MOLD AND MOISTURE ASSESSMENT REPORT

WOODVILLE ELEMENTARY SCHOOL

2000 N. 28TH STREET
RICHMOND, VIRGINIA 23223

ECS PROJECT NO. 47:14153-C

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
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ECS Project No. 47:14153-C

Reference: Mold and Moisture Assessment, Woodville Elementary School, 2000 N. 28th 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 Woodville Elementary School located at 2000 N. 28th 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

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1.0 PROJECT DESCRIPTION

The building located at 2000 N. 28th Street in Richmond, Virginia is a one-story school building known as Woodville Elementary School. The building contains approximately 76,928 square feet of space and was reportedly originally constructed in 1954.

Based on information provided by Richmond Public Schools Facility Services representatives, ECS understands that building occupants have reported mold and moisture concerns in the building to the Richmond Public Schools Facility Services Department. Richmond Public Schools Facility Services has requested ECS to 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. ECS could not access the mechanical room beneath the library because no one on-site could provide access during the site visits. Additional assessment should be performed in this area to determine if mold or moisture impacted building materials are present. ECS observed two outbuildings behind the main school building. ECS did not assess these structures as part of the assessment as they were not requested to be included by the client.

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.

ECS measured the moisture content in various building materials in multiple locations within the surveyed areas utilizing a Delmhorst brand hand-held moisture probe (Model BD 2100). Based on the Delmhorst moisture meter scales for materials, moisture levels greater than 0.5% are considered elevated for drywall wallboard materials and are considered at risk for mold growth. Levels greater than 15% for wood materials and greater than 85% for plaster surfaces are considered elevated. 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

Below is a summary of the sampling data collected as part of this evaluation.

B Pod

- Water staining and suspect mold was observed on the structural steel beams around the perimeter of rooms B-105 and B-106; The tectum ceiling was water stained in these areas as well;
- Moisture staining was observed on a tectum ceiling opening in the storage area in B-106; Moisture meter readings indicated this area was dry;
- Moisture staining was observed on the floor of the HVAC closet associated with the compressor;
- Moisture and mold impacted pipe insulation was observed on the pipe insulation wrap associated with the water heater in the HVAC closet; Moisture meter readings indicated this area was dry;
- Water and mold impacted ceiling tiles were observed in the exterior exit hallway, apparently caused by a leaking roof penetration above this area; Moisture meter readings indicated this area was dry;
- Moisture and mold impacted ceiling tiles were observed in the connector hallway: Moisture meter readings indicated this area was dry;
- Moisture impacted CMU block wall paint was observed in the connector hallway indicating moisture intrusion through the CMU block; Moisture meter readings indicated this area was dry. Additionally, delaminating vinyl cove baseboard is present at the base of these walls;
- Moisture impacted spray-on fireproofing was observed above the ceiling in the connector hallway; Moisture meter readings indicated this area was dry.

Main Building

- Moisture stained ceiling tiles were observed sporadically in areas throughout the hallways, offices, multi-purpose room, 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 pipe condensation or leaking pipes;
- Moisture damaged plaster ceiling and 1'x1' ceiling tiles were observed in a few sporadic areas in the main hallway;
- Suspect mold was observed in the kitchen on ceiling tiles in front of an HVAC supply and an adjacent wall. This area is to the right when facing the serving line. The areas were inaccessible for moisture or tape lift testing.
- Moisture damage and mold was observed associated with the sink cabinets in many of the classrooms which include; A-7, 102, 106, 107, 108, 109, 110, 114, 119 and 120. In many of the locations the countertops around the sinks exhibited elevated moisture content as well. In room 107 the interior of the sink cabinet was actively wet. The apparent cause of the moisture and mold impact to these cabinets was the PTAC unit condensate drains leaking inside the cabinets and water dripping on the top of the cabinets from normal use of the sinks;
- Moisture damaged plaster ceiling was observed in the main hallway adjacent to the clinic, the main lobby above drop ceiling tiles, at the end of the bathroom plumbing wall chase, rooms 111, 119, 120, and in both rooms in 113 around the ceiling mounted PTAC HVAC units. The apparent cause of the moisture damage in most of these locations was roof leaks. Moisture meter readings collected from most of the areas indicated that the plaster ceilings were dry at the time of the survey; The plaster ceiling in the bathroom wet wall chase was not accessible for moisture testing;
- Tape lift sampling (T1) identified mold on the CMU block walls in the Social Worker's office;
- Heavy dust accumulation and mold was observed within the ceiling mounted PTAC units throughout the classrooms. Tape lift sampling indicated elevated concentrations of mold spores in the unit in room 102;
- Large portions of the piping in the hallway bathroom wet wall chase is un-insulated because the insulation has dropped on the floor; This could lead to condensation forming on the pipes during cooling season creating a wet environment and mold;
- Moisture meter readings collected from around the toilet in the Clinic indicate moisture is trapped beneath the floor tile. This is likely caused by a failing toilet wax ring.

A-Pod

- Moisture staining was observed on tectum ceiling, wood paneling and spray-on fireproofing above the drop-ceiling in the connector hall leading to A-Pod, above the ramped section of floor;
- Moisture stained ceiling tiles were observed sporadically in the A-pod bathrooms; this staining appears caused by leaking or condensation on pipes;
- Moisture staining was observed on structural steel at the ceiling just before the entrance to A-pod;
- Moisture and mold impacted pipe insulation was observed on the pipe insulation wrap associated with the water heater in the HVAC closet; Moisture meter readings indicated this area was dry;

- Moisture staining was observed on the tectum ceiling, and failing cove base was observed in A-2. Elevated moisture was not detected in these areas from moisture meter readings;
- Moisture impacted CMU block wall paint and failing vinyl cove baseboard was observed near the door from the main hallway to the connector hallway, indicating moisture intrusion through the CMU block, elevated moisture was not detected in these areas;
- Moisture damage observed behind the washer and dryer in A-8, moisture meter readings indicated this area was dry and suspect visible mold was not observed.

Exterior Envelope

- The window sash glazing throughout the main school building and pods is failing and could be a source of water intrusion. This material was identified as an asbestos containing material;
- Dark staining was observed in several locations throughout the exterior on the brick walls likely indicating that the roof and gutter systems are not properly containing the storm water (and draining against the buildings). Several of the areas observed are directly impacting finishes inside the school. The main areas where the staining was observed is associated with the pod connector halls;
- The caulk around the perimeter of the exterior air intakes for the wall mounted fan coil units in the classrooms was failing in all areas and could be a source of water intrusion. This material was identified as an asbestos containing material;
- The structural steel roof supports and soffit associated with the A-Pod were significantly deteriorated along the length of many of the beams.
- Some of the exterior exit wood doors in the A-Pod classrooms were significantly damaged and delaminating.

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. Representative exterior samples were collected for comparison. 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	Outside	930
A2	B101	290
A3	B102	150
A4	B103	130
A5	B104	73

Sample Number	Sample Location	Total Fungal Spore Concentration (count/cubic meter)
A6	B105	360
A7	B106	93
A8	B107	240
A9	B108	200
A10	101	110
A11	102	210
A12	103	140
A13	104	93
A14	105	150
A15	106	40
A16	107	950
A17	Media Center	60
A18	108	150
A19	109	390
A20	110	280
A21	Outside	850
A22	111	310
A23	112	170
A24	113	87
A25	Clinic	260
A26	Kitchen	250
A27	Cafeteria	500
A28	Social Worker's Office	1,300
A29	114	340
A30	115	450
A31	116	770
A32	117	410
A33	118	150

Sample Number	Sample Location	Total Fungal Spore Concentration (count/cubic meter)
A34	119	100
A35	120	87
A36	A-1	110
A37	A-2	53
A38	A-3	330
A39	A-4	600
A40	A-5	1,700
A41	A-6	170
A42	A-7	27
A43	A-8	430
A44	Main Office	330
A45	Outside	120

The mold spore trap air samples results indicated that generally, the total indoor spore counts were less than the spore counts of the outdoor samples, with the exception of rooms 107 and the Social Worker's Office. In these two rooms, the total concentration of airborne mold spores was above the total concentration of airborne mold spores identified on the exterior samples. Elevations of certain fungal genera were present on the samples collected in Room 107, the Social Worker's Office across from the main office and Room A-5. The elevation in Room 107 appears to be caused by the wet and mold impacted sink cabinet. Mold on the CMU block walls in the Social Worker's Office may be the cause of the elevation in this area. The elevation in Room A-5 may be caused by mold growth observed on a plant in the room on the teacher's desk (the plant was observed removed on a subsequent visit). Additionally, the mold observed associated with the ceiling mounted PTAC units may be contributing as well.

There are currently no accepted regulatory standards or guidelines with respect to acceptable fungal levels inside buildings. Generally total spore counts and fungal genera detected on spore trap samples collected on the interior should be comparable to and less then outdoor samples. 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 from the surveyed areas. 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:

- 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	CMU Wall Social Worker's Office	Few: *basidiospores*, *Cladosporium spores*, *ascospores* Occasional: *Curvularia spores*, *Pithomyces spores*
T2	Inside Ceiling PTAC HVAC Unit Supply	Moderate: *Cladosporium spores*, *Aurebasidum spores*

The laboratory report indicates that mold spores are present in both locations sampled. Spore trap air sampling results in the Social Worker's office indicated an elevation of *Cladosporium spores* above the concentrations of that fungal genera on outside samples. Tape lift sampling results indicate that *Cladosporium spores* are present associated with the white staining on the walls of the Social Worker's office. Tape lift sampling results identified concentrations of *Cladosporium spores* and *Aurebasidium spores* associated with the inside of the ceiling mounted PTAC HVAC unit in Room 102 that indicate that mold growth may be present. The conditions observed associated with the ceiling mounted PTAC HVAC unit in Room 102 is consistent with the conditions observed with the majority of the ceiling mounted PTAC HVAC units throughout the school.

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 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 (%)
Room 107	Sink Cabinet Interior	Wood	Protimeter, 100 wet
Clinic Bathroom	Floor	Vinyl Tile, Concrete	Protimeter, 91 wet
Room A-7	Inside Sink Cabinet	Wood	Delmhorst, 20.7 elevated
Room 114	Sink Cabinet Countertop	Wood	Delmhorst, 23.9 elevated
Room 119	Sink Cabinet Countertop	Wood	Delmhorst, 38.0, elevated
Room 120	Sink Cabinet Countertop	Wood	Delmhorst, 17.0, elevated

In general, during the assessment most building materials that exhibited moisture staining or suspect mold were determined to be dry in the areas tested. Many of the areas where elevated moisture content was identified in building materials was associated with the classroom sink cabinets. Many of the cabinets exhibited elevated moisture content within the cabinets apparently associated with the PTAC unit condensate drain leaking or the sink plumbing or drain leaking. Additionally the sink cabinet countertops exhibited elevated moisture content apparently from regular use of the sink and dripping over the top of it.

4.1.4 Temperature and 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 the recommended ranges.

Temperature and Relative Humidity

Location	Relative Humidity (%)	Temperature (°F)
Classroom B-101	51.0	70.4
Classroom B-102	52.3	70.3
Classroom B-103	50.9	72.4
Classroom B-104	47.6	72.8
Classroom B-105	47.5	71.7
Classroom B-106	47.0	71.0
Classroom B-107	49.3	70.9
Classroom B-108	49.2	70.6
Pod B Central Area	50.2	71.5
Classroom 101	51.8	70.7
Classroom 102	50.3	70.3
Classroom 103	51.5	69.9
Classroom 104	48.3	68.8
Classroom 105	50.8	69.1
Classroom 106	49.5	69.7
Classroom 107	49.0	69.9
Library/Media Center	46.3	70.2
Classroom 108	50.0	69.5
Classroom 109	49.8	69.2
Classroom 110	49.9	69.4
Classroom 111	49.0	69.5
Classroom 112	48.6	69.1
Classroom 113A	52.8	71.0
Classroom 113B	51.2	70.0
Classroom 114	51.6	70.1
Classroom 115	52.0	69.5

Location	Relative Humidity (%)	Temperature (°F)
Classroom 116	49.6	69.2
Outdoors, Southwest hallway fire exit	46.8	66.0
Classroom A-1	56.8	68.9
Classroom A-2	57.6	69.6
Classroom A-3	59.9	70.0
Classroom A-4	57.0	71.9
Classroom A-5	56.7	71.8
Classroom A-6	55.4	72.4
Classroom A-7	49.8	74.9
Classroom A-8	48.2	74.1
Pod A Central Area	50.9	73.4
Classroom 117	48.5	71.9
Classroom 118	49.3	70.5
Classroom 119	52.0	69.0
Classroom 120	50.9	68.7
Administrative office	52.0	70.2
Cafeteria	47.0	69.5
Kitchen	47.4	68.8
Outdoors, Main Entrance	50.5	63.8

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

General: All impacted building 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.**

Moisture stained and mold impacted structural steel was observed in multiple classrooms around the ceiling perimeter of the A-Pod and B-Pod. ECS recommends cleaning of the impacted areas, scraping of any failing paint and application of an anti-microbial sealant after repairs are completed. Beneath these areas there are bumped out drywall walls. Further investigation should be performed behind these bumped out drywall walls to determine if moisture or mold impacted materials are present and require cleaning or removal.

Inspect the compressor in the B-Pod HVAC room for proper operation and determine what the source of the staining is on the floor and correct it.

Moisture and mold impacted pipe insulation was observed associated with the hot water heater in the A-Pod HVAC closet and an air handler in the B-Pod HVAC closet. ECS recommends removal and replacement of the mold impacted pipe insulation in these areas and inspect other piping in both building pods for signs of leaking and repair if necessary. It is possible similar failures may be present in the main building.

Moisture and mold impacted drop ceiling tiles were observed in various areas throughout the school including classrooms, the multi-purpose room, the kitchen and the Pod classrooms. Additionally, moisture damaged plaster ceiling and 1'x1' ceiling tiles were observed in a few sporadic areas in the main hallway. ECS recommends that all the water and mold impacted plaster ceiling and ceiling tiles be removed and replaced by a qualified mold remediation contractor or trained maintenance staff.

Bubbling moisture impacted CMU block wall paint and de-laminating vinyl cove baseboard was observed in several areas in the B-Pod connector hallway caused by water infiltration through the CMU block and water intrusion from the areas that stormwater is running down the exterior walls. ECS recommends removal of the moisture damaged bubbling paint and vinyl cove baseboard and treating of the impacted areas with an anti-microbial sealant. Dry the CMU block walls as needed and correct water the sources of water intrusion.

The area beneath the sinks in the wood cabinets in each classroom are moisture and mold impacted in most rooms of the school. The most significant impacted sink cabinet was observed in room 107 where moisture meter readings indicate that an active water leak is present and significant mold growth was observed. This likely contributed to an elevation of airborne mold spores in this room detected during the air testing of the school. Another significantly impacted sink cabinet was located in room 102 though an active leak was not identified. One apparent cause of the active leaks/moisture impact to these wood cabinets is the ceiling mounted PTAC HVAC unit condensate drains that are plumbed into the sink drain under the sink cabinets. ECS recommends removal and replacement of the moisture and mold damaged cabinet in room 107 and removal and replacement of the mold and moisture impacted components of the lesser impacted cabinets in other areas of the school by a qualified mold remediation contractor. Based on site observations full removal and replacement should not be needed and the bottom or back of the cabinet may be the only components that need replacement (and inspection, drying, and cleaning of the cavity space underneath).

Additionally, some of the sink cabinets exhibited elevated moisture levels on the countertops around the sinks, apparently from regular use of the sinks by students and teacher's. ECS recommends proper drying of the moisture impacted sink tops and installation of a non-porous material on the countertops around the sinks to prevent moisture from impacting the wood countertops.

ECS recommends cleaning of the walls and application of an anti-microbial sealer in the Social worker's office by a qualified mold remediation contractor.

ECS recommends removal of the moisture damaged plaster ceilings in the identified areas of the building by a qualified mold remediation contractor. In areas where the ceiling cavity above the moisture damaged plaster ceilings are enclosed and not accessible (e.g. Room 111) perform further investigation into these ceiling areas to determine if additional moisture or mold impacted materials are present in the ceiling cavity and remediate as necessary.

ECS recommends complete cleaning of the ceiling mounted fan coil units throughout the school by a qualified mold remediation contractor and inspection by a qualified HVAC engineer or technician. Additionally, ECS recommends a review of the maintenance and service schedule of these fan coil to determine if they are being maintained and operating per the manufacturer's recommended specifications.

ECS recommends removal and replacement of the toilet wax ring in the Clinic bathroom. Additionally, ECS recommends removal of the floor tiles around the toilet to determine the extent of moisture impact and properly dry the concrete slab prio to re-installation of new flooring around the toilet.

ECS recommends proper cleaning of the moisture stained wood panels, tectum ceiling,steel beams and CMU walls above the ceiling in the connector hallways by a qualified mold remediation contractor.

ECS recommends removal of the moisture damaged portion of the plaster wall behind the washing machines in Room A-8 in the A-Pod. Additionally, ECS recommends further investigation in to the wall cavity in this area to determine if moisture or mold impacted materials are present in the wall cavity and if further remediation is warranted.

ECS recommends repair of the window sash glazing throughout the school. This material was identified as an asbestos containing material associated with the Main Building and the A-Pod. Bulk sampling of the window glazing in the B-Pod indicated that the material is not asbestos containing. Additionally, ECS recommends complete removal and replacement of the failing asbestos containing caulking around the perimeter of the wall mounted fan coil intakes throughout the school. This material was identified as an asbestos containing material.

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.

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 de-humidification 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 prior to re-occupancy of the building. Surface sampling may also be performed to assess visible debris or staining remaining in the work areas. Total spore counts and fungal genera found on indoor samples should be generally comparable to, and less then spore counts found on outdoor samples collected.

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.

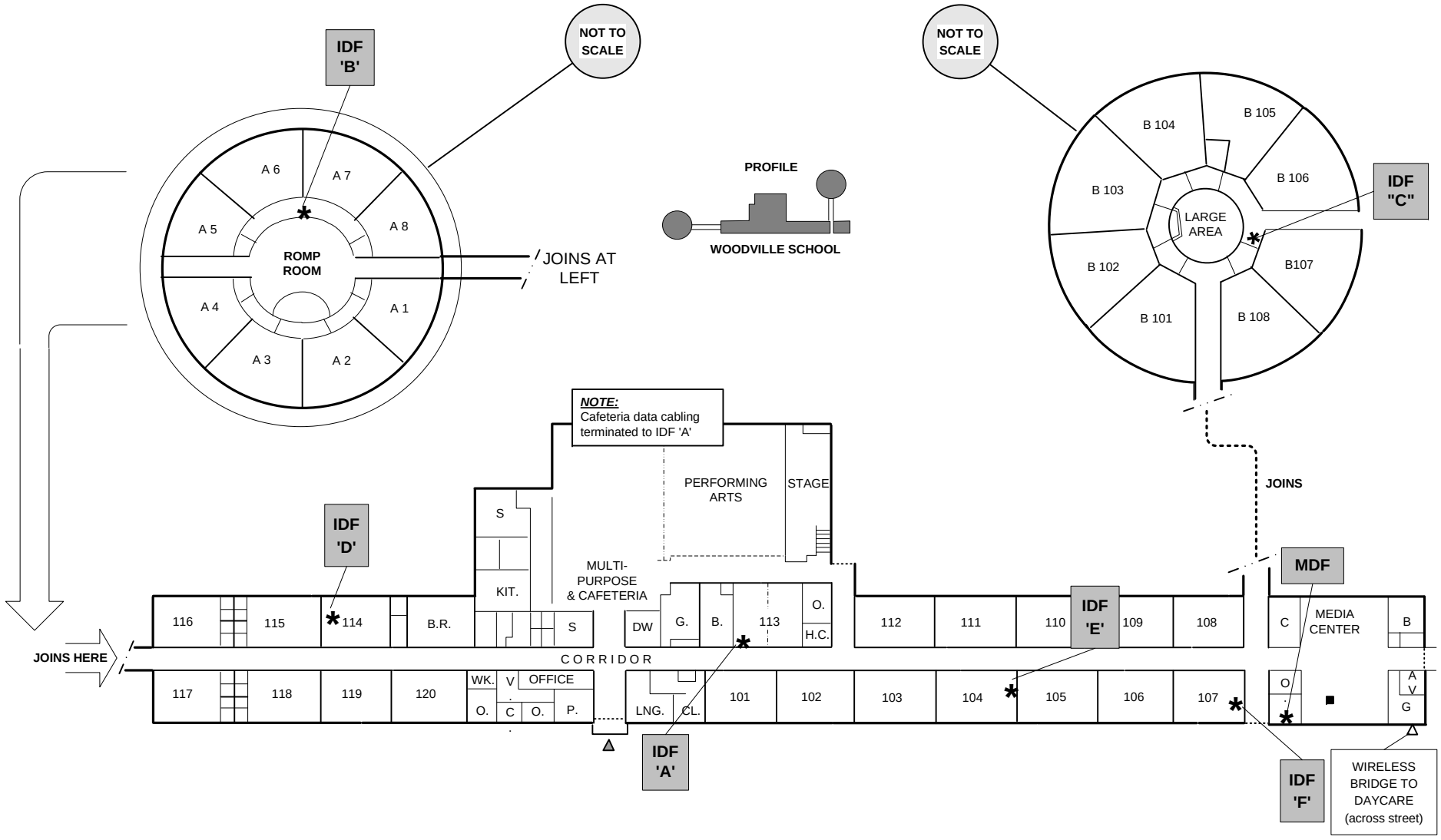
During this study, samples were submitted for analysis at an accredited laboratory via polarized light microscopy. As with any similar survey of this nature, actual conditions exist only at the precise locations from which samples were collected. Certain inferences are based on the results of this sampling 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.

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 AND FLOOR PLAN LAYOUT

WOODVILLE ELEMENTARY



Prepared: Dec. 15, 1997
Updated: August 19, 2008
File Name: WOODVILLE DATA SYS. FLOOR PLAN LAYOUT RE-DRAW 08192008.vsd

Appendix II: Mold Laboratory Reports

Non-Viable Spore Trap Analysis Report

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

Telephone: 800.347.4010

Report Number: 23-10-02770

Received Date: 10/18/2023
Analyzed Date: 10/24/2023, 10/25/2023
Reported Date: 10/25/2023

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

Project/Test Address: Woodville Elementary; 2000 N 28th Street; Richmond, Virginia

Client Number:
200625

Fax Number:
804-353-9478

Laboratory Results

Lab # :	23-10-02770-001		23-10-02770-002		23-10-02770-003		23-10-02770-004		23-10-02770-005	
Client Sample ID :	A1		A2		A3		A4		A5	
Date Collected :	10/17/2023		10/17/2023		10/17/2023		10/17/2023		10/17/2023	
Collection Location :	OUTSIDE		B101		B102		B103		B104	
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	36	240	35	230	13	87	12	80	7	47
Penicillium/Aspergillus group spores	50	330	5	33	10	67	7	47	3	20
Drechslera/Bipolaris group spores	2	13	1	6.7						
Curvularia spores	1	6.7								
Pithomyces spores	1	6.7								
Pestalotia spores	1	6.7								
Trichoderma spores	17	110								
smuts, Periconia, myxomycetes	32	210	2	13			1	6.7	1	6.7
TOTAL SPORES(Spores/m3)		**930**		**290**		**150**		**130**		**73**
Analyst:	Kathy Fletcher		Kathy Fletcher		Kathy Fletcher		Kathy Fletcher		Kathy Fletcher	

Non-Viable Spore Trap Analysis Report

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

Telephone: 800.347.4010

Report Number: 23-10-02770

Received Date: 10/18/2023
Analyzed Date: 10/24/2023, 10/25/2023
Reported Date: 10/25/2023

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

Project/Test Address: Woodville Elementary; 2000 N 28th Street; Richmond, Virginia

Client Number:
200625

Fax Number:
804-353-9478

Laboratory Results

Lab # :	23-10-02770-006		23-10-02770-007		23-10-02770-008		23-10-02770-009		23-10-02770-010	
Client Sample ID :	A6		A7		A8		A9		A10	
Date Collected :	10/17/2023		10/17/2023		10/17/2023		10/17/2023		10/17/2023	
Collection Location :	B105		B106		B107		B108		101	
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	41	270	8	53	23	150	21	140	6	40
Penicillium/Aspergillus group spores	4	27	5	33	8	53	7	47	7	47
Drechslera/Bipolaris group spores	1	6.7								
Pithomyces spores	1	6.7								
Epicoccum spores					1	6.7				
smuts, Periconia, myxomycetes	7	47	1	6.7	4	27	2	13	3	20
TOTAL SPORES(Spores/m3)		**360**		**93**		**240**		**200**		**110**
Analyst:	Kathy Fletcher		Kathy Fletcher		Kathy Fletcher		Kathy Fletcher		Kathy Fletcher	

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: 23-10-02770

Received Date: 10/18/2023
Analyzed Date: 10/24/2023, 10/25/2023
Reported Date: 10/25/2023

Project/Test Address: Woodville Elementary; 2000 N 28th Street; Richmond, Virginia

Client Number:
200625

Fax Number:
804-353-9478

Laboratory Results

Lab # :	23-10-02770-011		23-10-02770-012		23-10-02770-013		23-10-02770-014		23-10-02770-015	
Client Sample ID :	A11		A12		A13		A14		A15	
Date Collected :	10/17/2023		10/17/2023		10/17/2023		10/17/2023		10/17/2023	
Collection Location :	102		103		104		105		106	
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	12	80	14	93	10	67	13	87	3	20
Penicillium/Aspergillus group spores	8	53	2	13	2	13	6	40	3	20
Epicoccum spores	1	6.7								
smuts, Periconia, myxomycetes	11	73	5	33	2	13	4	27		
TOTAL SPORES(Spores/m3)		**210**		**140**		**93**		**150**		**40**
Analyst:	Kathy Fletcher		Kathy Fletcher		Kathy Fletcher		Kathy Fletcher		Kathy Fletcher	

Non-Viable Spore Trap Analysis Report

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

Telephone: 800.347.4010

Report Number: 23-10-02770

Received Date: 10/18/2023
Analyzed Date: 10/24/2023, 10/25/2023
Reported Date: 10/25/2023

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

Project/Test Address: Woodville Elementary; 2000 N 28th Street; Richmond, Virginia

Client Number:
200625

Fax Number:
804-353-9478

Laboratory Results

Lab # :	23-10-02770-016		23-10-02770-017		23-10-02770-018		23-10-02770-019		23-10-02770-020	
Client Sample ID :	A16		A17		A18		A19		A20	
Date Collected :	10/17/2023		10/17/2023		10/17/2023		10/17/2023		10/17/2023	
Collection Location :	107		MEDIA CENTER		108		109		110	
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	18	120	6	40	8	53	52	350	26	170
Penicillium/Aspergillus group spores	123	820	1	6.7	5	33	5	33	13	87
Epicoccum spores					1	6.7				
smuts, Periconia, myxomycetes	2	13	2	13	8	53	2	13	2	13
Bispora spores									1	6.7
TOTAL SPORES(Spores/m3)		**950**		**60**		**150**		**390**		**280**
Analyst:	Kathy Fletcher		Kathy Fletcher		Kathy Fletcher		Kathy Fletcher		Kathy Fletcher	

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: 23-10-02770

Received Date: 10/18/2023
Analyzed Date: 10/24/2023, 10/25/2023
Reported Date: 10/25/2023

Project/Test Address: Woodville Elementary; 2000 N 28th Street; Richmond, Virginia

Client Number:
200625

Fax Number:
804-353-9478

Laboratory Results

Lab # :	23-10-02770-021		23-10-02770-022		23-10-02770-023		23-10-02770-024		23-10-02770-025	
Client Sample ID :	A21		A22		A23		A24		A25	
Date Collected :	10/17/2023		10/17/2023		10/17/2023		10/17/2023		10/17/2023	
Collection Location :	OUTSIDE		111		112		113		CLINIC	
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	72	480	25	170	20	130	5	33	32	210
Penicillium/Aspergillus group spores	24	160	12	80	2	13	2	13	4	27
Alternaria spores	2	13								
Aureobasidium spores			1	6.7						
Drechslera/Bipolaris group spores							2	13		
Curvularia spores					1	6.7				
Chaetomium spores			2	13						
Pithomyces spores	3	20								
Epicoccum spores	2	13								
Pestalotia spores									2	13
Nigrospora spores	1	6.7								
Fusarium spores	2	13								
smuts, Periconia, myxomycetes	22	150	7	47	3	20	4	27	1	6.7
TOTAL SPORES(Spores/m3)		**850**		**310**		**170**		**87**		**260**
Analyst:	Kathy Fletcher		Kathy Fletcher		Kathy Fletcher		Kathy Fletcher		Kathy Fletcher	

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: 23-10-02770

Received Date: 10/18/2023
Analyzed Date: 10/24/2023, 10/25/2023
Reported Date: 10/25/2023

Project/Test Address: Woodville Elementary; 2000 N 28th Street; Richmond, Virginia

Client Number:
200625

Fax Number:
804-353-9478

Laboratory Results

Lab # :	23-10-02770-026									
Client Sample ID :	A26									
Date Collected :	10/17/2023									
Collection Location :	KITCHEN									
Sampling Media :	Air-O-Cell									
Analytical Sensitivity (spores/m3) :	6.7									
Volume (L) :	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	31	210								
Penicillium/Aspergillus group spores	4	27								
smuts, Periconia, myxomycetes	3	20								
TOTAL SPORES(Spores/m3)		**250**								

Analyst: Kathy Fletcher

Sample Narratives:

(Sample 016) M02: Large amounts of particulate observed.

Environmental Hazards Services, L.L.C

Client Number: 200625 **Report Number:** 23-10-02770

Project/Test Address: Woodville Elementary; 2000 N 28th Street; Richmond, Virginia

Method: Non-Culturable Spore Trap Examination

Reviewed By Authorized Signatory: 

Tasha Eaddy
QA/QC Clerk

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

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	Woodville Elementary/2000 N. 28th Street, Richmond, Virginia		
PO Number	47:14153-C	Collected By	Rob Curran
Collection Date & Time	10/17/23	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	Outside	B	AOC	150				3721 9151
2	A2	B101	B	AOC	150				3689 8000
3	A3	B102	B	AOC	150				3721 8934
4	A4	B103	B	AOC	150				3721 9196
5	A5	B104	B	AOC	150				3721 9152
6	A6	B105	B	AOC	150				3689 7947
7	A7	B106	B	AOC	150				3689 7927
8	A8	B107	B	AOC	150				3721 8817
9	A9	B108	B	AOC	150				3721 8885
10	A10	101	B	AOC	150				3721 8897
11	A11	102	B	AOC	150				3721 8840
12	A12	103	B	AOC	150				3721 8908
13	A13	104	B	AOC	150				3721 8992

Released By:	Robert Curran	Date:	10/18/23	Time:	3:02 pm
Signature:					

LAB USE ONLY – BELOW THIS LINE

Received By: D Bowen

Signature:

Date: 10.18.23 Time: 3:16 ☐ AM ☑ PM

☐ Portal Contact Added

23-10-02770

Due Date:
10/25/2023
(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	Woodville Elementary/2000 N. 28th St, Richmond, Virginia		
PO Number	47:14153-C	Collected By	Rob Curran
Collection Date & Time	10/17/23	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	105	B	AOC	150				3722 4666
2	A15	106	B	AOC	150				3721 8938
3	A16	107	B	AOC	150				3722 4665
4	A17	Media Center	B	AOC	150				3721 8972
5	A18	108	B	AOC	150				3721 9013
6	A19	109	B	AOC	150				3721 8963
7	A20	110	B	AOC	150				3721 8976
8	A21	Outside	B	AOC	150				3721 8928
9	A22	111	B	AOC	150				3721 8930
10	A23	112	B	AOC	150				3721 9010
11	A24	113	B	AOC	150				3721 8913
12	A25	Clinic	B	AOC	150				3721 9001
13	A26	Kitchen	B	AOC	150				3721 8911

Released By:	Robert Curran	Date:	10/18/23	Time:	
Signature:	Robert Curran				

LAB USE ONLY – BELOW THIS LINE

Received By: D Bowen

Signature: [signature]

Date: 10/18/23 Time: 3:16 ☐ AM ☑ PM

☐ Portal Contact Added

2770

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 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: 23-10-02771

Received Date: 10/18/2023
Analyzed Date: 10/25/2023
Reported Date: 10/25/2023

Project/Test Address: Woodville Elementary; 2000 N 28th St.; Richmond, VA

Client Number:
200625

Fax Number:
804-353-9478

Laboratory Results

Lab # :	23-10-02771-001		23-10-02771-002		23-10-02771-003		23-10-02771-004		23-10-02771-005	
Client Sample ID :	A27		A28		A29		A30		A31	
Date Collected :	10/17/2023		10/17/2023		10/17/2023		10/17/2023		10/17/2023	
Collection Location :	CAFETERIA MPR		SOCIAL WORKERS OFFICE		114		115		116	
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	43	290	142	950	34	230	39	260	86	570
Penicillium/Aspergillus group spores	32	210	45	300	14	93	14	93	26	170
Alternaria spores					1	6.7				
Drechslera/Bipolaris group spores					1	6.7	1	6.7		
Curvularia spores							2	13	1	6.7
Stachybotrys spores			1	6.7			1	6.7		
Chaetomium spores									1	6.7
Pithomyces spores							2	13		
Epicoccum spores			1	6.7			1	6.7		
Nigrospora spores									1	6.7
smuts, Periconia, myxomycetes					1	6.7	7	47	1	6.7
TOTAL SPORES(Spores/m3)		**500**		**1300**		**340**		**450**		**770**
Analyst:	Kitana Usher		Kitana Usher		Kitana Usher		Kitana Usher		Kitana Usher	

Non-Viable Spore Trap Analysis Report

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

Telephone: 800.347.4010

Report Number: 23-10-02771

Received Date: 10/18/2023
Analyzed Date: 10/25/2023
Reported Date: 10/25/2023

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

Project/Test Address: Woodville Elementary; 2000 N 28th St.; Richmond, VA

Client Number:
200625

Fax Number:
804-353-9478

Laboratory Results

Lab # :	23-10-02771-006		23-10-02771-007		23-10-02771-008		23-10-02771-009		23-10-02771-010	
Client Sample ID :	A32		A33		A34		A35		A36	
Date Collected :	10/17/2023		10/17/2023		10/17/2023		10/17/2023		10/17/2023	
Collection Location :	117		118		119		120		A-1	
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	39	260	15	100	7	47	4	27	9	60
Penicillium/Aspergillus group spores	18	120	5	33	5	33	6	40	8	53
Aureobasidium spores	1	6.7								
Stachybotrys spores			1	6.7						
Pithomyces spores	1	6.7			1	6.7				
Epicoccum spores			1	6.7						
smuts, Periconia, myxomycetes	2	13			2	13	3	20		
TOTAL SPORES(Spores/m3)		**410**		**150**		**100**		**87**		**110**
Analyst:	Kitana Usher		Kitana Usher		Kitana Usher		Kitana Usher		Kitana Usher	

Non-Viable Spore Trap Analysis Report

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

Telephone: 800.347.4010

Report Number: 23-10-02771

Received Date: 10/18/2023
Analyzed Date: 10/25/2023
Reported Date: 10/25/2023

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

Project/Test Address: Woodville Elementary; 2000 N 28th St.; Richmond, VA

Client Number:
200625

Fax Number:
804-353-9478

Laboratory Results

Lab # :	23-10-02771-011		23-10-02771-012		23-10-02771-013		23-10-02771-014		23-10-02771-015	
Client Sample ID :	A37		A38		A39		A40		A41	
Date Collected :	10/17/2023		10/17/2023		10/17/2023		10/17/2023		10/17/2023	
Collection Location :	A-2		A-3		A-4		A-5		A-6	
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	5	33	34	230	36	240	145	970	15	100
Penicillium/Aspergillus group spores	1	6.7	7	47	8	53	55	370	7	47
Alternaria spores							4	27	1	6.7
Aureobasidium spores	1	6.7	1	6.7	3	20				
Drechslera/Bipolaris group spores			1	6.7	3	20	2	13		
Curvularia spores					6	40				
Pithomyces spores					6	40			1	6.7
Epicoccum spores			2	13	3	20	2	13		
Cercospora spores							2	13		
Nigrospora spores							1	6.7		
smuts, Periconia, myxomycetes	1	6.7	5	33	25	170	38	250	1	6.7
TOTAL SPORES(Spores/m3)		**53**		**330**		**600**		**1700**		**170**
Analyst:	Kitana Usher		Kitana Usher		Kitana Usher		Kitana Usher		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: 23-10-02771

Received Date: 10/18/2023
Analyzed Date: 10/25/2023
Reported Date: 10/25/2023

Project/Test Address: Woodville Elementary; 2000 N 28th St.; Richmond, VA

Client Number:
200625

Fax Number:
804-353-9478

Laboratory Results

Lab # :	23-10-02771-016		23-10-02771-017		23-10-02771-018		23-10-02771-019			
Client Sample ID :	A42		A43		A44		A45			
Date Collected :	10/17/2023		10/17/2023		10/17/2023		10/17/2023			
Collection Location :	A-7		A-8		MAIN OFFICE		OUTSIDE			
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	3	20	38	250	16	110	1	6.7		
Penicillium/Aspergillus group spores	1	6.7	23	150	14	93	1	6.7		
Aureobasidium spores			1	6.7			1	6.7		
Drechslera/Bipolaris group spores					1	6.7	2	13		
Curvularia spores					1	6.7				
Torula spores					2	13				
Pithomyces spores					1	6.7				
Epicoccum spores					2	13				
Fusarium spores					1	6.7				
smuts, Periconia, myxomycetes			3	20	10	67	13	87		
Bispora spores					1	6.7				
TOTAL SPORES(Spores/m3)		**27**		**430**		**330**		**120**		
Analyst:	Kitana Usher		Kitana Usher		Kitana Usher		Kitana Usher			

Environmental Hazards Services, L.L.C

Client Number: 200625 **Report Number:** 23-10-02771

Project/Test Address: Woodville Elementary; 2000 N 28th St.; Richmond, VA

Sample Narratives:

(Sample 013)	M02:	Large amounts of particulate observed.
(Sample 014)	M02:	Large amounts of particulate observed.

Method: Non-Culturable Spore Trap Examination

Reviewed By Authorized Signatory: Felicia Butler

Felicia Butler
Microbiology Lab Technical Manager

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

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	Woodville Elementary/2000 N. 28th St, Richmond, Virginia		
PO Number	47:14153-C	Collected By	Rob Curran
Collection Date & Time	10/17/23	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	A27	Cafeteria/MPR	B	AOC	150				3721 8973
2	A28	Social Worker's Office	B	AOC	150				3721 8978
3	A29	114	B	AOC	150				3721 8912
4	A30	115	B	AOC	150				3721 8925
5	A31	116	B	AOC	150				3721 8971
6	A32	117	B	AOC	150				3721 8915
7	A33	118	B	AOC	150				3721 8929
8	A34	119	B	AOC	150				3722 4661
9	A35	120	B	AOC	150				3721 8907
10	A36	A-1	B	AOC	150				3721 8983
11	A37	A-2	B	AOC	150				3721 9024
12	A38	A-3	B	AOC	150				3721 8921
13	A39	A-4	B	AOC	150				3721 8923

Released By:	Robert Curran	Date:	10/18/23	Time:	
Signature:	Robert Curran				

LAB USE ONLY – BELOW THIS LINE

Received By: J Humphrey

Signature: J Humphrey

Date: 10, 18, 23 Time: 3 14 ☐ AM ☒ PM

☐ Portal Contact Added

23-10-02771

Due Date:
10/25/2023
(Wednesday)
ER

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

RESULTS VIA CLIENT PORTAL AVAILABLE @ www.leadlab.com

2771

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	Woodville Elementary/2000 N. 28th St, Richmond, Virginia		
PO Number	47:14153-C	Collected By	Rob Curran
Collection Date & Time	10/17/23	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		Swab Samples		Qualitative Particulate Analysis Additional $10.00 per sample	Comments
				Spore Trap Type	Air Volume (Total Liter)	Surface Type (NP/SP)	Area of Mold (Square Feet)		
1	A40	A-5	B	AOC	150				3721 8890
2	A41	A-6	B	AOC	150				3721 9014
3	A42	A-7	B	AOC	150				3721 8922
4	A43	A-8	B	AOC	150				3721 8899
5	A44	Main Office	B	AOC	150				3721 8968
6	A45	Outside	B	AOC	150				3721 8990
7									
8									
9									
10									
11									
12									
13									

Released By:	Robert Curran	Date:	10/18/23	Time:	
Signature:	Robert Curran				

LAB USE ONLY – BELOW THIS LINE

Received By: HHumphrey

Signature: H

Date: 10 , 18 , 23 Time: 3 : 14 ☐ AM ☑ PM

☐ Portal Contact Added

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

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

Report Number: 23-10-04566

Received Date: 10/30/2023
Analyzed Date: 11/06/2023
Reported Date: 11/06/2023

Project/Test Address: Woodville Elementary; 2000 N 28th St; Richmond, Virginia

Client Number:
200625

Laboratory Results

Fax Number:
804-353-9478

Lab # :	23-10-04566-001	**Collection Location:**	CMU WALL SOCIAL WORKER OFFICE
Client Sample ID :	Tape T1	**Date Analyzed:**	11/6/2023
Date Collected :	10/27/2023	**Analyst:**	Kitana Usher

Few	basidiospores
Few	Cladosporium spores
Few	ascospores
Occasional	Curvularia spores
Occasional	Pithomyces spores

Note:

Lab # :	23-10-04566-002	**Collection Location:**	INSIDE PTAC UNIT SUPPLY
Client Sample ID :	Tape T2	**Date Analyzed:**	11/6/2023
Date Collected :	10/27/2023	**Analyst:**	Kitana Usher

Moderate	Cladosporium spores and hyphal elements
Moderate	Aureobasidium spores and hyphal elements

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:** 23-10-04566

Project/Test Address: Woodville Elementary; 2000 N 28th St; Richmond, Virginia

Method: Direct Microscopic Exam

Reviewed By Authorized Signatory: Melissa Kanode

Melissa Kanode
QA/QC Clerk

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

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	Woodville Elementary/2000 N. 28th St, Richmond, Virginia		
PO Number	47:14153-C	Collected By	Rob Curran
Collection Date & Time	10-27-23	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	ACC	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	T1	CMU Wall, Social Worker Office	T						White Staining
2	T2	Inside PTAC Unit Supply	T						Room 102
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									

Released By:	Robert Curran	Date:	10-30-23	Time:	
Signature:	Robert Curran				

LAB USE ONLY – BELOW THIS LINE

Received By: _____

Signature: _____

Date: 10/30/23 Time: 8:17 ☐ AM ☒ PM

☐ Portal Contact Added

23-10-04566

Due Date:
11/06/2023
(Monday)
ER

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

RESULTS VIA CLIENT PORTAL AVAILABLE @ www.leadlab.com

Appendix III: Mold and Moisture Photos B-Pod

1 - Evidence of water intrusion and suspect mold on structural steel in B-105

2 - Moisture stained tectum ceiling in B-106 Storage Room

3 - Evidence of water intrusion on structural steel in B-106

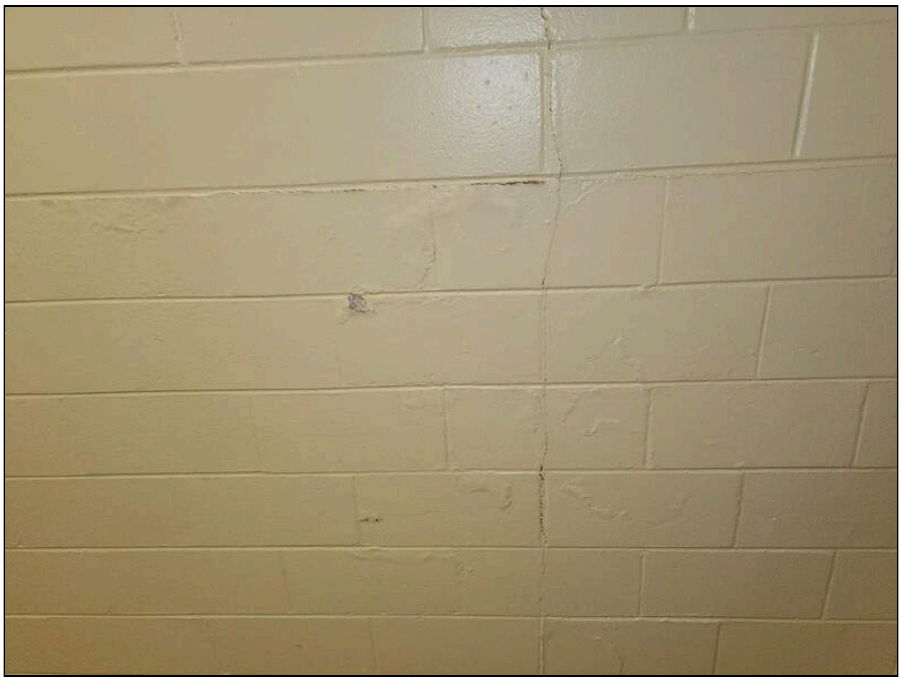
4 - Moisture staining and suspect mold on the back of a ceiling tile in the exterior exit hallway

5 - Moisture stained ceiling tiles in the connector hall

6 - Staining on floor associated with the compressor in the HVAC room

7 - Mold impacted pipe insulation in the HVAC Room

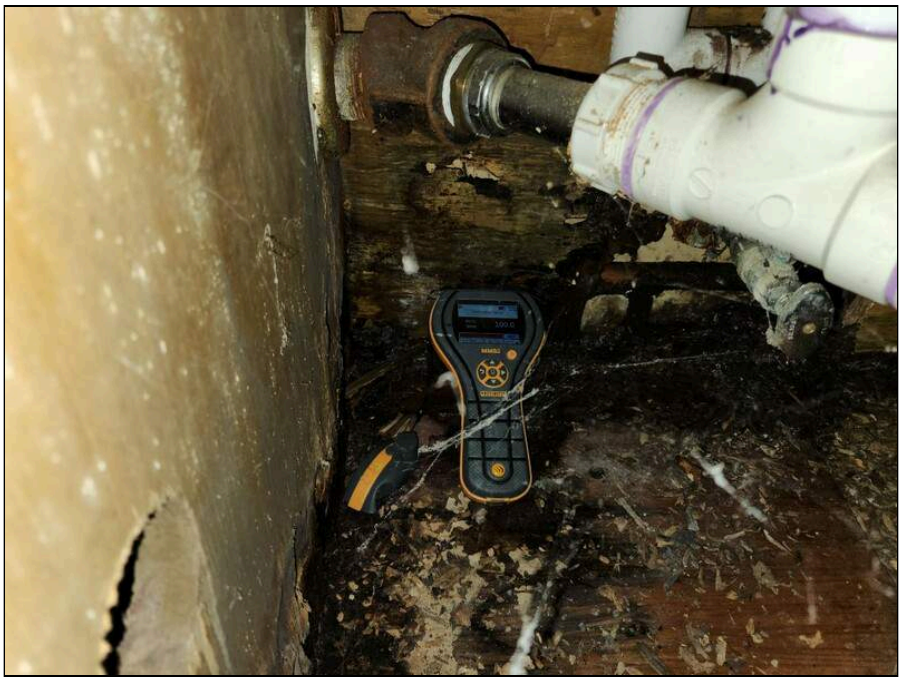
8 - Evidence of water intrusion of the CMU block wall above the ceiling in the connector hall



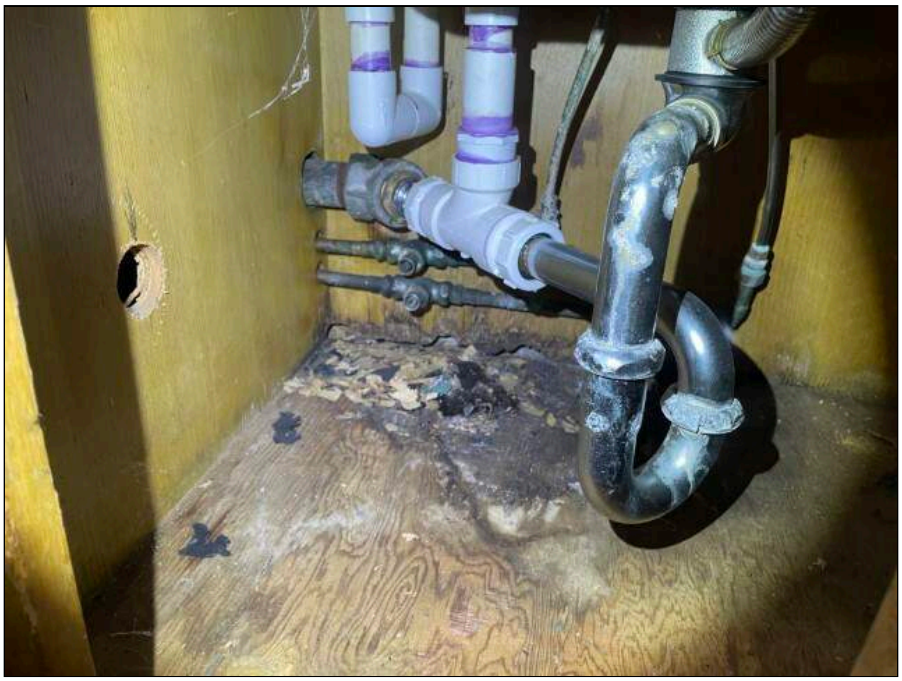
9 - Bubbling CMU block wall paint in the connector hall

10 - Delaminating vinyl cove baseboard in the connector hallway

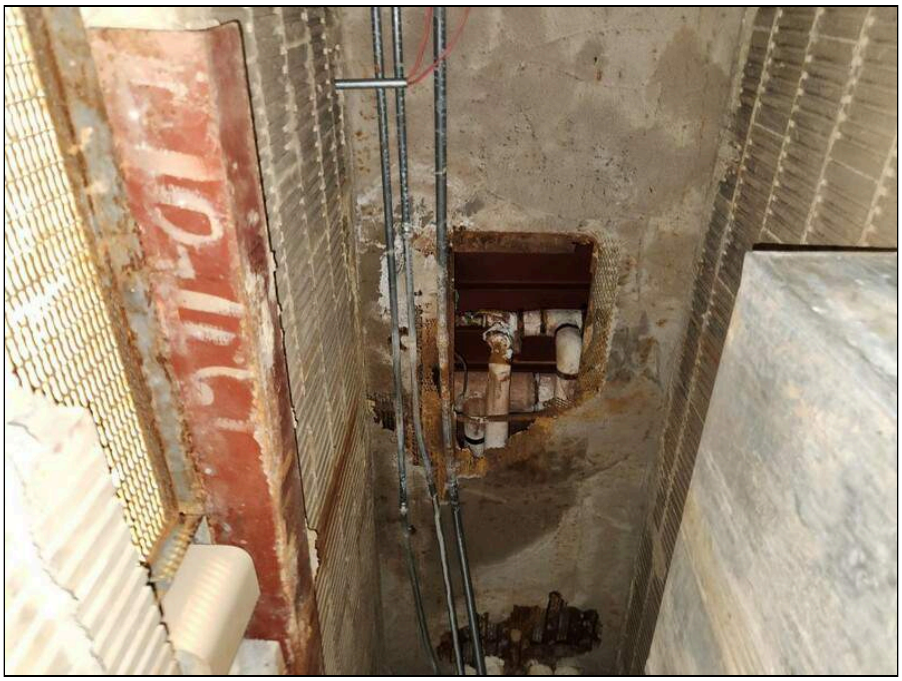
Appendix IV: Mold and Moisture Photos Main Building



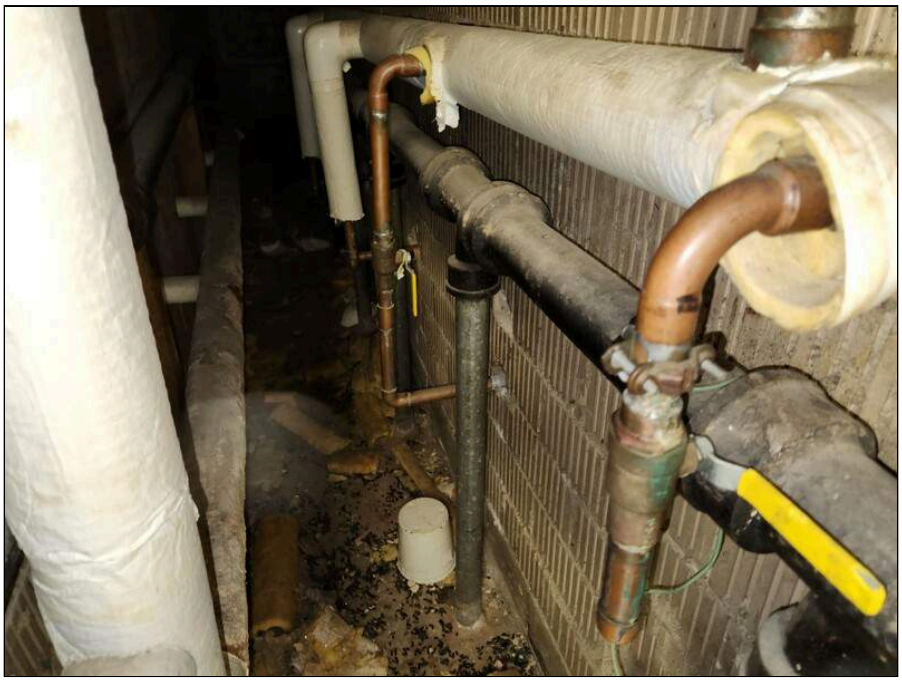
1 - Mold and evidence of an active water leak in the sink cabinet in Room 107



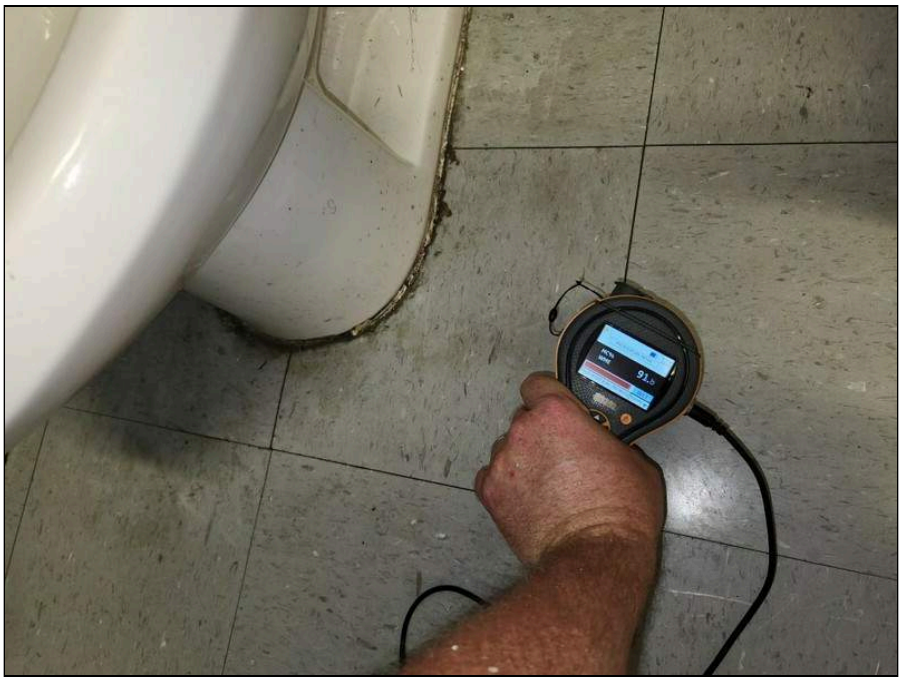
2 - Mold and moisture damaged sink cabinet in Room 109



3 - Moisture damaged plaster ceiling within the hall bathroom - wet wall chase



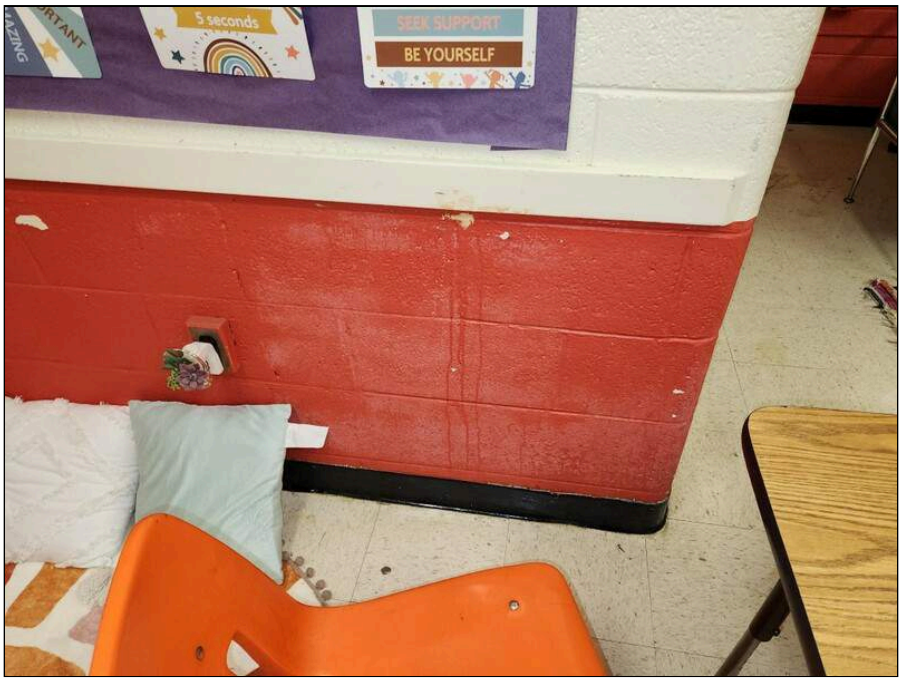
4 - Failing pipe insulation in the hall bathroom wet wall chase



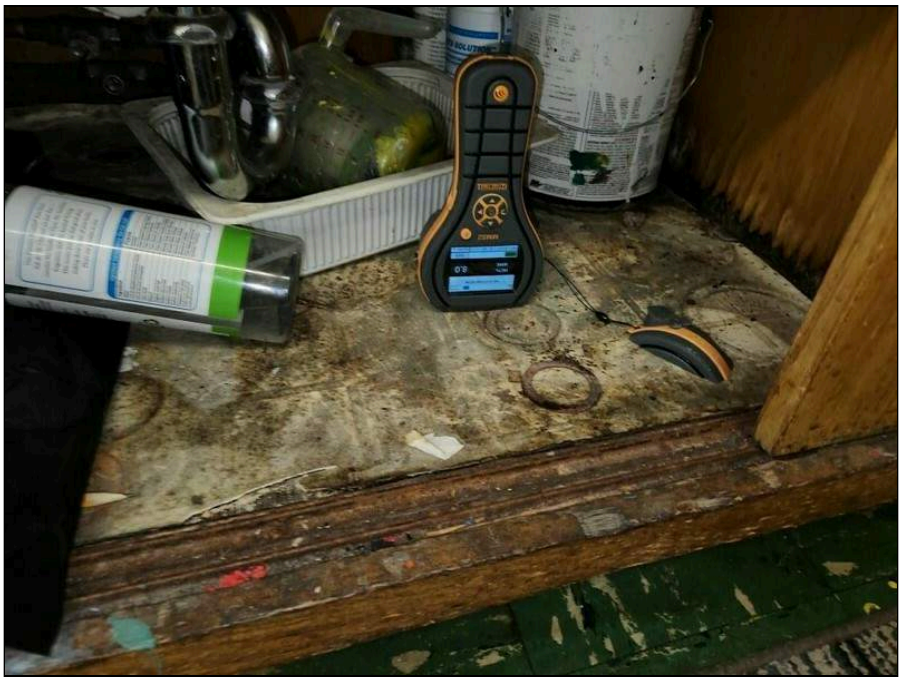
5 - Elevated moisture associated with the flooring around the toilet in the Clinic

6 - Delaminating 1'x1' ceiling tiles above the main hallway

7 - Mold staining on the walls of the Social Worker's office, tape lift sample location T1



8 - Mold staining on the walls of the Social Worker's office

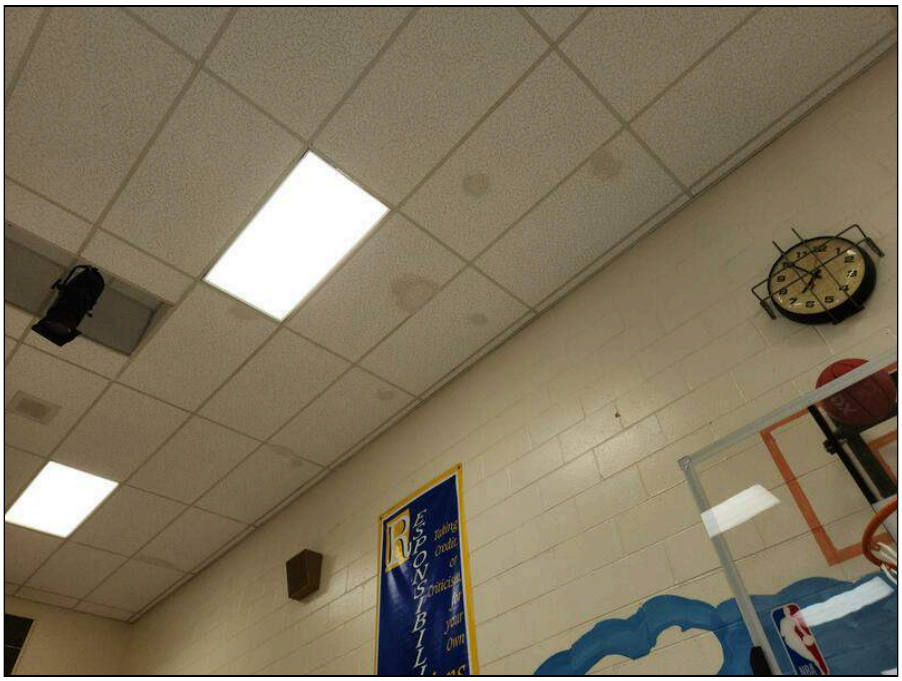


9 - Mold impacted sink cabinet in Room 102

10 - Moisture damaged plaster ceiling in the main hallway

11 - Elevated moisture meter reading on the top of the sink in Room 119

12 - Mold observed within the PTAC unit in Room 116

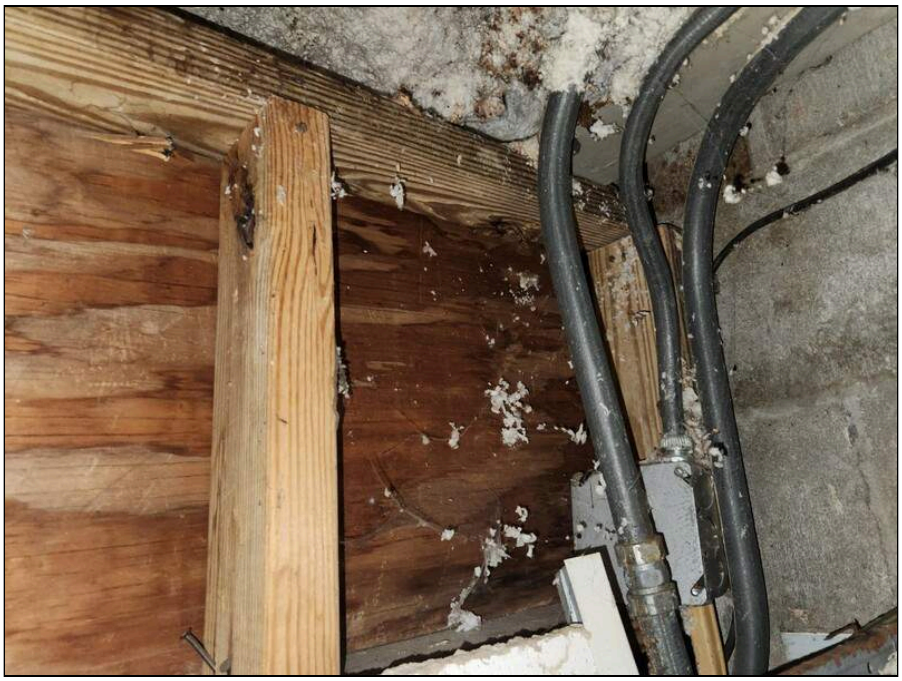


13 - Moisture stained ceiling tiles in the multi-purpose room

14 - Moisture and Mold impacted plaster ceiling and mold impacted ceiling PTAC unit in Room 113

15 - Mold impacted ceiling tiles in the kitchen adjacent to an HVAC supply

Appendix V: Mold and Moisture Photos A-Pod



1 - Moisture impacted wood paneling above the ceiling in the A-Pod connector Hall

2 - Moisture impacted tectum ceiling and steel beam above the ceilig in the A-Pod connector Hall

3 - Mold observed on a plant on the teacher's desk in Room A-5

4 - Moisture and mold impacted sink cabinet in Room A-5

5 - Moisture damaged plaster wall behind the washing machines in Room A-8

Appendix VI: Exterior Envelope Pictures

1 - Damaged roof support beam and soffit at B-Pod

2 - Staining on the exterior brick outside the B-Pod connector hall

3 - Staining on the exterior brick outside Room 109

4 - Failing window sash glazing on the main building

5 - Failing window sash glazing on the A-Pod

6 - Staining on the exterior brick outside the A-Pod connector

7 - Staining on the exterior brick outside the A-Pod connector

8 - Staining on the exterior brick outside room 102

Appendix VII: 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/