Inspection Services

Moisture Testing Report

Client Name

Property Address:
12345 ABC Court
Minnetonka MN 55345

Inspection Services

Antonio Cedillo
7841 Wayzata Blvd Suite 100
Saint Louis Park, MN

Date:	Time:	
Property:	**Customer:**	**Real Estate Professional:**

OVERVIEW

1.1 PURPOSE: The purpose of this moisture testing inspection was to help assess the condition of the wall cladding system and to alert the client to major deficiencies in the condition of the property by looking for visible installation flaws, inadequate water diversion, and sealant failures. In addition, we have conducted moisture-probe readings in numerous locations using an electronic moisture meter. These probe readings are typically performed at all areas of potential moisture penetration based on the previous visual inspection. Please note that the provision of a scope of work for remedial repairs is not the purpose of this inspection. Further investigation may be needed to determine the extent of water damage, if any, and how best to modify the building to address any moisture problems that may be indicated by this inspection.

1.2 SCOPE OF INSPECTION: This is a basic wall cladding inspection limited to the following:

- A visual examination of the condition of the wall covering, exterior sealants, flashing, windows, doors, roof-to-wall transitions, parapets, gutters, deck-to-building connections, wall covering terminations and any penetrations through the wall cladding.
- Conducting electronic moisture probe readings of the building envelope.
- Preparing a report of our observations of potential problem areas and recording any high readings found.
- Providing detailed information on typical moisture-related problems in stucco structures to assist you in maintaining the value of your home.

1.3 LIMITATIONS OF LIABILITY: We make no guarantee, express or implied, that our observations and moisture readings offer conclusive evidence that no installation or moisture problems exist, or that problems found are all-inclusive. We assume no liability or responsibility for the cost of repairing or replacing any unreported defects or deficiencies, either current or arising in the future, or for any property damage, consequential damage or bodily injury of any nature. This inspection company, its employees and any divisions shall not be liable for nonvisual defects, unseen defects, unspecified defects or hidden damage and conditions existing on the subject property and hereby disclaims any liability or responsibility thereof. All parties concerned agree to hold harmless and indemnify this inspection company involving any liabilities that may result.

1.4 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.

1.5 REPAIR FOLLOW-UP AND ANNUAL INSPECTIONS: A repair follow-up inspection should be conducted within three months after completion of any repairs to assess the effectiveness of the moisture modifications. This is extremely important. Annual inspections should also be scheduled to ensure that your wall cladding system remains dry. This way any sealant failures, stucco cracks, etc. can be caught and repaired promptly. Testing and maintaining the structure on a regular basis is the best way to prevent costly repairs associated with moisture damage. Also, should you decide to sell the property, annual inspections and maintenance documentation will be a valuable selling tool, providing evidence to show that your property has been inspected and maintained on a regular basis by a reputable and qualified firm.

Stucco test only.

General Property Information

Style Of Building:	Number of Stories:	Home Faces:
Single Family	Two	West

Year Built:
N/A

Square Feet:
5900

Weather:
Clear and Dry

Temperature:
50 Degrees

Last Precipitation:
4, Days

Exterior Wall Cladding:
Traditional Stucco

Substrate:
Unknown

Lowest Level:
Full Basement

Window Material:
Vinyl, Metal

Window Type:
Fixed, Casement

1. Summary

Items

1.0 Summary:

High

A wall cladding repair contractor should be contacted to address the deficiencies outlined herein and implement remedial recommendations.

Moisture probing in critical areas on this structure revealed several areas of high moisture, as depicted in this report. Upon probing, it was determined that the substrate may also have moisture damage.

In addition to these elevated moisture readings, other conditions are present that may cause moisture problems. Action should be taken now to correct these conditions.

2. Stucco

What is stucco?

There are two types of commonly used stucco. They are traditional, Portland cement stucco and synthetic stucco, also known as EIFS or Exterior Insulation and Finishing System. Sometimes we see a combination of these systems into a hybrid stucco system, sometimes referred to as a Hardcoat system.

Stucco has been used for hundreds of years and was applied to concrete or masonry surfaces, which are not susceptible to water damage. Wood frame houses are at risk for damage when moisture enters behind the stucco.

Traditional stucco is applied by using wire mesh, which is attached to the home. Stucco at this stage resembles cement and is applied by using a trowel. One or two colored finish coats are then applied over the stucco base.

Synthetic stucco, also known as EIFS (Exterior Insulation and Finishing System) has been in use in the United States since the 1960's. The most common type of EIFS is called PB EIFS. PB stands for polymer based. Dryvit is one popular name brand EIFS system.

PB stucco is made up of three layers: Insulation, base coat, and finish coat. The insulation is made of expanded polystyrene about ¾ to 1" thick. The base coat is applied over a layer of fiberglass mesh that strengthens the coating. The finish coat is applied last and contains the color.

Hybrid systems may utilize various combinations of both EIFS and traditional systems.

What causes problems with stucco?

When joints and breaches in the stucco allow moisture to leak in, there is no way for this moisture to escape due to the sealant qualities of stucco. Easily remedied problems such as missing or poorly installed caulking or missing flashing will often be the cause of moisture entering your home. Windows are also a major source of moisture penetration, due to gaps or cracks in construction.

Because stucco was designed to keep moisture out, moisture that does penetrate the wall can present a substantial risk because it can take months to dissipate. Often moisture will continue to leak behind the stucco before the existing moisture has had a chance to dry out. When structural wood is exposed continuously to moisture it will rot.

Testing Method

The moisture testing performed on the stucco wall covering at this building was an invasive moisture test performed from the exterior. This test was conducted by drilling 3/16" holes in the siding, inserting a pin-probe moisture meter to take a moisture reading of the substrate, then filling the holes with a caulk of matching color.

The penetrating probe has an effective range from 0 to 40%. Readings of 40% or greater register as either 40% or 99% depending on the meter used for your analysis. This is the number that will be recorded on your report.

A Delmhorst Moisture Check Moisture Meter set to the wood scale was used. All readings are adjusted for temperature. Since wood materials are considered to be saturated at about 40%, all readings of 40% or higher should be considered as saturated.

Occasionally the penetrating probe may contact the wire mesh behind the stucco, or other metal objects. This can cause a false reading of 40 or 99%. We make every effort to double-check all high readings. Any readings in this range indicate a potential high moisture area and possible structural damage. It may be necessary to remove the stucco or interior wall covering to examine these areas more closely.

This document only reports on the condition of the structure at the specific locations indicated. Locations were determined by the inspector according to probable areas of possible moisture intrusion, accessibility, and in accordance with accepted industry standards. No judgment is intended or given for any areas not reported on or not accessible. The inspection is limited to the accessible areas. Please know that this system is composed of many details, which can not be exposed without the removal of portions of the system.

KEY

6% - 15%: Moisture reading currently acceptable.
16% - 19%: Elevated moisture reading or possible substrate damage.
20% - 39% Moisture high enough for mold or wood rot if sustained, or substrate damage.
99%: Wood is saturated at 40% moisture content; these readings are reported as 99.
S: Soft wall sheathing detected. This typically indicates damaged sheathing.

X: No reading possible; the sheathing was not solid enough to take a pin-probe moisture reading. We followed up with a resistance tool, which should withstand at least 45 lbs of pressure. The tool pushed through the sheathing before 45 lbs was reached. This indicates damaged sheathing. While there may be sheathing present, it was not solid enough for us to take a moisture probe reading.

Any circled areas showed large areas with elevated moisture levels. All sheathing probed was firm unless noted otherwise.

Important Note: The test equipment is used to help locate problem areas. It must be understood that the test equipment is not an exact science but rather good tools used as indicators of possible problems. At times, because of hidden construction within the wall cavity, the meters can get false readings or no readings at all. Some meters will pick up on metals, wiring, unique wall finishes, etc. Positive readings do not always mean there is a problem, nor do negative readings necessarily mean there is not a problem. We do not use the equipment to obtain exact moisture content, but rather to obtain relative readings between suspected problem areas and non problem areas. This information is then used to help determine potential problem areas which may warrant more investigation.

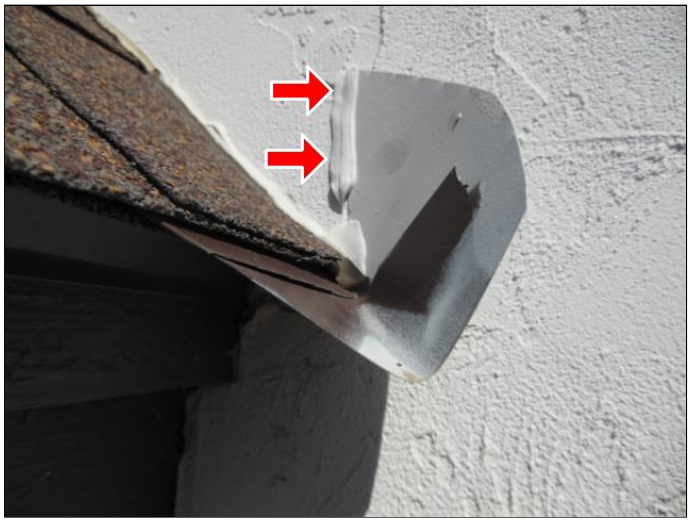
Items

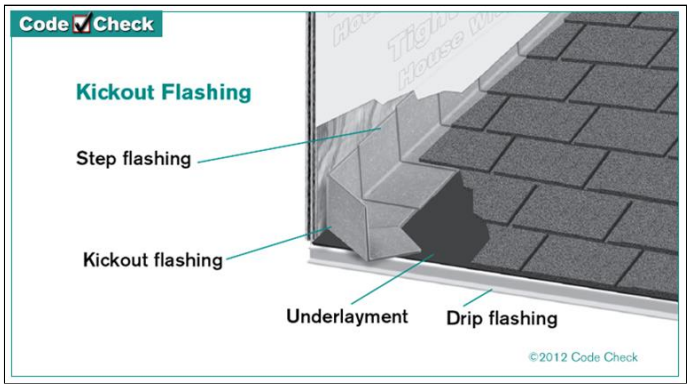
2.0 Elevation

Acceptable Moisture Readings

(1) There were no elevated moisture readings, and the wall sheathing was firm at all of the areas tested below.

(2) Some kickout flashings were installed improperly and have the potential to allow for moisture intrusion. Have them properly re-installed.





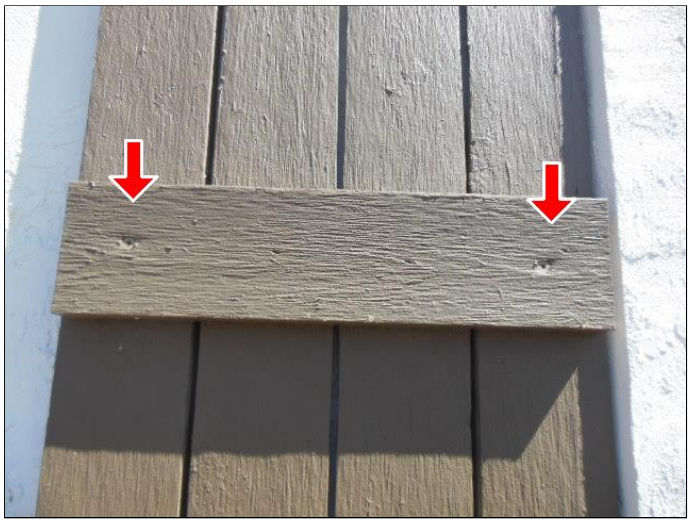
(3) Some kickout flashings were installed improperly and have the potential to allow for moisture intrusion. Have them properly re-installed.

2.1 Elevation

One or more marginal moisture readings

(1) The moisture readings in orange were between 16% and 19%, which indicates elevated moisture readings but without signs of structural damage. The cause of the elevated moisture levels should be identified and corrected. The moisture intrusion may possibly be corrected by caulking, sealing, or adding missing flashings. Have the affected areas re-tested within six months to one year.

(2) The shutters are installed in an unsatisfactory manner by screwing through the shutters into the stucco. The installation of the shutters should be modified to provide better protection from possible moisture intrusion. Clip-on brackets are a better option; these brackets attach to the stucco cladding, are sealed, and then the shutter is snapped on.

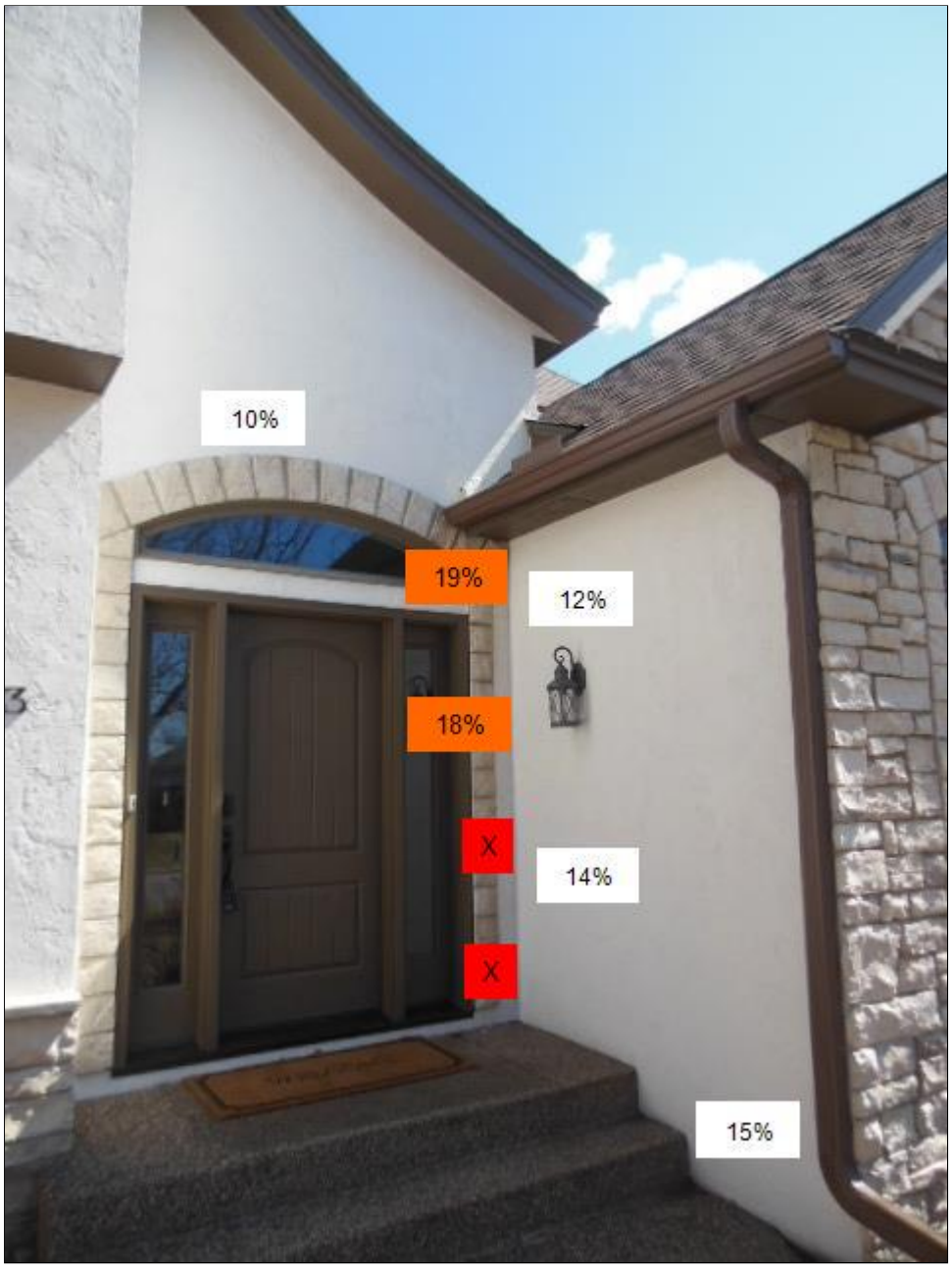


(3) The moisture readings in red were at 20% or higher indicating active leaking and possible structural damage.

2.2 Elevation

One or more marginal moisture readings, Unacceptable

(1) No sheathing detected or to soft to detect on red X area. This is consider wood rot. Investigate further.
The moisture readings in orange were between 16% and 19%, which indicates elevated moisture readings but without signs of structural damage. The cause of the elevated moisture levels should be identified and corrected. The moisture intrusion may possibly be corrected by caulking, sealing, or adding missing flashings. Have the affected areas re-tested within six months to one year.



(2) Some kickout flashings were installed improperly and have the potential to allow for moisture intrusion. Have them properly re-installed.

2.3 Elevation

Acceptable Moisture Readings

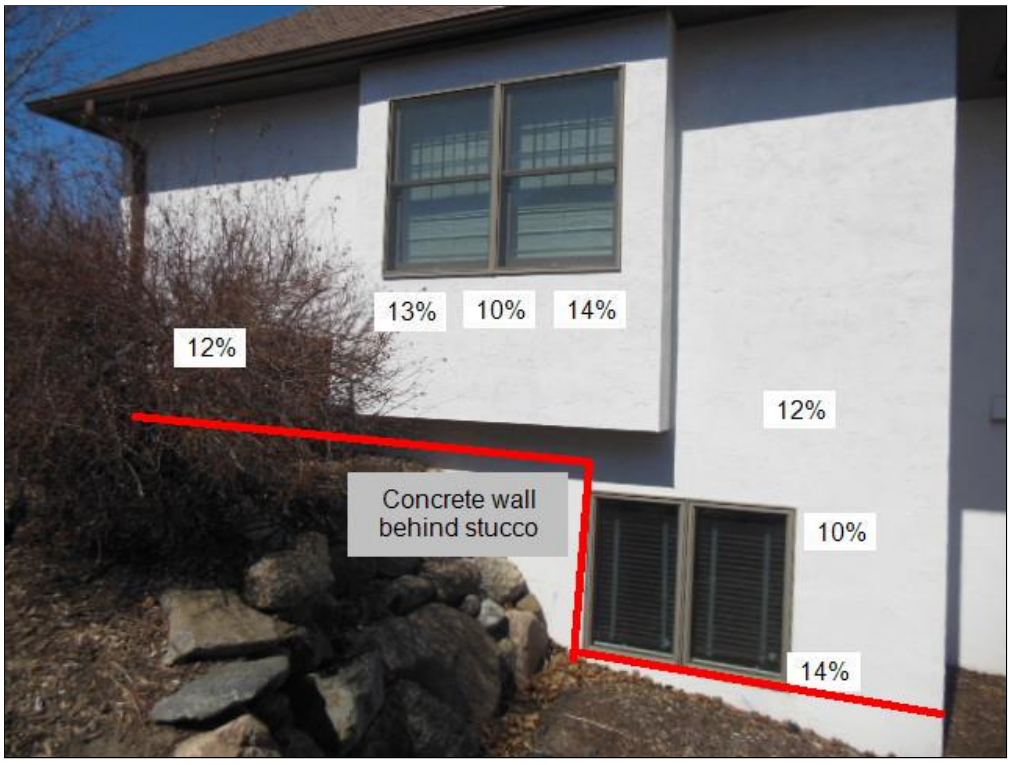
(1) There were no elevated moisture readings, and the wall sheathing was firm at all of the areas tested below.

(2) The stucco is installed below grade or within six inches of grade. This can result in several problems including moisture wicking up from the soil, moisture entering the walls from above being unable to drain, and insects entering the wall from underground. Consider having the stucco trimmed to six or eight inches above grade and installing a weep screed for better drainage.

2.4 Elevation

Acceptable Moisture Readings

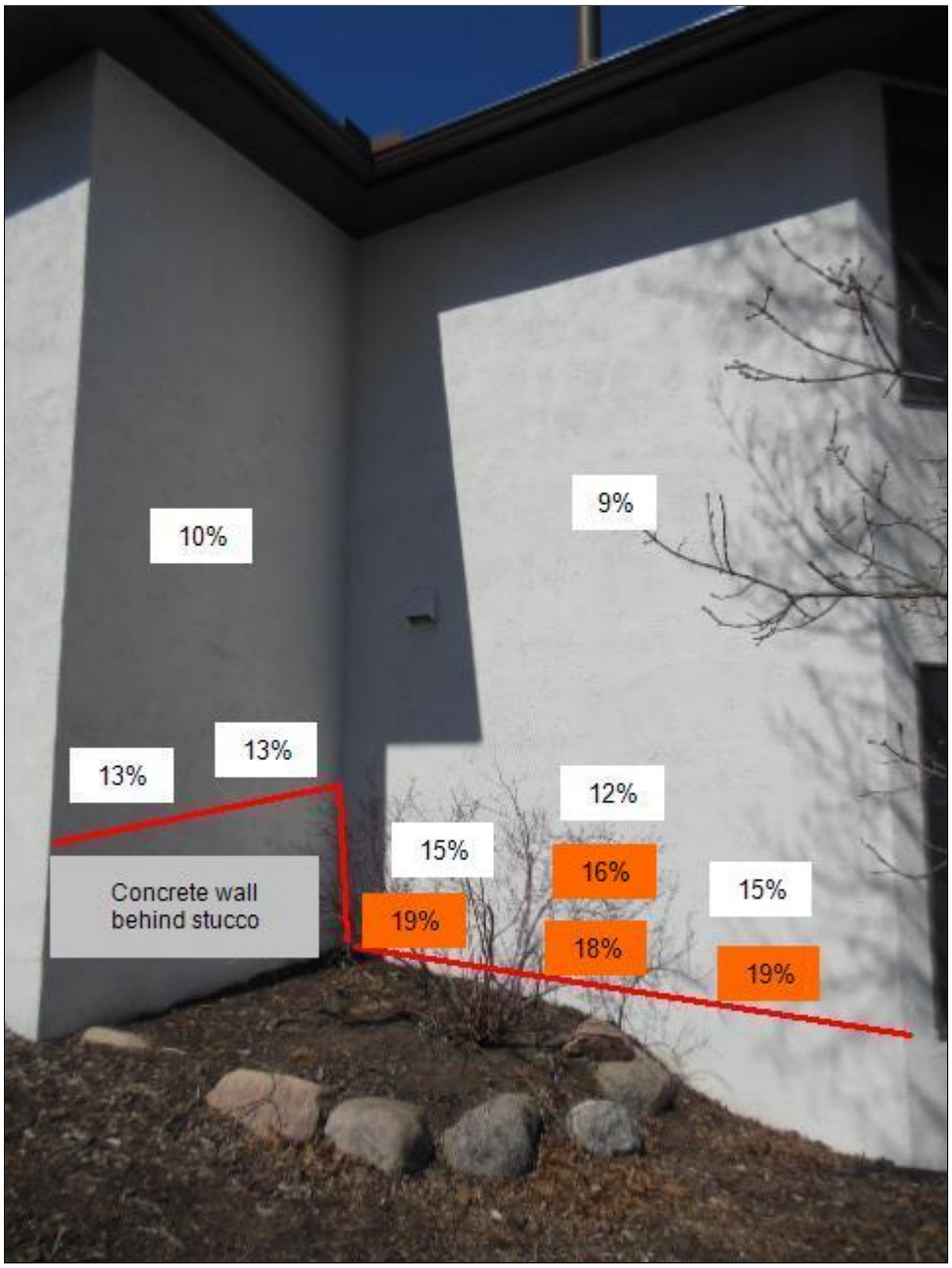
There were no elevated moisture readings, and the wall sheathing was firm at all of the areas tested below.



2.5 Elevation

One or more marginal moisture readings

The moisture readings in orange were between 16% and 19%, which indicates elevated moisture readings but without signs of structural damage. The cause of the elevated moisture levels should be identified and corrected. The moisture intrusion may possibly be corrected by caulking, sealing, or adding missing flashings. Have the affected areas re-tested within six months to one year.

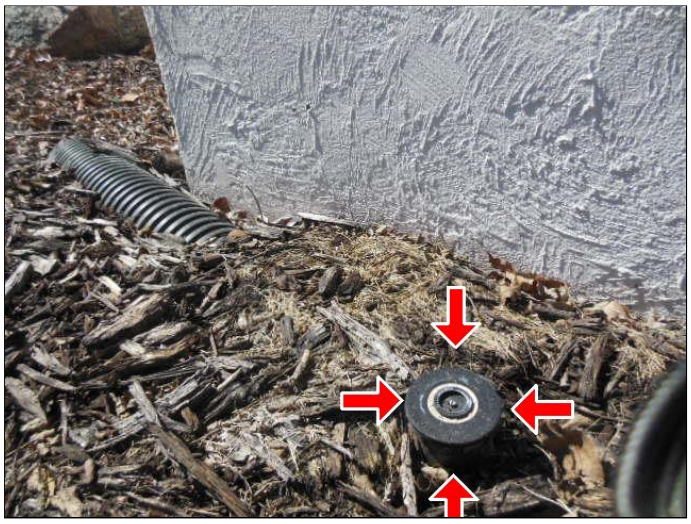


2.6 Elevation

One or more high moisture readings

(1) The moisture readings in red were at 20% or higher indicating active leaking and possible structural damage.

(2) Sprinklers to close to the stucco walls. Monitor or repair.



2.7 Elevation

One or more marginal moisture readings, One or more high moisture readings, Unacceptable

No sheathing detected or to soft to detect on red X area. This is consider wood rot. Investigate further.
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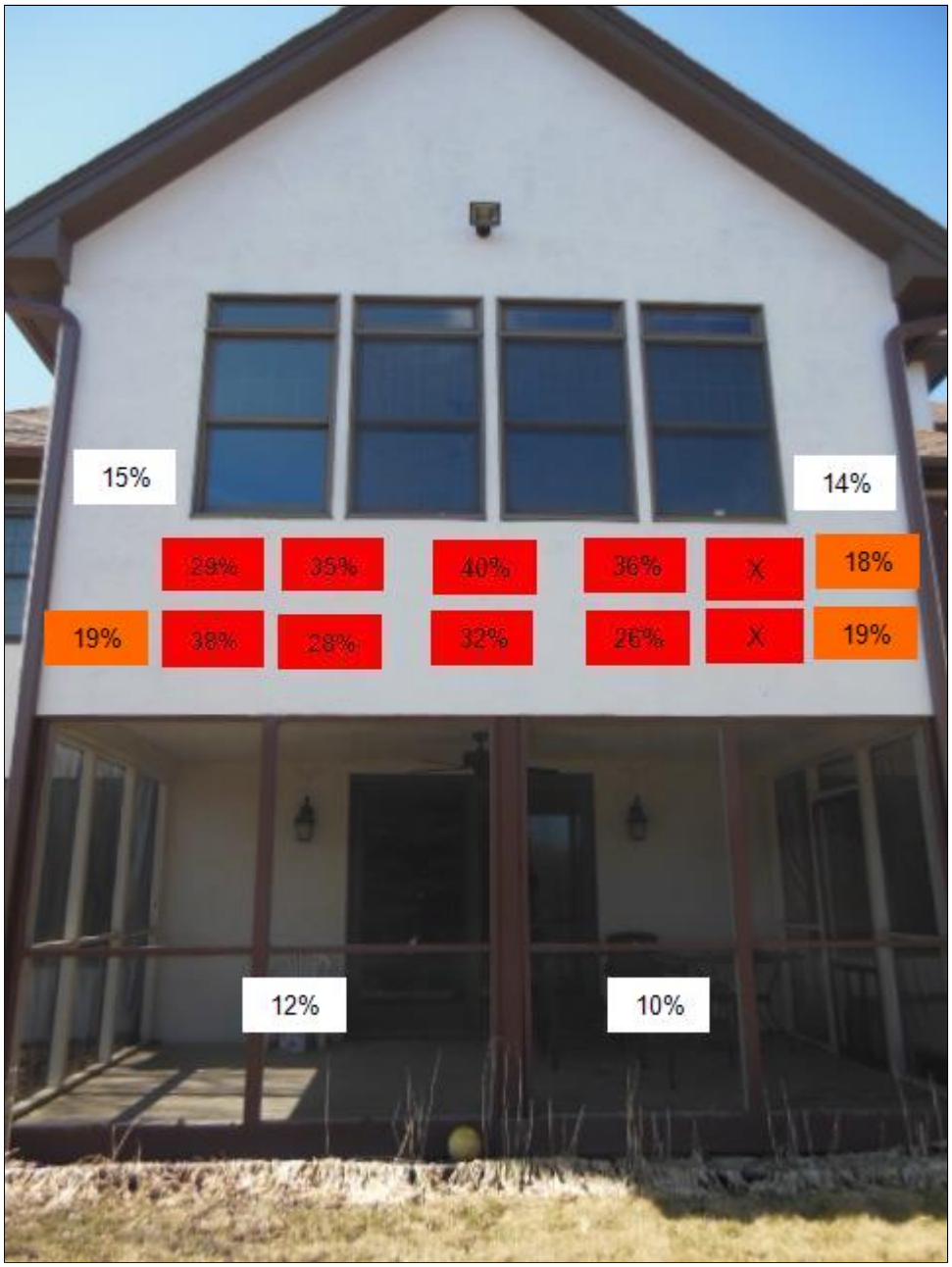
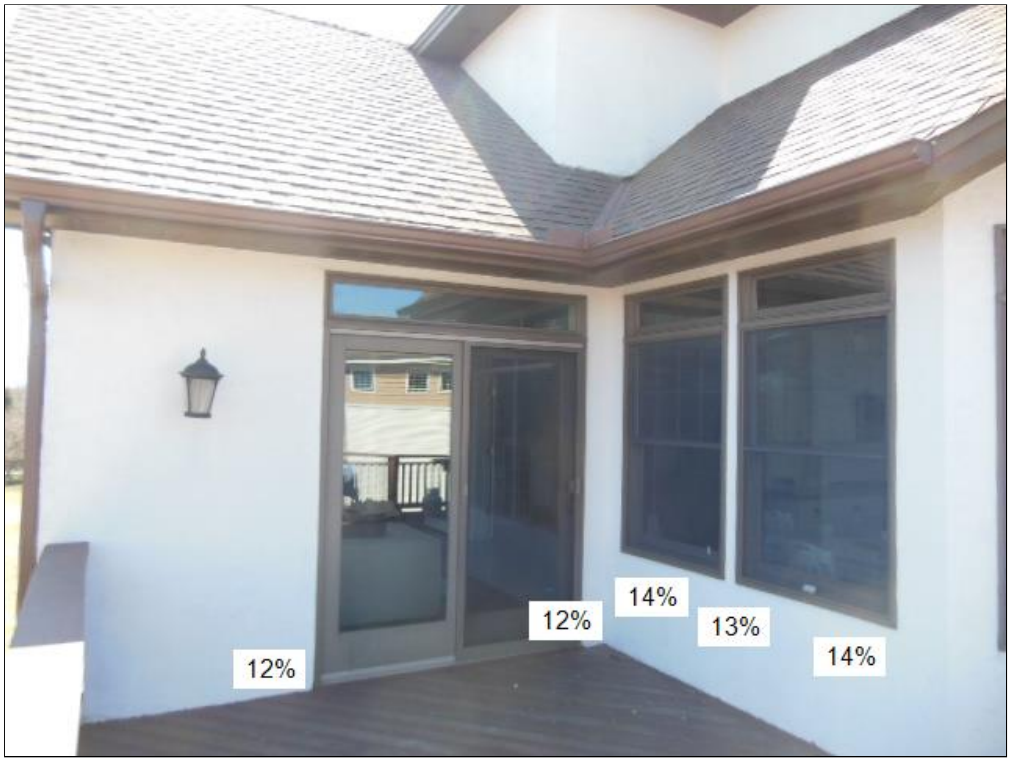


2.8 Elevation

Acceptable Moisture Readings

There were no elevated moisture readings, and the wall sheathing was firm at all of the areas tested below.



2.9 Elevation

One or more marginal moisture readings, One or more high moisture readings

(1) The moisture readings in red were at 20% or higher indicating active leaking and possible structural damage.

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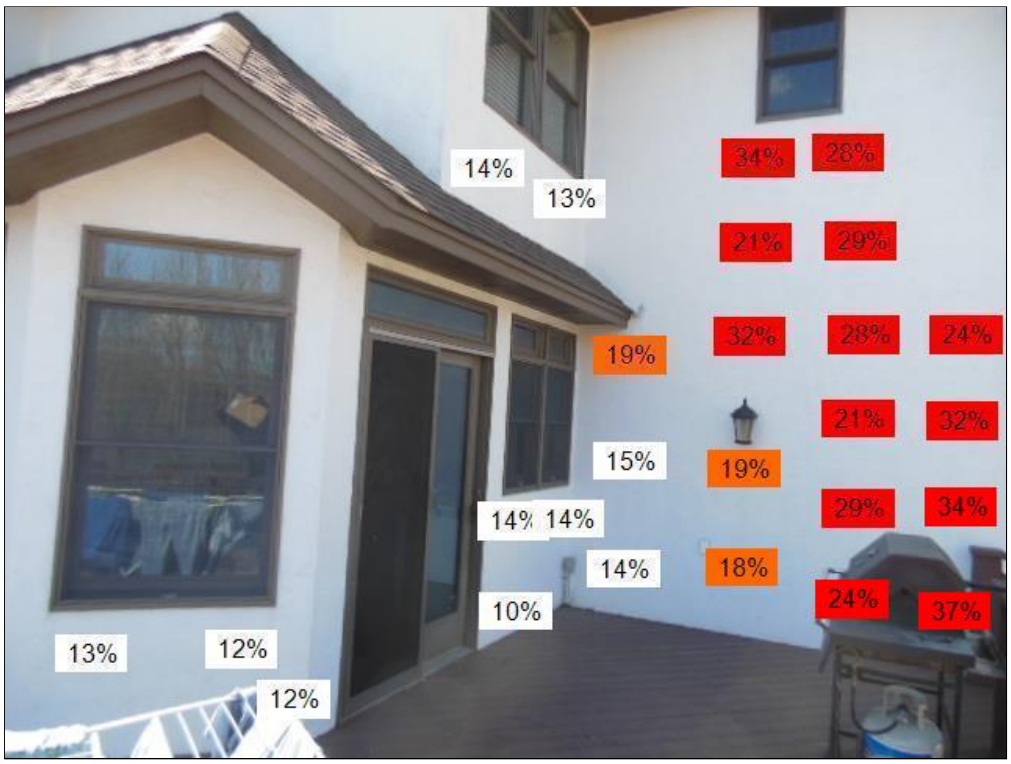
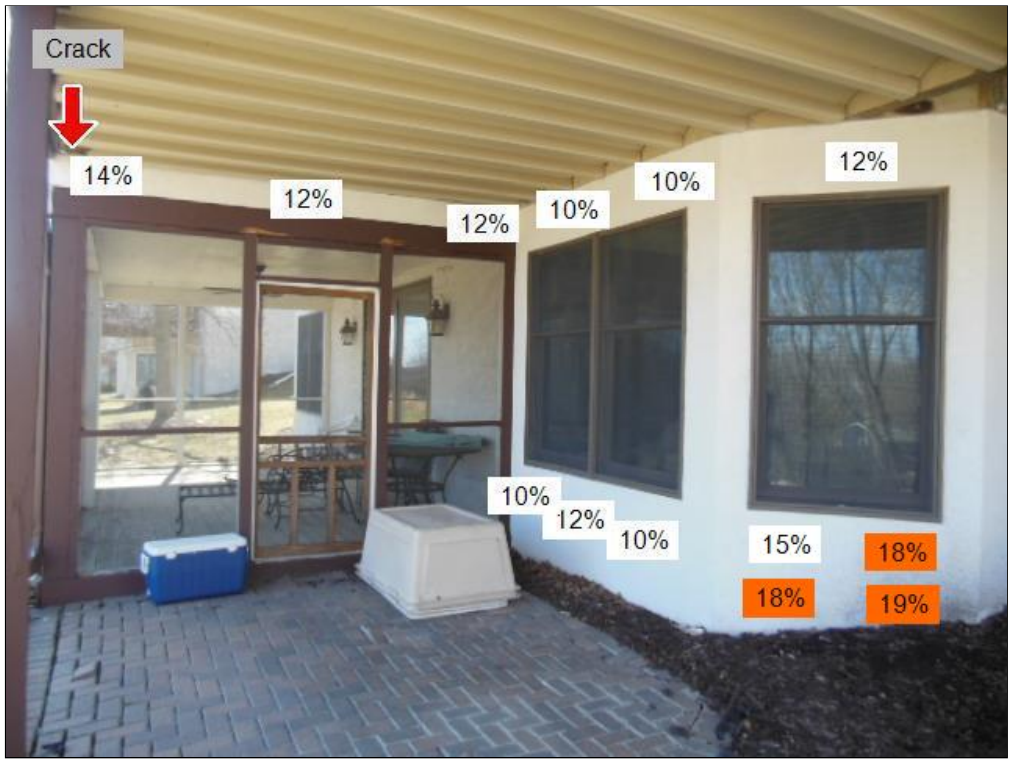


(2) Existing kickout flashings appear to be properly installed but are showing signs of high moisture intrusion. They may need to be re-installed, or if they were recently installed the affected areas may not have had adequate time to dry.

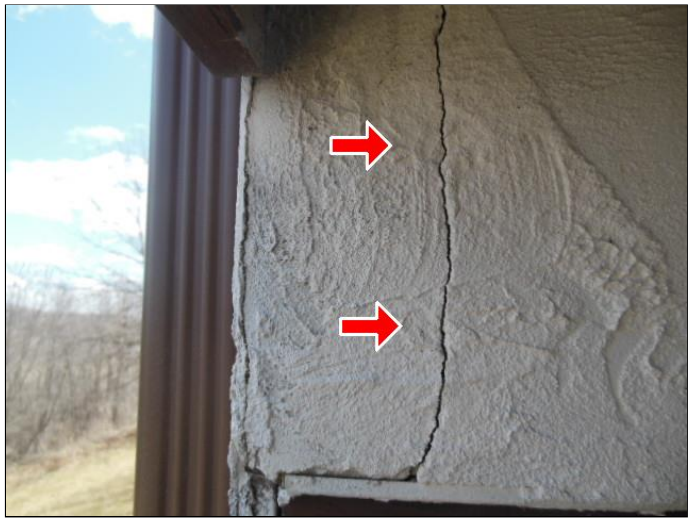
2.10 Elevation

One or more marginal moisture readings

(1) The moisture readings in orange were between 16% and 19%, which indicates elevated moisture readings but without signs of structural damage. The cause of the elevated moisture levels should be identified and corrected. The moisture intrusion may possibly be corrected by caulking, sealing, or adding missing flashings. Have the affected areas re-tested within six months to one year.



(2) Crack noted. Monitor or repair.



2.11 Elevation

One or more marginal moisture readings, One or more high moisture readings, Unacceptable

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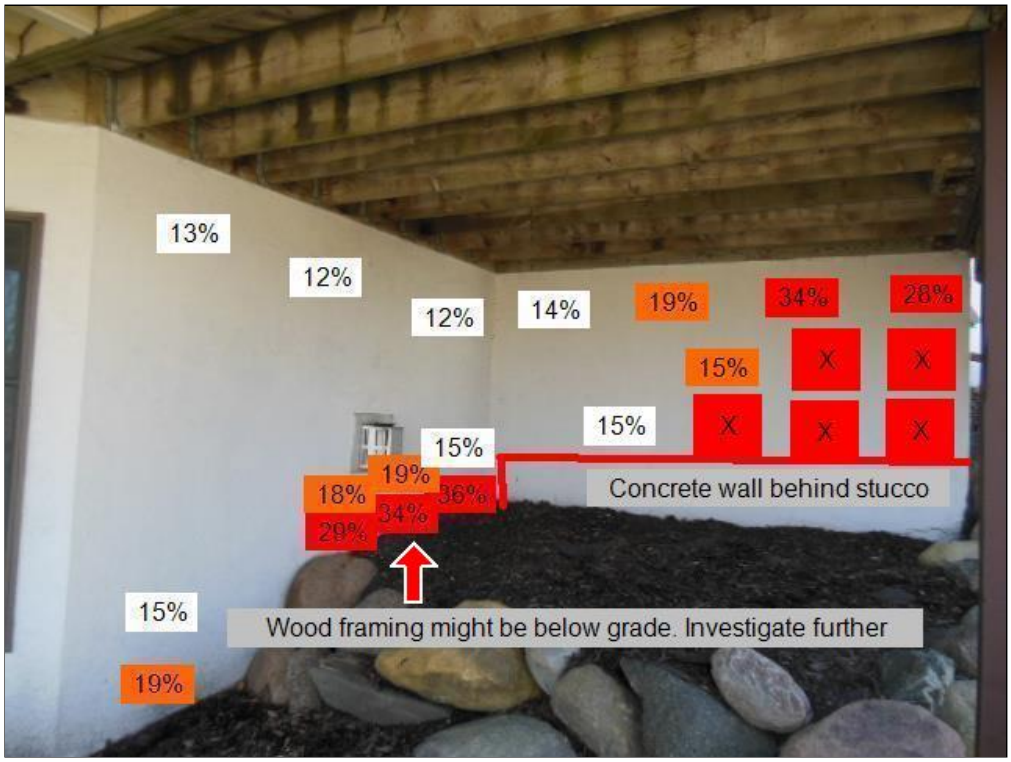

2.12 Elevation

One or more marginal moisture readings, One or more high moisture readings, Unacceptable

(1) No sheathing detected or to soft to detect on red X area. This is consider wood rot. Investigate further.

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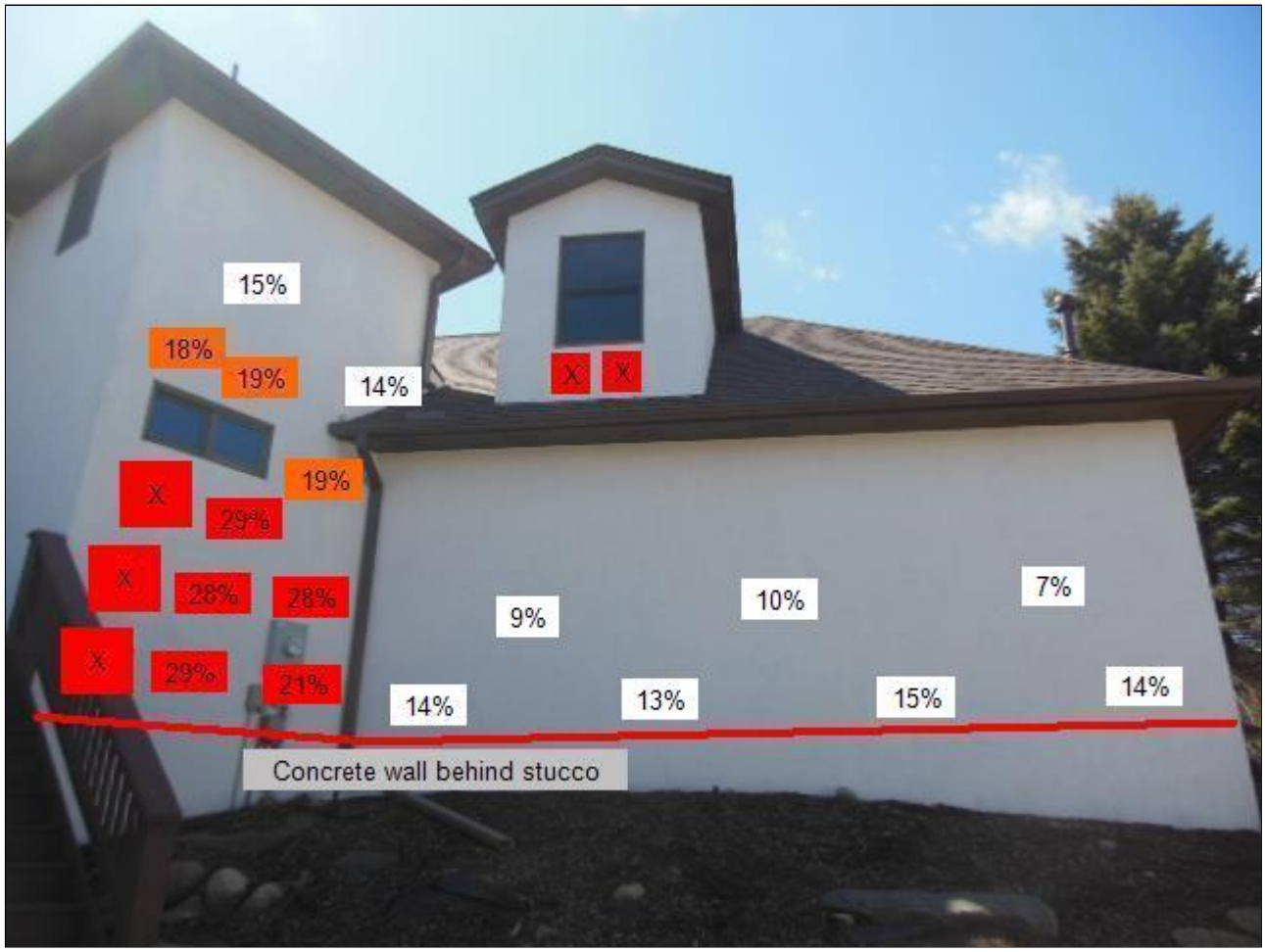

(2) Some kickout flashings were installed improperly and have the potential to allow for moisture intrusion. Have them properly re-installed.

2.13 Elevation

Acceptable Moisture Readings

There were no elevated moisture readings, and the wall sheathing was firm at all of the areas tested below.