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First “Passive Building” residence hall in Mass. cuts costs by 50%

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Norton, MA According to SGA, Massachusetts’ first “Passive House” residence hall is certified with Passive House Institute US Certified (PHIUS), indicating top energy performance. Since it opened in August 2019, operating costs have been cut by 50%. The four-story, 45,000 s/f building includes 178 beds of undergraduate housing.

“We have been thrilled to present Pine Hall as Passive House construction. People are incredibly impressed by the efficiency that this building is designed to achieve,” said Ed Burnett, associate dean for Campus Life at Wheaton College. “The new residence hall is a source of pride, not only for the residents who live there, but also the community as a whole.”

Passive building design implements “a set of design principles used to attain a quantifiable and

rigorous level of energy efficiency within a specific comfort level.” (as laid out by PHIUS) Energy efficiency stems from continuous insulation throughout an airtight building envelope, high-performance windows, balanced heat- and moisture-recovery ventilation, management of solar gain, and elimination of thermal bridging. Certification with PHIUS ensures that energy performance in reality aligns with energy modeling targets.

Following these principles, SGA designed Pine Hall at Wheaton College to achieve PHIUS certification. It is the first PHIUS-certified residence hall in the state. Since August, students have enjoyed living in Pine Hall, used for undergraduate housing in addition to shared flexible gathering space that serves the entire lower campus

“The benefits of designing these residence halls to passive house standards are proving out both in terms of student health and wellness, as well as reduced operating costs and energy use, as compared to Massachusetts’ rigorous energy code,” said Al Spagnolo, AIA, NCARB, and president and founding partner of SGA.

SGA has designed two such residence halls that opened for the fall 2019 semester as the first in Massachusetts to meet the extremely rigorous energy-efficiency standards of PHIUS, at both Wheaton College and Williams College.

“Through these projects, SGA has gained significant experience in applying PHIUS principles. We owe our expertise in part to working with forward thinking clients who are as committed to sustainability and energy performance. We look forward to applying this experience to projects of other similarly advanced clients,” said Spangolo.

John Sullivan, assistant vice president, Business and Physical Plant at Wheaton College, said that his college’s current student body and prospective applicants, along with their parents, are very concerned about climate change and the actionable steps that Wheaton College may be taking to address this threat.

“Pine Hall and its Passive House certification represent the College’s commitment toward lowering our carbon footprint, investing for energy efficiency, integrating performance based system design and achieving low impact development,” said Sullivan.

In addition to providing responsible design critical for reducing our global environmental footprint, SGA believes that sustainability initiatives are already playing a significant role in students’ criteria for college selection. As the competition for students increases, so will the adoption of PHIUS and other similarly aggressive carbon neutrality strategies and SGA is positioned to implement them without significant additional capital investment.