SAMPLE REPORT

LUNNY
Building Diagnostics
STUCCO INSPECTION SPECIALISTS

Exterior Cladding Evaluation

SAMPLE

Lunny Building Diagnostics

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BUILDING ENVELOPE SCIENCE INSTITUTE INC.
Providing the essential knowlege and skills

EDI
EXTERIOR DESIGN INSTITUTE

MoistureFree Warranty

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You have contracted with Lunny Building Diagnostics to perform a moisture intrusion inspection in accordance with the standards of practice established by Exterior Design Institute (EDI) & Moisture Warranty Corporation. Your inspector is Rob Lunny EDI Certified Inspector PA # 121 & MWC # 1627

A. PURPOSE: The purpose of an independent third party moisture inspection is to give an unbiased opinion as to the condition of the system as applied on the home as well as to help assess the condition of the stucco system by looking for visible installation flaws, inadequate water diversion, sealant failures and to conduct moisture readings using electronic moisture scanning devices. Please note that the provision of a scope of work and or estimates for remedial repairs is not the purpose of this inspection. Competitive estimates for repairs should be obtained from at least three qualified contractors.

Further investigation may be needed to determine the extent of water damage, if any, and how best to modify your home to address any moisture problems that may be indicated by this inspection.

B. SCOPE OF INSPECTION: This is a stucco inspection limited to the following:

? A visual examination of the condition of the stucco system, exterior sealants, flashings, windows, doors, roof-to-stucco transitions, parapets, gutters, deck-to-building connections, stucco terminations and any penetrations through the stucco system.

? Conducting of electronic moisture scanning of the building envelope per Exterior Design Institute protocol.

? Preparing a report of our observations of potential problem areas and recording any high readings found. The readings provided in the report are accurate indicators of the presence of retained moisture at the surface of the substrate or framing wood in the area tested at that given moment in time. These readings are not represented to be the absolute moisture content of the full thickness of the substrate or framing wood. The inspection provides information on specific areas of problems and defects. Moisture content in wood of **19%** or more over a sustained period of time can cause wood and other organic materials to deteriorate. In any areas repaired, the areas should be opened in a progressive manner until clean dry materials are found.

Any damaged areas can then be repaired. During the course of repairs we strongly recommend the use of a high quality moisture cure silicone with a low modulus of elasticity in addition to the installation of appropriate flashing details.

The report only reports on the condition of the structure at the specific locations indicated. Locations are determined by the inspector according to probable areas of possible moisture intrusion and in accordance with The Exterior Design Institute protocol. No judgment is intended or given for any areas not reported on. This report is not a structural engineering inspection report.

C. LIMITATIONS OF LIABILITY: Because this is a limited inspection of only the areas tested, we can make no guarantee, express or implied, that our observations and random moisture readings offer conclusive evidence that no installation or moisture problems exist, or that problems found are all-inclusive. This inspection company, its employees and any divisions shall not be liable for non-visual defects, unseen defects, unspecified defects or hidden damage and conditions existing on the subject property and hereby disclaims any liability or responsibility thereof. This is not a code inspection or guarantee that the system will not leak in the future. On-going maintenance by the homeowner is required on all exterior cladding systems. Temperature changes can have a drastic impact on system performance. This report is based on the condition of the property at the time and date of the inspection only. All parties concerned agree to hold harmless and indemnify this inspection company involving any liabilities that may result.

D. FURTHER TESTING / INVESTIGATION: Our policy is to rely on moisture meter readings as an indicator of relative moisture values between different test spots, not as an absolute value of water content in the substrate. It is difficult to determine if the structural

wood of your home has been damaged in areas of high readings without 'probing' and/or removing a core sample of the stucco to allow for visual inspection. Should we feel that further investigation is needed this will be indicated. Additional charges will apply.

E. REPAIR FOLLOW-UP AND ANNUAL INSPECTIONS: A repair follow-up inspection should be conducted within three months after completion of the repairs to assess the effectiveness of the moisture modifications & repairs. This is extremely important. Bi-Annual inspections should also be scheduled to ensure that the stucco system remains dry. This way any sealant failures, stucco cracks, etc. can be caught and repaired promptly. Testing and maintaining the home on a regular basis is the best way to prevent costly repairs associated with moisture damage.

Thank You,

Rob Lunny

Standards of Practice & Certifications:
PAR & NJAR Certified CEP Instructor, Exterior Design Institue (EDI) Level II Certified Inspector #PA-121, Moisture Warranty Corporation #1627, Member AWCI 8526, Member Building Envelope Science Institute & RCI, ITC Certified Infrared Thermographer, GAF Steep Slope Certified

Type of building:
Single Family (2 story)

Square footage of building:
2304

Approximate age of building:
Home is 25 years old

Building Faces:
S-SW

Temperature:
45 Degrees

In Attendance:
Customer

Style of Home:
Colonial

Weather:
Clear

Humidity:
70%

Ground/Soil surface condition:
Dry

Type of Exterior:
Hardcoat Stucco

Last significant rain approximately:
None within the 7 days prior (Defined as 24 Hrs or longer of continious rain)

Weather resistant barrier:
Tar Paper

Substrate (if known):
Thermo Ply, OSB, Oriented Strand Board

Average Stucco System Thickness:
1/2" Nominal Thickness

Trim Band Type:
Cementatious

1. Property Information

Items

1.0 Property Information

BACKGROUND:

The subject property is a 25 year old single family home located in Furlong, PA. The home has a combination gable/hip style roof system with 3 tab asphalt shingles installed over the wood decking. The windows in the home are double hung wood and the exterior cladding system is hardcoat stucco.

The purpose of this evaluation was to determine if moisture intrusion is occurring behind the stucco and wetting the substrate/framing members. The home is clad with a ½? hardcoat stucco system on all four sides. This system consists of wire lath and a scratch coat of stucco with a finish coat applied over it and is standard installation for the time the house was built. The house is sheathed with a Thermo Ply system under the stucco. Due to the nature of a Thermo Ply system locating moisture penetration can be difficult unless wetting of the framing members has occurred. Thermo Ply is a foil coated material that is moisture resistant, as a result of the foil coating all probe readings were taken from framing members except the chimney.

FINDINGS:

No elevated moisture readings were recorded during the evaluation . See Section 4: General Summary for a complete understanding of The Findings.

FEMA, ASTM, BOCA, the IRC and all the major code bodies recommend a homeowner take steps to repair/replace wood substrate with a moisture content above 19.5% to reduce the risk of Organic growth. The first section of the report will list the moisture content in the substrate and the locations they were recorded from. The second portion of the report are detailed photographs of findings of the system and components.

Invasive stucco reports are "observe & report" style inspections. We are not affiliated with stucco remediation companies nor do we perform repairs or provide pricing for repairs, we consider this a conflict of interest. In areas of elevated moisture readings we recommend core samples be taken prior to performing any work to provide visual verification as to the probe readings.

We recommend this report be provided to certified remediation contractors to determine the necessity, extent and cost for any repairs.

Should you have any questions concerning this report please feel free to contact our office.

2. Moisture Readings/Findings

Items

2.0 Legand, Probe Meter Reading Ranges.

The legend below describes the test equipment used and what the readings mean. Small 3/16 holes are drilled into specific locations and the two small probes are inserted to contact the substrate. The electrical resistance between the probes measure the moisture content in the substrate and are the readings listed in the report. Readings listed in black are normal, readings listed in red require action. The meter is calibrated prior to the evaluation and after every 2nd reading. A definition of the moisture readings and what they mean is listed below.

Readings listed in red on the report indicate some level of action is strongly recommended

Delmhorst Moisture Probe Meter BD2100

- **6 - 12% Normal/typical reading for wood substrate**
- **13-15% Some water is getting in but not likely to cause damage**
- **16-19% Elevated moisture level present, damage possible, evaluation of sealant joints and flashing details for repairs is required**
- **20-40% High moisture level present, damage probable, remediation required**
- **FS Failed Substrate, no resistance to substrate indicating deterioration has occurred to wood substrate, remediation is required**
- **F Framing Probe, no resistance to substrate indicating deterioration has occurred to wood substrate, remediation is required**
- **S Soft Substrate, very little resistance to substrate indicating deterioration has occurred to wood substrate from repeated wetting, remediation is required**

2.0 Item 1(Picture) The moisture probe used was calibrated prior to the test and after every second reading. Probe tips are Teflon coated and protected with shrink wrap to reduce the risk of outside interference.

2.1 Front Elevation Moisture Readings/Findings

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The numbers on the report represent the moisture content in the underlying wood substrate on the home recorded in a percentage value. Refer to section 2.0 Probe Meter Reading Ranges for a better understanding of what the numbers represent. Numbers listed in red require action.

The front of the home was broken into several sections to allow for a better understanding of moisture readings and the locations they were recorded from.

No elevated moisture readings were recorded on the front elevation.

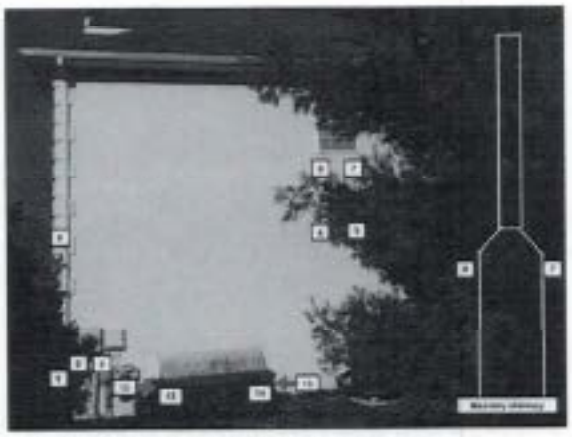
2.1 Item 1(Picture) Front left Findings

2.1 Item 2(Picture) Front right Findings

2.2 Right Elevation Moisture Readings/Findings

The right elevation was visually inspected & invasivly tested.

The right elevation did not record any elevated moisture readings at the time of the evaluation.



2.2 Item 1(Picture) Right elevation Findings

2.3 Left Elevation Moisture Readings/Findings

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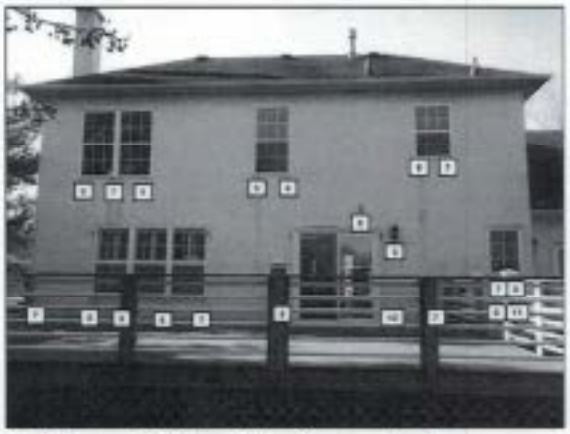
The left elevation was visually inspected & invasivly tested, the left elevation did not record any elevated moisture readings at time of inspection.

2.3 Item 1(Picture) Left elevation Findings

2.4 Rear Elevation Moisture Readings/Findings

The rear elevation was visually inspected & invasivly tested. No elevated moisture readings were recorded at the time of the evaluation.



2.4 Item 1(Picture) Left rear Findings

2.4 Item 2(Picture) Right rear Findings

3. System Findings & Photos

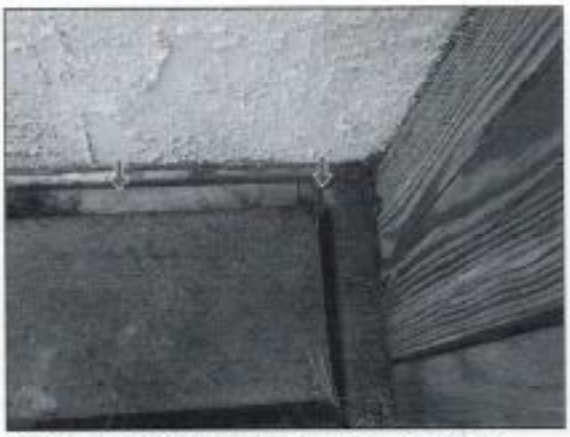
Items

3.0 System Findings

This section of the report are findings and detailed photos of the system and installed components.

3.0 Item 1(Picture) Core sample confirms Thermo Ply Substrate & tar paper for the WRB

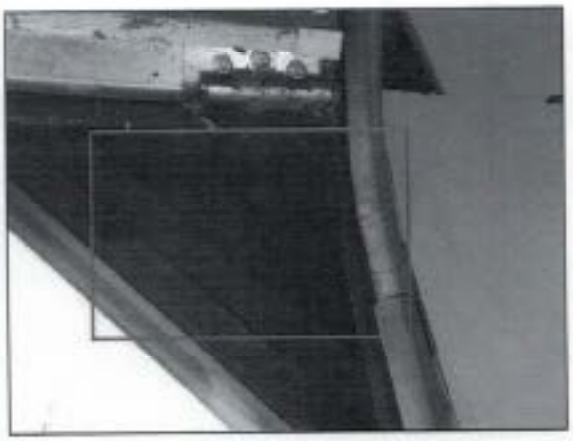
3.0 Item 2(Picture) Moisture damaged wood noted at roof returns on garage, repair as needed to reduce the risk of moisture penetration



3.0 Item 3(Picture) Rear deck flashing

3.0 Item 4(Picture) Moisture damaged wood noted on garage roof returns, replace all moisture damaged wood to reduce the risk of moisture penetration

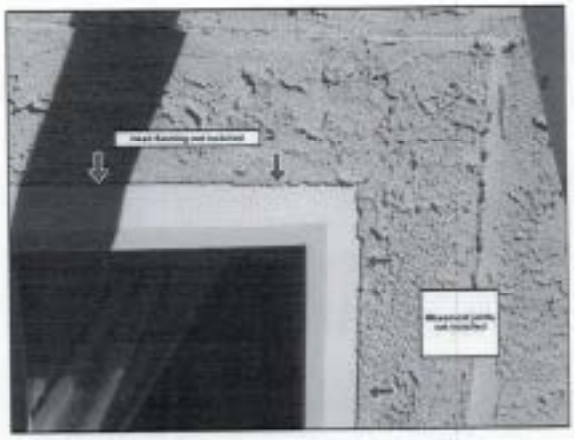
3.0 Item 5(Picture) Replace any moisture damaged wood on fascia



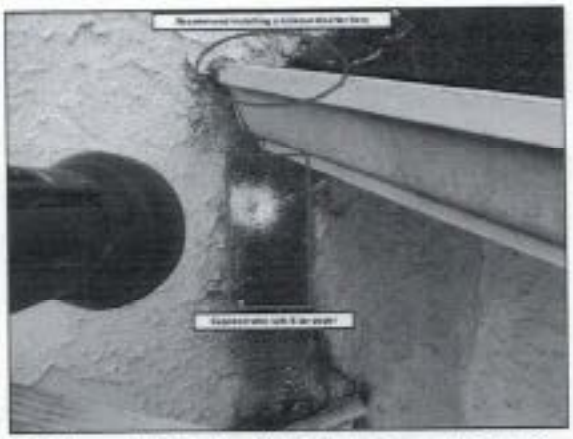
3.0 Item 6(Picture) Thermo Ply visible in garage

3.0 Item 7(Picture) Small sill plate at grade on left & right of garage doors

3.0 Item 8(Picture) Foundation wall is slightly above grade, no weep screed is installed, lowering grade to a minimum of 4" below top of foundation wall is recommended to reduce the wicking effects of water & insect activity



3.0 Item 9(Picture) Window installation detail



3.0 Item 10(Picture) Right rear, repairs & installation of kickout diverter recommended