Session 3: <u>Achieving High Performance in Public Buildings: Design for Zero Net Energy, Low Carbon, and Material Health</u>

<u>Wednesday, September 24, 2025</u>
<u>8:30 a.m – 9:30 a.m.</u>

The Designer Selection Board will host a continued session with the Perkins&Will team **Patrick Cunningham**, AIA, LEED AP BD+C, LFA, Principal, and **Tyler Hinckley**, AIA, LEED AP BD+C, RELI, LFA, Senior Associate, Senior Regenerative Design Advisor. The presentation will be the third in a series of three sessions. This session will take place outside of the Designer Selection Board meeting. The session is offered as an AIA CES credit of 1 LU/HSW.

This session explores the design methodologies, partnerships, and iterative prototyping mindset necessary to deliver **regenerative design** that advance public health, resilience, and climate action. Drawing from recent case studies, including the Stoneham School project, the session highlights strategies to reduce operational carbon, integrate renewable energy, and achieve Zero Net Energy (ZNE) targets through deep collaboration and early-phase analysis.

Participants will gain insight into how buildings—with their diverse programs, occupancy schedules, and public procurement processes—present unique opportunities to pilot aggressive sustainability and resilience strategies. The session will demystify key concepts like Energy Use Intensity (EUI), Power Purchase Agreements (PPA), and multivariate design optimization, showing how a coordinated, interdisciplinary team can drive health and performance outcomes.

Importantly, the session will include an introduction to **material health**—a vital but often overlooked dimensions of building performance. Attendees will learn how material selection influences indoor air quality, student wellness, and long-term environmental impact, and how healthy material choices can be integrated with energy and cost considerations.

This is a Health, Safety, and Welfare (HSW) course. Attendees will leave with practical tools to advocate for and implement integrated, performance-driven approaches that serve building occupants and the broader community.

Learning Objectives:

By the end of this course, participants will be able to:

1. **Describe** how Zero Net Energy (ZNE) strategies in buildings can reduce operational carbon and contribute to community resilience and public health.
2. **Identify** key challenges and opportunities unique to designing high-performance buildings, including load diversity, procurement requirements, and scheduling impacts.
3. **Explain** the role of interdisciplinary collaboration and early prototyping in optimizing spatial, mechanical, and financial performance in school design.
4. **Evaluate** how material health impacts occupant wellness and how to integrate healthier material selections within broader performance and cost criteria.