Mold Mitigation in Historic Buildings: 
Practical Considerations for Controlling Moisture

North Carolina Preservation Consortium
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“Spores can also lay dormant in new timber before it is installed and then develop when the temperature and humidity become favorable. The storage and treatment of the timber is of great importance, because already infected timber runs a significantly higher risk of developing mildew after it is painted or varnished.”

Source: Study of Mildew and Algae on Exterior Siding and Other Details
The Paint manufacturer Association of Sweden:  www.sveff.se
King-Bazemore House, Bertie Co.

Images Courtesy: Harvey Harrison
Inspecting Your Building(s)
Assessing Repair and Maintenance Needs
Common Moisture Entry Points

Control Moisture
About 10 years
After renovation
5 years
Thick-mil Coating

2 years
“The fabric of a traditional building usually needs to ‘breathe’: to release and absorb moisture, for example from rising damp, driving rain, defects and condensation. Moisture can move through traditional permeable building materials until it evaporates, internally and externally. Modern impermeable building products obstruct this process: instead of keeping moisture out, they can often trap it inside, accelerating decay processes.”

ENERGY CONSERVATION IN TRADITIONAL BUILDINGS
ENGLISH HERITAGE
Non-Breathable
How is moisture getting into the building?
Is there a dampness problem?
Mositure Related
Structural and Insect Damage
Splash Block

Rainwater wicking up through the foundation and into the crawlspace.
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Rainwater wicking up through the foundation and into the crawlspace.
1 inch of rain on 1000 sq. feet of roofing produces 600 gallons of rainwater
Getting rainwater away from a building
Ground slopes away from wall at 5% (6” per 10 feet).
Foundation French Drain

Effective if properly installed and maintained. French drains can act like a sponge holding moisture against a building if they silt up or do not drain correctly.
“A carpenter charged a client for making “a gutter with spouts.”

Bertie Co. N.C. Court Actions 1756

North Carolina Archives & History
Drainage System
Climate Control

Moisture Line
Frequently inspect the ductwork for air leaks, loose insulation, and foil wrap.
In addition to being a fire hazard, a filter this dirty will cause premature wear to your heating and cooling system – an expensive mistake.
HVAC Unit Blower Fan Dust Build-up
Clean Evaporator Coil

Grimy Evaporator Coil

Grimy Evaporator Coil
Leak into crawlspace

Looking through floor supply into crawlspace where duct came loose.
Partially blocked supply

Wall

4 + inches

Supply
Non-Breathable

Breathable
Hope Plantation, Bertie Co.
Limewashed Walls
In-Line Duct Booster Fan

Additional Return
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Holding the Line: Controlling Unwanted Moisture in Historic Buildings

Sharon C. Park, AIA

Remedial Actions
How and Where to Look for Damaging Moisture
Looking for Signs
Uncovering and Analyzing Moisture Problems Considerations
Transport or Movement of Moisture
Surveying and Diagnosing Moisture Damage
Selecting an Appropriate Level of Treatment
Development of a Treatment Plan
Ongoing Care
Summary and References
Reading List

Invasive vegetation on a brick wall. Photo: Richard Wagner, AIA.
“Timber with a moisture content of above 20% is susceptible to fungal attack and the longer the timber remains wet, the higher the risk of an outbreak of rot.”
Reid Thomas
Restoration Specialist
(252) 830-6580
reid.thomas@ncdcr.gov