

TAT designs Boston affordable housing to Passive House standards



The Architectural Team (TAT) is designing a new apartment community for low-income seniors in Boston, Massachusetts, using Passive House construction.

Image courtesy TAT

[The Architectural Team](#) (TAT) is designing a new apartment community for low-income seniors at one of the country's oldest federal public housing developments in Boston, Massachusetts. It will offer some of the most comfortable and efficient rental homes, thanks to the innovative methods of Passive House construction.

The new, 55-unit expansion of Old Colony in South Boston is part of a decade-long redevelopment of the Anne M. Lynch Homes at Old Colony, as the affordable housing complex is known. According to the architects, the work also reflects an emerging national wave of affordable multi-family housing built to the stringent, energy-saving Passive House standard, which is better known for its use in high-end, single-family homes.

"Leading developers of affordable and workforce housing are employing Passive House standards to benefit from their lower ongoing operating costs, healthier interior environments for residents, and a growing number of incentives from states and cities," said project manager Nate Thomas of TAT. "It is a critical and necessary step in facilitating more and better affordable homes while also reducing greenhouse gas [GHG] emissions and tackling climate change."

For phase 3C of Old Colony, TAT and developer Beacon Communities have conceived the 4738-m² (51,000-sf) property in association with the Boston Housing Authority, which is leading the revitalization of the entire 400-plus unit community, the Homes at Old Colony.

The work will complete a third stage of redevelopment currently underway, with phase 3A bringing 135 affordable apartments across two buildings, and phase 3B comprising 115 units in a single four-story structure. Several previous phases transformed the former mid-century superblocks into a welcoming, award-winning neighborhood of mid-rise buildings and townhomes.

TAT's architectural approach for this latest component draws on staples of Passive House design including heavily insulated walls and high-performance windows, along with passive solar design and an emphasis on compact, simple geometries to reduce thermal bridges. A highly efficient HVAC split system further ensures a healthy and comfortable indoor environment by reducing contaminants such as mold. The project's roof-mounted photovoltaic (PV) array generates power to cut carbon emissions and boost sustainability and resiliency, too.

Other comfort- and performance-enhancing features at Old Colony do double-duty as engaging elements of the exterior design. For example, thermally broken metal fins act as solar shades bracketing many of the building's window openings, thereby reducing solar heat gain while adding dynamic visual interest to the façade.

"With a creative approach to elements such as the solar fins, our team found ways to form a striking and distinctive, yet contextual architectural presence, despite the challenges of designing to the rigorous Passive House standard," said Jay Szymanski, AIA, NCARB, LEED AP, the project's architect and TAT associate. "The result is an apartment complex that fits into the larger Old Colony community and also makes a statement with highly livable, sustainable, and attainable rental homes for a vulnerable population."

Old Colony Phase 3C is expected to be complete in 2022. Phases 3A and 3B are set to complete in 2021 and 2022, respectively.