MOLD AND MOISTURE ASSESSMENT REPORT

MAYMONT PRESCHOOL

1211 SOUTH ALLEN STREET
RICHMOND, VIRGINIA 23220

ECS PROJECT NO. 47:14153-G

FOR: RICHMOND PUBLIC SCHOOLS FACILITY SERVICES

FEBRUARY 26, 2024

February 26, 2024

Mr. Ronald Hathaway Jr.
Richmond Public Schools Facility Services
1461-A Commerce Road
Richmond, Virginia 23224
Rhathawa@rvaschools.net

ECS Project No. 47:14153-G

Reference: Mold and Moisture Assessment, Maymont Preschool, 1211 South Allen Street, Richmond, Virginia

Dear Mr. Hathaway Jr.:

ECS Mid-Atlantic, LLC (ECS) is pleased to provide Richmond Public Schools Facility Services with the results of the above referenced Mold and Moisture Assessment performed at Maymont Preschool located at 1211 South Allen Street in Richmond, Virginia. This report summarizes our observations, analytical results, findings, and recommendations related to the work performed. The work described in this report was performed by ECS in general accordance with the Scope of Services described in ECS Proposal Number 47:30369-EP and the terms and conditions of the agreement authorizing those services.

ECS appreciates this opportunity to provide Richmond Public Schools Facility Services with our services. If we can be of further assistance to you, please do not hesitate to contact us.

Sincerely,

ECS Mid-Atlantic, LLC

Robert Curran
Environmental Project Manager
rcurran@ecslimited.com
804-353-6333

Christopher J. Chapman, CIH
Director of Industrial Hygiene
cchapman@ecslimited.com
804-353-6333

TABLE OF CONTENTS

PAGE

TABLE OF APPENDICES

1.0 PROJECT DESCRIPTION

The building located at 1211 South Allen Street in Richmond, Virginia is a one-story school building known as Maymont Preschool. The building contains approximately 35,959 square feet of space and was reportedly originally constructed in 1953.

Based on information provided by Richmond Public Schools Facility Services representatives, ECS understands that building occupants have reported mold and moisture concerns in the school to Richmond Public School Facility Services. Richmond Public Schools Facility Services has requested ECS conduct a Mold and Moisture Assessment to evaluate these concerns.

2.0 PURPOSE

The purpose of the Mold and Moisture Assessment was to conduct visual observations and testing for mold and moisture to identify evidence of moisture-affected building materials or selective amplification of mold within tested areas of the subject building.

3.0 METHODOLOGY

ECS performed the authorized Scope of Services in general accordance with our proposal, standard industry practices and methods specified by guidelines and industry standards for the identification of mold and moisture-affected building materials.

3.1 Mold and Moisture

The assessment included a non-invasive visual and olfactory survey for evidence of mold and moisture within the subject building. The assessments focused on the client-selected areas indicated by Richmond Public Schools Facility Services. The ECS site personnel observed readily accessible areas and selected building materials to evaluate visible suspect fungal growth and/or moisture impacted materials. A reasonable effort was made to identify water and mold impacted areas; however, this does not imply a guarantee that all possible reservoirs of mold were identified because mold or water-impacted building materials may be hidden by walls, flooring, partitions, etc.

Ambient temperature and relative humidity were measured during the survey using a Q-Trak hand held IAQ meter. The purpose of these measurements was to identify elevated interior humidity levels, which could potentially support indoor mold growth or indicate ongoing moisture problems.

ECS measured the moisture content in various building materials in multiple locations within the surveyed areas utilizing a Protimeter brand hand-held moisture meter. The instrument may be operated in two independent modes. The non-destructive “search mode” uses radio-frequency induction to detect moisture in a substrate. Using the search mode, the Protimeter is capable of detecting moisture in solid, homogeneous materials at depths up to 10 millimeters (0.39 inches). When operated in search mode, the Protimeter produces qualitative readings (“dry”, “at risk”, “wet”) along with a relative numerical reading corresponding to the appropriate qualitative reading. The Protimeter may also be used in “measure mode” to obtain actual moisture percentage readings in wood and other solid, non-conductive materials. Measurements are taken by inserting the pins of a moisture probe into the material being tested. For wood substrates, the moisture percentage is expressed as “% Moisture Content (MC)”; for other materials this number is expressed as “% Wood

Moisture Equivalent (WME)". In general, %MC or %WME values of less than 17 are considered "dry", values greater than or equal to 17 but less than 20 are considered "at risk" for moisture damage, and values of 20 or greater are considered "wet". Values of greater than 17 % typically are considered at risk for mold growth. This was not a comprehensive moisture mapping survey of all building materials within the areas surveyed but rather a non-invasive survey of moisture in select areas of specific building materials which may be impacted by moisture.

Fungal spore air samples were collected using calibrated self contained battery operated air sampling pumps and Allergenco® cassettes. Samples were transported to Environmental Hazards Services located in Richmond, Virginia for analysis. Environmental Hazards Services is accredited by the Environmental Microbiology Laboratory Accreditation Program, administered by the American Industrial Hygiene Association. Air samples were reported to the genus or group level according to the laboratory standard quantification procedures.

Direct samples were collected using pre-packaged tape lift slides used to sample a suspect surface or material. The samples were then placed back into the packaged sealed container for transport to the laboratory for analysis. Note: This is a semi-quantitative test and only indicative of the location sampled and primarily meant to identify the type of mold spores present and associated concentration from the sampled area only. The results may also present concentration ratings reported for hyphal fragments pollen, insect fragments, skin fragments, fibrous particulate, and background matter.

Samples collected were transported/shipped to Environmental Hazards Services (EHS) located in Richmond, Virginia for analysis. EHS is an AIHA (American Industrial Hygiene Association) EMLAP (Environmental Microbiology Laboratory Accreditation Program) accredited laboratory. The samples were analyzed for total spore concentrations in accordance to the laboratory's quantification methods.

It is important to note that fungal spore samples represent a snapshot in time of a constantly changing microbiome. Environmental conditions such as temperature and humidity may influence sample results. The goal of the sampling performed was not to establish precise numerical concentrations over time, but rather to generally identify the dominant fungi in the sampled locations and the general significance of their relative concentrations as compared to outdoor concentrations or unaffected locations.

4.0 RESULTS

The following is a summary of laboratory results, measurements, findings and observations.

Based on our observations and sampling data, ECS does not see any reason why the school should not be continued to be used based on our experience with similar school buildings across the Richmond area and our findings for this study. In general, our air sample results did not indicate any significantly elevated spore trap air samples in the classrooms above outdoor comparison samples. As would be expected with any school building, new or old, areas of mold and moisture were observed and it is our understanding that the recommendations identified in the assessment reports are being addressed or will be addressed by Richmond Public Schools.

4.1 Mold and Moisture

Main School Building

- A heavy build-up of dust and dirt was observed associated with the wall mounted fan coil units on each of the classrooms beneath the units and within the supply vents on the top of the units;
- Mold was observed on the dust buildup on many of the window mounted A/C units in the classrooms and rooms including rooms 106, 111 and 113;
- Moisture stained ceiling tiles were observed sporadically in areas throughout the hallways, offices, cafeteria/auditorium, and kitchen in areas where drop ceiling tiles are present. None of the areas tested were determined to have elevated moisture content. In general much of the staining observed on ceiling tiles was likely caused by old roof leaks, pipe condensation or leaking pipes;
- Water damaged plaster wall was observed in Room 115 beneath an apparent roof leak;
- Moisture damaged plaster ceiling was observed in the kitchen and the book room. Moisture meter readings indicated the plaster ceiling was dry in these locations at the time of the assessment;
- Mold was observed on the asbestos containing roof drains and roof drain collar mudded insulation in the library, and Rooms 103, 106 and 115. Mold should be assumed to be present on all of the asbestos containing roof drain insulation and collars throughout the school;
- Damaged friable roof drain insulation and pipe elbow material was observed above the ceilings in Rooms 106,108 and 110 and is likely present in other areas;
- Mold and moisture staining was observed within the sink vanity in the bathroom in the teacher's office. Moisture meter readings indicated elevated moisture was present associated with the staining, indicating an active leak;
- Particle board was observed in the ceiling cavity between the drop tile ceiling and the roof deck throughout the rooms in the school. Moisture staining was observed on the majority of this material throughout the school. Heavier staining and suspect mold was observed on this material in room 111. Tape lift sampling indicated that elevated concentrations of mold are present in this location;
- Moisture/mold impacted pipe insulation and asbestos containing mudded pipe elbows were observed within the plumbing wall chases associated with the hallway bathrooms, above the ceiling in the nurse's office and in the mechanical chase/closet in the Speech room;
- Mold impacted stored materials like cardboard boxes are present in the wet wall chase that is behind the girl's bathroom;
- Moisture meter readings indicated elevated levels of moisture associated with the various vinyl and poured flooring in the bathrooms within classrooms 105 and 110. Elevated moisture should be assumed to be present associated with the toilets throughout the classroom bathrooms and checked for leaking plumbing or expired wax ring seals;
- Mold and moisture impacted CMU block wall, wood shelving and cardboard storage boxes were observed within the book room apparently caused by a leaking pipe or roof leak above the plaster ceiling. Tape lift sampling collected from the stained CMU block wall showed elevated concentrations of mold spores. Based on our observations and data there appears to be an on-going moisture intrusion source in this area;

- Mold was observed behind the vinyl cove baseboard in Room 113. This appeared to be a common condition and mold maybe present concealed behind vinyl cove baseboard throughout the school;
- Mold was observed on the metal ceiling deck on the stage - left side of the auditorium. The cause of the mold was apparently an HVAC duct with damaged insulation blowing directly onto this area of the ceiling;.

Exterior Envelope

- The asbestos containing window sash glazing throughout the school was observed to be damaged and may be a source of moisture intrusion;
- The exterior porticos throughout the building are significantly damaged and may be a source of water intrusion into the building;
- A significant build-up of leaves was observed outside the perimeter wall where the library is located; The site grade was also observed to be at the same level of the fan coil intakes. This could be a source of moisture intrusion directly into the fan coil units in this area. Heavy mold/mildew staining was observed on the brick window ledges in this area; It also appears that storm water is not being properly managed by the roof drain systems and is spilling over the edge of the roof. The window ledge sealants were also damaged in this area.

4.1.1 Spore-Trap Air Samples

Fungal spore-trap air samples were collected from classrooms and functionally distinct spaces in the school where students and faculty would be expected to spend the most time. The following table summarizes the results of sample analysis reported in spore counts per cubic meter of air.

Spore-Trap Sample Results

Sample Number	Sample Location	Total Fungal Spore Concentration (count/cubic meter)
A1	Outdoors	1,900
A2	101	310
A3	102	360
A4	103	190
A5	104	1,000
A6	105	200
A7	106	180
A8	107	260
A9	108	230
A10	109	270

Sample Number	Sample Location	Total Fungal Spore Concentration (count/cubic meter)
A11	110	110
A12	111	80
A13	112	310
A14	113	67
A15	114	690
A16	115	93
A17	116	1,200
A18	Outdoors	1,500
A19	117	170
A20	118	190
A21	119	67
A22	120	250
A23	Library	150
A24	Kitchen	290
A25	Cafetorium	20
A26	Speech room	220
A27	Former teachers' lounge	990
A28	Main office	590
A29	Outdoors	1,500

Analytical results of the mold air testing determined that total spore counts reported in the rooms tested in the school were below the level of total airborne mold spores reported on the outside samples. The fungal genera detected were also generally comparable with fungal genera detected outdoors.

There are currently no accepted regulatory standards or guidelines with respect to acceptable fungal levels inside buildings. It is important to note however that spore trap measurements can fluctuate rapidly and the readings reported should not be used as a definitive indication that mold and or health hazards related to mold are present or absent.

4.1.2 Direct Surface Fungi Samples

Surface tape-lift samples were collected inside classroom 224 and the library. Sample locations were selected from areas suspected to have fungal spore concentrations present due to water staining on building materials, visible mold growth, or other observations made by ECS indicative of possible fungal spore growth. The following table summarizes the results of sample analysis. The laboratory reports the results in accordance with the following density rating:

The laboratory reports the results in accordance with the following density rating:

- Occasional: 1-5 spores seen per cover slip, growth not likely
- Few: Over 5 spores seen per cover slip, but less than 1 spore seen in 5 fields:, possible indication of growth
- Moderate: At least 1 spore seen in 5 fields, probable indication of growth
- Numerous Several spores seen in every field, indication of growth
- N/A: Not applicable

Direct Surface Fungi Samples

Sample Number	Sample Location	Type and Density Rating
T1	Book Room CMU Wall	Numerous - *Chaetomium spores and hyphal elements* Moderate to Numerous - *Penicillium/Aspergillus group spores and hyphal elements* Few - *Pithomyces spores* Occasional - *Stachybotrys-like spores*
T2	Room 111, Particle Board Fascia Board	Few - *smuts, Periconia, myxomycetes, ascospores,* pollen grains Moderate to Numerous - *Cladosporium spores and hyphal elements* Moderate - *Basidiospores* Occasional to Few - *Nigrospora spores* Occasional - *Pithomyces spores*

The tape lift sampling laboratory results indicate mold in significant concentrations associated with the mold impacted material in the Book Room. The tape lift sample collected from the particle board fascia board above the ceiling in Room 111 indicated elevated concentrations of mold present in this location as well. The concentrations of mold identified in these locations indicate that these material may be impacted by an active or regular source of moisture. In the book room the plaster ceiling

appears to be leaking down onto the materials in the book room. The particle board fascia is likely being impacted by exterior moisture through the metal soffit, directly or during times of high interior relative humidity.

There are currently no accepted regulatory standards or guidelines with respect to acceptable fungal levels inside buildings. Surface samples are generally qualitative in that they reflect the type and quantity of mold present only at the sampled location at the time the sample was collected.

4.1.3 Temperature and Relative Humidity

The key to understanding humidity is that warmer air can contain greater quantities of moisture than cooler air. Relative humidity is defined as the ratio of the amount of moisture contained in the air to the maximum amount of moisture the air can contain at that temperature. The dew point temperature is defined as the temperature at which the amount of moisture in the air reaches saturation. The dew point is a more accurate indication of the actual amount of moisture in the air, because it is independent of temperature.

The American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE) has published several standards for ventilated buildings. *ANSI/ASHRAE Standard 62.1-2019, Ventilation for Acceptable Air Quality* specifies that indoor humidity should be maintained below 60 degrees Fahrenheit (°F) dew point temperature. The EPA recommends that indoor relative humidity be maintained below 60%, ideally 30-50%, to prevent mold growth. The *OSHA Technical Manual,* Section III, Chapter 2 for Indoor Air Quality Investigations specifies a thermal comfort range of 68°F to 76°F and a relative humidity range of 20% to 60% to maximize comfort for all occupants.

The following table summarizes the indoor air temperature and relative humidity readings collected by ECS during the survey.

The temperature and relative humidity readings collected during this assessment were considered normal and within recommended ranges.

Temperature and Relative Humidity

Location	Relative Humidity (%)	Temperature (°F)
Kitchen	35.8	74.4
Lounge 101	33.6	74.0
102	37.7	74.7
103	36.6	73.0
104	35.2	72.7
105	32.3	72.2
106	31.3	72.6
107	34.0	73.5

Location	Relative Humidity (%)	Temperature (°F)
108	33.2	75.4
109	35.6	74.7
110	36.0	73.6
111	36.8	72.6
112	37.8	72.1
113	36.7	71.9
114	38.0	72.2
115	38.0	71.1
116	39.9	71.7
117	42.0	72.4
118	40.6	72.8
119	41.1	73.2
Main office	36.4	73.3
Outdoors, main entrance	31.7	70.5
Library	34.7	73.2
Cafetorium	33.9	72.4
Nurses	34.6	74.4
Old teachers lounge	36.4	73.9
Speech room	37.5	73.5
120	43.1	71.0

4.1.4 Moisture in Building Materials

The following table summarizes moisture content readings collected:

Summary of Moisture Readings from Building Materials

Location	Building Component	Substrate Material	Moisture Content (%)
Main Office, Bathroom	Sink Vanity	Wood	21.8
Room 105, Bathroom	Floor	Sheet/Poured Floor	23.0

Location	Building Component	Substrate Material	Moisture Content (%)
Room 110, Bathroom	Floor	Sheet/Poured Floor	22.2

Elevated moisture meter readings were detected in the locations detailed above. The apparent cause of the elevated moisture in the office sink vanity was a leaking drain or something leaking that was stored in this area. Evidence of mold was not observed.

ECS believes the source of moisture associated with the sheet flooring identified in several bathrooms is a failing toilet wax ring causing the toilet to leak beneath the floor. This is likely the condition in most bathrooms to one extent or another.

Additional visibly moisture impacted materials were observed such as the particle board fascia above the ceiling, ceiling tiles throughout the building and some sporadic plaster. These materials were determined in general to be dry in the areas tested at the time of the assessment.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on our understanding of the purpose of the Mold and Moisture Assessment, the results of laboratory analysis, and our findings and observations, ECS presents the following recommendations.

5.1 Mold and Moisture

ECS recommends remediation be performed for all water and mold impacted materials within the surveyed areas as soon as reasonably possible. This includes all materials that have visible suspected mold and/or have been subjected to elevated moisture conditions for greater than 48 hours without proper drying efforts.

General

ECS recommends that a qualified mold remediation/drying contractor be retained to properly remove mold impacted materials. Remediation activities should be performed in general accordance with the guidelines described in EPA's March 2001 document "Mold Remediation in Schools and Commercial Buildings" and under the OSHA 2010 Guidelines for mold removal. Additional remedial guidance documents are also referenced in Section at the end of this report. Workers performing this work should wear proper personal protective equipment (PPE) including HEPA filtered respirators and disposable clothing (per OSHA standards for PPE).

Due to the complexity of the project, ECS recommends that the remediation contractor, the owner, and ECS meet on-site to review the project in order to review and discuss the scope of work.

ECS recommends that a building envelope study be perfumed for the building by a qualified engineer. Correction of building envelope and water intrusion issues should be performed prior to or concurrent with any remediation activities.

Setup

In general accordance with the EPA and OSHA guidelines, ECS recommends containment of the remediation areas using plastic barriers and tape to create negative pressure containment during removal of mold impacted materials. The contractor should seal HVAC vents in the work area(s), as well as all other penetrations and openings. A HEPA-filtered local exhaust ventilation (negative air machine) should be utilized within the work area directly adjacent to the area(s) being cleaned and should maintain negative pressure and HEPA filtration continuously inside the containment during remediation activities and prior to clearance sampling. [If greater than 100 square feet, or an occupied area adjacent to 30 square feet or more: A manometer should be used to measure the pressure difference between the remediation area and adjacent areas. The target pressure differential in the containment should be -0.02 inches of water gauge.

Scope of Work

All impacted drywall materials that have visible growth and/or have sustained water impacts should be removed in excess of 2 feet beyond the visible extent of mold or water stains where feasible. Further observation of the wall and ceiling systems may be necessary during remediation efforts to determine if additional materials will need to be removed. **As noted previously, any active moisture leaks into the building should be properly accessed and corrected prior to or concurrent with mold remediation activities. In addition, prior to performing any work the remediation contractor shall review all asbestos reports for the school building.**

ECS makes the following recommendations concerning abatement of mold and/or moisture impacted materials in the building:

- Assessment of the building envelope by a qualified building sciences engineer to determine what repairs should be made to the exterior of the building in order to properly seal the building envelope and prevent further moisture intrusion. The envelope assessment should include an assessment of the integrity of the roof throughout the building as well;
- A heavy build-up of dust and dirt was observed associated with the wall mounted fan coil units on each of the classrooms beneath the unit and within the supply vents on the top. Perform localized cleaning of the fan coil units and review the cleaning and maintenance schedule for these units; Use a mold remediation contractor or qualified school maintenance staff. Perform any mold remediation as described in this protocol, above this section;
- Mold was observed on the dust buildup on many of the window mounted A/C units in the classrooms and rooms including rooms 106, 111 and 113. Perform localized cleaning of all window mounted A/C units or replace them and review the cleaning and maintenance schedule. Use a mold remediation contractor or qualified school maintenance staff. Perform any mold remediation as described in this protocol, above this section;
- Moisture stained ceiling tiles were observed sporadically in areas throughout the hallways, offices, cafeteria/auditorium, and kitchen in areas where drop ceiling tiles are present. None of the areas tested were determined to have elevated moisture content. In general much of the staining observed on ceiling tiles was likely caused by old roof leaks, pipe condensation or leaking pipes. Have a qualified mold remediation contractor or qualified maintenance staff remove and replace all mold and moisture impacted ceiling tiles. Perform any mold remediation as described in this protocol, above this section;

- Water damaged plaster wall was observed in Room 115 beneath an apparent roof leak. Repair the plaster wall and verify the area is dry and suspect mold is not present. Perform any mold remediation as described in this protocol, above this section;
- Moisture damaged plaster ceiling was observed in the kitchen and the book room. Moisture meter readings indicated the plaster ceiling was dry in these locations at the time of the assessment. Determine and correct the cause of the water intrusion and repair the plaster ceiling. Perform any mold remediation as described in this protocol, above this section;
- Mold was observed on asbestos containing roof drain collar and pipe elbow mudded insulation in the library, and Rooms 103, 106 and 115. Mold should be assumed to be present on all of the asbestos containing roof drain insulation,collars and mudded elbows throughout the school. The remediation of the asbestos containing roof drains should be performed by a Virginia Licensed Asbestos Abatement Contractor. The work practices used for asbestos abatement will be sufficient engineering controls for mold abatement. The ceiling tiles beneath damaged roof drain mudded fittings should be disposed of by the abatement contractor as Regulated Asbestos Containing waste because it is likely contaminated by the damaged pipe elbow material above it;
- Damaged friable roof drain insulation and pipe elbow material was observed above the ceiling in Rooms 106, 108 and 110 and is likely present in other areas; The remediation of the asbestos containing roof drains should be performed by a Virginia Licensed Asbestos Abatement Contractor. The ceiling tiles beneath damaged roof drains should be disposed of by the abatement contractor as Regulated Asbestos Containing Waste because they area likely contaminated by the damaged pipe elbow material above it; **Due to the damaged condition of these materials, this work should be performed as soon as reasonably possible;**
- Mold and moisture staining was observed within the sink vanity in the bathroom in the teacher's office. Moisture meter readings indicated elevated moisture was present associated with the staining; Determine and correct the cause of the elevated moisture conditions and properly dry the vanity material. It may be necessary to pull the vanity to allow the area to dry properly;
- Particle board was observed in the ceiling cavity between the drop tile ceiling and the roof deck throughout the rooms in the school. Moisture staining was observed on the majority of this material throughout the school. Heavier staining and suspect mold was observed on this material in Room 111. Tape lift sampling indicated that elevated concentrations of mold are present in this location. Have a qualified mold remediation contractor or qualified maintenance staff remove and replace all mold and moisture impacted fascia boards and conduct further investigation as to the extent of this impact.Replace this material if necessary with a non-porous material. Perform any mold remediation as described in this protocol, referenced previously;
- Moisture/mold impacted pipe insulation and asbestos containing mudded pipe elbows were observed within the plumbing wall chases associated with the hallway bathrooms, above the ceiling in the nurse's office and in the mechanical chase/closet in the Speech room. The remediation of the asbestos containing pipe elbows should be performed by a Virginia Licensed Asbestos Abatement Contractor. The work practices used for asbestos abatement will be sufficient engineering controls for mold abatement. The ceiling tiles or other trash and

debris beneath damaged pipe elbows should be disposed of by the abatement contractor as Regulated Asbestos Containing Waste because it is likely contaminated by the damaged pipe elbow material above it;

- Mold impacted stored materials like cardboard boxes are present in the wet wall chase that is behind the girl's bathroom. Remove and dispose of all porous and semi-porous materials; Non-porous materials may be cleaned if appropriate;
- Moisture meter readings indicated elevated levels of moisture associated with the various vinyl and poured flooring in the bathrooms within classrooms 105 and 110. Elevated moisture should be assumed to be present associated with the toilets throughout the classroom bathroom.; Remove, inspect and replace as necessary the toilet wax rings associated with the toilets throughout the classrooms andcheck plumbing where accessible. Perform aggressive drying of the floors in all of these areas prior to re-installation of any new finishes or re-installation of the toilet fixtures. If the areas cannot be dried then removal of the flooring and drying of the sub-floor will be required. If flooring removal is necessary then the flooring should be assumed to be asbestos containing and removed by a Virginia Licensed Asbestos Abatement Contractor;
- Mold and moisture impacted CMU block wall, wood shelving and cardboard storage boxes were observed within the book room apparently caused by a leaking pipe or roof leak above the plaster ceiling. Tape lift sampling collected from the stained CMU block wall indicated elevated concentrations of mold spores. Based on these results and our observations this may indicate an on-going moisture source in this area. Determine and correct the source of moisture intrusion into the book room. Have a qualified mold remediation contractor clean the plaster walls and bookshelves and dispose of visibly mold or moisture impacted materials and porous and semi-porous materials stored in the room. Apply an antimicrobial encapsulant to cleaned or treated areas. Perform mold remediation as described in this protocol, above this section;
- Mold was observed behind the vinyl cove baseboard in room 113. It is possible mold is concealed behind vinyl cove baseboard throughout the school. Investigate other classrooms to determine if the mold impacted cove base mastic is present in other areas of the school. Where visible mold is present have a qualified mold remediation contractor remove the vinyl cove baseboard and clean all mold impacted areas and then apply an anti-microbial sealer to the cleaned areas. Perform mold remediation as described in this protocol, above this section;;
- Mold was observed on the metal ceiling deck on the stage - left side of the auditorium. The cause of the mold was apparently an HVAC duct with damaged insulation blowing directly onto this area of the ceiling. Assess and correct the cause of mold in this area and repair/isolate the duct as needed. Have a qualified mold remediation contractor or qualified maintenance staff clean the mold impacted areas of the ceiling over the stage. Perform mold remediation as described in this protocol, above this section;
- Conduct an inspection of the HVAC systems and fan coil units that service the building and also a review of the maintenance and service schedules by a qualified HVAC contractor or qualified maintenance staff to determine if the systems are properly performing per the manufacturer's recommended specifications;

- Repair and replace the damaged asbestos window sash glazing throughout the building. Any disturbance or the removal of the material will need to be performed by a Virginia licensed Asbestos Abatement Contractor. If these windows will be removed and replaced then the windows and associated caulking should be disposed of as Category II Non-Friable ACM by a licensed abatement contractor.

Following remediation/removal of mold-impacted materials, ECS recommends that the contained areas of the building undergo a thorough cleaning following guidelines described in EPA's March 2001 document "Mold Remediation in Schools and Commercial Buildings." Surface remediation should include HEPA vacuuming of vertical and horizontal surfaces and a clean-wipe with a mild detergent. The surfaces should not be saturated and discard cleaning cloths. All areas (affected and unaffected) should be left dry, visibly free from contamination and debris prior to build back activities.

Air sampling should be performed by fungal spore trap method to document mold levels following remediation efforts. Surface sampling may also be performed to assess visible debris or staining remaining in the work area. The results of air sampling should find air samples in and adjacent to the work area to be less than concurrent outdoor samples, and the indoor samples will not find a prevalence of certain fungi considered likely indoor contaminants as determined by rank-order analysis. ECS notes that outdoor concentrations may be suppressed during the winter, and may utilize other references to compare with the indoor sample results on the day of the sampling.

Although not accessible during the survey, ECS is concerned that underlying structural materials (CMU walls, wood framing, poured concrete, etc…) contain excess moisture which will need to be thoroughly dried prior to installation of new materials. Where elevated moisture is still present in building materials, mechanical drying efforts should be performed. The use of portable dehumidifiers should be implemented immediately. Following removal of mold-affected materials and fine cleaning, the fans should also be utilized to accelerate drying efforts. For large areas with significant moisture load, the use of desiccant dehumidification systems should be considered.

Follow-up

Prior to removal of the containment barriers, a post-remediation survey and testing should be performed to assess the remediation efforts. Visible suspect mold and moisture-affected porous materials should not be present in the work area (although ECS recognizes that some semi-porous materials may still have stains present following cleaning). The moisture content of materials that have been dried or cleaned and will remain should be confirmed to be below recommended guidelines prior to re-construction of new materials. The indoor relative humidity in and around the work area should be below 60%. If the temperature in the work area is above 80°F, the indoor dew point should be below 65°F.

Air sampling should be performed by fungal spore trap method to document mold levels following remediation efforts. Surface sampling may also be performed to assess visible debris or staining remaining in the work area. The results of air sampling should find air samples in and adjacent to the work area to be less than concurrent outdoor samples, and the indoor samples will not find

a prevalence of certain fungi considered likely indoor contaminants as determined by rank-order analysis. ECS notes that outdoor concentrations may be suppressed during the winter, and may utilize other references to compare with the indoor sample results on the day of the sampling.

Note: The purpose of this survey was to evaluate areas where moisture intrusion or suspected visible mold growth has occurred and provide findings and recommendations for remedial work efforts. Identification and recommendations for correction of sources of moisture should be performed by a qualified engineer. Because of the nature of the environment, complete elimination of all microbial organisms within a building cannot be expected and is not the goal of remediation. The goal of remediation is to restore the affected materials to at least the condition of unaffected materials. It is important to note that the reported mold levels are only reflective of conditions at the time of this test and that mold populations can vary over time, depending upon a number of conditions, including environmental factors (i.e., temperature and relative humidity). If significant mold growth reappears, or if the occupants experience prolonged allergic-type health complaints, they should seek further investigation of the problem.

6.0 LIMITATIONS

The conclusions and recommendations presented within this report are based upon a reasonable level of assessment within normal bounds and standards of professional practice for a site in this particular geographic setting. ECS is not responsible or liable for the discovery and elimination of hazards that may potentially cause damage, accidents, or injuries.

During this study, samples were submitted for analysis at an accredited laboratory via polarized light microscopy. As with any similar survey of this nature, actual conditions exist only at the precise locations from which samples were collected. Certain inferences are based on the results of this sampling and related testing to form a professional opinion of conditions in areas beyond those from which the samples were collected. No warranty, expressed or implied, is made.

This survey is not intended to represent an exhaustive research of every potential hazard or condition that may exist, nor does it claim to represent indoor conditions or events that arise after the survey. This report has been prepared in accordance with generally accepted environmental practices. Our conclusions and findings are based, in part, upon information provided to us by others and our site observations. We have not verified the completeness or accuracy of the information provided by others. The scope of services performed was limited to those requested by the Client and does not constitute a full microbial assessment of the site or a comprehensive moisture survey of the site. The data provided in this study is only indicative of conditions sampled at the immediate time of the study.

The work performed in conjunction with this assessment and the data developed is intended as a description of available information at the dates and locations given. This report does not warrant against future operations or conditions, nor does it warrant against extant, or future, conditions of a type or at a location not investigated. Because of the nature of this type of work and the difficulties involved in conducting remediation work, ECS cannot guarantee that the methods or recommendations described in this report will eliminate all potential indoor air quality issues. Since performance of the remediation work is also beyond ECS scope of services, ECS also cannot be held responsible for the execution of the remediation work. The reported microbial levels are only

reflective of conditions at the time of this test and that microbial populations can vary over time, depending upon a number of conditions, including environmental factors (i.e., temperature and relative humidity). The work performed in conjunction with this assessment and the data developed is intended as a description of available information at the dates and locations given.

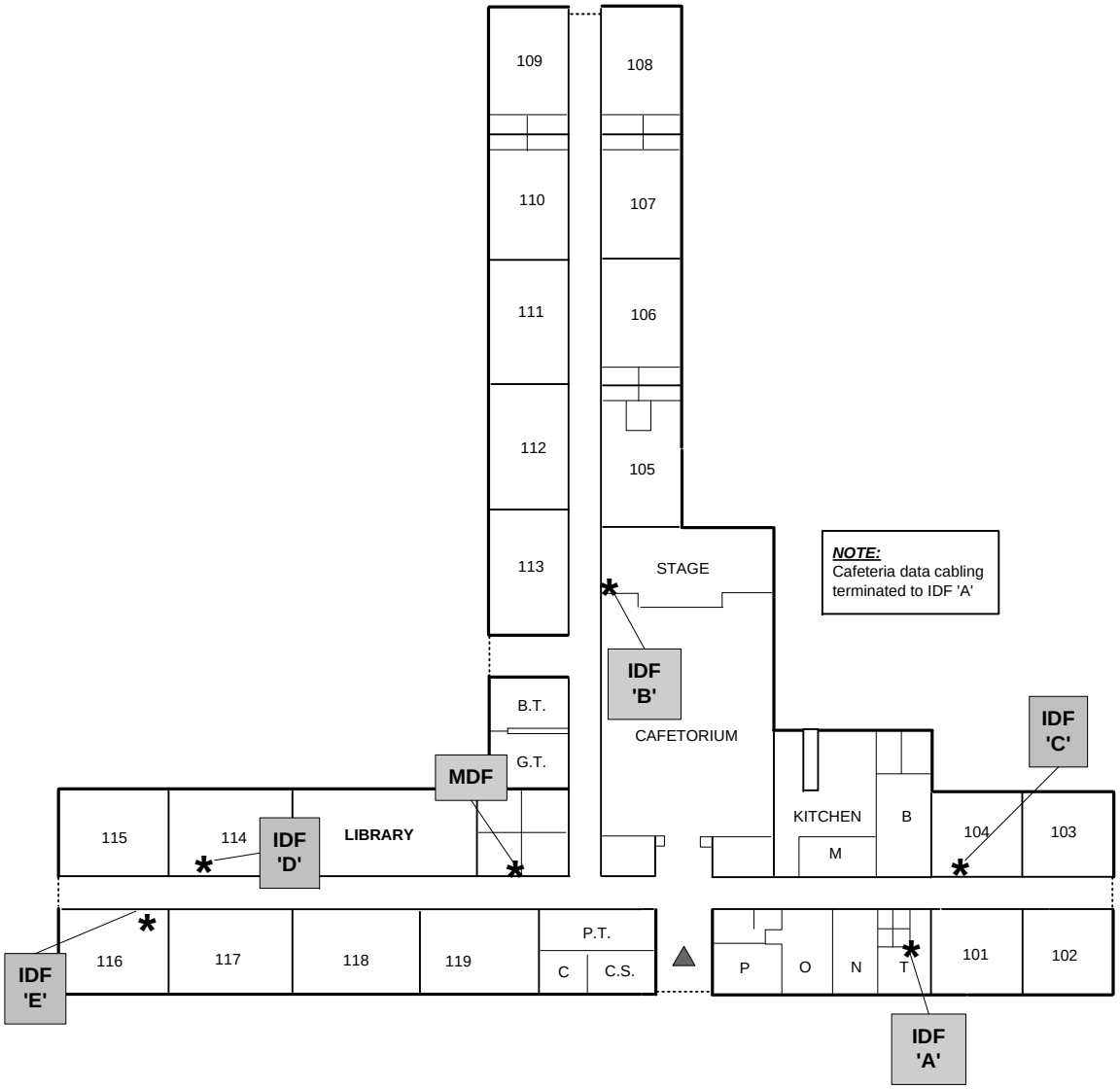
The observations, conclusions, and recommendations pertaining to environmental conditions at the subject site are necessarily limited to conditions observed, and/or materials reviewed at the time this study was undertaken. No warranty, expressed or implied, is made with regard to the conclusions and recommendations presented within this report. This report is provided for the exclusive use of the client. This report is not intended to be used or relied upon in connection with other projects or by other unidentified third parties without the written consent of ECS and the client.

Our recommendations are in part based on federal, state, and local regulations and guidelines. ECS does not assume the responsibility of the person(s) in charge of the site, or otherwise undertake responsibility for reporting to any local, state, or federal public agencies, any conditions at the site that may present a potential danger to public health, safety, or the environment. Under this scope of services, ECS assumes no responsibility regarding any response actions initiated as a result of these findings. General compliance with regulations and response actions are the sole responsibility of the Client and should be conducted in accordance with local, state, and/or federal requirements.

Appendix I: School Diagram

RICHMOND PUBLIC SCHOOLS
DATA SYSTEMS CONNECTIONS LAYOUT AND FLOOR PLAN

MAYMONT ELEMENTARY



Prepared: Dec. 11, 1997
Updated: August 19, 2008

File Name: MAYMONT ELEM.DATA SYS. FLOOR PLAN RE-DRAW 08192008.vsd

Appendix II: Mold Laboratory Report(s)

Non-Viable Spore Trap Analysis Report

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

Telephone: 800.347.4010

Report Number: 23-10-03826

Received Date: 10/25/2023
Analyzed Date: 11/01/2023
Reported Date: 11/01/2023

Client: ECS Mid-Atlantic - Richmond
2119 D North Hamilton St
Richmond, VA 23230

Project/Test Address: Maymont Preschool; 1211 South Allen Street; Richmond, Virginia

Client Number:
200625

Fax Number:
804-353-9478

Laboratory Results

Lab # :	23-10-03826-001		23-10-03826-002		23-10-03826-003		23-10-03826-004		23-10-03826-005	
Client Sample ID :	A1		A2		A3		A4		A5	
Date Collected :	10/24/2023		10/24/2023		10/24/2023		10/24/2023		10/24/2023	
Collection Location :	OUTDOORS MAIN ENTRANCE A		101		102		103		104	
Sampling Media :	Air-O-Cell		Air-O-Cell		Air-O-Cell		Air-O-Cell		Air-O-Cell	
Analytical Sensitivity (spores/m3) :	6.7		6.7		6.7		6.7		6.7	
Volume (L) :	150		150		150		150		150	
Spore ID	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**
Cladosporium spores	179	1200	28	190	43	290	13	87	123	820
Penicillium/Aspergillus group spores	59	390	5	33	9	60	1	6.7	1	6.7
Alternaria spores	2	13								
Aureobasidium spores	2	13								
Drechslera/Bipolaris group spores	1	6.7								
Curvularia spores	1	6.7							2	13
Stachybotrys spores							1	6.7		
Pithomyces spores	1	6.7	1	6.7					1	6.7
Epicoccum spores	1	6.7					1	6.7		
Trichoderma spores			2	13						
smuts, Periconia, myxomycetes	42	280	11	73	2	13	13	87	27	180
TOTAL SPORES(Spores/m3)		**1900**		**310**		**360**		**190**		**1000**
Analyst:	Felicia Butler		Felicia Butler		Felicia Butler		Felicia Butler		Felicia Butler	

Non-Viable Spore Trap Analysis Report

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

Telephone: 800.347.4010

Report Number: 23-10-03826

Received Date: 10/25/2023
Analyzed Date: 11/01/2023
Reported Date: 11/01/2023

Client: ECS Mid-Atlantic - Richmond
2119 D North Hamilton St
Richmond, VA 23230

Project/Test Address: Maymont Preschool; 1211 South Allen Street; Richmond, Virginia

Client Number:
200625

Fax Number:
804-353-9478

Laboratory Results

Lab # :	23-10-03826-006		23-10-03826-007		23-10-03826-008		23-10-03826-009		23-10-03826-010	
Client Sample ID :	A6		A7		A8		A9		A10	
Date Collected :	10/24/2023		10/24/2023		10/24/2023		10/24/2023		10/24/2023	
Collection Location :	105		106		107		108		109	
Sampling Media :	Air-O-Cell		Air-O-Cell		Air-O-Cell		Air-O-Cell		Air-O-Cell	
Analytical Sensitivity (spores/m3) :	6.7		6.7		6.7		6.7		6.7	
Volume (L) :	150		150		150		150		150	
Spore ID	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**
Cladosporium spores	19	130	20	130	20	130	12	80	23	150
Penicillium/Aspergillus group spores	2	13	1	6.7					11	73
Aureobasidium spores			1	6.7						
Stachybotrys spores									1	6.7
Pestalotia spores							1	6.7	1	6.7
smuts, Periconia, myxomycetes	9	60	5	33	19	130	21	140	5	33
TOTAL SPORES(Spores/m3)		**200**		**180**		**260**		**230**		**270**
Analyst:	Felicia Butler		Felicia Butler		Felicia Butler		Felicia Butler		Felicia Butler	

Non-Viable Spore Trap Analysis Report

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

Telephone: 800.347.4010

Report Number: 23-10-03826

Received Date: 10/25/2023
Analyzed Date: 11/01/2023
Reported Date: 11/01/2023

Client: ECS Mid-Atlantic - Richmond
2119 D North Hamilton St
Richmond, VA 23230

Project/Test Address: Maymont Preschool; 1211 South Allen Street; Richmond, Virginia

Client Number:
200625

Fax Number:
804-353-9478

Laboratory Results

Lab # :	23-10-03826-011		23-10-03826-012		23-10-03826-013		23-10-03826-014		23-10-03826-015	
Client Sample ID :	A11		A12		A13		A14		A15	
Date Collected :	10/24/2023		10/24/2023		10/24/2023		10/24/2023		10/24/2023	
Collection Location :	110		111		112		113		114	
Sampling Media :	Air-O-Cell		Air-O-Cell		Air-O-Cell		Air-O-Cell		Air-O-Cell	
Analytical Sensitivity (spores/m3) :	6.7		6.7		6.7		6.7		6.7	
Volume (L) :	150		150		150		150		150	
Spore ID	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**
Cladosporium spores	2	13	8	53	38	250	9	60	77	510
Penicillium/Aspergillus group spores	2	13	1	6.7					17	110
Alternaria spores					1	6.7				
Aureobasidium spores					1	6.7			3	20
Curvularia spores	1	6.7								
Stachybotrys spores									2	13
Pestalotia spores					1	6.7				
smuts, Periconia, myxomycetes	11	73	2	13	5	33	1	6.7	4	27
Bispora spores			1	6.7						
TOTAL SPORES(Spores/m3)		**110**		**80**		**310**		**67**		**690**
Analyst:	Felicia Butler		Felicia Butler		Felicia Butler		Felicia Butler		Kitana Usher	

Non-Viable Spore Trap Analysis Report

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

Telephone: 800.347.4010

Client: ECS Mid-Atlantic - Richmond
2119 D North Hamilton St
Richmond, VA 23230

Report Number: 23-10-03826

Received Date: 10/25/2023
Analyzed Date: 11/01/2023
Reported Date: 11/01/2023

Project/Test Address: Maymont Preschool; 1211 South Allen Street; Richmond, Virginia

Client Number:
200625

Fax Number:
804-353-9478

Laboratory Results

Lab # :	23-10-03826-016		23-10-03826-017		23-10-03826-018		23-10-03826-019		23-10-03826-020	
Client Sample ID :	A16		A17		A18		A19		A20	
Date Collected :	10/24/2023		10/24/2023		10/24/2023		10/24/2023		10/24/2023	
Collection Location :	115		116		OUTDOORS MAIN ENTRANCE B		117		118	
Sampling Media :	Air-O-Cell		Air-O-Cell		Air-O-Cell		Air-O-Cell		Air-O-Cell	
Analytical Sensitivity (spores/m3) :	6.7		6.7		6.7		6.7		6.7	
Volume (L) :	150		150		150		150		150	
Spore ID	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**
Cladosporium spores	2	13	140	930	109	730	25	170	21	140
Penicillium/Aspergillus group spores	6	40	30	200	40	270			1	6.7
Alternaria spores					4	27				
Drechslera/Bipolaris group spores					1	6.7			1	6.7
Arthrinium spores					4	27				
Curvularia spores					2	13				
Epicoccum spores					5	33			1	6.7
Nigrospora spores					1	6.7				
Fusarium spores					1	6.7				
smuts, Periconia, myxomycetes	6	40	13	87	57	380			4	27
TOTAL SPORES(Spores/m3)		**93**		**1200**		**1500**		**170**		**190**
Analyst:	Kitana Usher		Kitana Usher		Kitana Usher		Felicia Butler		Felicia Butler	

Non-Viable Spore Trap Analysis Report

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

Telephone: 800.347.4010

Client: ECS Mid-Atlantic - Richmond
2119 D North Hamilton St
Richmond, VA 23230

Report Number: 23-10-03826

Received Date: 10/25/2023
Analyzed Date: 11/01/2023
Reported Date: 11/01/2023

Project/Test Address: Maymont Preschool; 1211 South Allen Street; Richmond, Virginia

Client Number:
200625

Fax Number:
804-353-9478

Laboratory Results

Lab # :	23-10-03826-021		23-10-03826-022		23-10-03826-023		23-10-03826-024		23-10-03826-025	
Client Sample ID :	A21		A22		A23		A24		A25	
Date Collected :	10/24/2023		10/24/2023		10/24/2023		10/24/2023		10/24/2023	
Collection Location :	119		120		LIBRARY		KITCHEN		CAFETORIUM	
Sampling Media :	Air-O-Cell		Air-O-Cell		Air-O-Cell		Air-O-Cell		Air-O-Cell	
Analytical Sensitivity (spores/m3) :	6.7		6.7		6.7		6.7		6.7	
Volume (L) :	150		150		150		150		150	
Spore ID	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**
Cladosporium spores	10	67	21	140	7	47	23	150	3	20
Penicillium/Aspergillus group spores			4	27	7	47	1	6.7		
Aureobasidium spores			1	6.7						
Curvularia spores			1	6.7						
Pithomyces spores							1	6.7		
Epicoccum spores							1	6.7		
smuts, Periconia, myxomycetes			11	73	9	60	18	120		
TOTAL SPORES(Spores/m3)		**67**		**250**		**150**		**290**		**20**
Analyst:	Felicia Butler		Felicia Butler		Felicia Butler		Felicia Butler		Felicia Butler	

Non-Viable Spore Trap Analysis Report

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

Telephone: 800.347.4010

Client: ECS Mid-Atlantic - Richmond
2119 D North Hamilton St
Richmond, VA 23230

Report Number: 23-10-03826

Received Date: 10/25/2023
Analyzed Date: 11/01/2023
Reported Date: 11/01/2023

Project/Test Address: Maymont Preschool; 1211 South Allen Street; Richmond, Virginia

Client Number:
200625

Fax Number:
804-353-9478

Laboratory Results

Lab # :	23-10-03826-026		23-10-03826-027		23-10-03826-028		23-10-03826-029			
Client Sample ID :	A26		A27		A28		A29			
Date Collected :	10/24/2023		10/24/2023		10/24/2023		10/24/2023			
Collection Location :	SPEECH ROOM		FORMER TEACHERS LOUNGE		MAIN OFFICE		OUTDOORS MAIN ENTRANCE C			
Sampling Media :	Air-O-Cell		Air-O-Cell		Air-O-Cell		Air-O-Cell			
Analytical Sensitivity (spores/m3) :	6.7		6.7		6.7		6.7			
Volume (L) :	150		150		150		150			
Spore ID	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**	**Raw Count**	**Results (Spores/m3)**
Cladosporium spores	10	67	94	630	24	160	140	930		
Penicillium/Aspergillus group spores	11	73	2	13	3	20	30	200		
Alternaria spores			1	6.7			1	6.7		
Aureobasidium spores			1	6.7	1	6.7				
Drechslera/Bipolaris group spores			1	6.7	1	6.7	1	6.7		
Arthrinium spores							1	6.7		
Curvularia spores			1	6.7	6	40	1	6.7		
Torula spores					2	13				
Pithomyces spores	1	6.7			1	6.7				
Pestalotia spores					1	6.7				
smuts, Periconia, myxomycetes	11	73	48	320	48	320	55	370		
Bispora spores			1	6.7	1	6.7				
Trichocladium spores							1	6.7		
TOTAL SPORES(Spores/m3)		**220**		**990**		**590**		**1500**		
Analyst:	Felicia Butler		Felicia Butler		Felicia Butler		Felicia Butler			

Environmental Hazards Services, L.L.C

Client Number: 200625 **Report Number:** 23-10-03826

Project/Test Address: Maymont Preschool; 1211 South Allen Street; Richmond, Virginia

Sample Narratives:

(Sample 022)	M02:	Large amounts of particulate observed.
(Sample 027)	M02:	Large amounts of particulate observed.
(Sample 023)	M02:	Large amounts of particulate observed.
(Sample 029)	M03:	Substantial amount of particulate observed, counts may be underestimated.
(Sample 028)	M02:	Large amounts of particulate observed.

Method: Non-Culturable Spore Trap Examination

Reviewed By Authorized Signatory: 

Tasha Eaddy
QA/QC Clerk

ENVIRONMENTAL HAZARDS SERVICES, LLC

Mold Chain of Custody Form

Company Name	ECS Mid-Atlantic	Account #	
Company Address	2119 North Hamilton Street	City/State/Zip	Richmond/VA/23230
Phone	804-353-6333	Email	rcurran@ecslimited.com
Project / Testing Address	Maymont Preschool, 1211 South Allen Street, Richmond, Virginia		
PO Number	47:14153-G	Collected By	Rob Curran
Collection Date & Time	10/24/23	Outside Air Temp	Indoor Air Temp

Was there any precipitation (rain, sleet or snow) 2 hours of less before taking the samples? ☐ Yes ☑ No

Turn-Around Time: ◉ 5 Day ○ 3 Day ○ 2 Day ○ 1 Day ○ Same Day / Weekend - Must Call Ahead

SAMPLE TYPE CODES

AIR/ NON VIABLE		SPORE TRAP		SWAB SAMPLE SURFACE	
Bulk	B	Air-O-Cell	AOC	Non Porous	NP
Swab	S	Cyclex D	C	Semi Porous	SP
Bio-Tape	T	BioSiS	B	Porous	P
Wall Check	W	Micro 5	M5		

LAB NUMBER	Client Sample ID	Collection Location	Sample Type	Air Samples: Spore Trap Type	Air Samples: Air Volume (Total Liter)	Swab Samples: Surface Type (NP/SP)	Swab Samples: Area of Mold (Square Feet)	Qualitative Particulate Analysis Additional $10.00 per sample	Comments
1	A1	Outdoors, main entrance - A	B	AOC	150				3721-0778
2	A2	101	B	AOC	150				3721-8870
3	A3	102	B	AOC	150				3721-9067
4	A4	103	B	AOC	150				3722-0402
5	A5	104	B	AOC	150				3722-0408
6	A6	105	B	AOC	150				3721-9060
7	A7	106	B	AOC	150				3722-0398
8	A8	107	B	AOC	150				3722-0404
9	A9	108	B	AOC	150				3722-0392
10	A10	109	B	AOC	150				3722-0396
11	A11	110	B	AOC	150				3722-0405
12	A12	111	B	AOC	150				3722-0395
13	A13	112	B	AOC	150				3722-0427

Released By: Robert Curran Date: 10/25/23 Time:

Signature:

LAB USE ONLY – BELOW THIS LINE

Received By: DBROWN

Signature:

Date: 10,25,23 Time: 406 ☐ AM ☐ PM

☐ Portal Contact Added

23-10-03826

Due Date:
11/01/2023
(Wednesday)
ER

7469 WHITEPINE RD, RICHMOND, VA 23237 (800)-347-4010

RESULTS VIA CLIENT PORTAL AVAILABLE @ www.leadlab.com

ENVIRONMENTAL HAZARDS SERVICES, LLC

Mold Chain of Custody Form

Company Name	ECS Mid-Atlantic	Account #	
Company Address	2119 North Hamilton Street	City/State/Zip	Richmond/VA/23230
Phone	804-353-6333	Email	rcurran@ecslimited.com
Project / Testing Address	Maymont Preschool, 1211 South Allen Street, Richmond, Virginia		
PO Number	47.14153-G	Collected By	Rob Curran
Collection Date & Time	10/24/23	Outside Air Temp	Indoor Air Temp
Was there any precipitation (rain, sleet or snow) 2 hours of less before taking the samples?	☐ Yes	☑ No	

Turn-Around Time: ◉ 5 Day ○ 3 Day ○ 2 Day ○ 1 Day ○ Same Day / Weekend - Must Call Ahead

SAMPLE TYPE CODES

AIR/ NON VIABLE		SPORE TRAP		SWAB SAMPLE SURFACE	
Bulk	B	Air-O-Cell	AOC	Non Porous	NP
Swab	S	Cyclex D	C	Semi Porous	SP
Bio-Tape	T	BioSiS	B	Porous	P
Wall Check	W	Micro 5	M5		

LAB NUMBER	Client Sample ID	Collection Location	Sample Type	Air Samples: Spore Trap Type	Air Samples: Air Volume (Total Liter)	Swab Samples: Surface Type (NP/SP)	Swab Samples: Area of Mold (Square Feet)	Qualitative Particulate Analysis Additional $10.00 per sample	Comments
1	A14	113	B	AOC	150				3721-8769
2	A15	114	B	AOC	150				3722-0426
3	A16	115	B	AOC	150				3722-0409
4	A17	116	B	AOC	150				3721-8787
5	A18	Outdoors, main entrance - B	B	AOC	150				3721-8775
6	A19	117	B	AOC	150				3722-0399
7	A20	118	B	AOC	150				3722-0413
8	A21	119	B	AOC	150				3722-0400
9	A22	120	B	AOC	150				3721-9023
10	A23	Library	B	AOC	150				3722-0439
11	A24	Kitchen	B	AOC	150				3722-0393
12	A25	Cefetorium	B	AOC	150				3721-9004
13	A26	Speech room	B	AOC	150				3721-9038

Released By:	Robert Curran	Date:	10/25/23	Time:	
Signature:					

LAB USE ONLY – BELOW THIS LINE

Received By: D Bowen

Signature: [signature]

Date: 10,25,23 Time: 406 ☐ AM ☐ PM

☐ Portal Contact Added

3826

EHS Laboratories™

Attach Laboratory Label Here

7469 WHITEPINE RD, RICHMOND, VA 23237 (800)-347-4010

RESULTS VIA CLIENT PORTAL AVAILABLE @ www.leadlab.com

ENVIRONMENTAL HAZARDS SERVICES, LLC

Mold Chain of Custody Form

Company Name	ECS Mid-Atlantic	Account #	
Company Address	2119 North Hamilton Street	City/State/Zip	Richmond/VA/23230
Phone	804-353-6333	Email	rcurran@ecslimited.com
Project / Testing Address	Maymont Preschool, 1211 South Allen Street, Richmond, Virginia		
PO Number	47:14153-G	Collected By	Rob Curran
Collection Date & Time	10/24/23	Outside Air Temp	Indoor Air Temp
Was there any precipitation (rain, sleet or snow) 2 hours of less before taking the samples?	☐ Yes	☑ No	

Turn-Around Time: ◉ 5 Day ○ 3 Day ○ 2 Day ○ 1 Day ○ Same Day / Weekend - Must Call Ahead

SAMPLE TYPE CODES

AIR/ NON VIABLE		SPORE TRAP		SWAB SAMPLE SURFACE	
Bulk	B	Air-O-Cell	AOC	Non Porous	NP
Swab	S	Cyclex-D	C	Semi Porous	SP
Bio-Tape	T	BioSiS	B	Porous	P
Wall Check	W	Micro 5	M5		

LAB NUMBER	Client Sample ID	Collection Location	Sample Type	Air Samples: Spore Trap Type	Air Samples: Air Volume (Total Liter)	Swab Samples: Surface Type (NP/SP)	Swab Samples: Area of Mold (Square Feet)	Qualitative Particulate Analysis Additional $18.00 per sample	Comments
1	A27	Former teachers' lounge	B	AOC	150				3722-0417
2	A28	Main office	B	AOC	150				3722-0407
3	A29	Outdoors, main entrance - C	B	AOC	150				3721-8790
4			B	AOC	150				
5			B	AOC	150				
6			B	AOC	150				
7			B	AOC	150				
8			B	AOC	150				
9			B	AOC	150				
10			B	AOC	150				
11			B	AOC	150				
12			B	AOC	150				
13			B	AOC	150				

Released By:	Robert Curran	Date:	10/25/23	Time:	
Signature:					

LAB USE ONLY – BELOW THIS LINE

Received By: D Powell

Signature: [signature]

Date: 10.25.23 Time: 406 ☐ AM ☐ PM

☐ Portal Contact Added

3826

EHS Laboratories™

Attach Laboratory Label Here

7469 WHITEPINE RD, RICHMOND, VA 23237 (800)-347-4010

RESULTS VIA CLIENT PORTAL AVAILABLE @ www.leadlab.com

Non-Viable Surface/Bulk Analysis Report

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

Telephone: 800.347.4010

Report Number: 23-10-04170

Received Date: 10/27/2023
Analyzed Date: 11/03/2023
Reported Date: 11/03/2023

Client: ECS Mid-Atlantic - Richmond
2119 D North Hamilton St
Richmond, VA 23230

Project/Test Address: Maymont Preschool; 1211 South Allen Street; Richmond, Virginia

Client Number:
200625

Fax Number:
804-353-9478

Laboratory Results

Lab # :	23-10-04170-001	Collection Location:	CMU WALL BOOKSHELF BOOK ROOM
Client Sample ID :	Tape T-1	Date Analyzed:	11/3/2023
Date Collected :	10/16/2023	Analyst:	Felicia Butler

Numerous	Chaetomium spores and hyphal elements
Moderate to Numerous	Penicillium/Aspergillus group spores and hyphal elements
Few	Paecilomyces spores
Occasional	Stachybotrys -like Spores

Note:

Lab # :	23-10-04170-002	Collection Location:	PARTICLE BOARD FASCIA 111
Client Sample ID :	Tape T-2	Date Analyzed:	11/3/2023
Date Collected :	10/16/2023	Analyst:	Felicia Butler

Few	smuts, Periconia, myxomycetes
Few	ascospores
Moderate to Numerous	Cladosporium spores and hyphal elements
Moderate	basidiospores
Occasional to Few	Nigrospora spores
Few	pollen grains*
Occasional	Pithomyces spores

Note:

Quantification Key:
Numerous: Several spores seen in every field
Moderate: At least 1 spore seen in 5 fields
Few: Over 5 spores seen per cover slip, but less than 1 spore seen in 5 fields
Occasional: 1-5 spores seen per a cover slip

Environmental Hazards Services, L.L.C

Client Number: 200625 Report Number: 23-10-04170

Project/Test Address: Maymont Preschool; 1211 South Allen Street; Richmond, Virginia

Sample Narratives:

(Sample 002) M03: Substantial particulate observed. Counts may be underestimated.

Method: Direct Microscopic Exam

Reviewed By Authorized Signatory: Tasha Eaddy

Tasha Eaddy
QA/QC Clerk

ENVIRONMENTAL HAZARDS SERVICES, LLC

Mold Chain of Custody Form

Company Name	ECS Mid-Atlantic	Account #	
Company Address	2119 North Hamilton Street	City/State/Zip	Richmond/VA/23230
Phone	804-353-6333	Email	rcurran@ecslimited.com
Project / Testing Address	Maymont Preschool, 1211 South Allen Street, Richmond, Virginia		
PO Number	47:14153 - G	Collected By	Rob Curran
Collection Date & Time	10/16/2023	Outside Air Temp	Indoor Air Temp
Was there any precipitation (rain, sleet or snow) 2 hours of less before taking the samples?	☐ Yes	☑ No	

Turn-Around Time: ◉ 5 Day ○ 3 Day ○ 2 Day ○ 1 Day ○ Same Day / Weekend - Must Call Ahead

SAMPLE TYPE CODES

AIR/ NON VIABLE		SPORE TRAP		SWAB SAMPLE SURFACE	
Bulk	B	Air-O-Cell	AOC	Non Porous	NP
Swab	S	Cyclex D	C	Semi Porous	SP
Bio-Tape	T	BioSiS	B	Porous	P
Wall Check	W	Micro 5	M5		

LAB NUMBER	Client Sample ID	Collection Location	Sample Type	Air Samples: Spore Trap Type	Air Samples: Air Volume (Total Liter)	Swab Samples: Surface Type (NP/SP)	Swab Samples: Area of Mold (Square Feet)	Qualitative Particulate Analysis Additional $10.00 per sample	Comments
1	T-1	CMU wall, bookshelf, book room	T						Below reported leak
2	T-2	Particle board fascia, 111	T						Above drop ceiling
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									

Released By:	Rob curran	Date:	10/26/2023	Time:	
Signature:	Robert Curran				

LAB USE ONLY – BELOW THIS LINE

Received By: H Humphrey

Signature:

Date: 10,27,23 Time: 12 09 ☐ AM ☒ PM

☐ Portal Contact Added

23-10-04170

Due Date:
11/03/2023
(Friday)
ER

7469 WHITEPINE RD, RICHMOND, VA 23237 (800)-347-4010
RESULTS VIA CLIENT PORTAL AVAILABLE @ www.leadlab.com

Appendix III: Mold and Moisture Photos

1 - Moisture Impacted Plaster Ceiling in the Kitchen

2 - Moisture Meter Indicating the Plaster Ceiling is Dry

3 - Mold Impacted Roof Drain Collar and Mudded Elbow Above the Teacher's Lounge

4 - Moisture Impacted Particle Board Soffit Materials in the Teacher's Lounge

5 - Dust and Dirt Buildup on the Fan Coil Unit in Room 100

6 - Moisture Impacted Particle Board Soffit Material in Room 102

7 - Water Stained Ceiling Tiles in the Teacher's Lounge

8 - Water Stained Ceiling Tiles in Room 100

9 - Moisture Stained Plaster Ceiling in the Office

10 - Elevated Moisture Meter Reading in the Sink Vanity in the Office

11 - Damaged Asbestos Containing Mudded Pipe Fitting Above the Nurse's Office

12 - Dust and Dirt Buildup on the Fan Coil Unit in the Teacher's Lounge

13 - Mold on the Window Mounted A/C Unit in Room 113

14 - Mold on the Window Mounted A/C Unit in Room 111

15 - Moisture Stained Ceiling Tiles in Room 108

16 - Elevated Moisture Meter Reading Indicating Elevated Moisture Beneath the Sheet Flooring in the Room 110 Bathroom

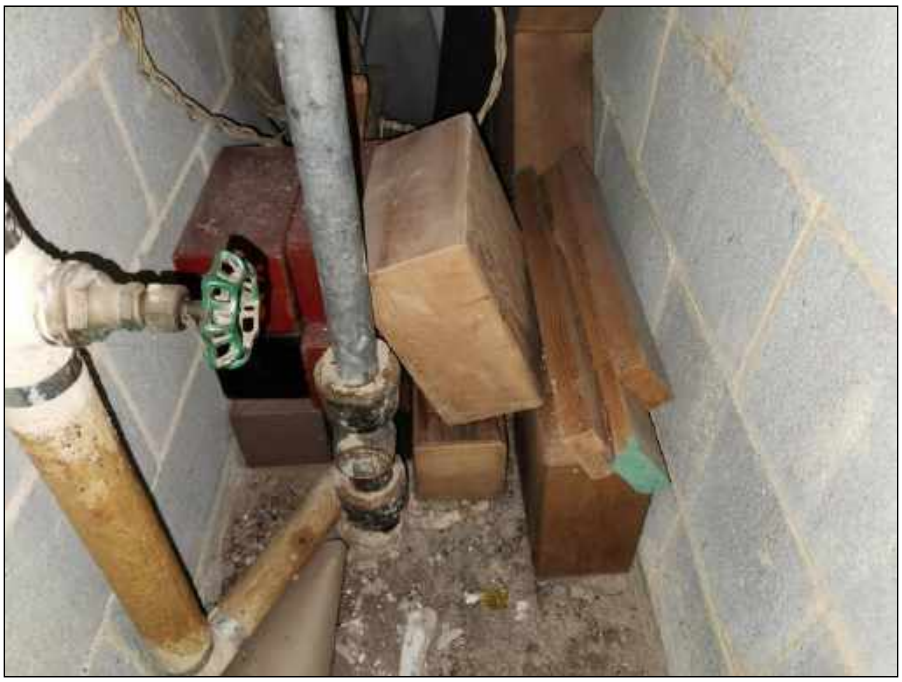
17 - Elevated Moisture Meter Reading Indicating Elevated Moisture Beneath the Sheet Flooring in the Room 105 Bathroom

18 - Mold on the CMU Walls in the Book Room

19 - Moisture Damaged Plaster Ceiling and Mold Impacted Materials in the Book Room

20 - Mold Observed on the Roof Deck in the Auditorium

21 - Mold and moisture impacted pipe insulation and mudded elbows in the bathroom wet wall chase



22 - Mold Impacted Stored Materials in the Wet Wall Chase Behind the Girl's Bathroom

Appendix IV: Mold and Moisture Exterior Envelope Photos

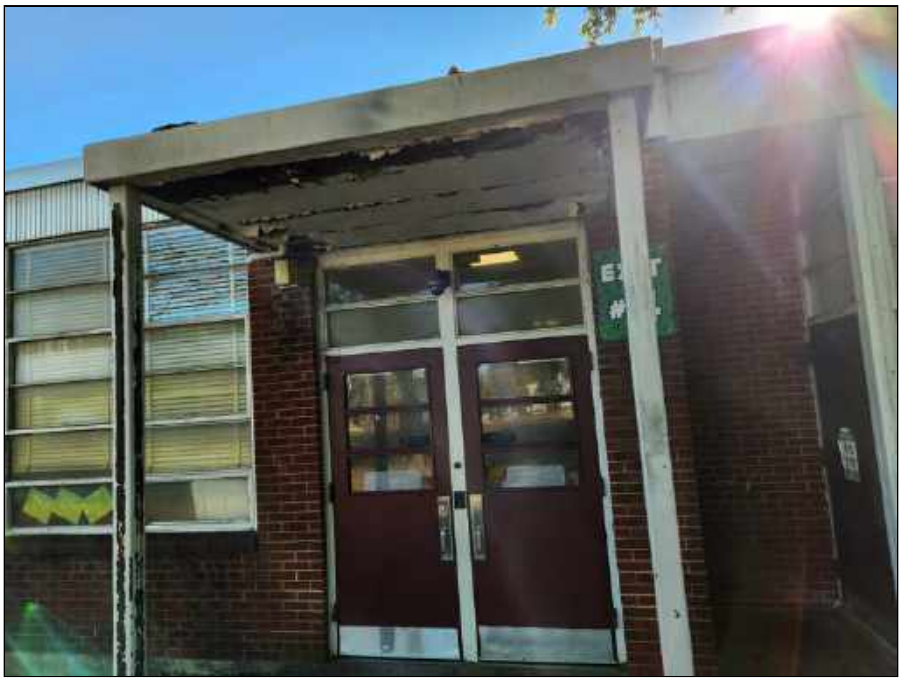
1 - Damaged Window Sash Glazing

2 - Moisture Damaged Exterior Portico on the North Side of the Building

3 - Damaged Window Ledge Sealants

4 - Leaves Blocking a Fan Coil Intake

5 - Exterior Grade at the Level of the Fan Coil Intake



6 - Damaged Exterior Portico on the East Wing of the Building

7 - Evidence of Moisture Intrusion Through the Portico Roof

8 - Moisture Damaged Exterior Portico on the East End of the School

9 - Moisture Damaged Exterior Portico at the Cafeteria

Appendix V: Mold Reference and Guidance Documents

MOLD REFERENCE DOCUMENTS AND GUIDANCE

Standards and Publications

Mold Remediation in Schools and Commercial Buildings, EPA, EPA 402-K-01-001, September 2008

A Brief Guide to Mold in the Workplace, Occupational Safety Health Administration (OSHA), SHIB 03-10-10, updated 11-08-13

ANSI/IICRC S520-2015 Standard and Reference Guide for Professional Mold Remediation, Institute of Inspection, Cleaning, and Restoration Certification, Third Edition

ANSI/IICRC S500-2021 Standard and Reference Guide for Professional Water Damage Restoration, Institute of Inspection, Cleaning, and Restoration Certification, Fifth Edition

Bioaerosols: Assessment and Control, American Conference of Governmental Industrial Hygienists, 1999.

Building Air Quality: A Guide for Building Owners and Facility Managers, National Institute for Occupational Safety and Health (NIOSH) and Environmental Protection Agency (EPA) EPA 402F-91-102, December 1991

Mold Moisture and Your Home, EPA, EPA-402-K-02-003, September 2012

WHO Guidelines for Indoor Air Quality: Dampness and Mould, World Health Organization (WHO), 2009

Guidelines on Assessment and Remediation of Fungi in Indoor Environments, New York City Department of Health and Mental Hygiene, November 2008.

Damp Buildings, Human Health, and HVAC Design, Report of the ASHRAE Multidisciplinary Task Group: Damp Buildings, American Society of Heating, Refrigerating, and Air Conditioning Engineers, 2020

Websites

EPA – Mold Resources, https://www.epa.gov/mold

Centers for Disease Control and Prevention (CDC), https://www.cdc.gov/mold/faqs.htm

Department of Energy and the Environment (DOEE), Mold Assessment and Remediation Licensure Regulations https://doee.dc.gov/service/mold-professional-licensing

Virginia Department of Health, Environmental Health, Public Health Toxicology, Mold https://www.vdh.virginia.gov/environmental-health/public-health-toxicology/mold/