Money Isn't the Root of All Evil...

WATER IS

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When asked to write an article about water intrusion, the first thing that came to my mind was an opening statement made by my law firm's founding shareholder, Doug Benson. Several years ago I took a construction defect case to trial on behalf of a community association. I was the associate on the case and the lead attorneys were Doug Benson and Jeff Kerrane. Before trial, the parties had been arguing about whether our law firm could mention the amount of money the developer had made producing the homes. The judge in the case issued an order prohibiting either party from discussing the amount of money the developer had made on the project. The judge made it clear that if we tried to introduce evidence related to profits, we would be in contempt and could plan on spending the night in jail.

When trial began and Doug began giving his opening statement, everyone was shocked to hear Mr. Benson begin by stating that one of his favorite musicians was Pink Floyd and that one of his favorite songs was "Money." I remember hearing the word "Money" and watching all of the attorneys in the room, including the judge, wait for Mr. Benson's next words. The tension was palpable. You could almost imagine what the judge was thinking: "Go there, counselor. Just go there. Please explain to us why you love the song 'money' so much. I can't wait to sanction you." But Doug continued on, explaining to the jury that in Pink Floyd's famous song "Money" he had warned that money was the root of all evil. He then explained that in construction however, water was the root of all evil. And it's true. In construction, water is the root of all evil.

Liberty Lewis, a forensic engineer and Senior Vice President of SBSA, a leading engineering firm in Colorado, says that water intrusion is the primary cause of damage to homes because a small amount of water can cause immense damage. She explains that water can enter a home through a single, small joint and once water gets into the home it can spread and affect a very large area. Although environmental disasters such as tornadoes, floods, or blizzards can cause significant damage to homes, Ms. Lewis argues that water is the most consistent and pervasive cause of damage to residential homes in Colorado.

What Causes Water Intrusion in a Residential Home?

Water intrusion can originate from numerous sources. Often, water intrusion is caused by moisture entering into the home through the walls of the building or through the roof. Other times, water intrusion can be caused by pipe bursts, sewer line back-ups, and flooding from outside the building. Water intrusion will typically occur where dissimilar materials meet one another, such as where siding meets brick or where a window meets stucco. This is because the locations where dissimilar materials meet are the most likely to have cracks or sealant failures that allow water into the building. Some of the problems that might cause water intrusion to occur at these locations are sealant failures, poor flashing design, poor application and workmanship, and poor choice of materials.

Water is pervasive and has unique properties that make it difficult to keep out of your home. Ms. Lewis says that most of her job as an engineer boils down to two simple rules: (1) water flows downhill, and (2) gravity applies to you. She argues that many construction deficiencies resulting in water intrusion are caused by a misunderstanding of these two concepts. To illustrate this, Ms. Lewis uses the example of a bath tub with a shower curtain. As the water hits the curtain it begins to flow down toward the floor. If the shower curtain is placed on the inside of the bathtub then the water will remain in the tub. However, if the curtain is placed on the outside of the bath tub then the entire system will fail. Ms. Lewis' example demonstrates the way in which an engineer could design everything perfectly but fail to account for a single component that allows the water management system to fail. Alternatively, the design may be perfectly executed but improper installation may cause the system to fail. The same concept applies to homes. A home must be entirely waterproof because water is so pervasive. If any component of the water management system fails, then water will likely find its way into the home and damage is likely to occur.

How Are Water Management Systems Designed?

Ms. Lewis explains that one of the biggest misconceptions concerning the way in which buildings are waterproofed is the idea that the façade of the building acts as a water barrier. The façade, whether it be stucco, siding, or stone masonry does not create a water barrier that prevents water intrusion. In reality, most of the water management and protection is behind the building's façade. Because the exterior façade of the home does not protect against water intrusion, it can sometimes be difficult to determine whether water intrusion has actually occurred.

Rather than the façade, the primary protective barrier against water is called the weather resistive barrier or WRB for short. The WRB is actually behind the façade, hidden from view. It is typically used in conjunction with various types of flashings, weep mechanisms, and sealants to create a barrier to prevent water from entering the home. The whole system works together to ensure that the home is watertight. What makes things particularly complicated is that different types of weather resistive barriers are used behind certain types of building materials. Ensuring that entire system works cohesively is the job of the engineer who designs the system.

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How to Identify Water Intrusion

It is imperative to identify water intrusion as soon as it is discovered because of its pervasive and damaging effects on building materials. Ms. Lewis investigates water intrusion problems on a regular basis. She says that community managers should look for the following common signs of water intrusion:

Look for drip marks hours after it stops raining. If drip marks exist, if the area is wet, or if dark patches are present, whether inside or outside, may be a sign that water has intruded and that the building materials are holding water.

Investigate the locations where dissimilar materials meet. If the sealant is damaged or delaminating then water intrusion may have or will occur.

Be sure to check common locations where water intrusion occurs such as decks, balconies, windows, and roofs.

Investigate and chase water damage to its source. Water can travel long distances from the location of the water intrusion to the ultimate location where damages manifest. Tracing and repairing the source of the water intrusion is the first step in fixing the problem.

If you determine that water has intruded into a home then the next step is to determine if there is a pattern of water intrusion. Determining whether a pattern of water intrusion exists is crucial because if a pattern exists then your community may have a widespread water intrusion problem. If a widespread water intrusion problem does exist, it may be the result of defective construction, improper design, or poor maintenance.

To determine if a pattern of water intrusion exists you should investigate whether similar locations around the property are leaking in the same manner. You should also determine whether the leaks occur at the same time of year, whether the same units are affected every time, or whether certain building components are deteriorating more rapidly at certain times of the year. If a pattern of deterioration or water intrusion exists then the water intrusion may be a widespread problem. In contrast, if a pattern does not exist, then the water intrusion may be an isolated incident. Knowing whether the problem is widespread or not can dramatically affect the way in which you solve the problem. An isolated incident can likely be solved with minor repairs or increased maintenance whereas a systematic, widespread water intrusion problem may require a special assessment, a new maintenance plan, or possibly litigation against the builder.

What Type of Damage Can Water Intrusion Cause?

Water can cause various types of damage to a home. Often, water will cause staining, peeling paint, mold, premature deterioration, or rot. When structural building components are subjected to water exposure then structural damage can occur. For example, if a wooden deck's structural beams are exposed to water for a prolonged period of time then they can deteriorate and lose their structural integrity, possibly leading to a catastrophic failure.

When water enters the interior of the home it can damage the interior finishes including the carpet, wood flooring, dry wall, wood framing, and even household items such as furniture. The water can also cause mold to develop, which can be harmful to the occupants of the home. The damage can be staggering because, as stated above, a small amount of water can cause significant damage if not identified.

What Should You Do If You Have A Water Intrusion Problem?

If you think that you might have a pervasive water intrusion problem or you are having trouble identifying the cause of the water intrusion then contact a forensic engineer with expertise in identifying the scope and extent of water intrusion problems. Finally, if you believe that the water intrusion is the result of a construction defect, contact an attorney specializing in recovering damages for construction deficiencies.