

FASTCOMPANY

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[This centuries-old Massachusetts water mill is now an electric apartment complex](#)

Residents can see a 180-year-old turbine as they walk to their apartments.



[Photo: The Architectural Team]

BY [Patrick Sisson](#)

There's space within the lobby of the Stone Mill Lofts, a new 86-unit rental community in Lawrence, Massachusetts, that [the Architectural Team](#), or TAT—the design firm behind the project—calls the windows into the past. Gaze into a pane of glass set in the wall, and you can see a 180-year-old turbine, machinery preserved in amber, as you walk up to your apartment.

Built from the bones of a 179-year-old mill building, this new residential complex shows how architects can achieve exceptional energy performance while meeting historic preservation requirements. It's a model of turning some of the nation's oldest industrial stock into new housing that can bring residents and renewed energy to an old downtown.



[Photo: The Architectural Team]

TAT's \$39.2 million project converted a cavernous stone mill into an all-electric apartment building. The transformation required extensive insulation work on the pre-Civil War structure, which included spraying high-insulation foam to better seal the outer walls, a mixture of wood, stone, and shiplap that was porous. For comparison, the Stone Mill Lofts actually have a tighter seal on the exterior than many LEED-certified buildings.

The insulation, along with the use of electric heat pumps, will not only cut the building's energy use but also lower its carbon footprint by 33% compared to a typical apartment building. The combined use of a relatively newer spray foam, along with the all-electric energy system and better ventilation and filtering systems, allowed TAT to preserve and reuse this structure in a way that might not have been feasible even a decade ago.

Going all-electric was a little more expensive up front, says Scott Maenpaa, a TAT project manager. But because developers just had to upgrade a preexisting building, and could utilize historic tax credits, a more sustainable development became possible.



[Photo: The Architectural Team]

It wasn't all easy. Finding a solution to replicate the building's historic windows (which was required to meet preservation goals) but also make them airtight enough to maintain energy performance, was complex. It took four months and a handful of different fabricators to come up with the right solution.

Completed in 1848 by the town's namesake, Abbott Lawrence, the 149,220-square-foot complex was previously used to make tools, mill machinery, water turbines, and millwork for textile factories during the Industrial Revolution. The former workspace has now been redesigned and redivided into apartments, as well as amenity spaces such as a children's playroom, billiards room, and work-from-home pods.

It was a perfect adaptive reuse target for WinnDevelopment, the development firm that has reworked 45 historic sites since 1981, including two other Lawrence mill buildings. These massive structures serve as anchor points and pillars of the community, says Maenpaa, but have been lost and forgotten over the decades, oftentimes left vacant or used as storage space.

"By preserving them, we're not only bringing new life into the building and giving the community much-needed affordable housing," he says, "we're also keeping the history of that community alive."