Submitted To: **November 18, 2024**
Client Name

Regarding:
Mold Inspection Findings
1234 Fake Street
Nowhereville, PA 17000

SECTION 1: BACKGROUND & INSPECTION FINDINGS SUMMARY

1. The subject property is a free-standing, two story, private dwelling with an unfinished basement.

2. Mastertech Environmental conducted a mold assessment of the building on November 12, 2024. This assessment was limited to the areas of concern and consisted of interior visual inspections, moisture mapping in areas of potential concern, and the collection of environmental samples which were subject to laboratory analysis.

MASTERTECH ENVIRONMENTAL
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Areas of Concern:
Basement & Main Level

Significant Findings Included:

- Fungal growth was observed on stored building materials on the basement floor.
- Fungal growth was observed on basement floor joists and sub flooring (confirmed through sampling)
- Indoor airborne mold spore counts in the basement were significantly elevated.
- Heavy, musty odor was present throughout the main level and basement.
- Elevated moisture content was detected in all basement foundation walls.
- Visible dirt and debris was observed on interior of basement HVAC ducts.

SECTION 2: ENVIRONMENTAL SAMPLING

Currently there is no standardized sampling technique and analytical method to adequately identify and quantify the wide variety of microorganisms that occur in our biologically diverse environment. A variety of specific approaches are used to retrieve, enumerate and identify each kind of microorganism from air, surfaces, and various building materials suspected of contamination.

Surface Sampling:
Surface samples, collected with a cello-tape (tape-lift samples), and/or with sterile swabs (swab samples); bulk material samples, can be analyzed by direct microscopic examination. Such samples are chosen for the rapid collection and

qualitative and semi-quantitative analysis for fungal spores and related structures. Direct microscopic examination identifies molds to the genus level and gives a semi-quantitative evaluation of their concentrations, i.e., no fungal spores seen, occasional, few, moderate or numerous spores or related fungal elements.

Air Sampling:
Airborne mold samples were collected through the use of Zefon and Sporecyte Bio Pump Fungal Air Samplers. This sampling technique is designed for short-term sampling via a sampling orifice which collects air at fifteen (15) liters per minute (LPM) onto a slide coated with mixed cellulose ester (MCE) adhesive. The slides are then examined under a microscope by an Accredited Environmental Microbiology Laboratory. This method measures all mold spores and fragments, not only the portion of mold that will grow in culture, under laboratory conditions. This provides useful information in the overall assessment of the air quality in the tested environment.

LABORATORY ANALYSIS

Mold Sample analysis was conducted by:
Hayes Microbial Consulting
Midlothian, VA
-or-
Sporecyte Lab
1106 North 1200 West
Orem, Utah 84057

Summary of Fungal Air Sample Results (Mold sample results are provided separately).

• Air 1 Sample I.D. 41380000 (Outside) Test Report: Analysis of Fungal Spores & Particulates by Optical Microscopy – The spore trap air sample revealed **NORMAL** concentrations of fungal organisms at the time of sampling.

• Air 2 Sample I.D. 41380000 (Basement) Test Report: Analysis of Fungal Spores & Particulates by Optical Microscopy – The spore trap air sample revealed **SIGNIFICANTLY ELEVATED** concentrations of fungal organisms from the Stachybotrys group at the time of sampling.

• Air 3 Sample I.D. 41380000 (Main Floor) Test Report: Analysis of Fungal Spores & Particulates by Optical Microscopy – The spore trap air sample revealed **NORMAL** concentrations of fungal organisms at the time of sampling.

• Surface 1 Sample I.D. 25700000 (Basement Wall) - Test Report: Analysis of Fungal Spores & Particulates by Optical Microscopy. The Bio Swab surface sample revealed **HEAVY** concentrations of fungal organisms from the Stachybotrys group at the time of sampling.

SECTION 3: DISCUSSION

For the purpose of this report, all directions are given from the perspective of an individual standing in front of the subject property, looking toward the front of the subject structure. No material testing or destructive testing was performed for the purpose of this report.

BASEMENT: Our initial inspection of the Basement revealed the following:

Visual Inspection: Heavy fungal growth was observed on stored building materials on the floor beneath the basement staircase. Fungal growth was also observed on stored building materials along the approximate front-right foundation wall of the basement. Fungal growth was also observed on floor joists throughout much of the basement.

Mold Sampling: A single air sample was taken from the approximate center of the basement which indicated a SIGNIFICANTLY ELEVATED airborne fungal ecology. The air sample was compared quantitatively and qualitatively to airborne mold conditions in the outdoor (normal) environment. See section 2 of this report for details. The actual risk of airborne mold spores to occupants depends on the duration and extent of exposure and each individual's immune response to the exposure. The actual risk cannot be determined based on the limited information available. The basement walls have areas of obvious water/moisture intrusion.

A single surface sample was collected from the left-side, basement foundation wall which indicated HEAVY surface fungal ecology.

Moisture Inspection: Moisture mapping was performed with moisture meters and thermal imaging cameras which revealed moisture intrusion in much of the basement walls. Water staining and efflorescence were present in several areas of the foundation walls. The majority of high moisture elevation was detected in the top (ground level) and bottom rows of the cinder block, foundation walls.

Basement Causation: Based on our findings, it is likely that mold conditions in the basement are the result of the following factors:

1. Water intrusion through the basement foundation walls – past and present.
2. Elevated humidity in the basement – long-term.
3. Stored building materials with fungal growth.

Professional mold remediation is recommended for the basement following the scope of work set forth in Section 4 of this report.

FIRST FLOOR: Our initial inspection of the first floor revealed the following:

Visual Inspection: No fungal growth was visible on the accessible building materials and contents in the first floor.

Mold Sampling: A single air sample was taken from the approximate center of the first floor which indicated a normal airborne fungal ecology. The air sample was compared quantitatively and qualitatively to airborne mold conditions in the outdoor (normal) environment. See section 2 of this report for details. The actual risk of airborne mold spores to occupants depends on the duration and extent of exposure and each individual's immune response to the exposure. The actual risk cannot be determined based on the limited information available.

Deep cleaning of building materials and contents and deodorization is recommended for the main level.

SECTION 4: SCOPE OF WORK – GENERAL RECOMMENDATIONS

1. All work should be completed by a qualified and experienced mold remediation contractor to properly and effectively remediate the mold reservoirs and decontaminate the affected areas of the property.

2. All abatement work should be conducted based on all applicable federal, state and local and consensus based regulations, ordinances and industry standards, including but not limited to the safety and health regulations of established by the United States Department of Labor, Occupational Safety and Health Administration (OSHA), New York City Department of Health *Guidelines on Assessment and Remediation of Fungi in Indoor Environments,* and The United States Environmental Protection Agency *Mold Remediation in Schools and Commercial Buildings.*

3. The Contractor's workers performing the cleaning will wear appropriate personal protective equipment, including, but not necessarily limited to respiratory, skin, and eye protection.

4. Containments shall be constructed with heavy gauge plastic (> 6 mil) and tape or spray glue as appropriate. Zip poles should be used to support containment walls as needed. Containment entries shall consist of double flap or zipper entry, as preferred by the contractor.

5. Proper environmental controls are necessary to contain all airborne mold spores and to prevent cross contamination; including plastic enclosures, airlocks and negative air filtration. Negative air should be created in the containments by running a portable exhaust fan equipped with a HEP A filter and ductwork through an opening to the outside. This should run 24/7 until clearance is obtained.

6. Contractor shall post a sign at all entries to containments: *"Abatement Area -DO NOT ENTER only authorized personnel with personal protective equipment allowed"*

7. Bag all remediation waste in at least 6 mil plastic bags. HEP A vacuum and wipe down with disinfectant prior to removing from the containment. The nearest door should be used for entry and egress.

SECTION 5: SCOPE OF WORK – SPECIFIC RECOMMENDATIONS

Basement:

It is recommended that the basement be remediated professionally for mold under HEPA-filtered, negative air containment. All insulation should be double bagged, sealed and removed. All stored building materials should be removed. Removal of materials should only occur under hepa-filtered, chambered conditions (containment walkways). All exposed and accessible foundation walls, flooring, wood floor joists, sub flooring and accessible surfaces should be HEPA-vacuumed, cleaned with an antimicrobial agent, further cleaned with high-concentration hydrogen peroxide solution and re HEPA-vacuumed. All exposed and accessible basement joists and sub flooring should be coated with a *clear*, antimicrobial-infused mold encapsulate.

Preventative Recommendations:

- Have basement water intrusion issues assessed and remedied by a licensed, waterproofing contractor.
- Install a properly-rated, commercial-grade, basement dehumidifier.

Main Level:
Deep cleaning of building materials and contents and deodorization is recommended for the main level.

(Photos Below)

Respectfully Submitted,

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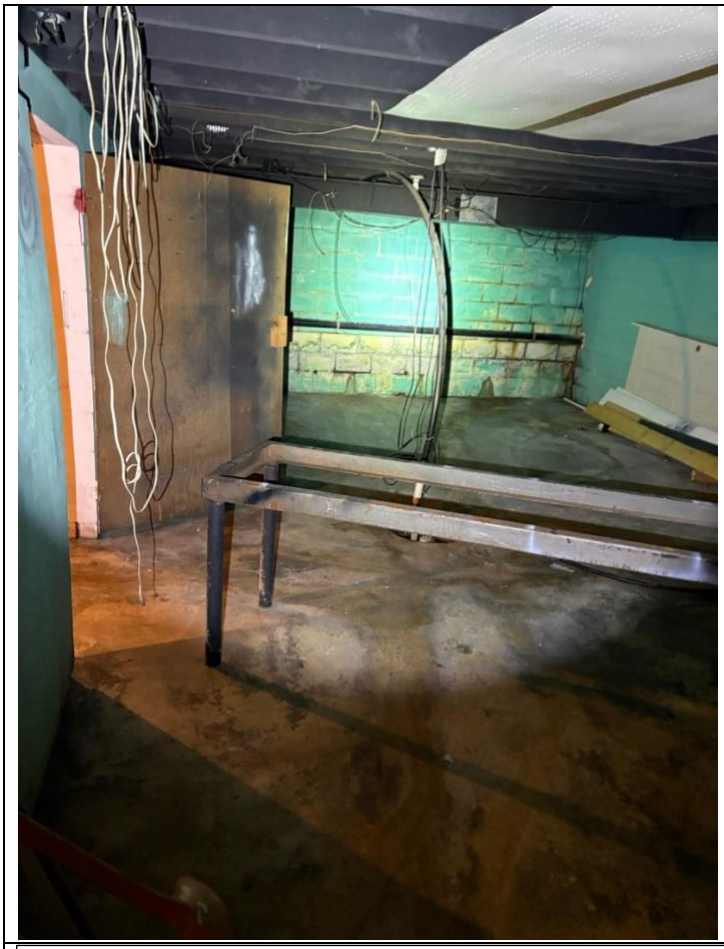
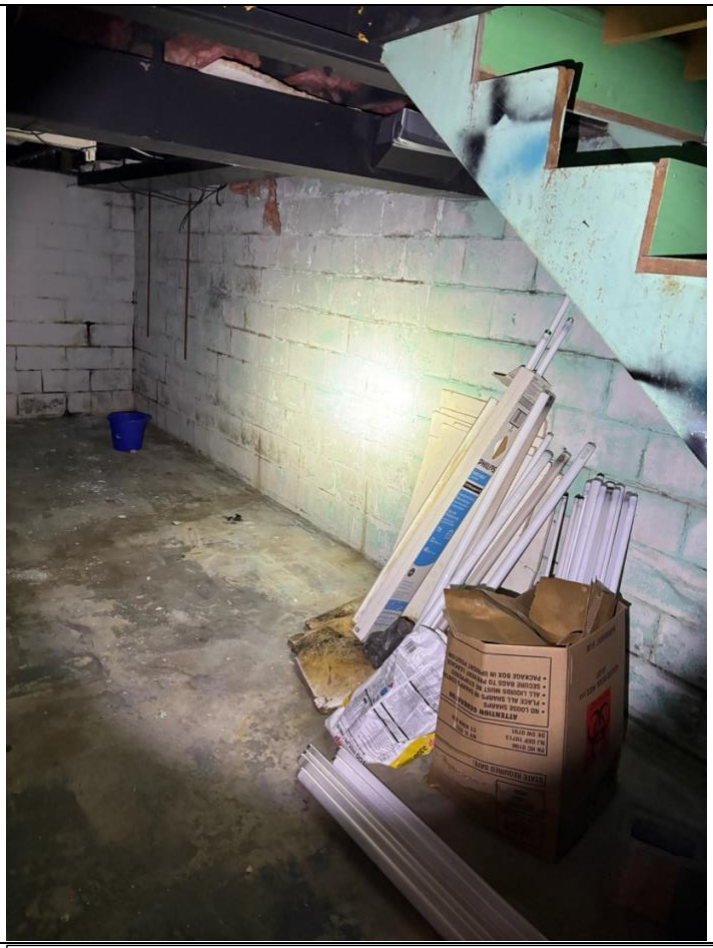
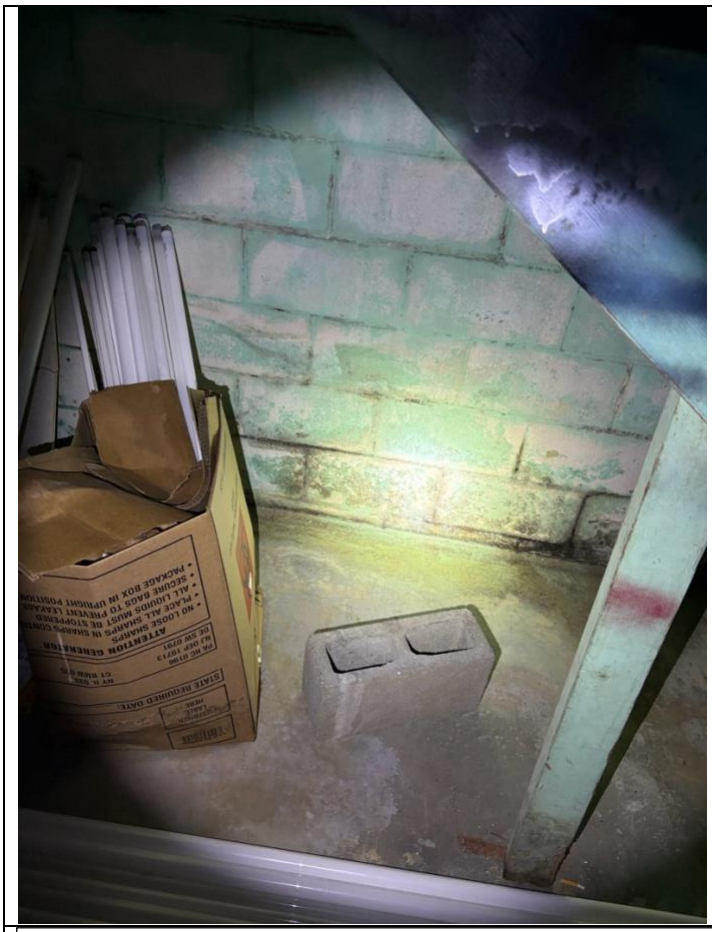


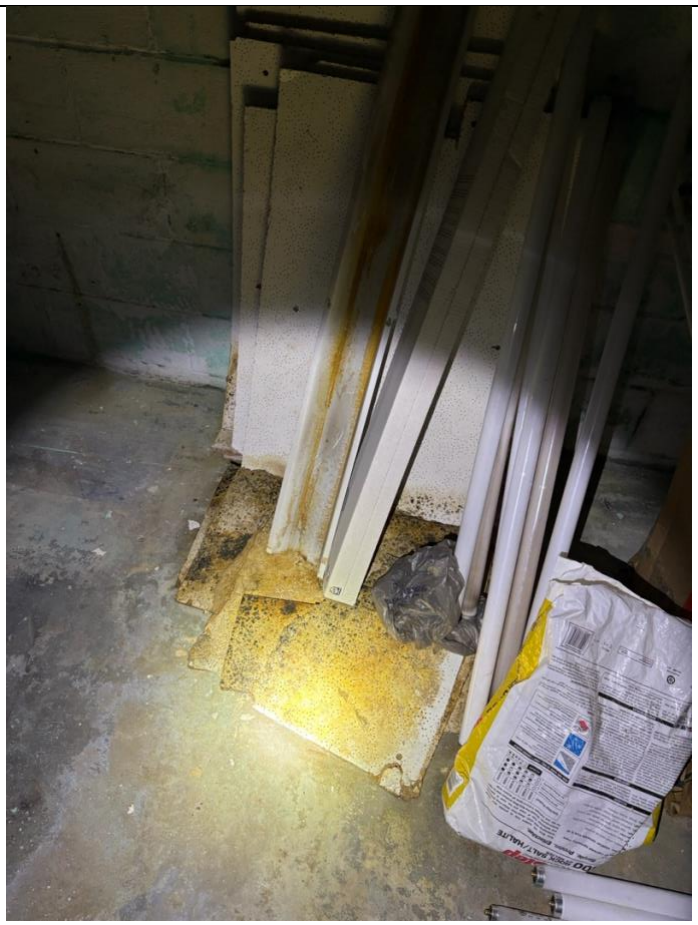
Evidence of water intrusion and standing water in basement.



Fungal growth observed on stored building materials in basement.



Evidence of water intrusion through block foundation walls.



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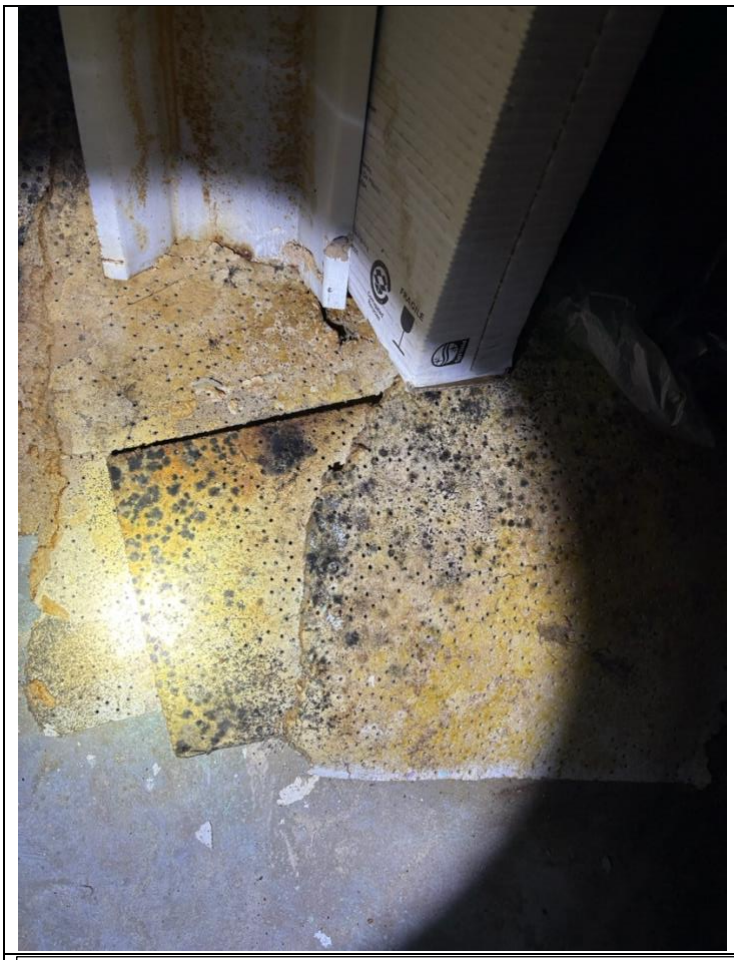

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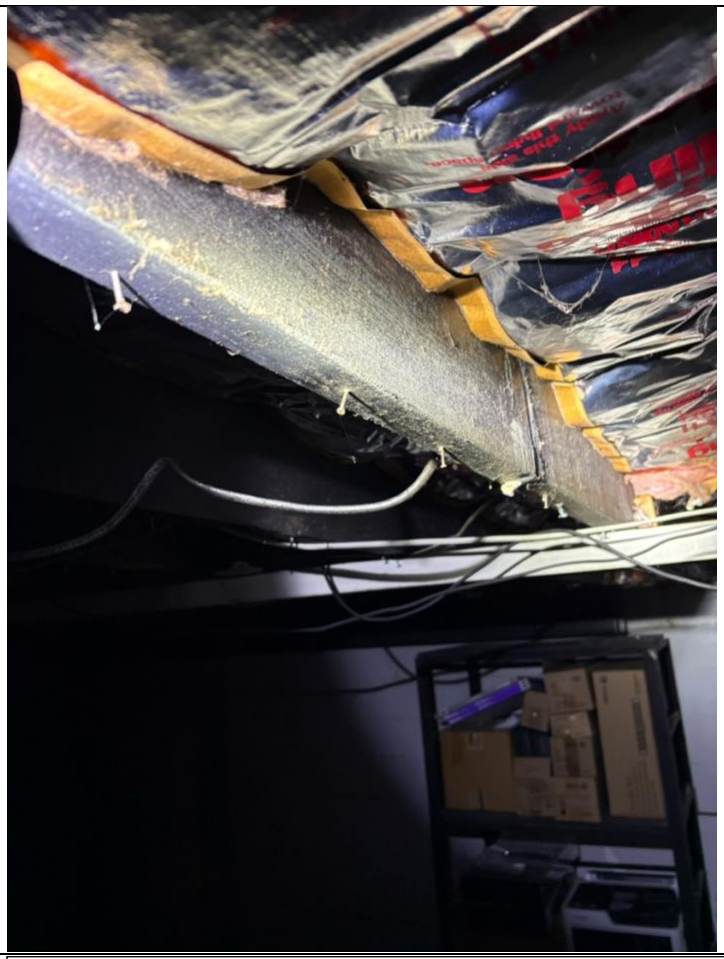
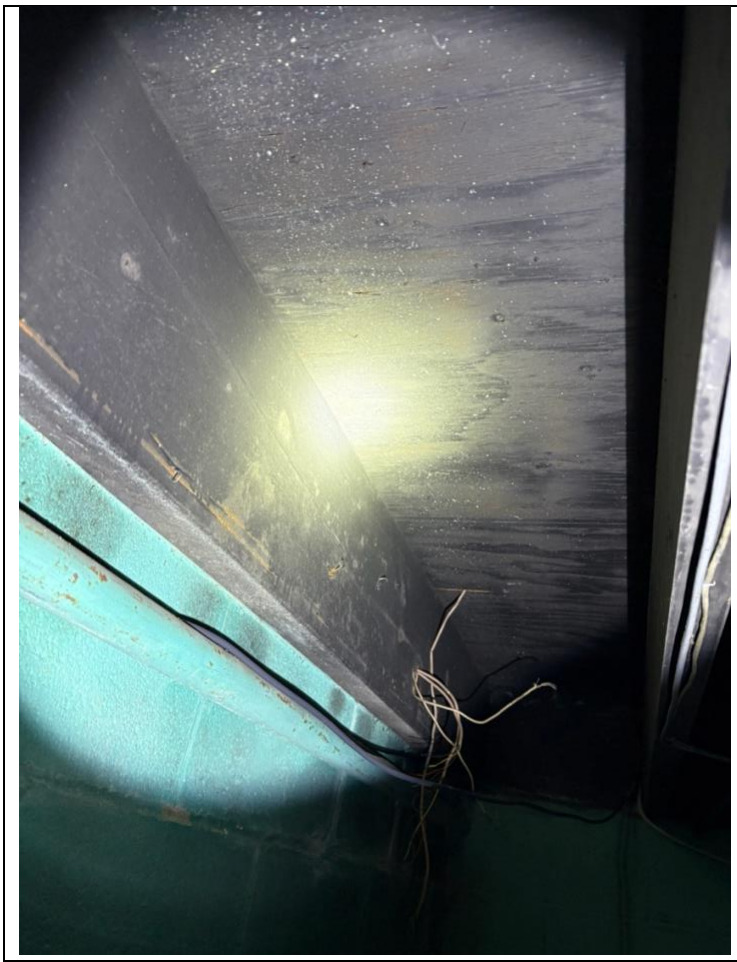


Fungal growth (white, chalky substance) observed on basement floor joists.



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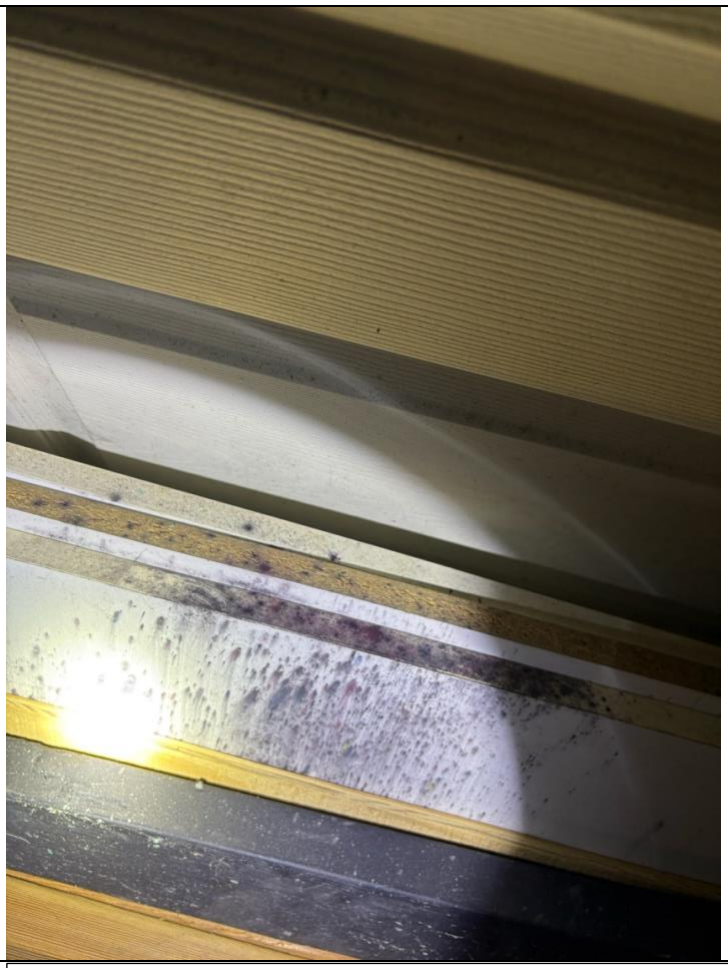
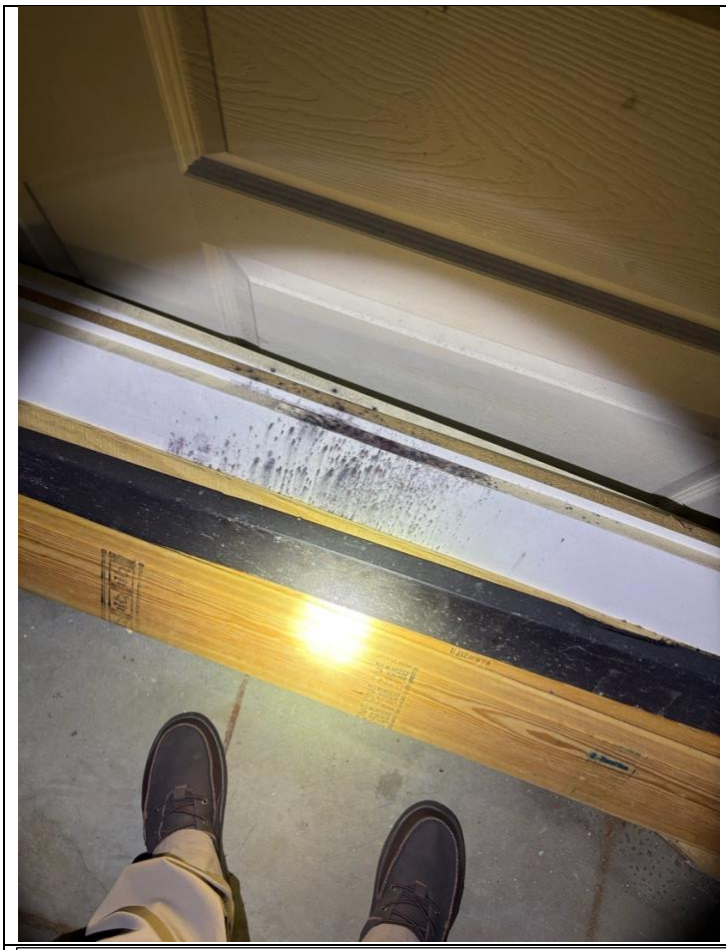


Fungal growth on stored building materials.



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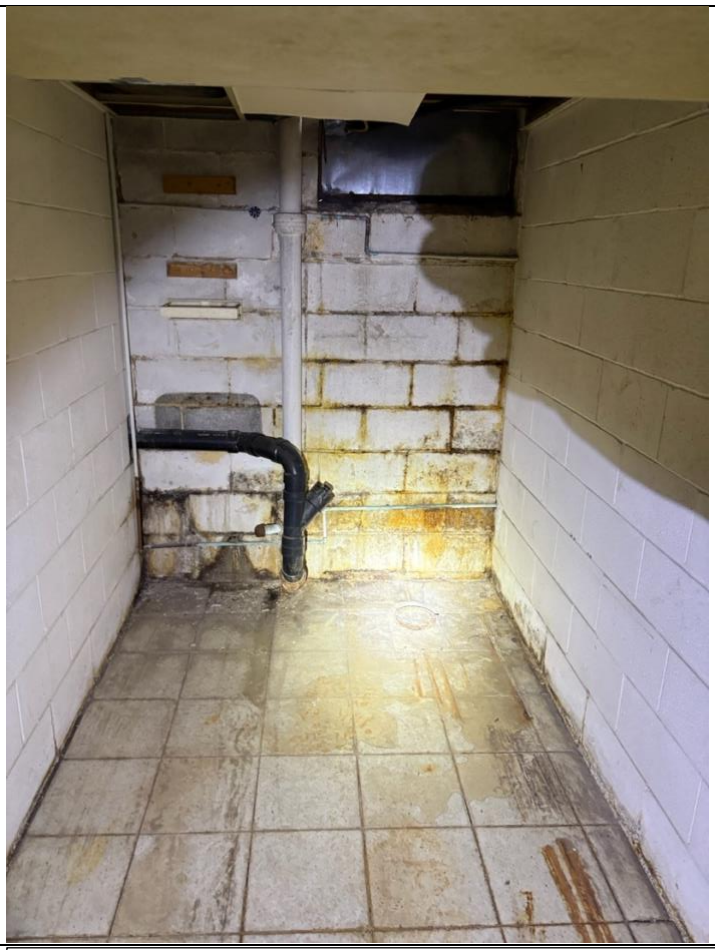
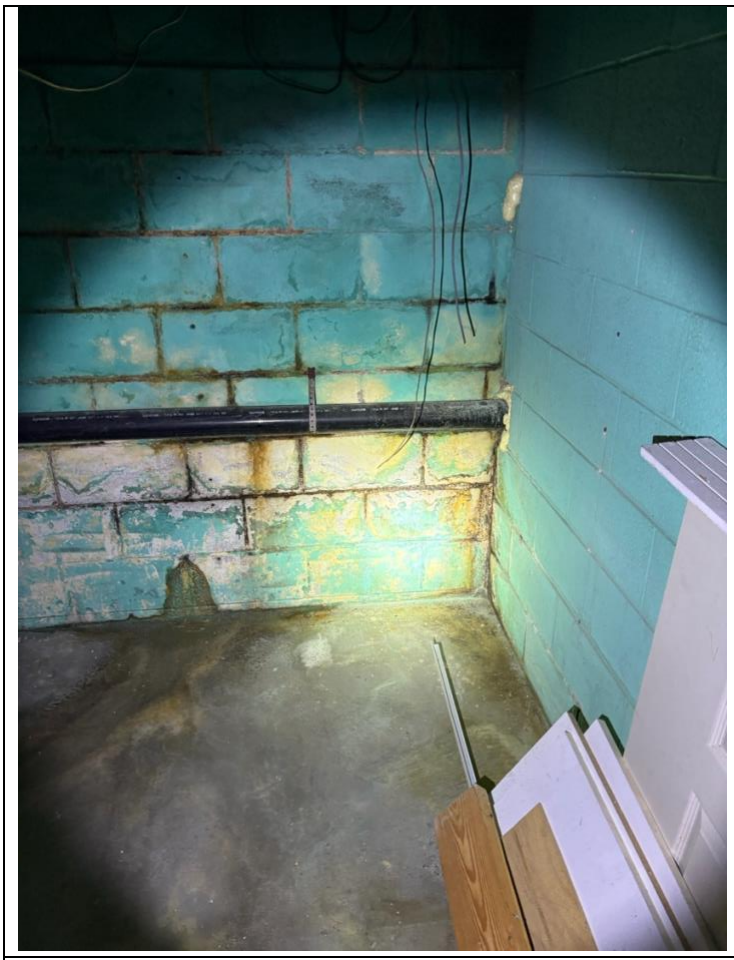


Evidence of water intrusion through block foundation walls.



Evidence of water intrusion through block foundation walls.

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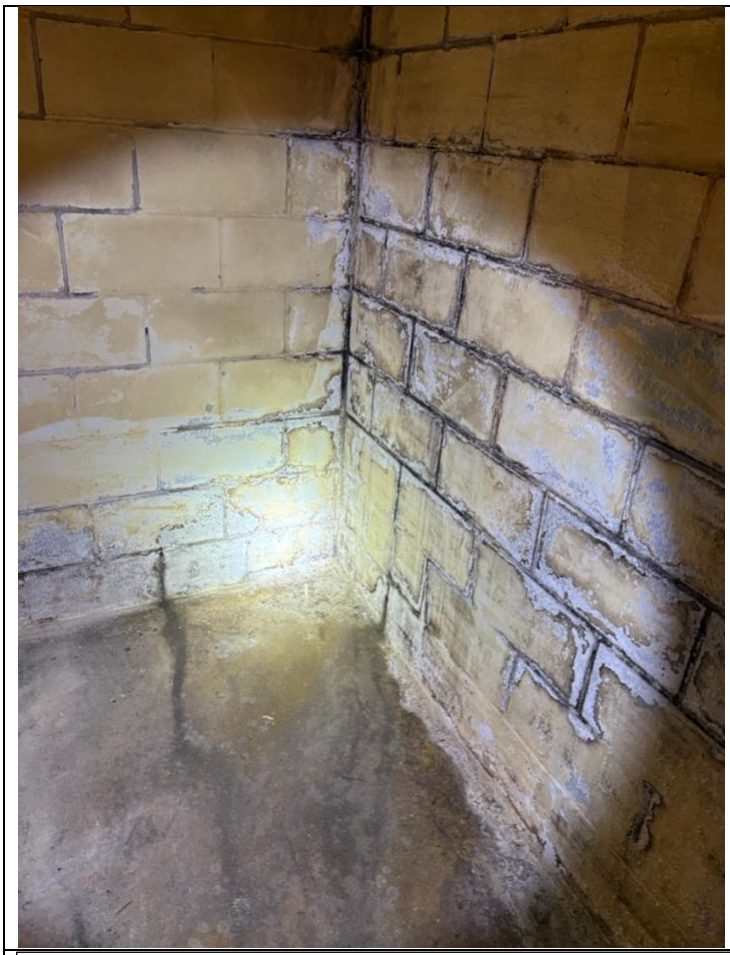
Uncovered sump pit with signs of overflow.

Evidence of standing water and possibly sewage collection stains on floor.



Evidence of water intrusion through block foundation walls.

Evidence of dirt and debris on HVAC duct interior.