

Real Estate Journal

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THEY CAN DELIVER THE MOST EFFECTIVE RESULTS

Sealing the building envelope consultants can play a major role

By definition, an “envelope” is an encapsulating covering such as an outer shell or membrane. In simple building terms, it consists of the roof, the above-grade wall system, and the below-grade wall system. The purpose of the building envelope is to protect the interior from external elements, including moisture, air, and temperature ingress and egress. The definition sounds simple enough, but in reality, because of the thousands of complex products and systems specified and the multiple trades involved, the probability of defects is relatively high.

Depending upon the complexity and scope of the building envelope deficiency, a building owner or property manager may choose to hire a professional contractor to perform repairs. Although the contractor may do a competent job, he may not identify root causes of the problem that can often lead to more costly repairs in the future. Fortunately, contractors are beginning to realize that partnering with a building envelope consulting firm, such as Abbot Building Restoration Co., can deliver the most effective results for both the building owner and the contractor.

Working in Concert With Contractors

Professional consultants recognize that, despite continuous advancements in roofing, waterproofing, and envelope systems, when incorporated into the composite envelope, buildings still leak! This is most often caused by the individual components not being adequately detailed to allow the envelope to function as a cohesive unit. It is not the actual waterproofing



Abbot worked in conjunction with Silverman Trykowski Associates to perform a major restoration of the masonry entrance to the library at Eastern Nazarene College in Quincy, MA.

materials or individual components that leak, but the junctures and terminations of these individual components.

Working in concert with contractors, consultants can take an active role in restoring the building envelope first by ensuring that proper detailing for junctures and terminations is provided in the construction documents. And secondly, by encouraging and participating in building envelope design and review meetings at the actual jobsites, assisting trade contractors in recognizing their role in providing a weathertight seal.

Water Most Damaging

For example, water penetration through building envelopes continues to be the number one source of complaints and related lawsuits from

building owners. Yet, so little progress seems to be made to adequately address long-term solutions. It is said that 90% of all water intrusion problems occur within 1% of the total exterior building surface. That 1% comprises the various details that cover the necessary junctures and terminations of individual components. Too often, items are specified or installed without adequate thought to how they will affect envelope performance and act cohesively with other envelope components. For example, everyone is aware that all exposed rooftop mechanical equipment must in itself be watertight, but few designers and specifiers give recognition to the critical connections and transitions attaching the equipment to the building envelope.

Older Buildings Most Vulnerable

Older buildings are particularly vulnerable to deterioration from the elements and father time. Many older buildings are constructed with multi-width reinforced masonry walls. Over time, the layers can begin to separate causing leaks that penetrate the structure. In addition, windows in these types of structures can also deteriorate over time. In fact, even replacement windows have life span issues that may need to be addressed.

A Wise Investment

In summary, key tasks that can be performed by a building envelope consulting firm include:

- Reviewing all building facade components.
- Reviewing the roofing and waterproofing systems to be incorporated into the envelope.
- Following the envelope barrier system's front line to ensure complete continuity.
- Reviewing all termination details for a watertight seal.

Hiring a consultant can often be a wise investment for the building owner assuring that the problem will be rectified in a timely and proper manner. By identifying problems and specifying repairs, consultants can level the playing field for all contractors bidding and working on a particular project. The consultant defines the problems, conducts appropriate tests, and provides a bid specification for the project. The consulting firm may also identify one or more qualified contractors it feels would be most appropriate to handle the job.