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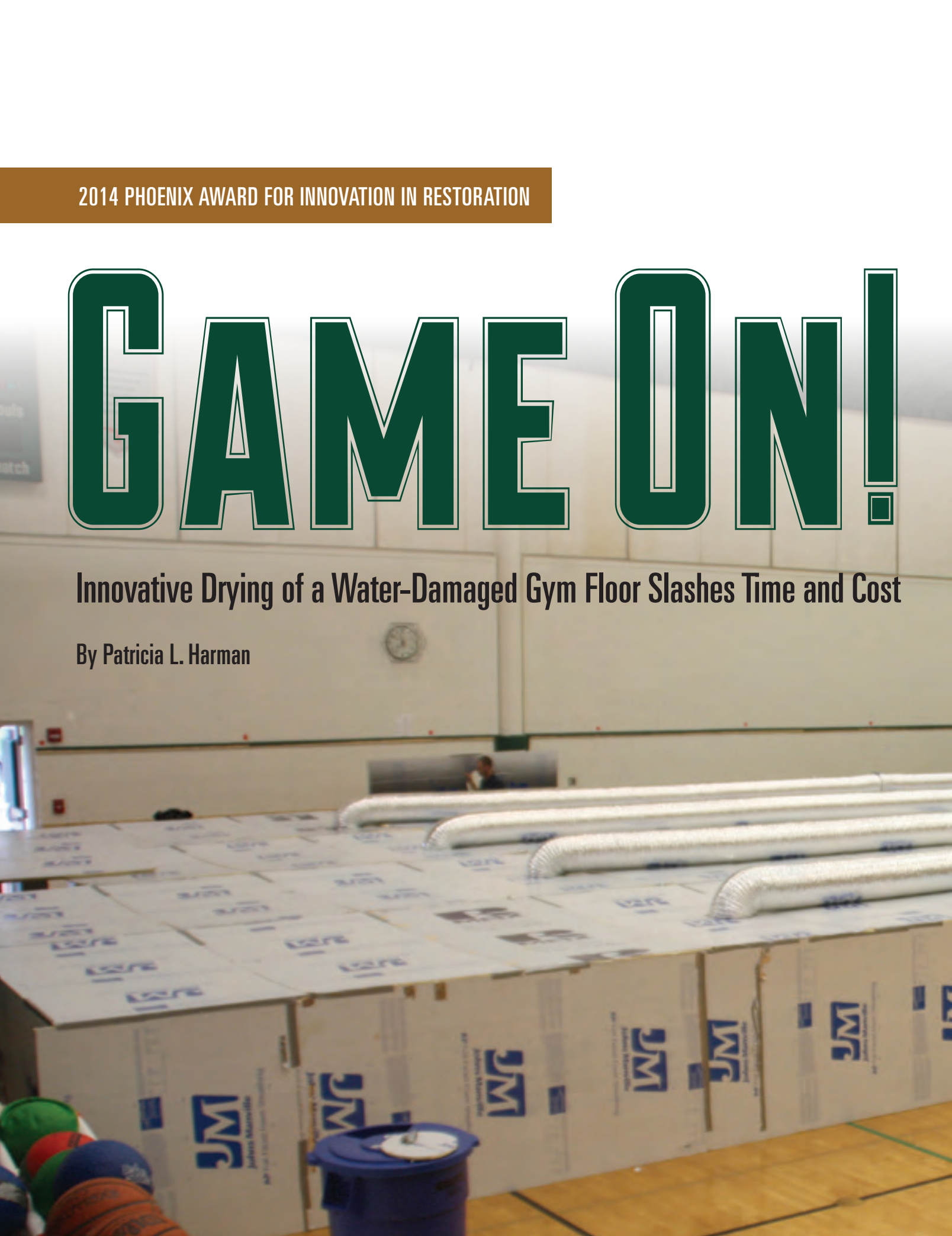
GAME ON!

Innovative Drying of a Water-Damaged Gym Floor Slashes Time and Cost

By Patricia L. Harman



The set-up process required a highly coordinated effort by the entire response crew. Creating the temperature-control containment was a laborious undertaking. The process used all the restorative drying factors together, all under total technical control. Switchable lighting was added for additional safety in the confined space and to facilitate the meter-reading process.

A plumbing failure on the transverse outside wall of the Cary Junior High School in Cary, Ill., released water down the wall into the gymnasium, damaging half of the floor. Because the water loss was highly concentrated, so was the damage, which involved significant cupping and warping. There was also a significant hump just under the markings for the basketball free-throw line. ACR Inc. of Wheeling, Ill., was hired for the gym floor restoration.

Over the last 27 years, ACR has honed its knowledge and reputation as a mitigation-only specialty restoration firm. The company has two staff members who have achieved Water Loss Specialist certification and both were actively involved in this loss.

ACR encountered several challenges on this particular project. Since a tournament was scheduled to take place in the gym just three weeks after restoration began, a solution had to be determined quickly. Moisture meter readings confirmed that the water damage also extended into the multi-layer structure under the floor.

The general assumption when gym floors become unstable due to water damage is that they need to be removed and replaced. The average gym floor is 6,400 square feet; according to a local flooring contractor, the replacement cost for the entire floor would run approximately $240,000, not including the cost to move the bleachers and resurface and restripe the floor. Removal and replacement would also take up to two months to complete.

John Schaefer, WLS, and Michael Smolka, WLS, led ACR's analysis of the loss. They considered the floor's construction, the type of wood, the subfloor assembly, sleeper system and the vapor barrier in devising their plan. They determined that a foil-backed temperature control containment system with push-pull air movement would be the most effective means of drying the floor.

"As is often the case when a new technique or concept is introduced, the most challenging part was to

(Above) A plumbing-related failure released water down the gymnasium wall, and under the center of the affected half of the gym. This water loss was more highly concentrated and directional, causing a higher range of damage into a smaller area.

(Right) The distortion of the wood was serious. Both the width and the length of the boards were swollen.

convince the loss stakeholders that drying in place was even possible," said Jim O'Callaghan, ACR's co-founder and managing director. "The traditional viewpoint is tear-out and replacement, so that was the universal mindset … at first. Fortunately, we successfully communicated the advantages in both financial savings and preservation of operational continuity."

Since only half of the gym, or approximately 3,200 square feet, was damaged, the school could still use the other half of the floor while ACR built the containment and dried the floor.

Setting up the containment required coordination by the entire response crew. Switchable lighting was incorporated into the containment for additional safety and to help facilitate the meter-reading process. Controlling the temperature in the containment was critical.

"John took the key concepts he learned in Bolden's Hydro Lab, as well as the WLS program, combined with years of experience and a great deal of trial and error —including trial and success—to culminate in the current approach for containment," explained O'Callaghan. "The containment for this project took five people approximately 10 hours to construct."

It took the team only five days to restore the floor's moisture content to normal levels. This ended up being one of the fastest floor recoveries the ACR team had undertaken. Using this type of containment was critical to introducing temperature control and managing the pieces to accelerate the drying time. Tenting would have taken two to three times longer to dry the floor, but still would have been faster than a full replacement. The surface boards as well as the floor were flat and ready to use without any resealing or restriping required.

O'Callaghan says when drying a gymnasium floor, contractors should be aware that each floor and subfloor assembly will be different. It's critical to understand psychrometry and the physics behind specialty drying. Plus, contractors must take the time to

After restoration, the surface of the boards, as well as the floor as a whole, were flat and ready to use. The floor's moisture content was restored to normal levels in just five days. Other methods used elsewhere in the past, such as tenting, would be expected to take two to three times longer—still a considerably faster and more cost-effective choice than replacement.

"The most challenging part was to convince the loss stakeholders that drying in place was even possible."

educate the loss stakeholders on new methods, and set realistic expectations.

"Our approach to drying gym floors has many variables, and it is only through trial and error, and exhaustive research on the characteristics of materials, subfloor assemblies and a solid understanding of drying concepts that we have arrived at this level of performance," O'Callaghan said.

ACR's approach resulted in saving more than 90 percent in operational continuity for the client. Educational facilities cannot afford to lose the use of their gymnasiums for weeks or months, so drying in place provided a cost-effective and time-efficient solution to the problem. It also added value to the insurance process by achieving pre-loss condition for 80 percent less than the cost of replacement. They also supported the adjuster and insurer by delivering positive outcomes on several levels.

While some situations will require demolition and installation of a new floor, restorative drying in place offers a faster and less expensive option that can benefit the stakeholders, insurers and restorers. RIA

Patricia L. Harman was the editor-in-chief of C&R *for nearly 19 years.*