Ride the Wave: Adapting Education Spaces for Changing Tides – Peck Expeditionary Learning School Case Study

Innovative designs for dynamic learning environments

SESSION OVERVIEW & OBJECTIVES

RIDE THE WAVE: ADAPTING EDUCATION SPACES FOR CHANGING TIDES

By the end of this session, attendees will:

1. Understand how innovative curricula like Expeditionary Learning influence school design and construction.
2. Learn strategies for balancing collaborative learning environments with traditional priorities (safety, individual learning outcomes).
3. Explore methods for future-proofing educational spaces through infrastructure, durability, and adaptability.
4. Gain insight into collaborative approaches for design and budget management that drive project success.

Presenting Today:

David Powell, AIA, LEED AP
SHP
Partner and Principal

April Larkins, LEED AP
The Christman Company
NC K-12 Market Leader

CONTEXT & EDUCATIONAL CHANGE

Peck Expeditionary Learning

- **Strategic Origins:** Developed as a priority outcome of the 2019 Facility Master Plan.
- **Bond Program:** One of six key school replacement projects funded by the GCS 2020 Bond program.
- **Educational Milestone:** Set up as North Carolina's first purpose-built Expeditionary Learning school.
- **Capacity & Scope:** Features a K-8 curriculum designed to serve a diverse population of 900 students in 142K sf
- **Investment:** Completed with a $70M construction budget.

Why EL Education?

- Promotes Equity Through Complex Text & Shared Tasks[1]
- Integrates High-Stakes Academics with Social-Emotional Learning[2]
- Cultivates Autonomy, Curiosity, and a Sense of "Crew"[3]
- Drives Deeper Learning via Topic Immersion[4]
- Ensures Consistent Instructional Rigor[5]
- Demonstrates Measurable Academic Growth Across All Learners[6]

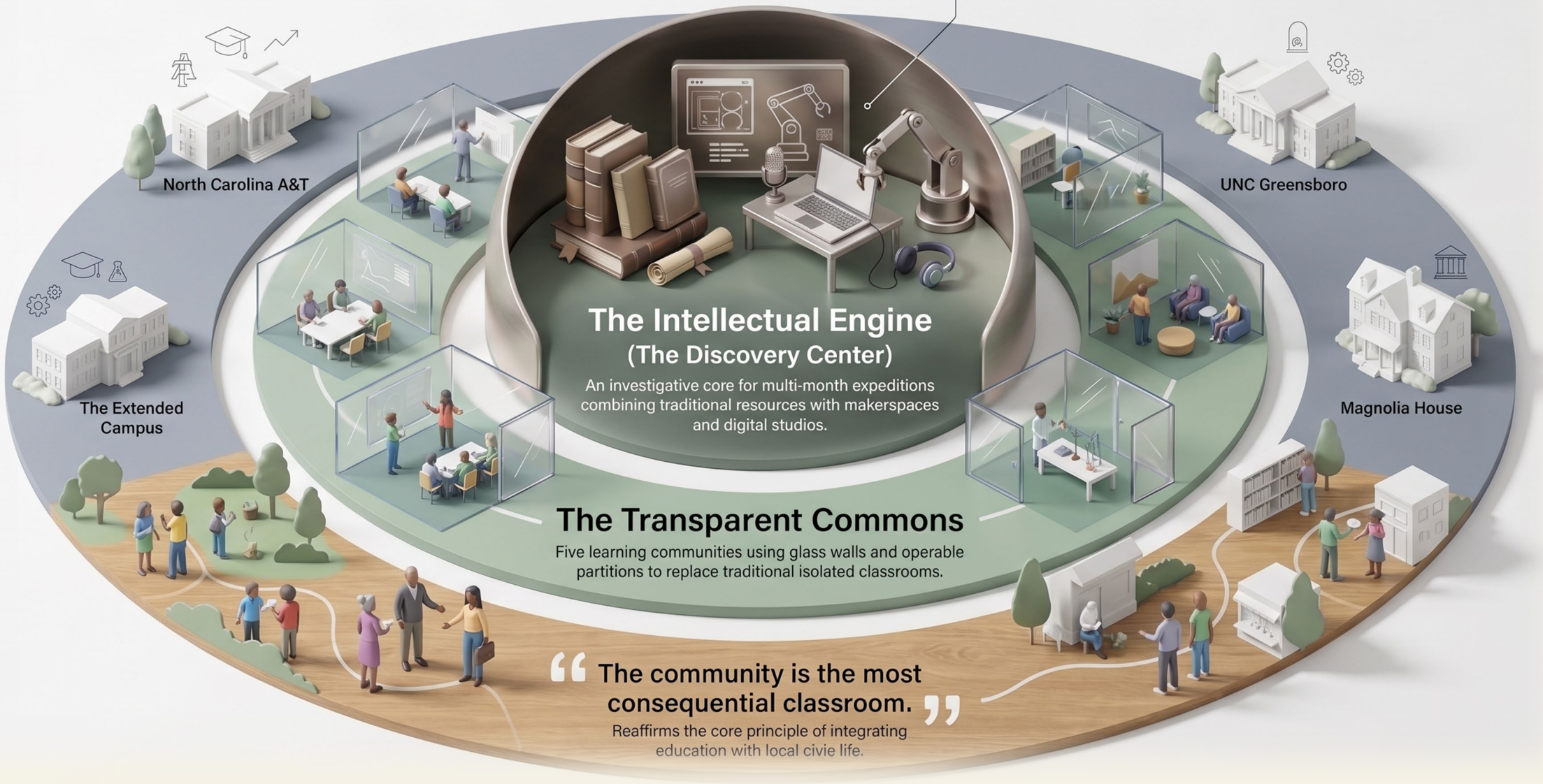
1.) Nichols-Barrer, I., & Haimson, J. (2013). *Impacts of Five Expeditionary Learning Middle Schools on Academic Achievement.* 2.) Expeditionary Learning. (2011). *Expeditionary Learning Core Practices: A Vision for Improving Schools.* 3.)Deci, E. L., & Ryan, R. M. (1985). *Intrinsic Motivation and Self-Determination in Human Behavior.* 4.) Borman, G. D., et al. (2001). Comprehensive School Reform and Student Achievement: A Meta-Analysis. *Review of Educational Research.* 5.) Furgeson, J., et al. (2012). *Charter-School Management Organizations: Diverse Strategies and Diverse Student Impacts.* 6.) Nichols-Barrer, I., & Haimson, J. (2013). *Impacts of Five Expeditionary Learning Middle Schools on Academic Achievement.*

The EL Education Learner

- Active, Real-World Problem Solvers
- Collaborative and "Crew"-Oriented
- Character-Driven and Compassionate
- Courageous and Resilient Risk-Takers
- Autonomous and Self-Reflective

EL ETHOS & DESIGN STRATEGIES

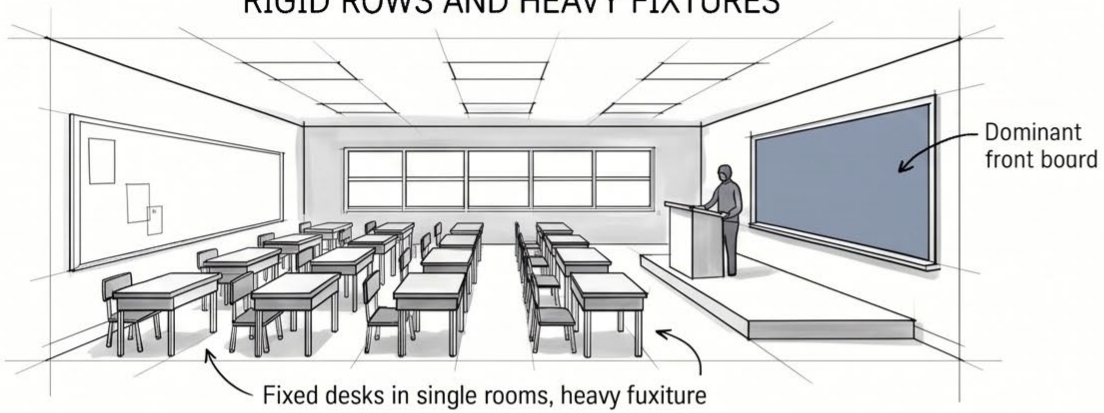
The Integrated Learning Ecosystem



The Architecture of Learning: From Static Classrooms to Dynamic EL Environments

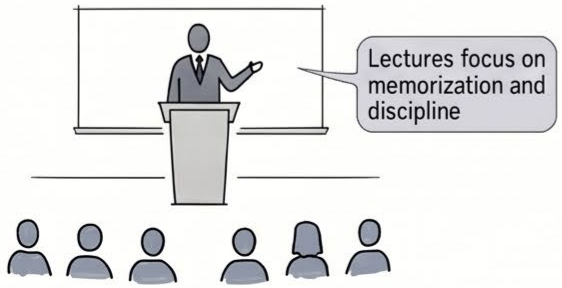
THE STATIC TRADITION

RIGID ROWS AND HEAVY FIXTURES



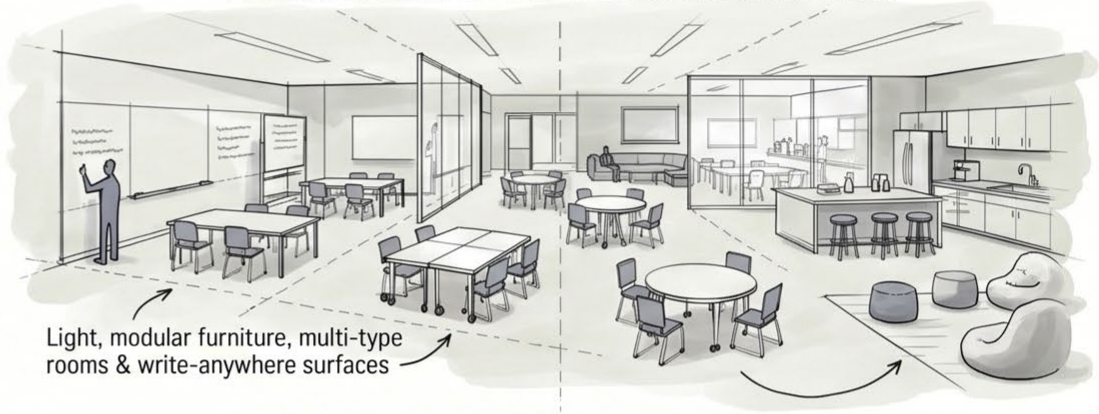
ISOLATED AND SOLID ENCLOSURES

TEACHER-LED AUTHORITY



THE DYNAMIC EL ENVIRONMENT

FLEXIBLE ZONES AND MODULAR SURFACES



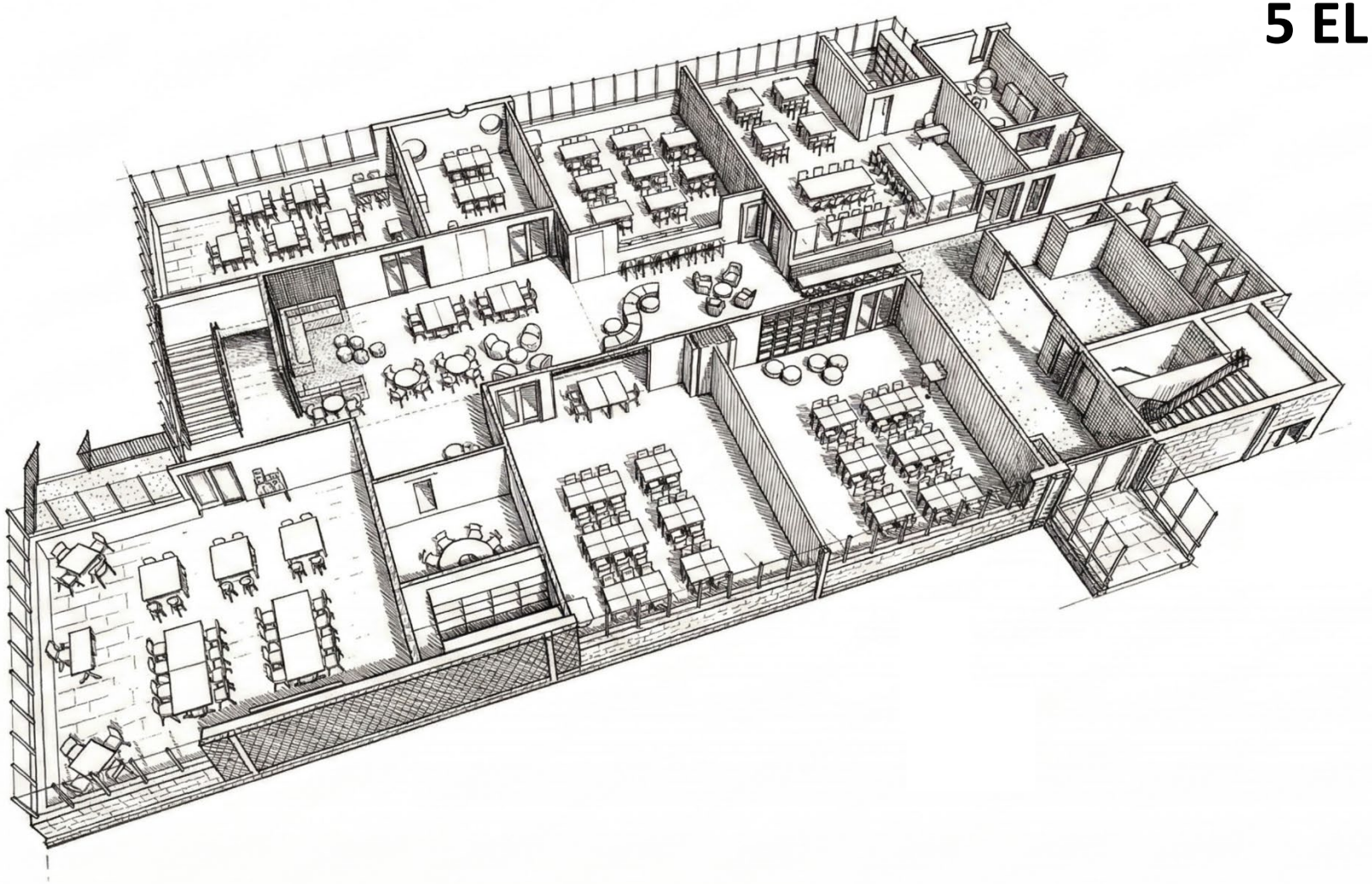
PERMEABLE, BLENDED ENVIRONMENTS

FACILITATOR-LED LEARNING ADVENTURES

ARCHITECTURAL CHECKLIST: MODEL COMPARISON

Dimension	Traditional Classroom	EL Learning Environment
Community Connection	☒ Isolated, rare trips	☑ Central, learning happens everywhere
Social-Emotional	☒ Discipline focused	☑ Built-in chill zones for emotional needs
Outdoor Engagement	☒ Only for recess	☑ Integrated into lessons and fieldwork

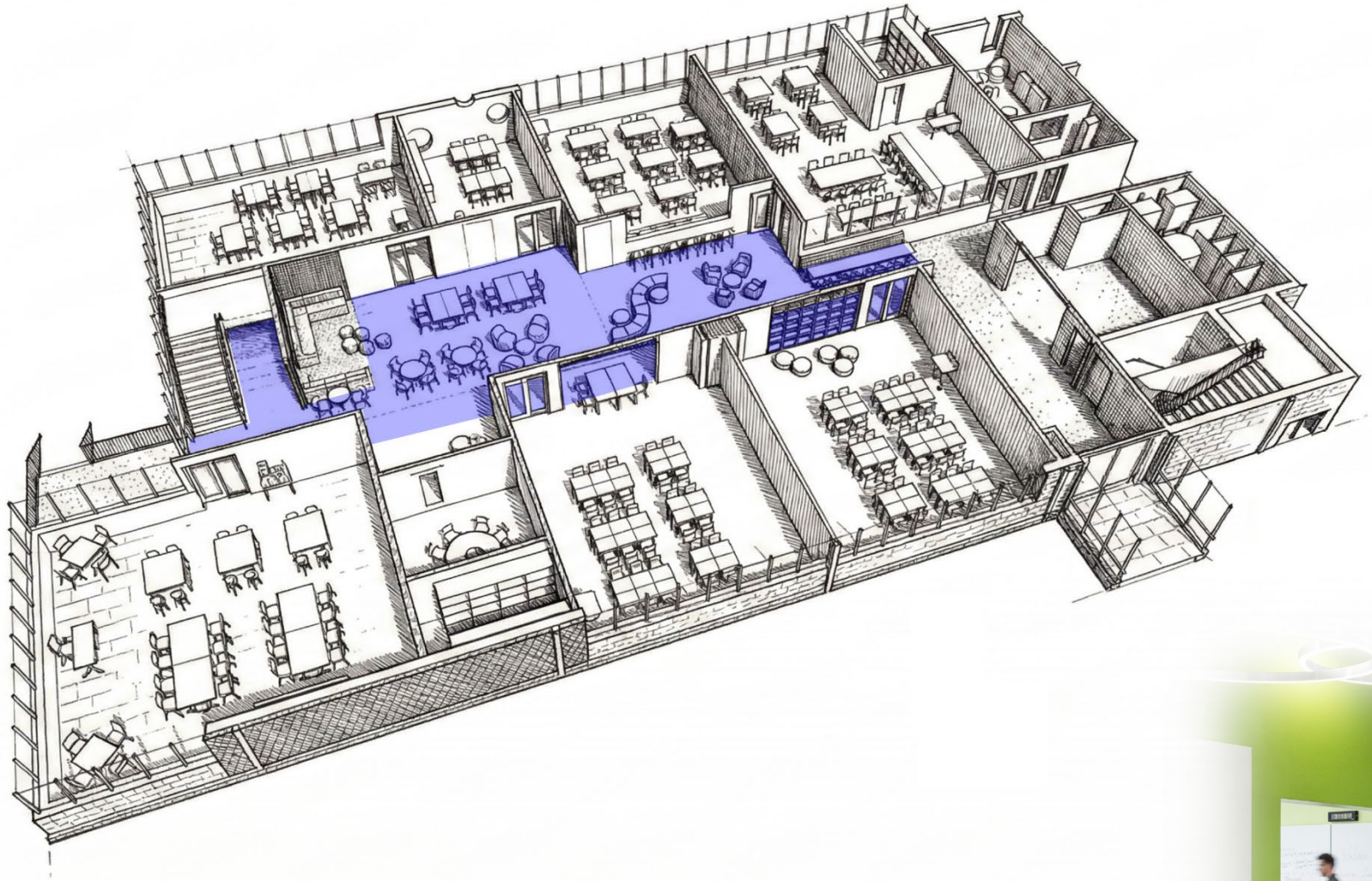

PECK



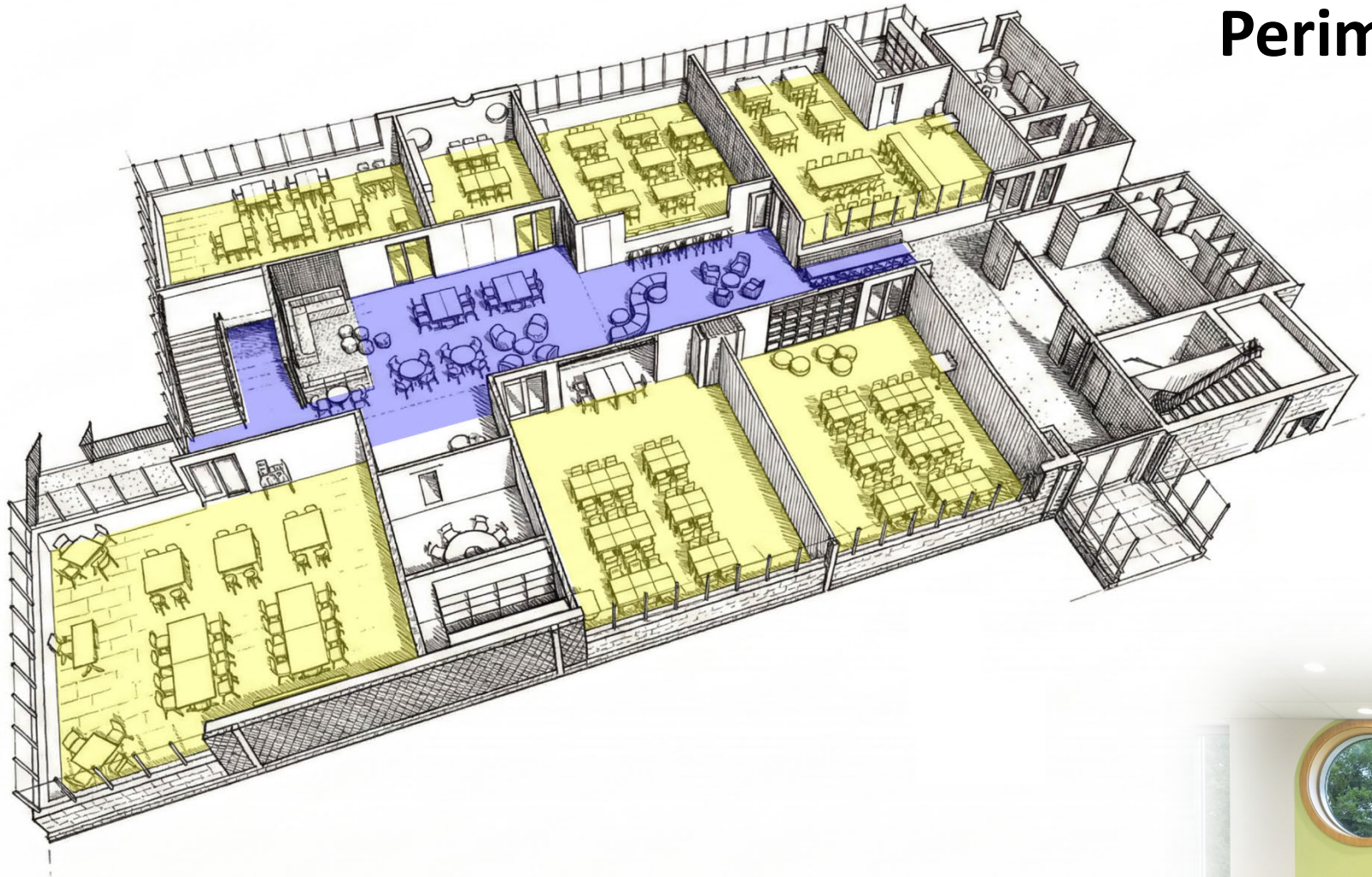
5 EL Learning Communities

- PreK – K
- Grades 1-2
- Grades 3-4
- Grades 4-5
- Grades 5-6

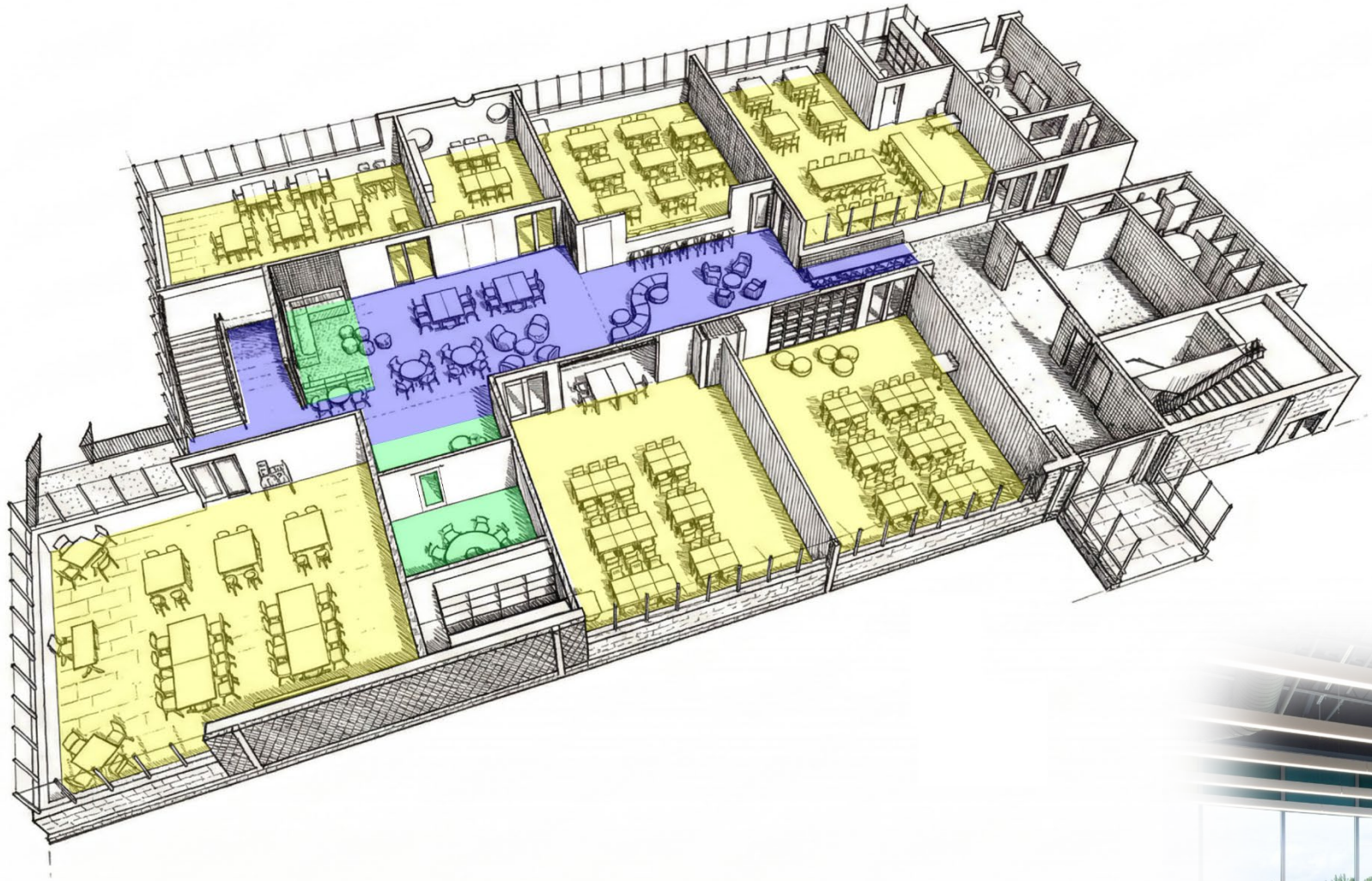
EL Commons



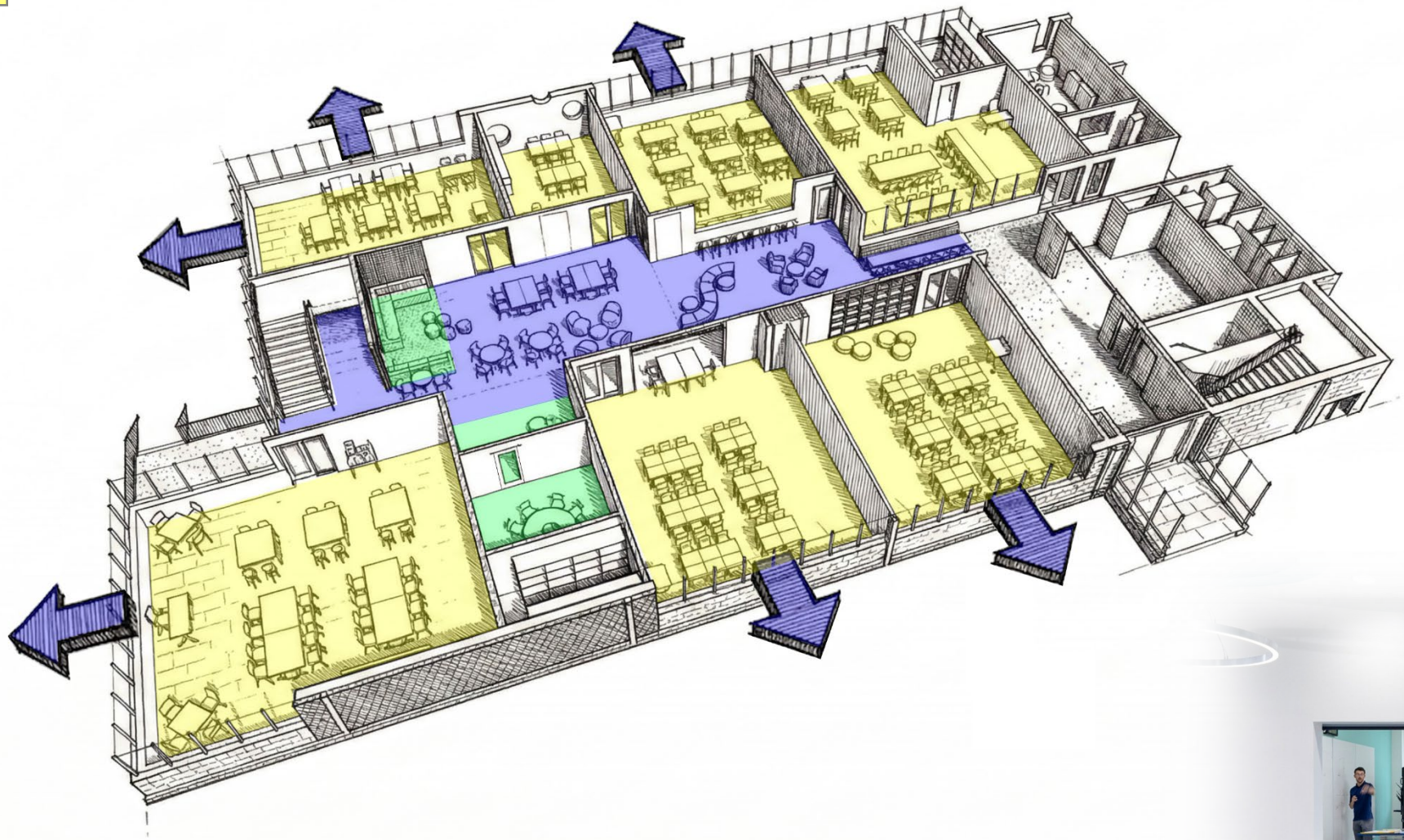
Perimeter Learning Studios



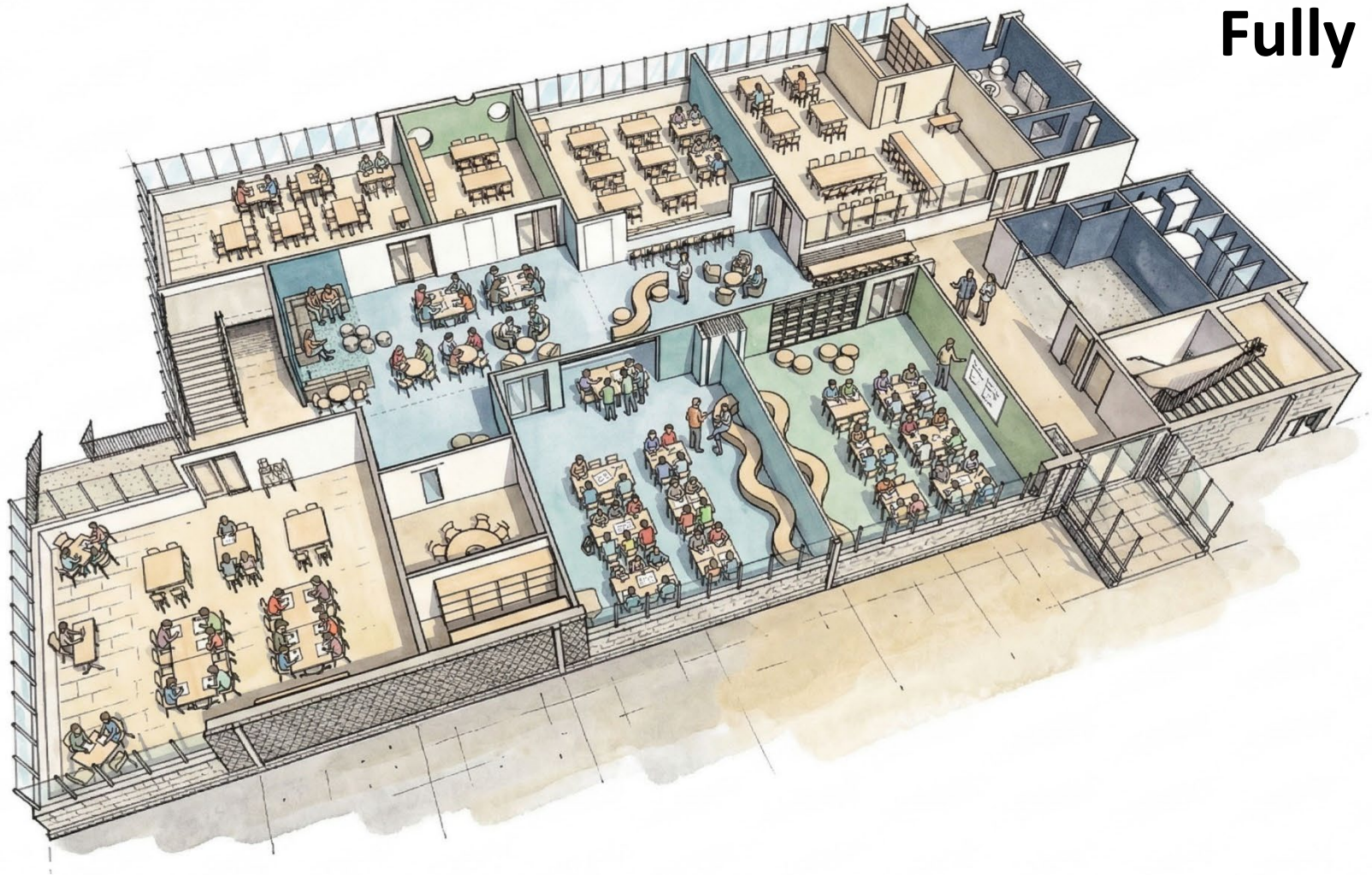
Small Group Study



Outdoor Connections



Fully Functional System



REALITY & RESPONSES

Design Challenges

- Safety & Security in Open Environments
- Balancing Collaboration with Individual Learning Needs
- Flexibility without Losing Structure
- Acoustics & Distraction Control
- Future-Readying Spaces for Evolving Learning Needs

Designing for Flexibility and Agility

Flexible Learning Spaces

- Classrooms and collaboration areas are designed for easy reconfiguration to meet evolving instructional needs

Built for Education Evolution

- Advanced planning structural grids, wall systems, and ceiling heights to allow for future modifications without major renovation

Inclusivity By Design

- Flexible design supports diverse teaching styles and student needs, promoting inclusivity and equity.

Long Term Solutions = Additional Lifecycle Value

- Adaptable spaces reduce renovation costs and extend building lifespan by avoiding over-specialization of space

Balancing Openness and Safety

- Natural Surveillance
- Multi Option Emergency Response
- Invisible Hardening
- Social-Emotional Climate

Acoustics & Distraction Control: Through Material Selection

Acoustics Management

- Acoustic finishes were seamlessly incorporated to minimize sound pollution

Durability and Maintenance

- High-durability finishes were selected to reduce maintenance and long-term costs

Student Wellness and Comfort

- Materials promote indoor air quality and comfort
- Aesthetics and Budget Alignment

Market Informed Decisions

- Material choices influenced by real-time market conditions information

Future-Proofing Infrastructure Planning

Adaptable Infrastructure Design

- Design focused on infrastructure that supports future technologies
- Flexible data and power systems
- Infrastructure planning ensures systems are reliable and easy to maintain, supporting long-term operational efficiency

Minimized Disruption Upgrades

- Planning for future technology upgrades
- Included infrastructure for future security system upgrades

FUTURE-PROOFING IS A STRATEGIC DESIGN DECISION MADE EARLY TO SAFEGUARD INVESTMENT AND IMPROVE EDUCATIONAL EFFECTIVENESS.

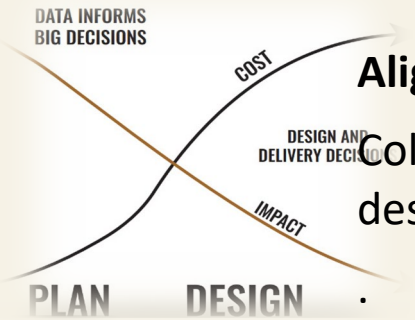
CONSTRUCTION MANAGEMENT & EXECUTION

BRINGING THE VISION TO LIFE:

DEFENDING AGAINST RISING TIDES

Constructability and Cost Modeling

Early involvement allows for robust cost modeling and effective project benchmarking



Aligning Design with Budget

Collaboration with CMAR from the start ensured design intent met budget

Integrated Planning and Functionality

Engaging the community and key stakeholders throughout the entire project life-cycle

NAVIGATING TO CALM WATERS

DEFENDING AGAINST RISING TIDES

Occupied Campus Considerations

- ❖ Active elementary school ongoing

Managing Water On Site

- ❖ Unforeseen conditions uncovered

Adapting to Evolving AHJ Requirements

- ❖ Unique AHJ requirements

IMPACT OF ROCKY SITE CONDITIONS

Increased Schedule and Budget Pressure

- Unforeseen conditions pressure on both schedule and budget

Demand for Labor and Equipment

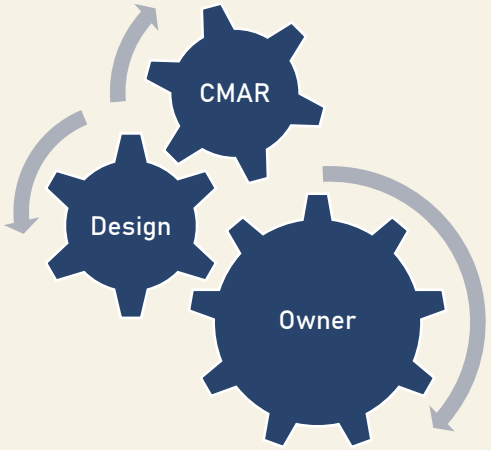
- Extensive rock removal required specialized equipment, and longer schedule duration for sitework

Complex Project Management

- Resequencing of work and coordination of large haul operation

PARTNERSHIP, LESSONS, & LOOKING AHEAD

THE POWER OF PARTNERSHIP



- Collaborative Teamwork
- Transparent Communication
- Resourceful Problem Solving
- Lessons for Success

Lessons Learned

- Stakeholder Engagement
- Flexibility in Design and Construction
- Adaptability to Environment
- Risk Mitigation through Collaborative Planning

Looking Across the Sea: Future Trends

- Collaborative Teamwork; Delivery Method Adaptability
- Transparent Communication = Key Stakeholder Engagement
- Resourceful Problem Solving
- Flexible Learning Environments with Future Forward Planning

THANK YOU!