DONE RIGHT SERVICES

STONE FOUNDATION AND BASEMENT HEALTH INSPECTION REPORT

Private Residence

Newburyport, Massachusetts

Home built: 1899 | Public sample report

Customer: Private Client

Inspector: Jeremy Custeau, Owner - Done Right Services

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Interior stone foundation conditions reviewed as part of the basement moisture assessment.

Inspection Scope and Limitation

This report documents visible and accessible basement and exterior conditions related to moisture, masonry, drainage, floor construction, radon-system observations, ventilation, rodent activity and overall basement health. It is a visual, non-invasive evaluation. No destructive testing, laboratory mold testing, radon measurement, pest inspection or structural engineering analysis was performed.

Executive Summary

The basement contains the original 1899 stone foundation and a later concrete-block/CMU addition of unknown construction date. The inspection identified multiple moisture-management concerns that are interacting with one another rather than one isolated leak. These include previous hard mortar repairs and DRYLOK coatings, active water entry through the CMU foundation, roof runoff being discharged at the foundation, limited foundation exposure above grade, crushed stone adjacent to the house, missing gutters on one roof area, an exposed and contaminated floor vapor barrier over crushed stone, a concealed sump basin, rodent activity, and an existing radon mitigation system that has not been verified by post-mitigation radon testing.

Overall assessment: The basement should be treated as a complete water-management and indoor-environment project. Correcting exterior water sources, repairing the masonry with compatible materials, removing the exposed floor membrane, installing a proper sub-slab vapor barrier and concrete floor, integrating the sump and radon system, controlling humidity, addressing rodent entry points, and confirming radon levels are the recommended path forward.

Priority	Key Items
High priority	Redirect roof runoff; repair active CMU opening/leak; install gutters where missing; test radon; address rodent activity and entry points.
Major corrective work	Restore stone masonry appropriately; correct CMU moisture entry; remove exposed vapor barrier; regrade crushed stone; adjust sump elevation; install sealed sub-slab vapor barrier and new concrete floor.
After corrective work	Maintain mechanical dehumidification; clean/remediate moisture-affected materials as appropriate; retest radon; monitor humidity and sump operation.

1. Original 1899 Stone Foundation - Type S Mortar and DRYLOK

The original portion of the home is supported by a stone foundation. Previous repairs were identified as having been completed with Type S mortar, and portions of the stone foundation have been coated with DRYLOK masonry waterproofing coating.

Historic stone foundations from this period were commonly built with softer, more vapor-permeable lime-rich mortar. A hard cement-based repair mortar can behave differently from the original masonry and may redirect moisture into adjacent stone or older mortar. DRYLOK on the interior can further restrict inward drying. When exterior moisture continues to reach the wall, moisture can remain within or behind the masonry system rather than drying as freely toward the basement.

Visible patching, staining and moisture-related deterioration indicate that the wall has been exposed to moisture over time. Additional coating alone would not address the underlying water source.

Recommendation: Evaluate deteriorated or incompatible repairs, remove loose/failing coatings where appropriate, repoint with a mortar compatible with the historic stone masonry, and use a breathable foundation treatment rather than simply adding more DRYLOK.



Original stone foundation showing extensive previous patching and repair work.

2. Concrete Block / CMU Addition - DRYLOK and Moisture

A later addition to the home is supported by concrete masonry unit (CMU) foundation walls. The exact date of this addition is unknown. The CMU walls have also been coated with DRYLOK. Visible moisture staining, discoloration and darkened areas are present on the block wall. Several areas contain visible staining and growth consistent with mold. No laboratory mold testing was performed, so the presence, type and extent of mold cannot be definitively confirmed.

Concrete block is porous and can transmit moisture through the block, mortar joints, openings and the wall-to-floor connection. Interior DRYLOK does not correct an exterior water source. Where moisture continues to enter the block, the coating can restrict inward drying and allow damp conditions to remain behind or within the wall system.

Recommendation: Correct exterior water sources and repair active openings before relying on interior coatings. Any cleaning or remediation of suspected mold should be performed after the moisture source is controlled.



CMU wall with DRYLOK, moisture staining and dark growth/staining consistent with prolonged damp conditions.

3. Active Water Entry at Far-Left CMU Corner and Downspout Discharge

A hole/opening was observed at the far-left corner of the CMU foundation, and water is entering the basement at this area. Directly outside the corresponding corner, a roof downspout terminates immediately beside the foundation and discharges onto the stone at the base of the house.

The location of the interior leak closely coincides with the exterior downspout discharge. Concentrating roof runoff at this corner is a significant contributing condition because the water is being delivered directly to the soil and stone immediately beside the foundation instead of being carried away from the building. Repairing only the interior opening would leave the exterior water source in place.

Recommendation: Repair the CMU opening and extend the downspout with solid drainage piping to an appropriate discharge location away from the foundation.



Downspout terminating directly at the foundation and discharging into the stone adjacent to the house.

4. High Exterior Grade, Crushed Stone and Building-Envelope Risk

The home sits very close to exterior grade, with limited exposed foundation between the surrounding surface and the lower portions of the building. Decorative crushed stone is installed directly adjacent to portions of the foundation. The stone itself is not a drainage system and can allow water to move quickly toward the foundation unless a designed drainage system below it carries that water away.

Because there is little exposed foundation, water problems at this property are not limited to the basement wall. Roof runoff, splash-back, melting snow and saturated ground can also reach lower wood siding, wall sheathing, sill plates, rim joists and concealed framing at the foundation transition.

Repeated wetting can contribute to mold growth, wood decay and deterioration. If concealed structural wood remains wet long enough, its integrity can eventually be affected.

Recommendation: Improve roof-water management first. Where accessible, inspect lower siding, sheathing, sill and rim-joist areas for prolonged moisture exposure or decay. Regrading opportunities are limited by the site, so controlled collection and discharge of roof water are especially important.

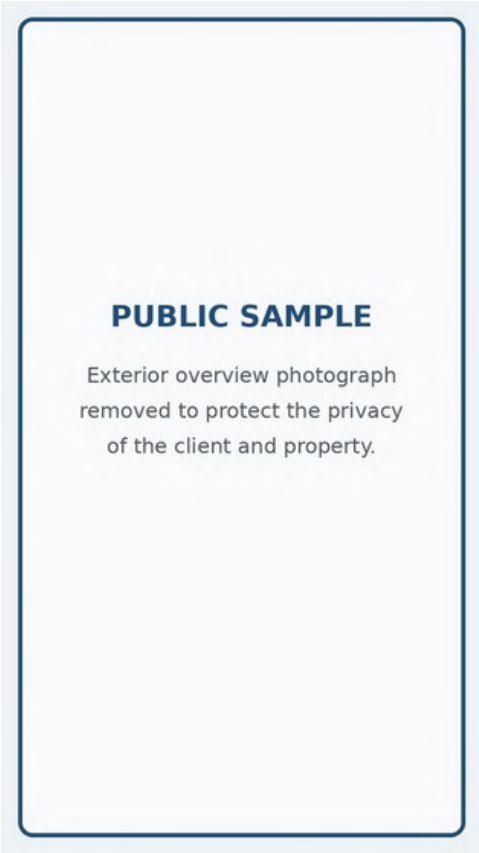


Very limited foundation exposure above exterior grade with crushed stone directly adjacent to the building.

5. Roof Area Without Gutters

A roof area on the neighboring side of the home does not have an effective gutter system. Without a gutter, runoff from that roof plane is allowed to fall directly along the side of the building. Because the house sits close to grade and the basement already shows moisture intrusion, uncontrolled roof runoff can add a substantial amount of water directly beside the foundation during rainfall.

Recommendation: Install an appropriately sized gutter and downspout system where practical and discharge collected roof water away from the foundation.



Exterior overview photograph omitted from this public sample to protect property privacy.

6. Existing Exposed Vapor Barrier, Crushed Stone and Rodent Activity

The basement floor currently consists of crushed stone covered by an exposed plastic vapor barrier. The membrane is heavily stained, wrinkled, loose in areas and difficult to clean. Water entering through the foundation is reaching the floor area, and visible contamination is present on top of the membrane.

Rodent activity was also observed during the inspection, including droppings on top of the floor membrane and around the electrical-panel area. An exposed plastic membrane does not provide a rodent-resistant floor. Rodents can travel beneath, around and over the loose membrane, and the many perimeter gaps and penetrations provide additional pathways.

The existing exposed membrane is therefore not recommended as the final long-term floor system for this basement.
Recommendation: Remove and dispose of the exposed membrane. Have rodent activity addressed and entry points identified/sealed. Rodent droppings should be cleaned using appropriate precautions or by a qualified pest/remediation contractor.



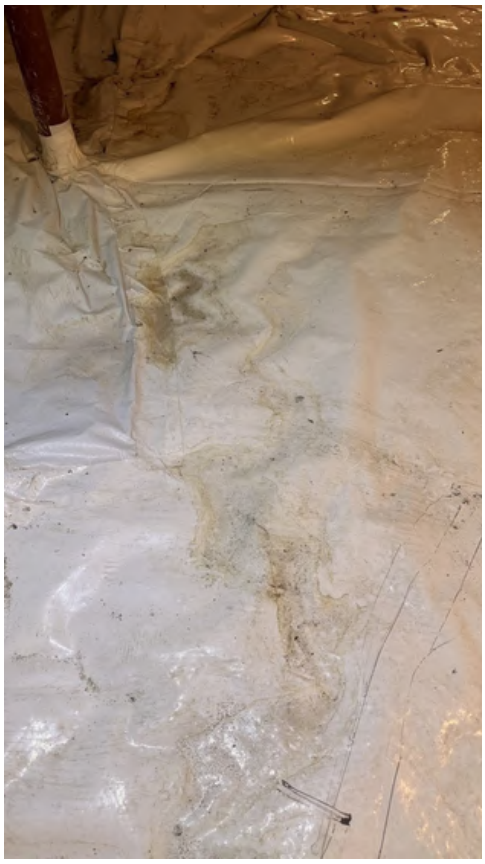
Existing exposed floor membrane showing staining, contamination and loose/wrinkled installation.

7. Recommended Floor Reconstruction - Concrete Slab Over a Sub-Slab Vapor Barrier

A new concrete floor is recommended in place of another exposed vapor-barrier system. After removal of the existing membrane, the crushed-stone base should be cleaned, regraded and compacted/prepared as necessary to create a stable and reasonably uniform sub-base.

A new vapor barrier should then be installed beneath the concrete slab, with seams and penetrations properly sealed. Placing the vapor barrier below the concrete protects the membrane, provides a durable and cleanable finished surface, improves control of ground moisture and soil-gas pathways, and removes the large loose-plastic environment currently available to rodents.

A concrete floor can reduce rodent travel and harborage within the basement floor area, but it is not a complete pest-control solution by itself. Exterior openings, utility penetrations and other rodent entry points must also be located and sealed.



Current exposed membrane over crushed stone. Recommended replacement is a sealed sub-slab membrane protected beneath a concrete floor.

- Remove existing exposed floor vapor barrier.
- Clean, regrade and prepare the crushed-stone base.
- Adjust the sump basin/pump to the correct finished elevation for the new slab.
- Install a sealed sub-slab vapor barrier beneath the concrete.
- Properly seal around the sump, radon piping and other penetrations.
- Pour a new concrete basement floor to provide a solid, serviceable surface.

8. Concealed Sump Pump

A sump pump/basin is located beneath the existing vapor barrier near the radon mitigation system. Because it was covered at the time of inspection, the sump basin, pump, lid, discharge arrangement and operating condition could not be visually examined or tested.

The sump elevation will need to be addressed if a new concrete floor is installed. The basin should finish at the proper height relative to the new slab and remain accessible for service. Because a sump opening can also communicate with soil gas beneath the floor, the finished system should use a serviceable sealed cover where appropriate.

Recommendation: Expose and evaluate the sump during floor reconstruction, confirm discharge routing and pump operation, adjust the basin to finished slab elevation, and provide a properly sealed but serviceable lid.

9. Existing Radon Mitigation System - Testing Still Required

An active radon mitigation system is present. The U-tube manometer shows a pressure differential, indicating that the system is creating suction. The manometer is not a radon concentration meter and does not show the amount of radon in the basement.

The presence of a mitigation system does not guarantee that all radon is being captured or that current indoor radon levels are acceptable. This is particularly important in a basement with crushed stone beneath the floor, an incompletely sealed floor membrane, a concealed sump basin, foundation openings, wall-to-floor joints and multiple foundation construction types.

The client reported that the property was not radon tested after the mitigation system was installed. Therefore, there is no confirmed post-mitigation measurement demonstrating how effectively the system is controlling radon at this time. **Recommendation:** Perform a radon test to establish the current radon concentration. Retest after floor reconstruction, sump sealing or other work that changes the sub-slab air pathway. The new sub-slab vapor barrier and concrete slab should be coordinated with the existing radon system.



Existing radon mitigation pipe and U-tube manometer. The gauge confirms suction, not the actual radon level.

10. Basement Ventilation, Dehumidification and Forced-Air HVAC

The basement has no windows, so there is essentially no natural window ventilation or natural drying. This makes mechanical moisture control especially important after bulk-water sources are corrected.

A portable dehumidifier is currently present. Dehumidification can reduce airborne humidity, but it cannot stop water from entering through the foundation. Water-management repairs should come first, followed by reliable mechanical dehumidification to keep basement relative humidity under control.

The home also uses a forced hot-air system. Basement air can communicate with upper living areas through duct leakage, framing cavities, stairways, penetrations and normal pressure differences within the home. Because visible staining and growth consistent with mold were observed, correcting moisture sources and cleaning/remediating affected materials is important to the overall indoor environment. No laboratory mold testing was performed as part of this inspection.

Recommendation: After water intrusion is corrected, maintain mechanical dehumidification and target a stable basement relative humidity appropriate for the season and equipment. Evaluate and clean moisture-affected materials as needed.



Existing portable dehumidifier in the basement near moisture-affected CMU and stone foundation areas.

Recommended Corrective Action Plan

The following sequence is recommended so that the work addresses the causes of moisture before the symptoms:

1. Exterior roof-water control: Extend downspouts away from the house and install gutters where roof runoff currently falls beside the foundation.

2. Active foundation repairs: Repair the leaking CMU opening and other visible penetrations or defects. Evaluate stone-to-CMU transitions and wall-to-floor joints.

3. Historic stone masonry restoration: Correct deteriorated/incompatible stone-foundation repairs with materials appropriate for the 1899 masonry and avoid simply adding more non-breathable coating.

4. CMU moisture correction: Address exterior water sources and repair the CMU substrate before additional interior finishing.

5. Remove exposed floor membrane: Remove the stained/contaminated vapor barrier and clean the floor area. Address rodent activity and entry points.

6. Regrade/prep crushed stone and adjust sump: Prepare a stable base and bring the sump basin to the correct elevation for the new floor.

7. Install sub-slab vapor barrier and concrete floor: Seal seams and penetrations, integrate with sump and radon components, and place a durable concrete slab.

8. Verify radon performance: Test radon before/after major floor and sealing work as appropriate. A manometer alone does not verify indoor radon concentration.

9. Humidity and indoor-environment control: Maintain mechanical dehumidification and address moisture-affected materials after the water sources are corrected.

Rodent Note

A concrete floor will eliminate much of the loose exposed floor membrane that currently allows rodents to move freely beneath and around the floor covering, but concrete alone does not guarantee rodent elimination. Exterior entry points, gaps around utilities, doors, framing and penetrations must also be identified and sealed, and active infestation should be handled by an appropriate pest-control professional.

Overall Basement Health Conclusion

The conditions observed in this basement are interconnected. The property has active water intrusion, historic stone masonry that has been repaired and coated in a manner that can restrict drying, moisture-affected CMU walls, exterior roof-water problems, very limited foundation exposure above grade, an exposed and contaminated floor membrane, rodent activity, a concealed sump, no basement windows, and an existing radon mitigation system that has not been verified by post-installation testing.

The recommended goal is not simply to cover the walls or install another sheet of exposed plastic. The goal should be to reduce the amount of water reaching the building, restore the masonry appropriately, stop

active leakage, create a durable floor system with a protected sub-slab vapor barrier, integrate the sump and radon systems correctly, address rodent entry, control humidity, and verify radon levels after the work is completed.

Because the house sits so close to grade, exterior drainage corrections also protect more than the basement. They help reduce prolonged wetting of the lower siding, sheathing, sill and framing, which can otherwise lead to deterioration and, over time, possible structural damage to wood components.

Inspection limitation: This report is based on visible conditions at the time of inspection. Concealed conditions may exist. Mold identification requires appropriate testing when confirmation is needed; radon concentration requires an actual radon test; and suspected structural damage to wood or masonry may require evaluation by a qualified structural professional.

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