fiber containment methods established by regulations of the United States Environmental Protection Agency (U.S. EPA), 40 C.F.R. Part 61, Subpart M, and the Occupational Safety and Health Administration (OSHA), 29 C.F.R. Section 1926.1101 for business entities, or by regulations of the U.S. EPA, 40 C.F.R. Part 763, Subpart G for public entities. In addition, asbestos hazard abatement contractors are required to notify ODH 10 business days prior to the start of any asbestos hazard abatement project.

The EPA under NESHAP regulates all renovation and demolition work involving building materials identified as containing greater than one (1) percent asbestos. NESHAP regulates which ACMs must be removed prior to renovation and demolition activities being performed. The EPA defines three (3) classifications of building materials:

1) Regulated ACM (RACM): RACM is defined as 1) a friable asbestos material, 2) a Category I Nonfriable ACM that has become friable, 3) a Category I Nonfriable ACM that will be or has been subjected to sanding, grinding, cutting or abrading, or 4) a Category II Nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation activities, *and* contains more than 1 percent asbestos as determined using Polarized Light Microscopy (PLM) analysis.

2) Category I Nonfriable ACM: A Category I Nonfriable ACM is defined as asbestos-containing packings, gaskets, resilient floor covering, and asphalt roofing products containing more than 1 percent asbestos as determined using PLM analysis.

3) Category II Nonfriable ACM: A Category II Nonfriable ACM is defined as any material, excluding Category I Nonfriable ACMs, containing more than 1 percent asbestos as determined using PLM analysis.

FINDINGS

HzW's Asbestos Bulk Sampling Information form; a site sketch documenting the room designations and bulk sampling locations; and the analytical report for the bulk samples collected at the subject structure are included as **Attachment 1**. HzW's Asbestos Bulk Sampling Information form documents the bulk sampling locations and each sample's characterization (homogeneous area and functional space). In addition, for those materials identified as containing asbestos or assumed to contain asbestos, the AHERA category, quantity, condition, and asbestos content, if any, for each sample is also documented on HzW's Asbestos Bulk Sampling Information form. Those building materials which are classified by the EPA as regulated ACMs (RACMs) and, thus, are required to be abated prior to demolition activities being performed, are identified in "red" on HzW's Asbestos Bulk Sampling Information form. The assumed Category I Nonfriable ACMs identified in good to fair condition on HzW's Asbestos Bulk Sampling Information form can remain within the subject structure during the demolition activities as long as the demolition activities do not cause the materials to become friable.

The quantities of ACMs and assumed ACMs, as presented on HzW's Asbestos Bulk Sampling Information form in Attachment 1, are approximate and represent the majority of accessible building materials that could be quantified during the survey. In addition, demolition of any of the subject structure's ceilings and walls may reveal additional building materials suspected of containing asbestos.

RECOMMENDATIONS

Based on the findings of the asbestos survey and NESHAP regulations, the following recommendations are presented for consideration:

1. Prior to any outside contractor(s) working at the subject structure, the contractor(s) must be notified of the presence of the building materials identified as containing asbestos or assumed to contain asbestos.

   Contractors disturbing building materials identified as containing or assumed to contain asbestos, are required to conduct their activities in accordance with OSHA's Asbestos Standard as well as applicable EPA NESHAP and Ohio Department of Health (ODH) regulations.

2. Assuming that multiple structures are being demolished as part of the same project, and the total quantity of RACM identified in all structures being demolished equals or exceeds EPA's regulated quantities of 160 square feet or 260 linear feet, then the Client should contract with a licensed asbestos abatement contractor in the state of Ohio to remove the ACMs/assumed ACMs identified on HzW's Asbestos Bulk Sampling Information form as requiring removal prior to demolition activities commencing. Any material assumed to contain greater than 1 percent asbestos (an ACM) but not designated on HzW's Asbestos Bulk Sampling Information form as requiring removal was considered to be in good to fair condition and can remain within the structure during the demolition activities as long as these activities do not cause this ACM to become friable.

3. Submit the Ohio Environmental Protection Agency (OEPA), "Notification of Demolition and Renovation" (Notification) form to the OEPA ten (10) days prior to any renovation activities which will involve the disturbance of 160 square feet or 260 linear feet of RACM. In addition, the Notification form must also be submitted to the OEPA ten (10) days prior to any demolition activities being performed.

4. Submit the ODH "Prior Notification of Asbestos Hazard Abatement Project" form to the ODH ten (10) days prior to any asbestos hazard abatement activity being performed. ODH defines an asbestos hazard abatement activity as any activity involving the removal, renovation, enclosure, repair or encapsulation of reasonably related friable ACMs in an amount greater than fifty (50) linear feet or fifty (50) square feet.

   It should be noted that if a track hoe were to be used to manually demolish the subject structure and the track hoe will run over the assumed asbestos-containing flooring materials causing the flooring to become friable, then the flooring would be classified as RACM and would, therefore, need to be removed prior to the demolition activities being performed.

5. If any of the building materials located at the subject structure are to be recycled (i.e., concrete) and they were identified during the asbestos survey as being covered with an ACM or an assumed ACM, then in order for these materials to be recycled, the ACM or assumed ACM must be abated first.

6. If applicable, as indicated in the OEPA "Notification of Demolition and Renovation" form, Section XVII, ensure that an individual trained in the provisions of NESHAP is on site during the demolition activities. This individual would need to be certified by the ODH as an Asbestos Hazard Evaluation Specialist.

HzW appreciates the opportunity you have given us to provide professional consulting services to City of Youngstown. Should you have any questions regarding the information presented above, please do not hesitate to contact us.

Sincerely,

HzW ENVIRONMENTAL CONSULTANTS, LLC

John Worthy
Asbestos Hazard Evaluation Specialist (AHES No. 34782)

Joan A. Sablar
Senior Industrial Hygienist

JAS:jas\H16201
Attachment
I:\2016\H16201\Second Request\48 35 Woodbine Avenue Asbestos Report.doc

ATTACHMENT 1

- ASBESTOS BULK SAMPLING INFORMATION FORM
- SITE SKETCH OF STRUCTURE
- SANAIR LABS REPORT FOR BULK SAMPLES COLLECTED

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 35 Woodbine Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
A	Smooth Ceiling Plaster	Room 1, Room 2, Room 4, Kitchen, Rooms 5 through 9, Kitchen, Hallway 1 & 2, Stairwell 1 & 3,	>1,000 sq.ft. <5,000 sq.ft.	01						2,100 sq.ft.	<0.1 ND
				02							0.1 ND
				03							0.2 ND
				04							<0.1 ND
				05							0.4 ND
B	Ceiling Tile – 1-foot by 1-foot, Ridges	Room 3	Minimum 2 Samples	06							ND
				07							ND
C	Ceiling Tile – 1-foot by 1-foot, Fissures	Room 4, Room 5, Room 6 and Room 8	Minimum 2 Samples	08							ND
				09							ND
D	Ceiling Tile – 1-foot by 1-foot, Pinholes	Kitchen	Minimum 2 Samples	10							ND
				11							ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 35 Woodbine Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
E	Drywall System	Stairwell 2 & 3, Bath 2, Room 9	Minimum 3 Samples	12							ND ND
				13							ND ND
				14							ND ND
F	Textured Ceiling Drywall, Ridges	Room 7	<1,000 sq.ft.	15							ND ND
				16							ND ND
				17							ND ND
G	Textured Ceiling Plaster, Rough	Stairwell 3 and Room 9	<1,000 sq.ft.	18					80 sq.ft.		<0.1 ND
				19							<0.1 ND ND
				20							<0.1 ND ND
H	Textured Wall Plaster, Rough	Stairwell 2	<1,000 sq.ft.	21					200 sq.ft.		0.4 ND ND
				22							0.2 ND ND
				23							0.2 ND ND

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

ASBESTOS BULK SAMPLING INFORMATION FORM
Site: 35 Woodbine Avenue, Youngstown, Ohio

Client: City of Youngstown
HzW Environmental Consultants, LLC – Project No. H16201

HOMOGENEOUS					AHERA CATEGORY			QUANTITY & CONDITION			RESULT
HA	MATERIAL	LOCATION	VALIDATION FOR SAMPLING	BULK SAMPLE NO.	SUR.	TSI	MISC. F/NF	GOOD	FAIR	POOR	ASBESTOS %
I	Smooth Wall Plaster	Throughout Structure, except Room 2 and Hallway 1	>1,000 sq.ft. <5,000 sq.ft.	24			X			4,500 sq.ft.	4 ND
				25							NA ND
				26							NA ND
				27							NA ND
				28							NA ND
J	Drywall – Old	Hallway 1 and Room 2	Minimum 2 Samples	29							ND
				30							ND
K	Window Glazing	House Windows	Minimum 2 Samples	31						20 sq.ft.	<0.25
				32							<0.25
L	Duct Wrap Insulation	Throughout Structure	Assumed RACM			X			120 sq.ft.		Assumed
M1, M2	Floor Sheeting (2 Types)	Kitchen, Stairwell 1, Entry	Category I Nonfriable in Fair Condition, Not Sampled				X		130 sq.ft.		Assumed
N	Floor Tile, Mastic	Room 8	Category I Nonfriable in Fair Condition, Not Sampled				X		120 sq.ft.		Assumed
O	Asphalt Shingle Roofing System	House Room	Category I Nonfriable in Fair Condition, Not Sampled				X		800 sq.ft.		Assumed
P	Siding Felt Paper	House Exterior	Category I Nonfriable in Fair Condition, Not Sampled				X		2,400 sq.ft.		Assumed

Items in Red Font Need to be Abated Prior to Demolition Activities being Performed
ND = No Asbestos Detected; NA = Not Analyzed

HZW ENVIRONMENTAL
CONSULTANTS, LLC

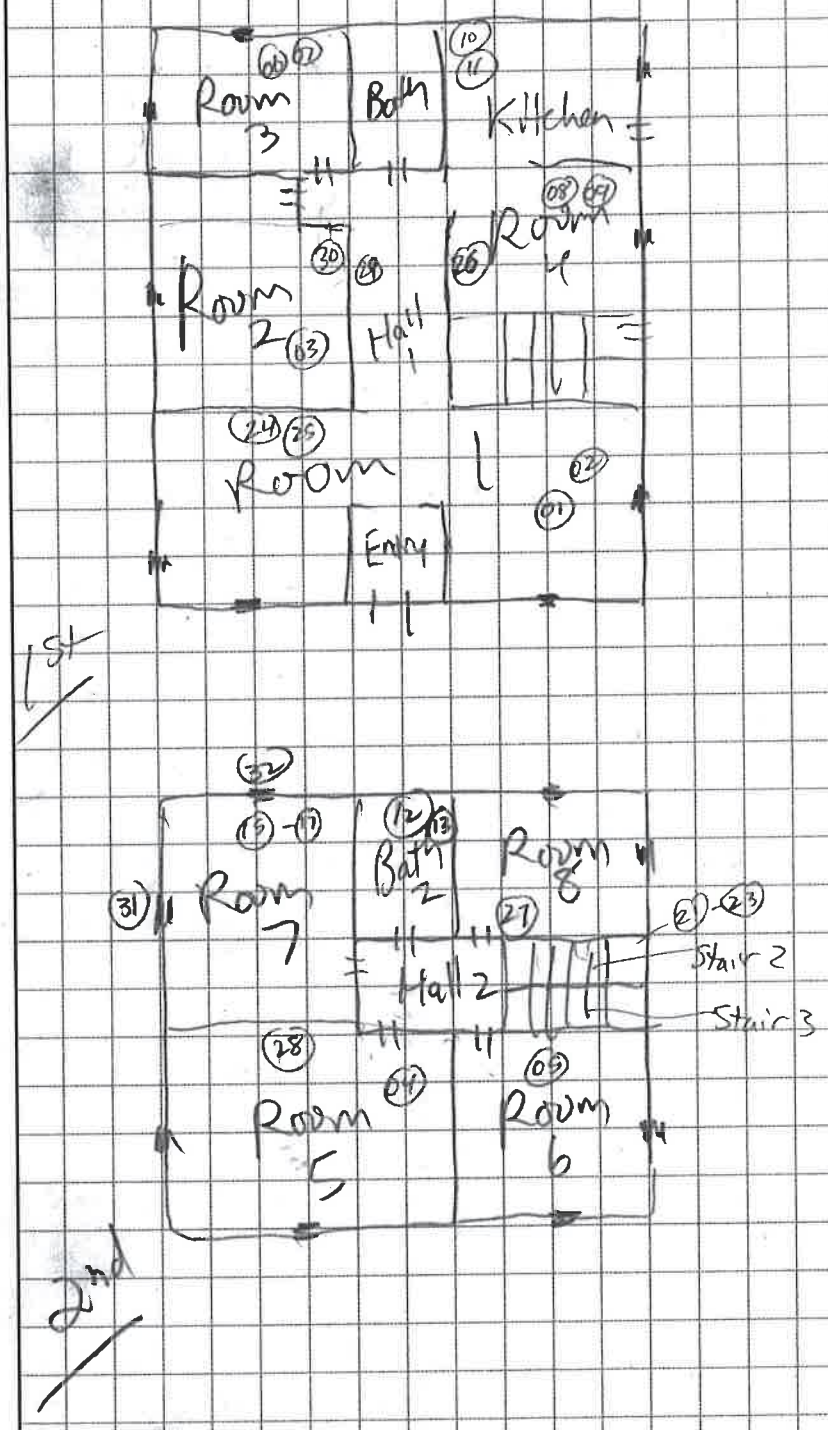
6105 Heisley Road, Mentor, Ohio 44060
phone 440-357-1260 • 800-804-8484
fax 440-357-1510
A WOMAN-OWNED BUSINESS ENTERPRISE

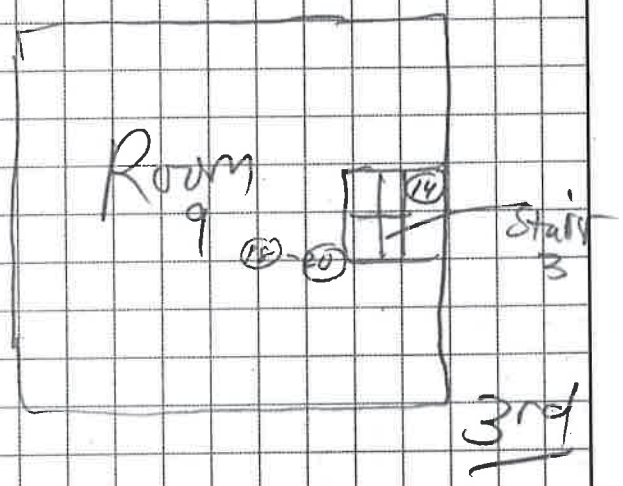
(1st)

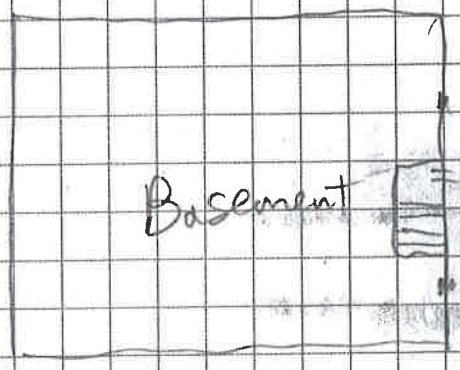
PROJECT 35 Woodbine Ave, Youngstown
PROJECT NO. H16201
PAGE NO. _____ OF _____
FIELD REPRESENTATIVE JW DATE 8-18-16
SCALE _____

INDICATE DIRECTION OF NORTH

- wood siding
- wood windows
- Asphalt + slate shingles







SanAir Technologies Laboratory

Analysis Report

prepared for

HzW Environmental Consultants LLC

Report Date: 8/29/2016
Project Name: 35 Woodbine
Project #: H16201
SanAir ID#: 16029869

NVLAP LAB CODE 200870-0

Virginia SBE
Certification # 652931

Texas Licensed Mold Analysis Laboratory
License # LAB0166

SanAir Technologies Laboratory

804.897.1177 www.sanair.com

SanAir Technologies Laboratory, Inc.

1551 Oakbridge Drive, Suite B, Powhatan, VA 23139
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HzW Environmental Consultants LLC
6105 Heisley Road
Mentor, OH 44060

August 29, 2016

SanAir ID # 16029869
Project Name: 35 Woodbine
Project Number: H16201

Dear JW,

We at SanAir would like to thank you for the work you recently submitted. The 32 sample(s) were received on Monday, August 22, 2016 via FedEx. The final report(s) is enclosed for the following sample(s): 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32.

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,

Sandra Sobrino

Sandra Sobrino
Asbestos & Materials Laboratory Manager
SanAir Technologies Laboratory

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

sample conditions:
45 sample(s) in Good condition

SanAir Technologies Laboratory, Inc.

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Web: http://www.sanair.com E-mail: iaq@sanair.com

SanAir ID Number
16029869
FINAL REPORT

Name: HzW Environmental Consultants LLC
Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
P.O. Number: 0007-16
Project Name: 35 Woodbine

Collected Date: 8/18/2016
Received Date: 8/22/2016 8:50:00 AM
Report Date: 8/29/2016 6:10:56 PM
Analyst: Vaughan, Nathaniel
Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16029869-001 CP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
01 / 16029869-001 CP, Skim Coat	Cream Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
02 / 16029869-002 CP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
02 / 16029869-002 CP, Skim Coat	Cream Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
03 / 16029869-003 CP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
03 / 16029869-003 CP, Skim Coat	Cream Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
04 / 16029869-004 CP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
04 / 16029869-004 CP, Skim Coat	Cream Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
05 / 16029869-005 CP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
05 / 16029869-005 CP, Skim Coat	Cream Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 8/29/2016

Approved Signatory: Sandra Sobrino
Date: 8/29/2016

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Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
06 / 16029869-006 CT	White Fibrous Homogeneous	40% Cellulose 40% Min. Wool	20% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
07 / 16029869-007 CT	White Fibrous Homogeneous	40% Cellulose 40% Min. Wool	20% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
08 / 16029869-008 CT	White Fibrous Homogeneous	95% Cellulose	5% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
09 / 16029869-009 CT	White Fibrous Homogeneous	95% Cellulose	5% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
10 / 16029869-010 CT	White Fibrous Homogeneous	40% Cellulose 40% Min. Wool	20% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
11 / 16029869-011 CT	White Fibrous Homogeneous	40% Cellulose 40% Min. Wool	20% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 8/29/2016

Approved Signatory: Sandra Sobrino
Date: 8/29/2016

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Analyst: Vaughan, Nathaniel
Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
12 / 16029869-012 Drywall System, Drywall	White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected
12 / 16029869-012 Drywall System, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
13 / 16029869-013 Drywall System, Drywall	White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected
13 / 16029869-013 Drywall System, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
14 / 16029869-014 Drywall System, Drywall	White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected
14 / 16029869-014 Drywall System, Joint Compound	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
15 / 16029869-015 Textured CD, Drywall	White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected
15 / 16029869-015 Textured CD, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
16 / 16029869-016 Textured CD, Drywall	White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected
16 / 16029869-016 Textured CD, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 8/29/2016

Approved Signatory: Sandra Sobrino
Date: 8/29/2016

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Project Number: H16201
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Project Name: 35 Woodbine

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Received Date: 8/22/2016 8:50:00 AM
Report Date: 8/29/2016 6:10:56 PM
Analyst: Vaughan, Nathaniel
Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
17 / 16029869-017 Textured CD, Drywall	White Non-Fibrous Homogeneous	10% Cellulose	90% Other	None Detected
17 / 16029869-017 Textured CD, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
18 / 16029869-018 Textured CP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
18 / 16029869-018 Textured CP, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
19 / 16029869-019 Textured CP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
19 / 16029869-019 Textured CP, Skim Coat	Tan Non-Fibrous Homogeneous		100% Other	None Detected
19 / 16029869-019 Textured CP, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
20 / 16029869-020 Textured CP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 1% Chrysotile
20 / 16029869-020 Textured CP, Skim Coat	Tan Non-Fibrous Homogeneous		100% Other	None Detected
20 / 16029869-020 Textured CP, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 8/29/2016

Approved Signatory: Sandra Sobrino
Date: 8/29/2016

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Collected Date: 8/18/2016
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Report Date: 8/29/2016 6:10:56 PM
Analyst: Vaughan, Nathaniel
Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
21 / 16029869-021 Textured WP, Plaster	Grey Non-Fibrous Homogeneous		98% Other	2% Chrysotile
21 / 16029869-021 Textured WP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected
21 / 16029869-021 Textured WP, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
22 / 16029869-022 Textured WP, Plaster				Not Analyzed
22 / 16029869-022 Textured WP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected
22 / 16029869-022 Textured WP, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
23 / 16029869-023 Textured WP, Plaster				Not Analyzed
23 / 16029869-023 Textured WP, Skim Coat	White Non-Fibrous Homogeneous		100% Other	None Detected
23 / 16029869-023 Textured WP, Texture	White Non-Fibrous Homogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
24 / 16029869-024 WP, Plaster	Grey Non-Fibrous Heterogeneous		96% Other	4% Chrysotile
24 / 16029869-024 WP, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 8/29/2016

Approved Signatory: Sandra Sobrino
Date: 8/29/2016

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Project Number: H16201
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Project Name: 35 Woodbine

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Report Date: 8/29/2016 6:10:56 PM
Analyst: Vaughan, Nathaniel
Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
25 / 16029869-025 WP, Plaster				Not Analyzed
25 / 16029869-025 WP, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
26 / 16029869-026 WP, Plaster				Not Analyzed
26 / 16029869-026 WP, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
27 / 16029869-027 WP, Plaster				Not Analyzed
27 / 16029869-027 WP, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
28 / 16029869-028 WP, Plaster				Not Analyzed
28 / 16029869-028 WP, Skim Coat	White Non-Fibrous Heterogeneous		100% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
29 / 16029869-029 Drywall	White Non-Fibrous Heterogeneous	20% Cellulose	80% Other	None Detected

Certification

Analyst: [signature]
Analysis Date: 8/29/2016

Approved Signatory: Sandra Sobrino
Date: 8/29/2016

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Project Number: H16201
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Project Name: 35 Woodbine

Collected Date: 8/18/2016
Received Date: 8/22/2016 8:50:00 AM
Report Date: 8/29/2016 6:10:56 PM
Analyst: Vaughan, Nathaniel
Tallert, Jonathan

Asbestos Bulk PLM EPA 600/R-93/116

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
30 / 16029869-030 Drywall	White Non-Fibrous Heterogeneous	20% Cellulose	80% Other	None Detected

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
31 / 16029869-031 Window Glazing	Grey Non-Fibrous Heterogeneous		98% Other	2% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
32 / 16029869-032 Window Glazing				Not Analyzed

Certification

Analyst: [signature]
Analysis Date: 8/29/2016

Approved Signatory: Sandra Sobrino
Date: 8/29/2016

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SanAir ID Number
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Address: 6105 Heisley Road
Mentor, OH 44060

Project Number: H16201
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Tallert, Jonathan

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
01 / 16029869-035 CP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile
02 / 16029869-036 CP, Plaster	Grey Non-Fibrous Homogeneous		99.9% Other	0.1% Chrysotile
03 / 16029869-037 CP, Plaster	Grey Non-Fibrous Homogeneous		99.8% Other	0.2% Chrysotile
04 / 16029869-038 CP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile
05 / 16029869-039 CP, Plaster	Grey Non-Fibrous Homogeneous		99.6% Other	0.4% Chrysotile
18 / 16029869-040 Textured CP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile

Certification

Analyst: [signature]
Analysis Date: 8/29/2016

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Tallert, Jonathan

Asbestos Bulk PLM EPA 1000 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
19 / 16029869-041 Textured CP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
20 / 16029869-042 Textured CP, Plaster	Grey Non-Fibrous Homogeneous		100% Other	< 0.1% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
21 / 16029869-043 Textured WP, Plaster	Grey Non-Fibrous Homogeneous		99.6% Other	0.4% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
22 / 16029869-044 Textured WP, Plaster	Grey Non-Fibrous Homogeneous		99.8% Other	0.2% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
23 / 16029869-045 Textured WP, Plaster	Grey Non-Fibrous Homogeneous		99.8% Other	0.2% Chrysotile

Certification

Analyst: [signature]
Analysis Date: 8/29/2016

Approved Signatory: Sandra Sobrino
Date: 8/29/2016

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Tallert, Jonathan

Asbestos Bulk EPA PLM 400 Point Count

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
31 / 16029869-033 Window Glazing	Grey Non-Fibrous Heterogeneous		100% Other	< 0.25% Chrysotile

SanAir ID / Description	Stereoscopic Appearance	Components % Fibrous	Components % Non-Fibrous	Asbestos Fibers
32 / 16029869-034 Window Glazing	Grey Non-Fibrous Heterogeneous		100% Other	< 0.25% Chrysotile

Certification

Analyst: [signature]
Analysis Date: 8/29/2016

Approved Signatory: Sandra Sobrino
Date: 8/29/2016

Disclaimer

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

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

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

NY ELAP lab ID 11983

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www.sanair.com

Asbestos Chain of Custody

SanAir ID Number: [redacted]

Company: HzW Environmental Consultants, LLC	Project #: H16201	Collected by: JW
Address: 6105 Heisley Road	Project Name: 35 Woodbine	Phone #: 440-357-1260
City, St., Zip: Mentor, Ohio 44060	Date Collected: 8-18-16	Fax #: 440-357-1510
State of Collection: OH Account#:	P.O. Number: 0007-16	Email: JSablar@Hzwenv.com

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop ☒	
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Water

ABHE	EPA 100.2	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Other

Matrix		
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start – Stop	
01	Smooth CP					
02	"					
03	"					
04	"					
05	"					
06	CT – Ridges					
07	"					
08	CT – Fissures					
09	"					
10	CT – Pinholes					
11	"					
12	Drywall system					

Relinquished by	Date	Time	Received by	Date	Time
JW	8-19-16	9 pm	MC	AUG 22 2016	8:50AM

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

SanAir Technologies Laboratory
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

Company: HzW Environmental Consultants, LLC	Project #:	Collected by: JW
Address: 6105 Heisley Road	Project Name: 35 Westbine	Phone #: 440-357-1260
City, St., Zip: Mentor, Ohio 44060	Date Collected:	Fax #: 440-357-1510
State of Collection: OH Account#:	P.O. Number:	Email: JSablar@Hzwenv.com

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop ☒	
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Water

ABHE	EPA 100.2	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Other

Matrix		
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
13	"					
14	"					
15	Textured CD - Ridges					
16	"					
17	"					
18	Textured CP - Rough					
19	"					
20	"					
21	Textured WP - Rough					
22	"					
23	"					
24	Smooth WP					

Relinquished by	Date	Time	Received by	Date	Time
[illegible]	8-19-16	4pm	ML	AUG 22 2016	8:50AM

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

SanAir Technologies Laboratory
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

Company: HzW Environmental Consultants, LLC	Project #:	Collected by: JW
Address: 6105 Heisley Road	Project Name: 35 Woodbine	Phone #: 440-357-1260
City, St., Zip: Mentor, Ohio 44060	Date Collected:	Fax #: 440-357-1510
State of Collection: OH Account#:	P.O. Number:	Email: JSablar@Hzwenv.com

Bulk

ABB	PLM EPA 600/R-93/116	☒
	Positive Stop ☒	
ABEPA	PLM EPA 400 Point Count	☒
ABB1K	PLM EPA 1000 Point Count	☒
ABBEN	PLM EPA NOB	☐
ABBCH	TEM Chatfield	☐
ABBTM	TEM EPA NOB	☐

Water

ABHE	EPA 100.2	☐

Air

ABA	PCM NIOSH 7400	☐
ABA-2	OSHA w/ TWA*	☐
ABTEM	TEM AHERA	☐
ABATN	TEM NIOSH 7402	☐
ABT2	TEM Level II	☐

New York ELAP

PLM NY	PLM EPA 600/M4-82-020	☐
ABEPA2	NY ELAP 198.1	☐
ABENY	NY ELAP 198.6 PLM NOB	☐
ABBNY	NY ELAP 198.4 TEM NOB	☐

Soil/Vermiculite

ABSE	PLM EPA 600/R-93/116 (Qual.)	☐
ABSP	PLM CARB 435 (LOD <1%)	☐
ABSP1	PLM CARB 435 (LOD 0.25%)	☐
ABSP2	PLM CARB 435 (LOD 0.1%)	☐

Dust

ABWA	TEM Wipe ASTM D-6480	☐
ABDMV	TEM Microvac ASTM D-5755	☐

Other

Matrix		
		☐

Turn Around Times				
	3 HR (4 HR TEM) ☐	6 HR (8HR TEM) ☐	12 HR ☐	24 HR ☐
	2 Days ☐	3 Days ☐	4 Days ☐	5 Days ☒

Special Instructions

Sample #	Sample Identification/Location	Volume or Area	Sample Type	Flow Rate*	Time* Start	Time* Stop
25	"					
26	"					
27	"					
28	"					
29	Drywall					
30	"					
31	Window Glazing					
32	"					

Relinquished by	Date	Time	Received by	Date	Time
JW	8-19-16	4 pm	MC	AUG 22 2016	8:50AM

Unless scheduled, the turn around time for all samples received after 3 pm EST 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.

ADDRESS	DUCT SEAM WRAP SQ FT	DUCT WRAP INSUL SQ FT	WINDOW GLAZING SQ FT/ # OF WINDOWS	LIGHT SHIELD SQ FT	SHINGLES SQ FT	FLOOR SQ FT	TRANSITE SQ FT	CEILING PLASTER SQ FT	WALL PLASTER SQ FT	ELEC BACK PADDING SQ FT	MISC CU FT	BOILER INSUL	AIRCELL PIPE WRAP
BROADWAY 208												100	180
CORNWALL 2551	SURVEY NOT COMPLETE, UNSAFE TO ENTER HAUL OUT CONTAINED												
CORNWALL 2559		**130**			**2600**			**1150**	**4161**				
DELAWARE 707	23	126											
DELAWARE 708	1	100											
DELAWARE 719		200						1420	4306	1			
DELAWARE 727	12	100						1368		1			
DENNICK W 20	1	100						1446	4709				
DENNICK W 117-119	121	170	5/12 WINDOWS		552								
EARLY 106		200											
EARLY 273	10	150											
EARLY 661	45	120	10/										
EARLY 745								** AND WALL	**3817				
KENNETH 1332	SURVEY IS BEING DONE												
KENSINGTON 1815	4	100											
LANSDOWNE 15	60			1									
LIBERTY 687						312				NO ACCESS TO GARAGE			
LOGAN 1420	12	108		1									
LOGAN 1440	CLEAN												
LOGAN 2209	22	100											
McGUFFEY 891	2	106	2/					20		NO ACCESS TO GARAGE			
McGUFFEY 1161													580
McGUFFEY 1923	35	20											
McGUFFEY 2675			1/4 WINDOWS										
MIAMI 1352	CLEAN												
MIAMI 1359								** AND WALL	**4246				
PARK 723	2	40	14 /14 WINDOWS					744	2394				
STEWART 1646		120							4047				
STEWART 1717	SURVEY NOT COMPLETE, UNSAFE TO ENTER HAUL OUT CONTAINED												
SUNSHINE 423	4	70	1/					192					
SUNSHINE 839	8	108	6/					918	3024				
SUNSHINE 841		60											
SUNSHINE 858		90											
TACOMA 18	1	130						1788	4861				
TACOMA 53		80	15/				2100						
THORNTON 16	7	160			400								
THORNTON 17		30											
THORNTON 27		1250		1				5228	14,843				
THORNTON 31	55	1700	28 /55 WINDOWS	1						8			
THORNTON 35	8	108	14 /30 WINDOWS					736					
THORNTON 61	15	160		1							30 CU FT DEBRIS		
THORNTON 86-88	15	305	44 /11 WINDOWS	1				1528		2			
WOODBINE 35		120							4500				

Property Information

Property Number	53-007-0-080.00-0
Owner Name	MENDEZ JAIME JR
Owner Address	14919 NORMANDIE AVE APT 19 GARDENA CA 90247
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	62300 North Side
Use Code	401 4 - 19 Family Apts.
Acres	.12100

Description

LOT 10514 PART 35 X 150 BROADWAY

Property Address:

208 BROADWAY AVE

Tax Payer Address:

MENDEZ JAIME JR
14919 S NORMANDIE AVE APT 19
GARDENA CA 90247
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$1,940	Valid Sale	Y
Homestead/Disability	N	CAUV	$0	# Parcels	4
Owner Occupied	N	Mkt Impr Value	$35,230	Deed Type	1C-WARRANTY DEED
Divided Property	N	Total	$37,170	Amount	$100,000
New Construction	N	**Current Tax**		Sale Date	5/31/2006
Foreclosure	N	Annual Tax *	$0.00	Conveyance	2541
Other Assessments	Y	Paid **	$0.00	Deed #	
Front Ft.	0	Delq	$0.00		

<< Previous Card Card 1 of 1 Next Card >>

401 4 - 19 Family Apts. Building Section 001 Occupancy 001

Year Built	1920	Year Remodel	0	Occupancy	Multiple Resid. (Low Rise)
# Stories	1	Story Height	9	Use Code	401
Section Area	3068	Perim/Shape	2		

401 4 - 19 Family Apts. Building Section 002 Occupancy 001

Year Built	1920	Year Remodel	0	Occupancy	Multiple Resid. (Low Rise)
# Stories	2	Story Height	9	Use Code	401
Section Area	6136	Perim/Shape	2		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.12050	0	35.00000	35.00000	150.00000	0	$1,940

CAUV Land

No CAUV Land On This Property

- Card - 1

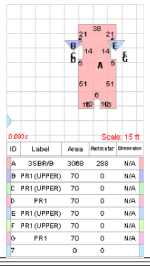
Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Superstructure	70 SQ FT			
Other Improvement	Garage Frame	1484	1484	1	1920

- Card - 1

Property Sketch and Photos -- Card 1

Property Sketch



ID	Label	Area	Perimeter	Dimension
A	3SBR/B	3068	288	N/A
B	PR1(UPPER)	70	0	N/A
C	PR1(UPPER)	70	0	N/A
D	PR1	70	0	N/A
E	PR1(UPPER)	70	0	N/A
F	PR1(UPPER)	70	0	N/A
G	PR1	70	0	N/A
7		0	0	

Property Information

Property Number	53-213-0-051.00-0	Property Address:
Owner Name	VICTORY VIOLA M	2551 CORNWALL AVE
Owner Address	7283 BENNINGTON PIKE RAVENNA OH 44266	
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD	
School District	5014 YOUNGSTOWN CSD	
Neighborhood	63000 East Side	Tax Payer Address:
Use Code	510 One Family Dwelling	RETURN MAIL NO ADDRESS AVAILABLE YOUNGSTOWN OH 44503 USA
Acres	.43700	
Description		
LOT 52701 140 X 171 CORNWALL		

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$2,190	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	1
Owner Occupied	N	Mkt Impr Value	$3,760	Deed Type	11C-OTHER
Divided Property	N	Total	$5,950	Amount	$4,050
New Construction	N	**Current Tax**		Sale Date	8/7/2007
Foreclosure	N	Annual Tax *	$159.59	Conveyance	3461
Other Assessments	Y	Paid **	$0.00	Deed #	
Front Ft.	0	Delq	$1,006.68		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	840	Room Count	4	Fireplace(s)	0
1st Floor Area	420	Story Height	2	Year Built	1901
Upper Floor Area	420	# Bedrooms	2	Year Remodeled	0
Half Story Area	0	Full Baths	1	Grade	D 00
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	Full Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.43690	0	140.30000	104.00000	183.00000	0	$2,190

CAUV Land

No CAUV Land On This Property

- Card - 1

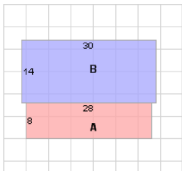
Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Porch Frame - Enclosed	224 SQ FT			

- Card - 1

Property Sketch and Photos -- Card 1

Property Sketch



ID	Label	Area	Perimeter	Dimension
A	PR2 / B	224	72	N/A
B	2 x Fr / B	420	88	N/A

Property Information

Property Number	53-213-0-050.00-0	Property Address:
Owner Name	MACOVITZ VIRGINIA	2559 CORNWALL AVE
Owner Address	2559 CORNWALL YOUNGSTOWN OH 44505	
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD	
School District	5014 YOUNGSTOWN CSD	
Neighborhood	63000 East Side	Tax Payer Address:
Use Code	510 One Family Dwelling	MACOVITZ VIRGINIA 2559 CORNWALL ST YOUNGSTOWN OH 44505 USA
Acres	.36000	
Description		
LOT 52700 76 X 193 CORNWALL		

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$1,720	Valid Sale	N
Homestead/Disability	Y	CAUV	$0	# Parcels	1
Owner Occupied	Y	Mkt Impr Value	$3,190	Deed Type	3E-QUIT CLAIM DEED EXEMPT
Divided Property	N	Total	$4,910	Amount	$0
New Construction	N	**Current Tax**		Sale Date	10/28/2009
Foreclosure	N	Annual Tax *	$3.43	Conveyance	
Other Assessments	Y	Paid **	$0.00	Deed #	4071
Front Ft.	0	Delq	$100.76		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	1390	Room Count	6	Fireplace(s)	0
1st Floor Area	702	Story Height	2	Year Built	1901
Upper Floor Area	688	# Bedrooms	3	Year Remodeled	0
Half Story Area	0	Full Baths	1	Grade	D+01
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	Full Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.36030	0	76.20000	73.00000	215.00000	0	$1,720

CAUV Land

No CAUV Land On This Property

- Card - 1

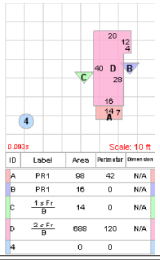
Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Porch Frame - Open	16 SQ FT			
Addition	Porch Frame - Open	98 SQ FT			
Other Improvement	Garage Frame	440	22	20	1911

- Card - 1

Property Sketch and Photos -- Card 1

Property Sketch



ID	Label	Area	Perimeter	Dimension
A	PR1	98	42	N/A
B	PR1	16	0	N/A
C	1 s Fr. B	14	0	N/A
D	2 s Fr. B	688	120	N/A
4		0	0	

Mahoning County Auditor

Ralph T Meacham, CPA

707 DELAWARE AVE

53-079-0-224.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-079-0-224.00-0	Property Address:
Owner Name	WILLIAMS JULIUS SR & M L	707 DELAWARE AVE
Owner Address	707 DELAWARE YOUNGSTOWN OH 44510	
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD	
School District	5014 YOUNGSTOWN CSD	
Neighborhood	62300 North Side	Tax Payer Address:
Use Code	510 One Family Dwelling	RETURN MAIL NO ADDRESS AVAILABLE YOUNGSTOWN OH 44503 USA
Acres	.14500	
Description		
LOT 19257 45 X 139 DELAWARE		

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$1,460	Valid Sale	Y
Homestead/Disability	N	CAUV	$0	# Parcels	1
Owner Occupied	Y	Mkt Impr Value	$9,100	Deed Type	
Divided Property	N	Total	$10,560	Amount	$10,000
New Construction	N	**Current Tax**		Sale Date	11/22/1993
Foreclosure	N	Annual Tax *	$618.99	Conveyance	4724
Other Assessments	Y	Paid **	$0.00	Deed #	
Front Ft.	0	Delq	$1,986.10		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	1418	Room Count	6	Fireplace(s)	1
1st Floor Area	742	Story Height	2	Year Built	1922
Upper Floor Area	676	# Bedrooms	3	Year Remodeled	0
Half Story Area	0	Full Baths	1	Grade	C+01
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	Full Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.14460	0	45.00000	45.00000	140.00000	0	$1,460

CAUV Land

No CAUV Land On This Property

Card - 1

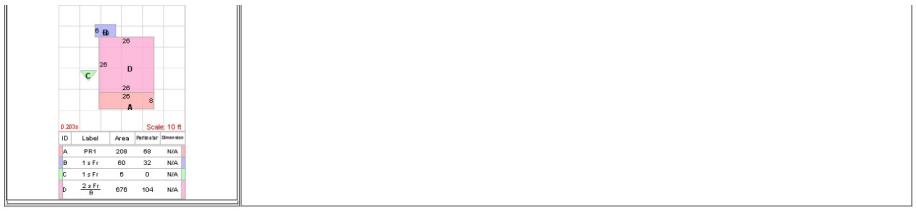
Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Porch Frame - Open	208 SQ FT			

Card - 1

Property Sketch and Photos -- Card 1

Property Sketch



Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

708 DELAWARE AVE

53-079-0-351.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-079-0-351.00-0
Owner Name	MAY MICHELLE
Owner Address	708 DELAWARE YOUNGSTOWN OH 44511
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	62300 North Side
Use Code	510 One Family Dwelling
Acres	.08900

Description

LOT 29371 37 X 107 DELAWARE

Property Address:

708 DELAWARE AVE

Tax Payer Address:

RETURN MAIL
NO ADDRESS AVAILABLE
YOUNGSTOWN OH 44503
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$1,030	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	1
Owner Occupied	Y	Mkt Impr Value	$2,890	Deed Type	8E-CERT OF TRANS EX
Divided Property	N	Total	$3,920	Amount	$0
New Construction	N	**Current Tax**		Sale Date	12/17/2002
Foreclosure	N	Annual Tax *	$103.05	Conveyance	0
Other Assessments	Y	Paid **	$0.00	Deed #	6296
Front Ft.	0	Delq	$1,461.80		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	1248	Room Count	6	Fireplace(s)	0
1st Floor Area	632	Story Height	2	Year Built	1900
Upper Floor Area	616	# Bedrooms	3	Year Remodeled	0
Half Story Area	0	Full Baths	1	Grade	C+01
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	Full Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.08920	0	37.00000	37.00000	105.00000	0	$1,030

CAUV Land

No CAUV Land On This Property

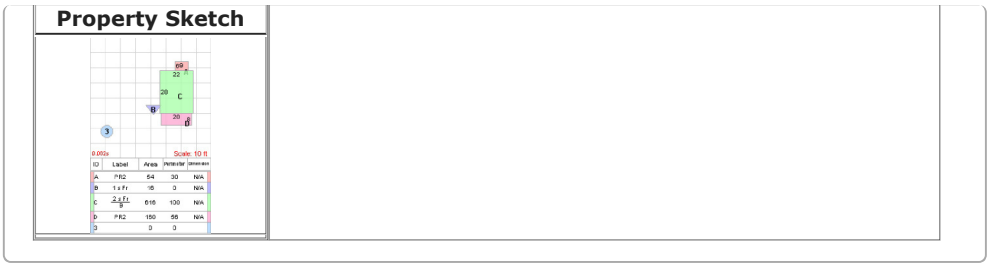
Card - 1

Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Porch Frame - Enclosed	54 SQ FT			
Addition	Porch Frame - Enclosed	160 SQ FT			

Card - 1

Property Sketch and Photos -- Card 1



Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

719 DELAWARE AVE

53-079-0-228.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-079-0-228.00-0
Owner Name	BORD FREDERICK G
Owner Address	719 DELAWARE YOUNGSTOWN OH 44510
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	62300 North Side
Use Code	510 One Family Dwelling
Acres	.11200

Description

LOT 19254 SEC E 35 X 139 DELAWARE

Property Address:

719 DELAWARE AVE

Tax Payer Address:

BORD FREDERICK G
3215 KIWATHA RD
YOUNGSTOWN OH 44511
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$1,130	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	2
Owner Occupied	N	Mkt Impr Value	$9,620	Deed Type	3E-QUIT CLAIM DEED EXEMPT
Divided Property	N	Total	$10,750	Amount	$0
New Construction	N	**Current Tax**		Sale Date	10/11/2012
Foreclosure	N	Annual Tax *	$546.82	Conveyance	
Other Assessments	Y	Paid **	$546.82	Deed #	3355
Front Ft.	0	Delq	$0.00		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	1685	Room Count	7	Fireplace(s)	0
1st Floor Area	852	Story Height	2	Year Built	1912
Upper Floor Area	732	# Bedrooms	4	Year Remodeled	0
Half Story Area	101	Full Baths	1	Grade	C+01
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	Full Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.11250	0	35.00000	35.00000	140.00000	0	$1,130

CAUV Land

No CAUV Land On This Property

Card - 1

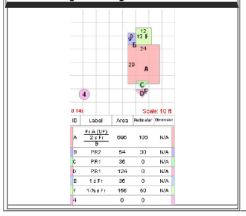
Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Porch Frame - Open	36 SQ FT			
Addition	Porch Frame - Open	124 SQ FT			
Addition	Porch Frame - Enclosed	54 SQ FT			
Feature	Unfinished Attic	696			
Other Improvement	Garage Frame	252	18	14	1900

Card - 1

Property Sketch and Photos -- Card 1

Property Sketch



Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

727 DELAWARE AVE

53-079-0-232.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-079-0-232.00-0
Owner Name	LOGAN PEGGY ANN
Owner Address	723 DELAWARE YOUNGSTOWN OH 44510
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	62300 North Side
Use Code	510 One Family Dwelling
Acres	.09600

Description

LOT 19252 SEC E 30 X 139 DELAWARE

Property Address:

727 DELAWARE AVE

Tax Payer Address:

RETURN MAIL
NO ADDRESS AVAILABLE
YOUNGSTOWN OH 44503
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$970	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	2
Owner Occupied	Y	Mkt Impr Value	$2,100	Deed Type	8E-CERT OF TRANS EX
Divided Property	N	Total	$3,070	Amount	$0
New Construction	N	**Current Tax**		Sale Date	5/3/2006
Foreclosure	N	Annual Tax *	$428.51	Conveyance	
Other Assessments	Y	Paid **	$0.00	Deed #	1981
Front Ft.	0	Delq	$902.13		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	1444	Room Count	6	Fireplace(s)	0
1st Floor Area	712	Story Height	2	Year Built	1917
Upper Floor Area	732	# Bedrooms	3	Year Remodeled	0
Half Story Area	0	Full Baths	1	Grade	C+01
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	Full Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.09640	0	30.00000	30.00000	140.00000	0	$970

CAUV Land

No CAUV Land On This Property

Card - 1

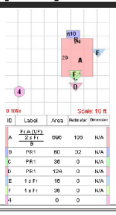
Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Porch Frame - Open	36 SQ FT			
Addition	Porch Frame - Open	60 SQ FT			
Addition	Porch Frame - Open	124 SQ FT			
Feature	Unfinished Attic	696			
Other Improvement	Garage CB	528	24	22	1968

Card - 1

Property Sketch and Photos -- Card 1

Property Sketch



Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

117 W DENNICK AVE

53-012-0-327.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-012-0-327.00-0
Owner Name	DOEHN PAUL
Owner Address	247 WOODSTOCK TAVISTOCK , ONTARIO
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	62300 North Side
Use Code	520 Two Family Dwelling
Acres	.23500

Description

LOT 37338 50 X 204 DENNICK

Property Address:

117 W DENNICK AVE

Tax Payer Address:

RETURN MAIL
NO ADDRESS AVAILABLE
YOUNGSTOWN OH 44503
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$1,830	Valid Sale	Y
Homestead/Disability	N	CAUV	$0	# Parcels	1
Owner Occupied	N	Mkt Impr Value	$13,820	Deed Type	1C-WARRANTY DEED
Divided Property	N	Total	$15,650	Amount	$17,000
New Construction	N	**Current Tax**		Sale Date	1/30/2008
Foreclosure	N	Annual Tax *	$759.34	Conveyance	285
Other Assessments	Y	Paid **	$0.00	Deed #	
Front Ft.	0	Delq	$2,850.62		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	2644	Room Count	12	Fireplace(s)	2
1st Floor Area	1332	Story Height	2	Year Built	1926
Upper Floor Area	1312	# Bedrooms	6	Year Remodeled	0
Half Story Area	0	Full Baths	2	Grade	C+02
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Brick
Basement Type	Full Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.23530	0	50.00000	50.00000	205.00000	0	$1,830

CAUV Land

No CAUV Land On This Property

Card - 1

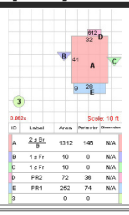
Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Porch Frame - Open	252 SQ FT			
Addition	Porch Frame - Enclosed	72 SQ FT			
Feature	Addn'l Living Units-Designed	1			
Other Improvement	Garage Frame	360	20	18	1926

Card - 1

Property Sketch and Photos -- Card 1

Property Sketch



Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

20 W DENNICK AVE

53-012-0-361.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-012-0-361.00-0
Owner Name	HERNIMAN CLINTON
Owner Address	5138 BEACHNUT HOUSTON TX 77096
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	62300 North Side
Use Code	510 One Family Dwelling
Acres	.14500

Description

LOT 27778 50 X 126 DENNICK

Property Address:

20 W DENNICK AVE

Tax Payer Address:

RETURN MAIL
NO ADDRESS AVAILABLE
YOUNGSTOWN OH 44503
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$1,550	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	1
Owner Occupied	N	Mkt Impr Value	$6,280	Deed Type	3E-QUIT CLAIM DEED EXEMPT
Divided Property	N	Total	$7,830	Amount	$0
New Construction	N	**Current Tax**		Sale Date	10/5/2010
Foreclosure	N	Annual Tax *	$208.12	Conveyance	
Other Assessments	Y	Paid **	$0.00	Deed #	3240
Front Ft.	0	Delq	$1,797.21		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	1389	Room Count	7	Fireplace(s)	0
1st Floor Area	729	Story Height	2	Year Built	1920
Upper Floor Area	660	# Bedrooms	3	Year Remodeled	0
Half Story Area	0	Full Baths	1	Grade	C+01
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	Full Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.14460	0	50.00000	50.00000	126.00000	0	$1,550

CAUV Land

No CAUV Land On This Property

Card - 1

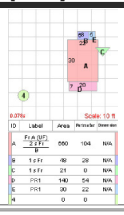
Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Porch Frame - Open	30 SQ FT			
Addition	Porch Frame - Open	140 SQ FT			
Feature	Unfinished Attic	660			
Other Improvement	Garage Frame	484	22	22	1960

Card - 1

Property Sketch and Photos -- Card 1

Property Sketch



Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

106 EARLY RD

53-209-0-048.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-209-0-048.00-0
Owner Name	WILLIAMS LATONYA D
Owner Address	106 EARLY YOUNGSTOWN OH 44505
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	63000 East Side
Use Code	510 One Family Dwelling
Acres	1.46600

Description

LOT 54658 PART EARLY RD

Property Address:

106 EARLY RD

Tax Payer Address:

RETURN MAIL
NO ADDRESS AVAILABLE
YOUNGSTOWN OH 44503
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$2,340	Valid Sale	Y
Homestead/Disability	N	CAUV	$0	# Parcels	1
Owner Occupied	Y	Mkt Impr Value	$4,200	Deed Type	1C-WARRANTY DEED
Divided Property	N	Total	$6,540	Amount	$23,000
New Construction	N	**Current Tax**		Sale Date	11/3/1999
Foreclosure	N	Annual Tax *	$169.94	Conveyance	4873
Other Assessments	Y	Paid **	$0.00	Deed #	
Front Ft.	0	Delq	$2,252.81		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	1768	Room Count	8	Fireplace(s)	0
1st Floor Area	800	Story Height	2	Year Built	1938
Upper Floor Area	968	# Bedrooms	4	Year Remodeled	0
Half Story Area	0	Full Baths	1	Grade	D+01
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Brick
Basement Type	Full Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	1.46630	0	64.00000	141.00000	453.00000	0	$2,340

CAUV Land

No CAUV Land On This Property

Card - 1

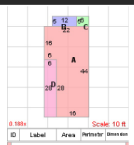
Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Porch Masonry - Open	60 SQ FT			
Addition	Porch Masonry - Open	168 SQ FT			
Addition	Porch Masonry - Enclosed	30 SQ FT			

Card - 1

Property Sketch and Photos -- Card 1

Property Sketch



ID	Label	Area	Perimeter	Dimension
A	2 x Br / B	800	132	N/A
B	PR3	60	34	N/A
C	PR4	30	22	N/A
D	PR3 / 1 x Br	158	68	N/A

Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

273 EARLY RD

53-208-0-016.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-208-0-016.00-0
Owner Name	HEARD DENEE V
Owner Address	273 EARLY YOUNGSTOWN OH 44505
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	63000 East Side
Use Code	510 One Family Dwelling
Acres	.13800

Description

LOT 54296 40 X 149 IRR EARLY RD

Property Address:

273 EARLY RD

Tax Payer Address:

RETURN MAIL
NO ADDRESS AVAILABLE
YOUNGSTOWN OH 44503
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$890	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	3
Owner Occupied	Y	Mkt Impr Value	$7,370	Deed Type	
Divided Property	N	Total	$8,260	Amount	$0
New Construction	N	**Current Tax**		Sale Date	3/31/1994
Foreclosure	N	Annual Tax *	$213.58	Conveyance	0
Other Assessments	Y	Paid **	$0.00	Deed #	
Front Ft.	0	Delq	$1,559.67		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	1446	Room Count	6	Fireplace(s)	1
1st Floor Area	771	Story Height	2	Year Built	1930
Upper Floor Area	675	# Bedrooms	3	Year Remodeled	0
Half Story Area	0	Full Baths	1	Grade	B-02
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Brick
Basement Type	Full Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.13770	0	40.00000	40.00000	150.00000	0	$890

CAUV Land

No CAUV Land On This Property

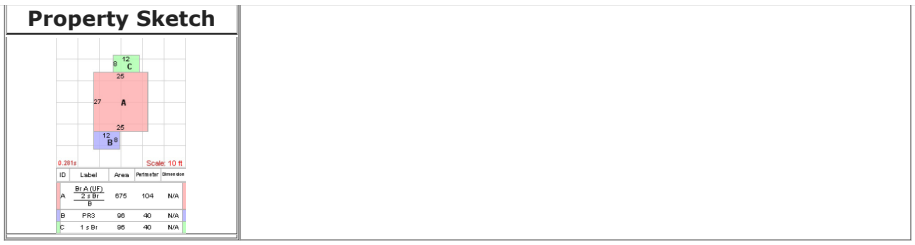
Card - 1

Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Porch Masonry - Open	96 SQ FT			
Feature	Unfinished Attic	675			

Card - 1

Property Sketch and Photos -- Card 1



Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

Home | Address Search | Owner Search | Parcel Search | Quick Search | Tax Estimator | Sales Search | Register | Login

661 EARLY RD

53-214-0-124.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-214-0-124.00-0
Owner Name	LEWIS LOIS
Owner Address	661 EARLY YOUNGSTOWN OH 44505
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	63000 East Side
Use Code	510 One Family Dwelling
Acres	.26900

Description

LOT 52771 65 X 179 EARLY ROAD

Property Address:

661 EARLY RD

Tax Payer Address:

RETURN MAIL
NO ADDRESS AVAILABLE
YOUNGSTOWN OH 44503
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$1,500	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	0
Owner Occupied	Y	Mkt Impr Value	$3,030	Deed Type	
Divided Property	N	Total	$4,530	Amount	$0
New Construction	N	**Current Tax**		Sale Date	4/7/1988
Foreclosure	N	Annual Tax *	$465.58	Conveyance	0
Other Assessments	Y	Paid **	$0.00	Deed #	
Front Ft.	0	Delq	$1,188.92		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	1560	Room Count	7	Fireplace(s)	0
1st Floor Area	840	Story Height	2	Year Built	1920
Upper Floor Area	720	# Bedrooms	4	Year Remodeled	0
Half Story Area	0	Full Baths	1	Grade	C-01
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	Full Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.26860	0	65.00000	65.00000	180.00000	0	$1,500

CAUV Land

No CAUV Land On This Property

Card - 1

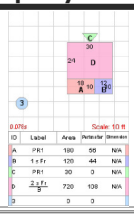
Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Porch Frame - Open	30 SQ FT			
Addition	Porch Frame - Open	180 SQ FT			
Other Improvement	Garage Frame	440	22	20	1950

Card - 1

Property Sketch and Photos -- Card 1

Property Sketch



ID	Label	Area	Perimeter	Dimension
A	PR1	180	56	N/A
B	1 x Fr	120	44	N/A
C	PR1	20	0	N/A
D	$\frac{2 \times Fr.}{S}$	720	108	N/A
D		0	0	

Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

Home | Address Search | Owner Search | Parcel Search | Quick Search | Tax Estimator | Sales Search | Register | Login

745 EARLY RD

53-214-0-006.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-214-0-006.00-0
Owner Name	PARANZINO TONY LEE
Owner Address	745 EARLY YOUNGSTOWN OH 44505
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	63000 East Side
Use Code	510 One Family Dwelling
Acres	2.00000

Description

LOT 52823 PART EARLY RD

Property Address:

745 EARLY RD

Tax Payer Address:

PARANZINO TONY LEE
PO BOX 1650
YOUNGSTOWN OH 44501
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$7,200	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	1
Owner Occupied	Y	Mkt Impr Value	$7,470	Deed Type	3E-QUIT CLAIM DEED EXEMPT
Divided Property	N	Total	$14,670	Amount	$0
New Construction	N	**Current Tax**		Sale Date	6/21/2000
Foreclosure	N	Annual Tax *	$552.23	Conveyance	0
Other Assessments	Y	Paid **	$0.00	Deed #	2851
Front Ft.	0	Delq	$2,782.11		

<< Previous Card | Card 1 of 1 | Next Card >>

Dwelling Information

Sq Ft Finished	1980	Room Count	9	Fireplace(s)	0
1st Floor Area	990	Story Height	2	Year Built	1896
Upper Floor Area	990	# Bedrooms	4	Year Remodeled	0
Half Story Area	0	Full Baths	1	Grade	C-01
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	Pt Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
AHHomesite	1.00000	0	.00000	.00000		0	$3,600
ASSubTotal	1.00000	0	.00000	.00000		0	$3,600

CAUV Land

No CAUV Land On This Property

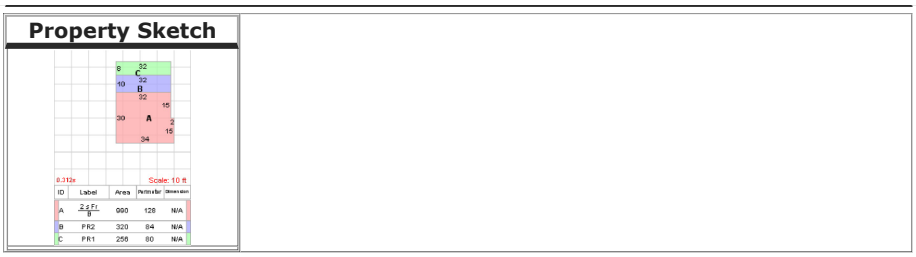
Card - 1

Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Porch Frame - Open	256 SQ FT			
Addition	Porch Frame - Enclosed	320 SQ FT			

Card - 1

Property Sketch and Photos -- Card 1



Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

1332 KENNETH AVE

53-205-0-522.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-205-0-522.00-0
Owner Name	COLEMAN PATRICIA
Owner Address	830 LUCIUS YOUNGSTOWN OH 44502
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	62500 John White Playground
Use Code	510 One Family Dwelling
Acres	.31500

Description

LOT 60095 63 X 211 KENNETH ST

Property Address:

1332 KENNETH AVE

Tax Payer Address:

RETURN MAIL
NO ADDRESS AVAILABLE
YOUNGSTOWN OH 44503
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$3,540	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	1
Owner Occupied	N	Mkt Impr Value	$7,870	Deed Type	3E-QUIT CLAIM DEED EXEMPT
Divided Property	N	Total	$11,410	Amount	$0
New Construction	N	**Current Tax**		Sale Date	6/4/2008
Foreclosure	N	Annual Tax *	$474.80	Conveyance	
Other Assessments	Y	Paid **	$0.00	Deed #	2298
Front Ft.	0	Delq	$2,899.09		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	1140	Room Count	5	Fireplace(s)	0
1st Floor Area	1140	Story Height	1	Year Built	1960
Upper Floor Area	0	# Bedrooms	2	Year Remodeled	0
Half Story Area	0	Full Baths	1	Grade	C 00
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	Pt Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.31490	0	65.00000	65.00000	211.00000	0	$3,540

CAUV Land

No CAUV Land On This Property

Card - 1

Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Garage Frame	308 SQ FT			

Card - 1

Property Sketch and Photos -- Card 1

Property Sketch

Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

Home | Address Search | Owner Search | Parcel Search | Quick Search | Tax Estimator | Sales Search | Register | Login

1815 KENSINGTON AVE

53-011-0-371.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-011-0-371.00-0
Owner Name	BREWER ARRELA
Owner Address	1815 KENSINGTON YOUNGSTOWN OH 44505
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	62300 North Side
Use Code	510 One Family Dwelling
Acres	.11000

Description

LOT 15100 40 X 120 KENSINGTON

Property Address:

1815 KENSINGTON AVE

Tax Payer Address:

SOLD TAX LIEN-IN FORECLOSURE
CONTACT MAHONING COUNTY TREASURER
YOUNGSTOWN OH 44503
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$1,200	Valid Sale	Y
Homestead/Disability	N	CAUV	$0	# Parcels	1
Owner Occupied	Y	Mkt Impr Value	$2,530	Deed Type	
Divided Property	N	Total	$3,730	Amount	$13,500
New Construction	N	**Current Tax**		Sale Date	4/15/1988
Foreclosure	N	Annual Tax *	$445.18	Conveyance	2023
Other Assessments	Y	Paid **	$0.00	Deed #	
Front Ft.	0	Delq	$1,866.64		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	1152	Room Count	5	Fireplace(s)	0
1st Floor Area	576	Story Height	2	Year Built	1916
Upper Floor Area	576	# Bedrooms	3	Year Remodeled	0
Half Story Area	0	Full Baths	1	Grade	C 00
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	Full Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.11020	0	40.00000	40.00000	120.00000	0	$1,200

CAUV Land

No CAUV Land On This Property

Card - 1

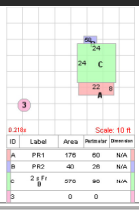
Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Porch Frame - Open	176 SQ FT			
Addition	Porch Frame - Enclosed	40 SQ FT			
Other Improvement	Garage Frame	216	18	12	1900

Card - 1

Property Sketch and Photos -- Card 1

Property Sketch



Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

15 LANSDOWNE BLVD

53-209-0-027.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-209-0-027.00-0
Owner Name	FRKETICH VERONICA
Owner Address	15 LANSDOWNE YOUNGSTOWN OH 44506
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	63000 East Side
Use Code	518 Residential on Comml Strip
Acres	.19700

Description

LOT 54270 52 X 163 LANSDOWNE

Property Address:

15 LANSDOWNE BLVD

Tax Payer Address:

RETURN MAIL
NO ADDRESS AVAILABLE
YOUNGSTOWN OH 44503
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$1,200	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	0
Owner Occupied	N	Mkt Impr Value	$5,290	Deed Type	
Divided Property	N	Total	$6,490	Amount	$0
New Construction	N	**Current Tax**		Sale Date	1/1/1990
Foreclosure	N	Annual Tax *	$173.02	Conveyance	0
Other Assessments	Y	Paid **	$0.00	Deed #	
Front Ft.	0	Delq	$1,332.55		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	940	Room Count	6	Fireplace(s)	1
1st Floor Area	940	Story Height	1	Year Built	1930
Upper Floor Area	0	# Bedrooms	3	Year Remodeled	0
Half Story Area	0	Full Baths	1	Grade	C-01
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	Full Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.19700	0	51.60000	52.00000	165.00000	0	$1,200

CAUV Land

No CAUV Land On This Property

Card - 1

Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Garage Frame	200 SQ FT			
Addition	Porch Frame - Open	60 SQ FT			
Addition	Porch Masonry - Enclosed	20 SQ FT			
Feature	Rec Room 4 - sqft	400			
Other Improvement	Shed Utility	128	16	8	1900

Card - 1

Property Sketch and Photos -- Card 1

Property Sketch

ID	Label	Area	Perimeter	Dimension
A	PR1	60	32	N/A
B	1 s F1 S	940	132	N/A
C	Fr GR1	200	60	N/A
D	PR4	20	0	N/A
5		0	0	

Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

Home | Address Search | Owner Search | Parcel Search | Quick Search | Tax Estimator | Sales Search | Register | Login

687 LIBERTY RD

53-220-0-048.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-220-0-048.00-0
Owner Name	WEAVER JOHN H & WEAVER SANDRA
Owner Address	687 LIBERTY YOUNGSTOWN OH 44505
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	62600 McKelvey Heights
Use Code	510 One Family Dwelling
Acres	.20700

Description

LOT 60066 60 X 150 LIBERTY RD

Property Address:

687 LIBERTY RD

Tax Payer Address:

NEGOTIATED SOLD LIEN-RETURN M
CONTACT MAHONING COUNTY TREASURER
YOUNGSTOWN OH 44503
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$3,330	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	1
Owner Occupied	N	Mkt Impr Value	$4,470	Deed Type	3E-QUIT CLAIM DEED EXEMPT
Divided Property	N	Total	$7,800	Amount	$0
New Construction	N	**Current Tax**		Sale Date	12/21/2004
Foreclosure	N	Annual Tax *	$727.15	Conveyance	
Other Assessments	Y	Paid **	$0.00	Deed #	6193
Front Ft.	0	Delq	$1,987.38		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	958	Room Count	4	Fireplace(s)	0
1st Floor Area	958	Story Height	1	Year Built	1960
Upper Floor Area	0	# Bedrooms	2	Year Remodeled	0
Half Story Area	0	Full Baths	1	Grade	C 00
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	Full Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.20660	0	60.00000	60.00000	150.00000	0	$3,330

CAUV Land

No CAUV Land On This Property

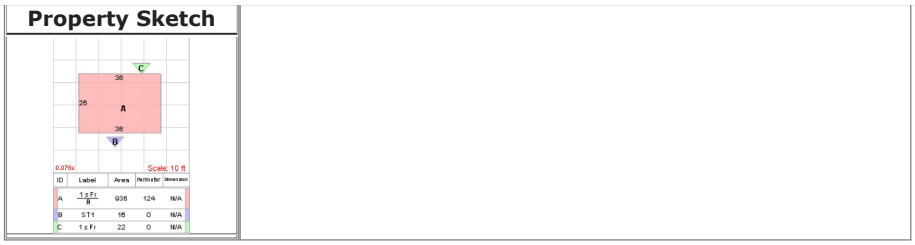
Card - 1

Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Stoop Masonry	16 SQ FT			

Card - 1

Property Sketch and Photos -- Card 1



Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

1420 LOGAN AVE

53-010-0-469.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-010-0-469.00-0
Owner Name	BARNES EDWARD E
Owner Address	1805 OHIO YOUNGSTOWN OH 44504
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	62300 North Side
Use Code	518 Residential on Comml Strip
Acres	.07700

Description

LOT 36287 30 X 114 LOGAN

Property Address:

1420 LOGAN AVE

Tax Payer Address:

RETURN MAIL
NO ADDRESS AVAILABLE
YOUNGSTOWN OH 44503
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$2,330	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	1
Owner Occupied	N	Mkt Impr Value	$2,750	Deed Type	3C-QUIT CLAIM DEED
Divided Property	N	Total	$5,080	Amount	$4,500
New Construction	N	**Current Tax**		Sale Date	8/21/2007
Foreclosure	N	Annual Tax *	$510.25	Conveyance	3665
Other Assessments	Y	Paid **	$0.00	Deed #	
Front Ft.	0	Delq	$1,436.21		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	1064	Room Count	6	Fireplace(s)	1
1st Floor Area	536	Story Height	2	Year Built	1922
Upper Floor Area	528	# Bedrooms	3	Year Remodeled	0
Half Story Area	0	Full Baths	1	Grade	C 00
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	Full Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.07710	0	30.00000	30.00000	112.00000	0	$2,330

CAUV Land

No CAUV Land On This Property

Card - 1

Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Porch Frame - Enclosed	24 SQ FT			
Addition	Porch Frame - Enclosed	54 SQ FT			
Addition	Porch Frame - Enclosed	128 SQ FT			
Addition	Wood Deck	36 SQ FT			
Addition	Wood Deck	40 SQ FT			
Other Improvement	Garage Frame	240	20	12	1922

Card - 1

Property Sketch and Photos -- Card 1

Property Sketch

Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

Home | Address Search | Owner Search | Parcel Search | Quick Search | Tax Estimator | Sales Search | Register | Login

1440 LOGAN AVE

53-010-0-436.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-010-0-436.00-0
Owner Name	MATTHEWS LEBRON C III
Owner Address	296 NAVARRE YOUNGSTOWN OH 44515
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	62300 North Side
Use Code	467 Used Car Sales Lot
Acres	.15300

Description

LOT 17342 PART 45 X 150 LOGAN

Property Address:

1440 LOGAN AVE

Tax Payer Address:

MATTHEWS LEBRON C III
296 S NAVARRE AVE
YOUNGSTOWN OH 44515
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$5,000	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	1
Owner Occupied	N	Mkt Impr Value	$5,930	Deed Type	5E-SHERIFF'S DEED EXEMPT
Divided Property	N	Total	$10,930	Amount	$0
New Construction	N	**Current Tax**		Sale Date	11/16/2012
Foreclosure	N	Annual Tax *	$742.53	Conveyance	
Other Assessments	Y	Paid **	$0.00	Deed #	3818
Front Ft.	0	Delq	$343.48		

<< Previous Card Card 1 of 1 Next Card >>

467 Used Car Sales Lot Building Section 001 Occupancy 001

Year Built	1956	Year Remodel	0	Occupancy	Service Repair Garage
# Stories	1	Story Height	12	Use Code	467
Section Area	2000	Perim/Shape	1		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.15290	0	45.00000	45.00000	148.00000	0	$5,000

CAUV Land

No CAUV Land On This Property

Card - 1

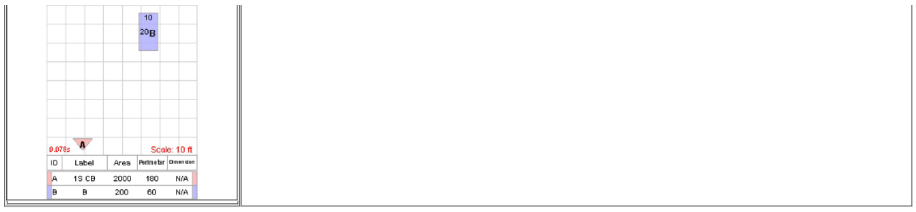
Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Superstructure	200 SQ FT			

Card - 1

Property Sketch and Photos -- Card 1

Property Sketch



Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

2209 LOGAN AVE

53-012-0-131.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-012-0-131.00-0
Owner Name	HARPER JOHN
Owner Address	159 BROOKLINE YOUNGSTOWN OH 44505
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	62300 North Side
Use Code	518 Residential on Comml Strip
Acres	.11500

Description

LOT 30763 40 X 125 LOGAN

Property Address:

2209 LOGAN AVE

Tax Payer Address:

RETURN MAIL
NO ADDRESS AVAILABLE
YOUNGSTOWN OH 44503
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$1,220	Valid Sale	Y
Homestead/Disability	N	CAUV	$0	# Parcels	1
Owner Occupied	N	Mkt Impr Value	$2,850	Deed Type	1C-WARRANTY DEED
Divided Property	N	Total	$4,070	Amount	$5,000
New Construction	N	**Current Tax**		Sale Date	2/18/1997
Foreclosure	N	Annual Tax *	$319.73	Conveyance	526
Other Assessments	Y	Paid **	$0.00	Deed #	
Front Ft.	0	Delq	$1,291.08		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	1360	Room Count	6	Fireplace(s)	1
1st Floor Area	688	Story Height	2	Year Built	1921
Upper Floor Area	672	# Bedrooms	3	Year Remodeled	0
Half Story Area	0	Full Baths	1	Grade	D+01
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	Full Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.11480	0	40.00000	40.00000	125.00000	0	$1,220

CAUV Land

No CAUV Land On This Property

Card - 1

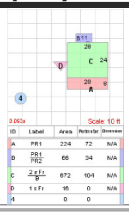
Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Porch Frame - Open	66 SQ FT			
Addition	Porch Frame - Open	224 SQ FT			
Addition	Porch Frame - Enclosed	66 SQ FT			
Other Improvement	Garage Frame	324	18	18	1921

Card - 1

Property Sketch and Photos -- Card 1

Property Sketch



ID	Label	Area	Perimeter	Dimension
A	FR1	224	72	N/A
B	2DET-FR2	68	34	N/A
C	2 x FT. B	672	1014	N/A
D	1 x Fr	16	0	N/A
4		0	0	

Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

1161 MCGUFFEY RD

53-027-0-197.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-027-0-197.00-0
Owner Name	MAH CTY COMMITTEE ON ALCOHOLISM PROGAMS INC
Owner Address	2516 MARKET YOUNGSTOWN OH 44507
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	63000 East Side
Use Code	499 Other Commercial Structures
Acres	1.10400

Description

OL 48 147 X 394.6 IRR EXEMPT-EX-82-09-037

Property Address:

1161 MCGUFFEY RD

Tax Payer Address:

RETURN MAIL
NO ADDRESS AVAILABLE
YOUNGSTOWN OH 44503
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$13,980	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	0
Owner Occupied	N	Mkt Impr Value	$69,650	Deed Type	
Divided Property	N	Total	$83,630	Amount	$0
New Construction	N	**Current Tax**		Sale Date	8/8/1980
Foreclosure	N	Annual Tax *	$176.68	Conveyance	0
Other Assessments	Y	Paid **	$0.00	Deed #	
Front Ft.	0	Delq	$33.43		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	7744	Room Count	10	Fireplace(s)	0
1st Floor Area	3884	Story Height	2	Year Built	1900
Upper Floor Area	3860	# Bedrooms	4	Year Remodeled	0
Half Story Area	0	Full Baths	6	Grade	B 00
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Brick
Basement Type	Full Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.10690	0	17.00000	17.00000	274.00000	0	$1,600
L1Regular Lot	.99680	0	130.00000	130.00000	334.00000	0	$12,380

CAUV Land

No CAUV Land On This Property

Card - 1

Improvements

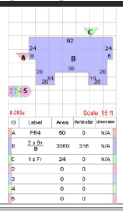
IMPR Type	Description	Area	Length	Width	Year Built
Addition	Porch Masonry - Enclosed	50 SQ FT			
Other Improvement	Canopy Frame	960	32	30	1970
Other Improvement	Paving Asphalt	0	0	0	0
Other Improvement	Shed Utility	160	16	10	1970

IMPR Type	Description	Area	Length	Width	Year Built
Other Improvement	Shed Utility	256	32	8	1970

Card - 1

Property Sketch and Photos -- Card 1

Property Sketch



Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

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1923 MCGUFFEY RD

53-206-0-050.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-206-0-050.00-0
Owner Name	CITY OF YOUNGSTOWN OHIO LAND REUTILIZATION PROGRAM
Owner Address	26 PHELPS YOUNGSTOWN OH 44503
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	63000 East Side
Use Code	510 One Family Dwelling
Acres	.14800

Description

LOT 53871 43 X 160.06 IRR MC GUFFEY

Property Address:

1923 MCGUFFEY RD

Tax Payer Address:

CITY OF YOUNGSTOWN OHIO
26 S PHELPS ST
YOUNGSTOWN OH 44503
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$940	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	2
Owner Occupied	Y	Mkt Impr Value	$4,730	Deed Type	3E-QUIT CLAIM DEED EXEMPT
Divided Property	N	Total	$5,670	Amount	$0
New Construction	N	**Current Tax**		Sale Date	7/5/2016
Foreclosure	N	Annual Tax *	$428.26	Conveyance	
Other Assessments	Y	Paid **	$428.26	Deed #	2595
Front Ft.	0	Delq	$0.00		

<< Previous Card | Card 1 of 1 | Next Card >>

Dwelling Information

Sq Ft Finished	970	Room Count	4	Fireplace(s)	0
1st Floor Area	970	Story Height	1	Year Built	1915
Upper Floor Area	0	# Bedrooms	2	Year Remodeled	0
Half Story Area	0	Full Baths	1	Grade	C 00
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	Full Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.14750	0	43.00000	42.00000	153.00000	0	$940

CAUV Land

No CAUV Land On This Property

Card - 1

Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Porch Frame - Open	30 SQ FT			
Addition	Porch Frame - Open	192 SQ FT			

Card - 1

Property Sketch and Photos -- Card 1

Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

Home | Address Search | Owner Search | Parcel Search | Quick Search | Tax Estimator | Sales Search | Register | Login

2675 MCGUFFEY RD

53-219-0-313.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-219-0-313.00-0
Owner Name	MITCHELL MORDEAN
Owner Address	2675 MC GUFFEY YOUNGSTOWN OH 44505
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	63000 East Side
Use Code	510 One Family Dwelling
Acres	.84800

Description

LOT 44407 PART 146 X 293 MCGUFFEY RD

Property Address:

2675 MCGUFFEY RD

Tax Payer Address:

NOT AVAILABLE
NOT AVAILABLE
YOUNGSTOWN OH 44503
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$2,560	Valid Sale	N
Homestead/Disability	Y	CAUV	$0	# Parcels	2
Owner Occupied	Y	Mkt Impr Value	$30,090	Deed Type	3E-QUIT CLAIM DEED EXEMPT
Divided Property	N	Total	$32,650	Amount	$0
New Construction	N	**Current Tax**		Sale Date	11/16/1994
Foreclosure	N	Annual Tax *	$198.31	Conveyance	0
Other Assessments	Y	Paid **	$0.00	Deed #	3798
Front Ft.	0	Delq	$1,278.43		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	2540	Room Count	8	Fireplace(s)	0
1st Floor Area	1748	Story Height	2	Year Built	1964
Upper Floor Area	792	# Bedrooms	4	Year Remodeled	0
Half Story Area	0	Full Baths	1	Grade	C 00
Attic Area	0	Half Baths	0	Style	Multi-Leve
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	Pt Crawl	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.84790	0	146.00000	152.00000	243.00000	0	$2,560

CAUV Land

No CAUV Land On This Property

Card - 1

Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Stoop Masonry	280 SQ FT			

Card - 1

Property Sketch and Photos -- Card 1

Property Sketch

Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

891 MCGUFFEY RD

53-206-0-056.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-206-0-056.00-0
Owner Name	BERGER DWAYNE A
Owner Address	891 MCGUFFEY YOUNGSTOWN OH 44505
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	63000 East Side
Use Code	510 One Family Dwelling
Acres	.12300

Description

LOT 53866 41 X 121 LANSDOWNE

Property Address:

891 MCGUFFEY RD

Tax Payer Address:

BERGER DWAYNE A
53 NEW YORK AVE
YOUNGSTOWN OH 44505
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$780	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	2
Owner Occupied	N	Mkt Impr Value	$1,330	Deed Type	3E-QUIT CLAIM DEED EXEMPT
Divided Property	N	Total	$2,110	Amount	$0
New Construction	N	**Current Tax**		Sale Date	3/11/2013
Foreclosure	N	Annual Tax *	$231.95	Conveyance	
Other Assessments	Y	Paid **	$0.00	Deed #	874
Front Ft.	0	Delq	$58.79		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	1566	Room Count	4	Fireplace(s)	1
1st Floor Area	786	Story Height	2	Year Built	1919
Upper Floor Area	780	# Bedrooms	2	Year Remodeled	1989
Half Story Area	0	Full Baths	1	Grade	C 00
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Siding w/Masonry 3
Basement Type	Full Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.12340	0	43.00000	42.00000	128.00000	0	$780

CAUV Land

No CAUV Land On This Property

Card - 1

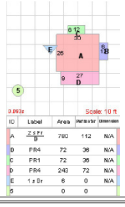
Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Porch Frame - Open	72 SQ FT			
Addition	Porch Masonry - Enclosed	72 SQ FT			
Addition	Porch Masonry - Enclosed	243 SQ FT			
Other Improvement	Garage Brick	324	18	18	1923

Card - 1

Property Sketch and Photos -- Card 1

Property Sketch



ID	Label	Area	Perimeter	Dimension
A	2 story 1	780	112	N/A
B	FR4	72	36	N/A
C	FR1	72	36	N/A
D	FR4	240	72	N/A
E	1 x Dr	6	0	N/A
S		0	0	

Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

Home | Address Search | Owner Search | Parcel Search | Quick Search | Tax Estimator | Sales Search | Register | Login

1352 MIAMI AVE

53-205-0-187.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-205-0-187.00-0
Owner Name	MANNING EDDIE L & J C/O BENNETT MARY L
Owner Address	1352 MIAMI YOUNGSTOWN OH 44505
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	62500 John White Playground
Use Code	510 One Family Dwelling
Acres	.08400

Description

LOT 53010 32 X 114 MIAMI

Property Address:
1352 MIAMI AVE

Tax Payer Address:
BENNETT TERRY
1316 FARRELL TER
FARRELL PA 16121
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$1,550	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	0
Owner Occupied	Y	Mkt Impr Value	$10,710	Deed Type	
Divided Property	N	Total	$12,260	Amount	$0
New Construction	N	**Current Tax**		Sale Date	1/1/1990
Foreclosure	N	Annual Tax *	$661.84	Conveyance	0
Other Assessments	Y	Paid **	$0.00	Deed #	
Front Ft.	0	Delq	$2,065.58		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	936	Room Count	4	Fireplace(s)	0
1st Floor Area	936	Story Height	1	Year Built	1960
Upper Floor Area	0	# Bedrooms	2	Year Remodeled	0
Half Story Area	0	Full Baths	1	Grade	C-01
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	None	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.08370	0	32.00000	32.00000	114.00000	0	$1,550

CAUV Land

No CAUV Land On This Property

Card - 1

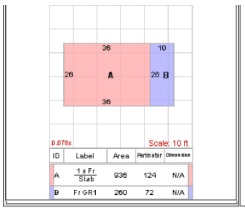
Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Garage Frame	260 SQ FT			

Card - 1

Property Sketch and Photos -- Card 1

Property Sketch



Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

Home | Address Search | Owner Search | Parcel Search | Quick Search | Tax Estimator | Sales Search | Register | Login

1359 MIAMI AVE

53-205-0-114.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-205-0-114.00-0
Owner Name	FERRELL JUANITA L
Owner Address	1359 MIAMI YOUNGSTOWN OH 44505
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	62500 John White Playground
Use Code	510 One Family Dwelling
Acres	.08400

Description

LOT 52932 32 X 114 MIAMI

Property Address:

1359 MIAMI AVE

Tax Payer Address:

RETURN MAIL
NO ADDRESS AVAILABLE
YOUNGSTOWN OH 44503
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$1,550	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	0
Owner Occupied	N	Mkt Impr Value	$3,920	Deed Type	
Divided Property	N	Total	$5,470	Amount	$0
New Construction	N	**Current Tax**		Sale Date	1/1/1990
Foreclosure	N	Annual Tax *	$319.38	Conveyance	0
Other Assessments	Y	Paid **	$0.00	Deed #	
Front Ft.	0	Delq	$621.00		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	1054	Room Count	5	Fireplace(s)	0
1st Floor Area	1054	Story Height	1	Year Built	1964
Upper Floor Area	0	# Bedrooms	2	Year Remodeled	0
Half Story Area	0	Full Baths	1	Grade	C-01
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	None	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.08370	0	32.00000	32.00000	114.00000	0	$1,550

CAUV Land

No CAUV Land On This Property

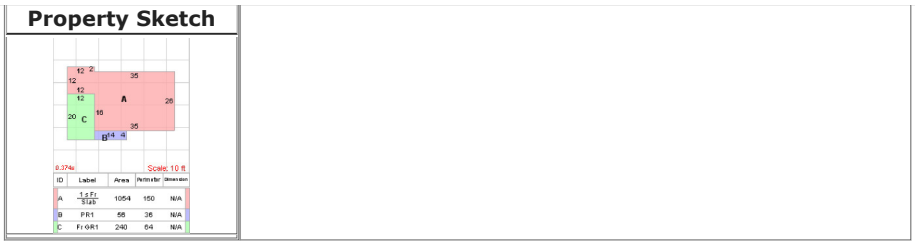
Card - 1

Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Garage Frame	240 SQ FT			
Addition	Porch Frame - Open	56 SQ FT			

Card - 1

Property Sketch and Photos -- Card 1



Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

723 PARK AVE

53-076-0-522.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-076-0-522.00-0
Owner Name	FORD JOANN F
Owner Address	4642 NEW YOUNGSTOWN OH 44515
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	62300 North Side
Use Code	518 Residential on Comml Strip
Acres	.10500

Description

LOT 9229 38 X 120 PARK

Property Address:

723 PARK AVE

Tax Payer Address:

FORD JOANN F
4642 NEW RD
YOUNGSTOWN OH 44515
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$1,140	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	2
Owner Occupied	N	Mkt Impr Value	$1,730	Deed Type	14E-AFFIDAVIT REAL ESTATE
Divided Property	N	Total	$2,870	Amount	$0
New Construction	N	**Current Tax**		Sale Date	5/23/2008
Foreclosure	N	Annual Tax *	$425.41	Conveyance	
Other Assessments	Y	Paid **	$0.00	Deed #	2134
Front Ft.	0	Delq	$326.41		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	896	Room Count	5	Fireplace(s)	0
1st Floor Area	448	Story Height	2	Year Built	1907
Upper Floor Area	448	# Bedrooms	2	Year Remodeled	0
Half Story Area	0	Full Baths	1	Grade	D 00
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	Full Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.10470	0	38.00000	38.00000	120.00000	0	$1,140

CAUV Land

No CAUV Land On This Property

Card - 1

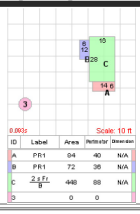
Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Porch Frame - Open	84 SQ FT			
Addition	Porch Frame - Open	72 SQ FT			
Other Improvement	Shed Utility	140	14	10	1910

Card - 1

Property Sketch and Photos -- Card 1

Property Sketch



ID	Label	Area	Perimeter	Dimension
A	PR1	94	40	N/A
B	PR1	72	36	N/A
C	2 s Fr. B	448	88	N/A
D		0	0	

Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

1646 STEWART AVE

53-106-0-587.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-106-0-587.00-0
Owner Name	CARSON NORMA
Owner Address	1646 STEWART YOUNGSTOWN OH 44505
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	63000 East Side
Use Code	510 One Family Dwelling
Acres	.14500

Description

LOT 28374 42 X 150 E MADISON AVE

Property Address:

1646 STEWART AVE

Tax Payer Address:

RETURN MAIL
NO ADDRESS AVAILABLE
YOUNGSTOWN OH 44503
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$280	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	0
Owner Occupied	Y	Mkt Impr Value	$1,000	Deed Type	
Divided Property	N	Total	$1,280	Amount	$0
New Construction	N	**Current Tax**		Sale Date	9/11/1985
Foreclosure	N	Annual Tax *	$36.15	Conveyance	0
Other Assessments	Y	Paid **	$0.00	Deed #	
Front Ft.	0	Delq	$1,174.06		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	1306	Room Count	6	Fireplace(s)	0
1st Floor Area	624	Story Height	2	Year Built	1920
Upper Floor Area	682	# Bedrooms	3	Year Remodeled	1985
Half Story Area	0	Full Baths	1	Grade	C-02
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	Full Basement	Air Cond	Central		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.14460	0	42.00000	42.00000	150.00000	0	$280

CAUV Land

No CAUV Land On This Property

Card - 1

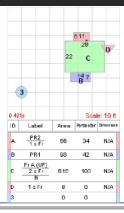
Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Porch Frame - Open	98 SQ FT			
Addition	Porch Frame - Enclosed	66 SQ FT			
Feature	Unfinished Attic	616			
Other Improvement	Garage CB	528	22	24	1958

Card - 1

Property Sketch and Photos -- Card 1

Property Sketch



Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

Home | Address Search | Owner Search | Parcel Search | Quick Search | Tax Estimator | Sales Search | Register | Login

1717 STEWART AVE

53-107-0-034.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-107-0-034.00-0
Owner Name	ELLIS CHARLIE L & D M
Owner Address	236 EARLY YOUNGSTOWN OH 44505
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	63000 East Side
Use Code	510 One Family Dwelling
Acres	.12700

Description

LOT 28428 38 X 140 IRR E MADISON

Property Address:

1717 STEWART AVE

Tax Payer Address:

ELLIS CHARLIE L & D M
236 EARLY RD
YOUNGSTOWN OH 44505
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$830	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	0
Owner Occupied	Y	Mkt Impr Value	$8,260	Deed Type	
Divided Property	N	Total	$9,090	Amount	$0
New Construction	N	**Current Tax**		Sale Date	2/13/1969
Foreclosure	N	Annual Tax *	$234.66	Conveyance	0
Other Assessments	Y	Paid **	$0.00	Deed #	
Front Ft.	0	Delq	$11.19		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	1260	Room Count	6	Fireplace(s)	0
1st Floor Area	636	Story Height	2	Year Built	1922
Upper Floor Area	624	# Bedrooms	3	Year Remodeled	0
Half Story Area	0	Full Baths	1	Grade	C-01
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	Full Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.12210	0	38.00000	38.00000	140.00000	0	$820
L2Rear Lot	.00510	0		2.00000	110.00000	0	$10

CAUV Land

No CAUV Land On This Property

Card - 1

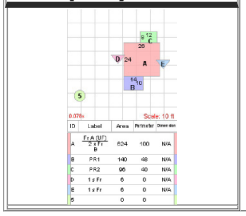
Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Porch Frame - Open	140 SQ FT			
Addition	Porch Frame - Enclosed	96 SQ FT			
Feature	Unfinished Attic	624			
Other Improvement	Garage Frame	216	18	12	1922

Card - 1

Property Sketch and Photos -- Card 1

Property Sketch



ID	Label	Area	Perimeter	Dimension
A	1 s Fr B	624	100	N/A
B	PR1	140	48	N/A
C	PR2	96	40	N/A
D	1 s Fr	6	0	N/A
E	1 s Fr	6	0	N/A
S		0	0	

Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

423 SUNSHINE AVE

53-030-0-108.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-030-0-108.00-0
Owner Name	BEBBS SONYA
Owner Address	88 BRAEBURN BLACKLICK OH 43004
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	63000 East Side
Use Code	510 One Family Dwelling
Acres	.00000

Description

LOT 32580 40 X 137 SUNSHINE

Property Address:

423 SUNSHINE AVE

Tax Payer Address:

BEBBS SONYA
88 BRAEBURN DR
BLACKLICK OH 43004
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$860	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	2
Owner Occupied	N	Mkt Impr Value	$8,480	Deed Type	3E-QUIT CLAIM DEED EXEMPT
Divided Property	N	Total	$9,340	Amount	$0
New Construction	N	**Current Tax**		Sale Date	5/29/2014
Foreclosure	N	Annual Tax *	$247.75	Conveyance	
Other Assessments	Y	Paid **	$0.00	Deed #	2117
Front Ft.	0	Delq	$185.14		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	1834	Room Count	6	Fireplace(s)	0
1st Floor Area	1200	Story Height	1.5	Year Built	1941
Upper Floor Area	0	# Bedrooms	3	Year Remodeled	0
Half Story Area	634	Full Baths	1	Grade	C 00
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	Full Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.12580	0	40.00000	40.00000	137.00000	0	$860

CAUV Land

No CAUV Land On This Property

Card - 1

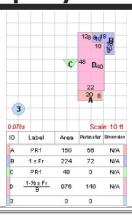
Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Porch Frame - Open	48 SQ FT			
Addition	Porch Frame - Open	160 SQ FT			
Other Improvement	Garage CB	280	20	14	1941

Card - 1

Property Sketch and Photos -- Card 1

Property Sketch



Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

839 SUNSHINE AVE

53-106-0-636.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-106-0-636.00-0
Owner Name	CLARK PAUL S
Owner Address	839 SUNSHINE YOUNGSTOWN OH 44505
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	63000 East Side
Use Code	510 One Family Dwelling
Acres	.15700

Description

LOT 28331 50 X 137 SUNSHINE

Property Address:

839 SUNSHINE AVE

Tax Payer Address:

RETURN MAIL
NO ADDRESS AVAILABLE
YOUNGSTOWN OH 44503
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$1,070	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	0
Owner Occupied	Y	Mkt Impr Value	$3,950	Deed Type	
Divided Property	N	Total	$5,020	Amount	$0
New Construction	N	**Current Tax**		Sale Date	7/8/1969
Foreclosure	N	Annual Tax *	$130.71	Conveyance	0
Other Assessments	Y	Paid **	$0.00	Deed #	
Front Ft.	0	Delq	$1,314.11		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	1128	Room Count	5	Fireplace(s)	0
1st Floor Area	600	Story Height	2	Year Built	1917
Upper Floor Area	528	# Bedrooms	2	Year Remodeled	0
Half Story Area	0	Full Baths	1	Grade	D 00
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	Full Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.15730	0	50.00000	50.00000	137.00000	0	$1,070

CAUV Land

No CAUV Land On This Property

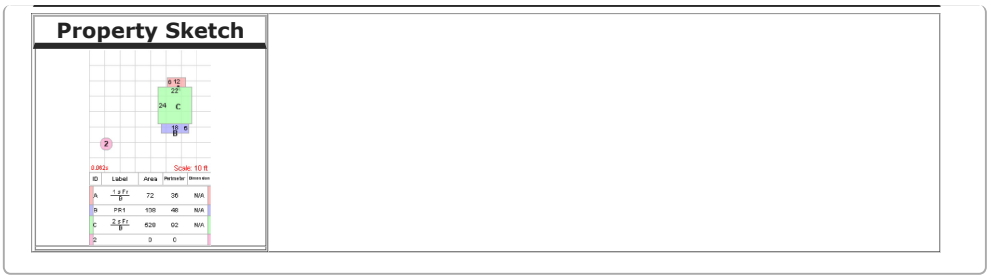
Card - 1

Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Porch Frame - Open	108 SQ FT			
Other Improvement	Garage Frame	400	20	20	1920

Card - 1

Property Sketch and Photos -- Card 1



Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

841 SUNSHINE AVE

53-106-0-635.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-106-0-635.00-0
Owner Name	JOHNSON JOSEPH B
Owner Address	841 SUNSHINE YOUNGSTOWN OH 44505
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	63000 East Side
Use Code	510 One Family Dwelling
Acres	.11600

Description

LOT 28332 37 X 137 SUNSHINE

Property Address:

841 SUNSHINE AVE

Tax Payer Address:

RETURN MAIL
NO ADDRESS AVAILABLE
YOUNGSTOWN OH 44503
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$790	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	1
Owner Occupied	Y	Mkt Impr Value	$5,630	Deed Type	3E-QUIT CLAIM DEED EXEMPT
Divided Property	N	Total	$6,420	Amount	$0
New Construction	N	**Current Tax**		Sale Date	7/10/1998
Foreclosure	N	Annual Tax *	$340.27	Conveyance	0
Other Assessments	Y	Paid **	$0.00	Deed #	2989
Front Ft.	0	Delq	$1,291.18		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	1260	Room Count	6	Fireplace(s)	0
1st Floor Area	900	Story Height	1	Year Built	1930
Upper Floor Area	0	# Bedrooms	3	Year Remodeled	0
Half Story Area	0	Full Baths	1	Grade	C 00
Attic Area	360	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	Full Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.11640	0	37.00000	37.00000	137.00000	0	$790

CAUV Land

No CAUV Land On This Property

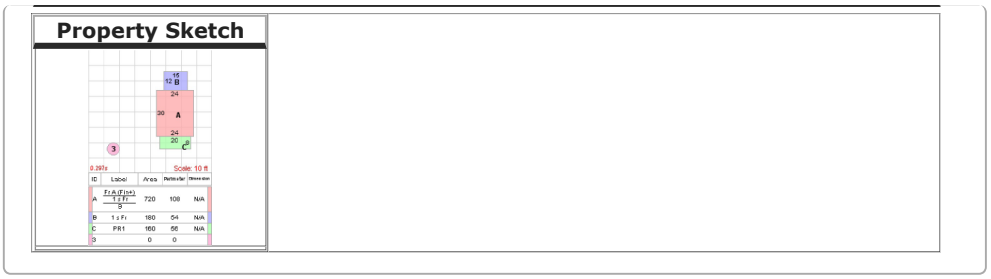
Card - 1

Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Porch Frame - Open	160 SQ FT			
Other Improvement	Garage Frame	400	20	20	1930

Card - 1

Property Sketch and Photos -- Card 1



Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

858 SUNSHINE AVE

53-106-0-625.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-106-0-625.00-0
Owner Name	PRIETO LEO POLDO
Owner Address	1506 FOREST VIEW YOUNGSTOWN OH 44505
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	63000 East Side
Use Code	510 One Family Dwelling
Acres	.11000

Description

LOT 28338 35 X 137 SUNSHINE

Property Address:

858 SUNSHINE AVE

Tax Payer Address:

PRIETO LEO POLDO
1506 FOREST VIEW DR
YOUNGSTOWN OH 44505
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$750	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	1
Owner Occupied	N	Mkt Impr Value	$2,470	Deed Type	3C-QUIT CLAIM DEED
Divided Property	N	Total	$3,220	Amount	$600
New Construction	N	**Current Tax**		Sale Date	10/3/2003
Foreclosure	N	Annual Tax *	$87.11	Conveyance	4546
Other Assessments	Y	Paid **	$0.00	Deed #	
Front Ft.	0	Delq	$915.22		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	1100	Room Count	5	Fireplace(s)	0
1st Floor Area	580	Story Height	2	Year Built	1928
Upper Floor Area	520	# Bedrooms	2	Year Remodeled	0
Half Story Area	0	Full Baths	1	Grade	C-01
Attic Area	0	Half Baths	1	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	Full Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.11010	0	35.00000	35.00000	137.00000	0	$750

CAUV Land

No CAUV Land On This Property

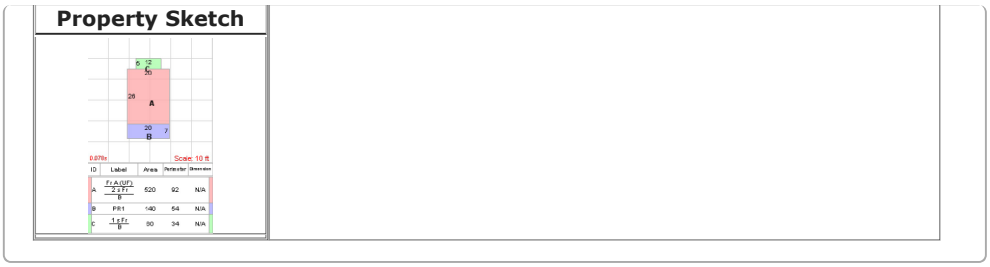
Card - 1

Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Porch Frame - Open	140 SQ FT			
Feature	Unfinished Attic	520			

Card - 1

Property Sketch and Photos -- Card 1



Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

18 TACOMA AVE

53-010-0-278.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-010-0-278.00-0
Owner Name	THOMAS WILLIAM H
Owner Address	2672 PICO STREET LAKE MILTON OH 44429
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	62300 North Side
Use Code	510 One Family Dwelling
Acres	.11000

Description

LOT 13561 40 X 120 TACOMA

Property Address:

18 TACOMA AVE

Tax Payer Address:

THOMAS WILLIAM H
2672 PICO ST
LAKE MILTON OH 44429
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$1,200	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	1
Owner Occupied	N	Mkt Impr Value	$2,870	Deed Type	
Divided Property	N	Total	$4,070	Amount	$0
New Construction	N	**Current Tax**		Sale Date	5/17/1989
Foreclosure	N	Annual Tax *	$109.52	Conveyance	0
Other Assessments	Y	Paid **	$0.00	Deed #	
Front Ft.	0	Delq	$1,227.94		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	1448	Room Count	7	Fireplace(s)	0
1st Floor Area	720	Story Height	2	Year Built	1920
Upper Floor Area	728	# Bedrooms	4	Year Remodeled	0
Half Story Area	0	Full Baths	1	Grade	C+02
Attic Area	0	Half Baths	1	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	Full Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.11020	0	40.00000	40.00000	120.00000	0	$1,200

CAUV Land

No CAUV Land On This Property

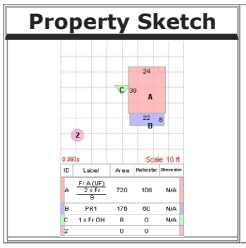
Card - 1

Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Porch Frame - Open	176 SQ FT			
Feature	Unfinished Attic	720			
Other Improvement	Garage CB	528	22	24	1949

Card - 1

Property Sketch and Photos -- Card 1



Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

53 TACOMA AVE

53-010-0-301.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-010-0-301.00-0
Owner Name	JOHNSON MELVIN D
Owner Address	53 TACOMA YOUNGSTOWN OH 44505
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	62300 North Side
Use Code	510 One Family Dwelling
Acres	.11000

Description

LOT 13022 40 X 120 TACOMA

Property Address:

53 TACOMA AVE

Tax Payer Address:

RETURN MAIL
NO ADDRESS AVAILABLE
YOUNGSTOWN OH 44503
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$1,200	Valid Sale	Y
Homestead/Disability	N	CAUV	$0	# Parcels	1
Owner Occupied	N	Mkt Impr Value	$5,230	Deed Type	
Divided Property	N	Total	$6,430	Amount	$3,500
New Construction	N	**Current Tax**		Sale Date	4/13/1990
Foreclosure	N	Annual Tax *	$518.04	Conveyance	1238
Other Assessments	Y	Paid **	$0.00	Deed #	
Front Ft.	0	Delq	$1,275.91		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	1130	Room Count	6	Fireplace(s)	0
1st Floor Area	565	Story Height	2	Year Built	1910
Upper Floor Area	565	# Bedrooms	3	Year Remodeled	0
Half Story Area	0	Full Baths	1	Grade	C+01
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	Full Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.11020	0	40.00000	40.00000	120.00000	0	$1,200

CAUV Land

No CAUV Land On This Property

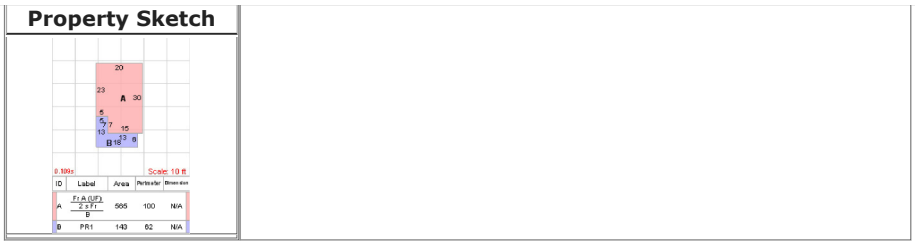
Card - 1

Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Porch Frame - Open	143 SQ FT			
Feature	Unfinished Attic	565			

Card - 1

Property Sketch and Photos -- Card 1



Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

16 THORNTON AVE

53-010-0-330.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-010-0-330.00-0
Owner Name	SUTTON NCOLETTA ETAL
Owner Address	16 THORNTON YOUNGSTOWN OH 44505
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	62300 North Side
Use Code	510 One Family Dwelling
Acres	.10700

Description

LOT 29463 33 X 137 THORNTON

Property Address:

16 THORNTON AVE

Tax Payer Address:

SUTTON COLETTA
1300 W NINTH ST
CLEVELAND OH 44113
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$1,090	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	1
Owner Occupied	N	Mkt Impr Value	$810	Deed Type	8E-CERT OF TRANS EX
Divided Property	N	Total	$1,900	Amount	$0
New Construction	N	**Current Tax**		Sale Date	11/27/2013
Foreclosure	N	Annual Tax *	$226.01	Conveyance	
Other Assessments	Y	Paid **	$0.00	Deed #	4563
Front Ft.	0	Delq	$455.48		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	1176	Room Count	6	Fireplace(s)	0
1st Floor Area	588	Story Height	2	Year Built	1912
Upper Floor Area	588	# Bedrooms	3	Year Remodeled	0
Half Story Area	0	Full Baths	1	Grade	C-01
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	Full Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.10690	0	33.50000	34.00000	137.00000	0	$1,090

CAUV Land

No CAUV Land On This Property

Card - 1

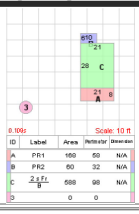
Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Porch Frame - Open	168 SQ FT			
Addition	Porch Frame - Enclosed	60 SQ FT			
Other Improvement	Garage Frame	216	18	12	1912

Card - 1

Property Sketch and Photos -- Card 1

Property Sketch



ID	Label	Area	Perimeter	Dimension
A	PR1	160	59	N/A
B	PR2	60	32	N/A
C	2 s fr. B	588	98	N/A
D		0	0	

Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

17 THORNTON AVE

53-010-0-341.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-010-0-341.00-0
Owner Name	SUTTON RICHARD
Owner Address	17 THORNTON YOUNGSTOWN OH 44505
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	62300 North Side
Use Code	510 One Family Dwelling
Acres	.12400

Description

LOT 32657 39 X 138 THORNTON

Property Address:

17 THORNTON AVE

Tax Payer Address:

RETURN MAIL
NO ADDRESS AVAILABLE
YOUNGSTOWN OH 44503
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$1,250	Valid Sale	Y
Homestead/Disability	N	CAUV	$0	# Parcels	1
Owner Occupied	Y	Mkt Impr Value	$1,820	Deed Type	1C-WARRANTY DEED
Divided Property	N	Total	$3,070	Amount	$2,000
New Construction	N	**Current Tax**		Sale Date	6/1/1998
Foreclosure	N	Annual Tax *	$428.47	Conveyance	2239
Other Assessments	Y	Paid **	$0.00	Deed #	
Front Ft.	0	Delq	$790.42		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	1159	Room Count	6	Fireplace(s)	1
1st Floor Area	583	Story Height	2	Year Built	1914
Upper Floor Area	576	# Bedrooms	3	Year Remodeled	0
Half Story Area	0	Full Baths	1	Grade	C+01
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	Full Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.12360	0	39.00000	39.00000	138.00000	0	$1,250

CAUV Land

No CAUV Land On This Property

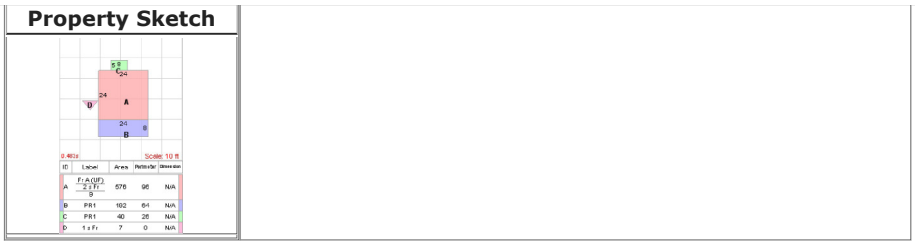
Card - 1

Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Porch Frame - Open	40 SQ FT			
Addition	Porch Frame - Open	192 SQ FT			

Card - 1

Property Sketch and Photos -- Card 1



Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

Home | Address Search | Owner Search | Parcel Search | Quick Search | Tax Estimator | Sales Search | Register | Login

27 THORNTON AVE

53-010-0-346.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-010-0-346.00-0
Owner Name	THOMPSON YVONNE
Owner Address	5002 CRFELY RICHMOND CA 94804
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	62300 North Side
Use Code	401 4 - 19 Family Apts.
Acres	.15800

Description

LOT 13339 50 X 138 THORNTON

Property Address:

27 THORNTON AVE

Tax Payer Address:

RETURN MAIL
NO ADDRESS AVAILABLE
YOUNGSTOWN OH 44503
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$480	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	2
Owner Occupied	N	Mkt Impr Value	$1,000	Deed Type	1C-WARRANTY DEED
Divided Property	N	Total	$1,480	Amount	$10,050
New Construction	N	**Current Tax**		Sale Date	3/11/2003
Foreclosure	N	Annual Tax *	$397.71	Conveyance	904
Other Assessments	Y	Paid **	$0.00	Deed #	
Front Ft.	0	Delq	$1,429.97		

<< Previous Card Card 1 of 1 Next Card >>

401 4 - 19 Family Apts. Building Section 001 Occupancy 001

Year Built	1917	Year Remodel	0	Occupancy	Multiple Resid. (Low Rise)
# Stories	1	Story Height	9	Use Code	401
Section Area	2828	Perim/Shape	1		

401 4 - 19 Family Apts. Building Section 002 Occupancy 001

Year Built	1917	Year Remodel	0	Occupancy	Multiple Resid. (Low Rise)
# Stories	1	Story Height	9	Use Code	401
Section Area	2828	Perim/Shape	1		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.15840	0	50.00000	50.00000	138.00000	0	$480

CAUV Land

No CAUV Land On This Property

Card - 1

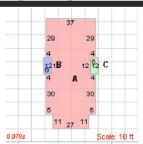
Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Superstructure	72 SQ FT			
Other Improvement	Misc Comercial Bldg	5656	0	0	1917

Card - 1

Property Sketch and Photos -- Card 1

Property Sketch



ID	Label	Area	Perimeter	Dimension
A	2S BR/B	2828	254	N/A
B	PR1 (UPPER) PR1	72	36	N/A
C	PR1 (UPPER) PR1	72	36	N/A

Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

Home | Address Search | Owner Search | Parcel Search | Quick Search | Tax Estimator | Sales Search | Register | Login

31 THORNTON AVE

53-010-0-347.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-010-0-347.00-0
Owner Name	THOMPSON YVONNE
Owner Address	5002 CRFELY RICHMOND CA 94804
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	62300 North Side
Use Code	401 4 - 19 Family Apts.
Acres	.15800

Description

LOT 13338 50 X 138 THORNTON

Property Address:

31 THORNTON AVE

Tax Payer Address:

RETURN MAIL
NO ADDRESS AVAILABLE
YOUNGSTOWN OH 44503
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$480	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	2
Owner Occupied	N	Mkt Impr Value	$1,000	Deed Type	1C-WARRANTY DEED
Divided Property	N	Total	$1,480	Amount	$10,050
New Construction	N	**Current Tax**		Sale Date	3/11/2003
Foreclosure	N	Annual Tax *	$397.71	Conveyance	904
Other Assessments	Y	Paid **	$0.00	Deed #	
Front Ft.	0	Delq	$1,040.48		

<< Previous Card Card 1 of 1 Next Card >>

401 4 - 19 Family Apts. Building Section 001 Occupancy 001

Year Built	1917	Year Remodel	0	Occupancy	Multiple Resid. (Low Rise)
# Stories	1	Story Height	9	Use Code	401
Section Area	2828	Perim/Shape	1		

401 4 - 19 Family Apts. Building Section 002 Occupancy 001

Year Built	1917	Year Remodel	0	Occupancy	Multiple Resid. (Low Rise)
# Stories	1	Story Height	9	Use Code	401
Section Area	2828	Perim/Shape	1		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.15840	0	50.00000	50.00000	138.00000	0	$480

CAUV Land

No CAUV Land On This Property

Card - 1

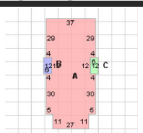
Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Superstructure	72 SQ FT			
Other Improvement	Misc Comercial Bldg	5656	0	0	1917

Card - 1

Property Sketch and Photos -- Card 1

Property Sketch



ID	Label	Area	Perimeter	Dimension
A	2S BR/B	2828	254	N/A
B	PR1 (UPPER) PR1	72	36	N/A
C	PR1 (UPPER) PR1	72	36	N/A

Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

35 THORNTON AVE

53-010-0-348.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-010-0-348.00-0
Owner Name	IRIZARRY EDWARD
Owner Address	35 THORNTON YOUNGSTOWN OH 44505
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	62300 North Side
Use Code	510 One Family Dwelling
Acres	.12700

Description

LOT 11488 40 X 138 THORNTON

Property Address:

35 THORNTON AVE

Tax Payer Address:

RETURN MAIL
NO ADDRESS AVAILABLE
YOUNGSTOWN OH 44503
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$1,280	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	1
Owner Occupied	Y	Mkt Impr Value	$2,480	Deed Type	
Divided Property	N	Total	$3,760	Amount	$5,100
New Construction	N	**Current Tax**		Sale Date	5/21/1993
Foreclosure	N	Annual Tax *	$272.68	Conveyance	1799
Other Assessments	Y	Paid **	$0.00	Deed #	
Front Ft.	0	Delq	$1,205.03		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	1740	Room Count	8	Fireplace(s)	1
1st Floor Area	856	Story Height	2	Year Built	1910
Upper Floor Area	884	# Bedrooms	5	Year Remodeled	0
Half Story Area	0	Full Baths	1	Grade	C+01
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	Full Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.12670	0	40.00000	40.00000	138.00000	0	$1,280

CAUV Land

No CAUV Land On This Property

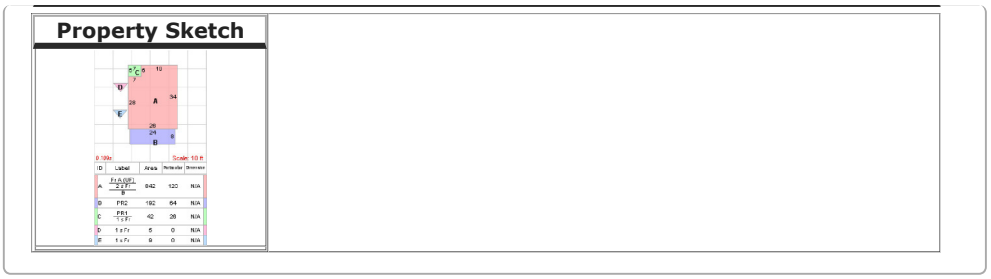
Card - 1

Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Porch Frame - Open	42 SQ FT			
Addition	Porch Frame - Enclosed	192 SQ FT			
Feature	Unfinished Attic	842			

Card - 1

Property Sketch and Photos -- Card 1



Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

61 THORNTON AVE

53-010-0-357.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-010-0-357.00-0
Owner Name	SINCLAIR DOUGLAS S
Owner Address	11 CHANCE WEST BABYLON NY 11704
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	62300 North Side
Use Code	510 One Family Dwelling
Acres	.14300

Description

LOT 11479 45 X 138 THORNTON

Property Address:

61 THORNTON AVE

Tax Payer Address:

RETURN MAIL
NO ADDRESS AVAILABLE
YOUNGSTOWN OH 44503
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$1,440	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	1
Owner Occupied	N	Mkt Impr Value	$2,420	Deed Type	11C-OTHER
Divided Property	N	Total	$3,860	Amount	$3,000
New Construction	N	**Current Tax**		Sale Date	5/5/2008
Foreclosure	N	Annual Tax *	$450.80	Conveyance	1390
Other Assessments	Y	Paid **	$0.00	Deed #	
Front Ft.	0	Delq	$2,209.96		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	1605	Room Count	7	Fireplace(s)	0
1st Floor Area	805	Story Height	2	Year Built	1897
Upper Floor Area	800	# Bedrooms	4	Year Remodeled	0
Half Story Area	0	Full Baths	1	Grade	C+01
Attic Area	0	Half Baths	0	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	Full Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.14260	0	45.00000	45.00000	138.00000	0	$1,440

CAUV Land

No CAUV Land On This Property

Card - 1

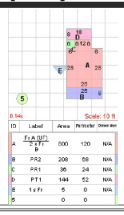
Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Porch Frame - Open	36 SQ FT			
Addition	Porch Frame - Enclosed	208 SQ FT			
Addition	Patio Concrete	144 SQ FT			
Feature	Unfinished Attic	800			
Other Improvement	Garage CB	480	24	20	1958

Card - 1

Property Sketch and Photos -- Card 1

Property Sketch



Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

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THORNTON AVE

53-010-0-190.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-010-0-190.00-0
Owner Name	HAMPTON AARON LOUIS
Owner Address	80 THORNTON YOUNGSTOWN OH 44505
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	62300 North Side
Use Code	429 Other Retail Structures
Acres	.09300

Description

LOT 12261 PART 45 X 90 THORNTON

Property Address:

THORNTON AVE

Tax Payer Address:

HAMPTON AARON LOUIS
80 THORNTON AVE
YOUNGSTOWN OH 44505
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$350	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	1
Owner Occupied	N	Mkt Impr Value	$1,530	Deed Type	3E-QUIT CLAIM DEED EXEMPT
Divided Property	N	Total	$1,880	Amount	$0
New Construction	N	**Current Tax**		Sale Date	11/29/2005
Foreclosure	N	Annual Tax *	$64.08	Conveyance	
Other Assessments	Y	Paid **	$0.00	Deed #	5726
Front Ft.	0	Delq	$1,126.10		

<< Previous Card Card 1 of 1 Next Card >>

429 Other Retail Structures Building Section 001 Occupancy 001

Year Built	1910	Year Remodel	0	Occupancy	Storage Warehouse
# Stories	1	Story Height	12	Use Code	429
Section Area	860	Perim/Shape	1		

429 Other Retail Structures Building Section 001 Occupancy 002

Year Built	1910	Year Remodel	0	Occupancy	Storage Warehouse
# Stories	1	Story Height	12	Use Code	429
Section Area	860	Perim/Shape	1		

429 Other Retail Structures Building Section 002 Occupancy 001

Year Built	1910	Year Remodel	0	Occupancy	Storage Warehouse
# Stories	1	Story Height	9	Use Code	429
Section Area	1720	Perim/Shape	1		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.09300	0	45.00000	45.00000	90.00000	0	$350

CAUV Land

No CAUV Land On This Property

Card - 1

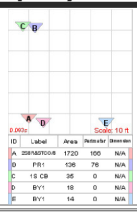
Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Superstructure	136 SQ FT			

Card - 1

Property Sketch and Photos -- Card 1

Property Sketch



Property Report

Last Updated: 11/15/2016

Mahoning County Auditor

Ralph T Meacham, CPA

35 W WOODBINE AVE

53-006-0-324.00-0 Print

General Info | Tax | History | Map | Tax Estimator

Property Information

Property Number	53-006-0-324.00-0
Owner Name	GANIEL JAMES
Owner Address	35 WOODBINE YOUNGSTOWN OH 44504
Tax Set	53 YOUNGSTOWN CITY YOUNGSTOWN CSD
School District	5014 YOUNGSTOWN CSD
Neighborhood	62300 North Side
Use Code	510 One Family Dwelling
Acres	.17200

Description

LOT 16166 50 X 150 WOODBINE

Property Address:

35 W WOODBINE AVE

Tax Payer Address:

RETURN MAIL
NO ADDRESS AVAILABLE
YOUNGSTOWN OH 44503
USA

Assessment Info		Current Value		Recent Transfer	
Board of Revision	N	Mkt Land Value	$1,670	Valid Sale	N
Homestead/Disability	N	CAUV	$0	# Parcels	1
Owner Occupied	Y	Mkt Impr Value	$5,990	Deed Type	1C-WARRANTY DEED
Divided Property	N	Total	$7,660	Amount	$3,700
New Construction	N	**Current Tax**		Sale Date	12/16/2010
Foreclosure	N	Annual Tax *	$544.81	Conveyance	3690
Other Assessments	Y	Paid **	$0.00	Deed #	
Front Ft.	0	Delq	$607.30		

<< Previous Card Card 1 of 1 Next Card >>

Dwelling Information

Sq Ft Finished	2146	Room Count	9	Fireplace(s)	1
1st Floor Area	1158	Story Height	2	Year Built	1912
Upper Floor Area	988	# Bedrooms	4	Year Remodeled	0
Half Story Area	0	Full Baths	2	Grade	B-02
Attic Area	0	Half Baths	1	Style	Convention
Finished Basement	0	Heating	Base	Ext Walls	Frame/Siding
Basement Type	Full Basement	Air Cond	None		

Land

Land Type	Acres	Square Ft.	Actual Frontage	Eff. Frontage	Depth	No Of Units	Value
L1Regular Lot	.17220	0	50.00000	50.00000	150.00000	0	$1,670

CAUV Land

No CAUV Land On This Property

Card - 1

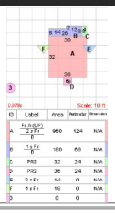
Improvements

IMPR Type	Description	Area	Length	Width	Year Built
Addition	Porch Masonry - Open	32 SQ FT			
Addition	Porch Masonry - Open	36 SQ FT			
Feature	Unfinished Attic	960			
Other Improvement	Garage Frame	480	24	20	1957

Card - 1

Property Sketch and Photos -- Card 1

Property Sketch



Property Report

Last Updated: 11/15/2016