SMMA

Andover West Elementary

10.15.2019

Association for Learning Environments,
Northeast Regional Chapter—2017 Ed Kirkbride Award

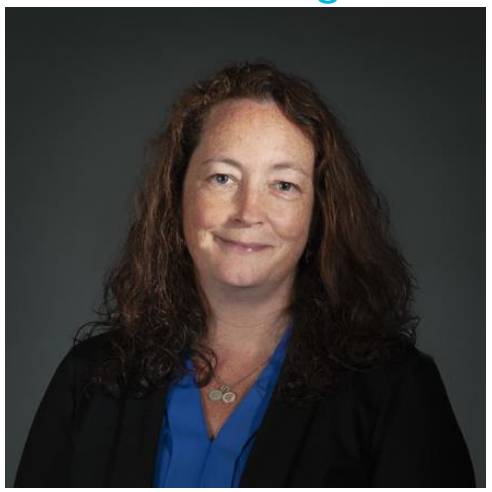
Learning By Design,
Elementary School —2017 Citation of Excellence Award

American School & University,
2016 Architectural Portfolio—Elementary School Citation

AIA New England,
2015 People's Choice Award—Favorite Space to Study

Our Team

Lorraine Finnegan



Michael Fazio

Phil Poinelli

David Stephen

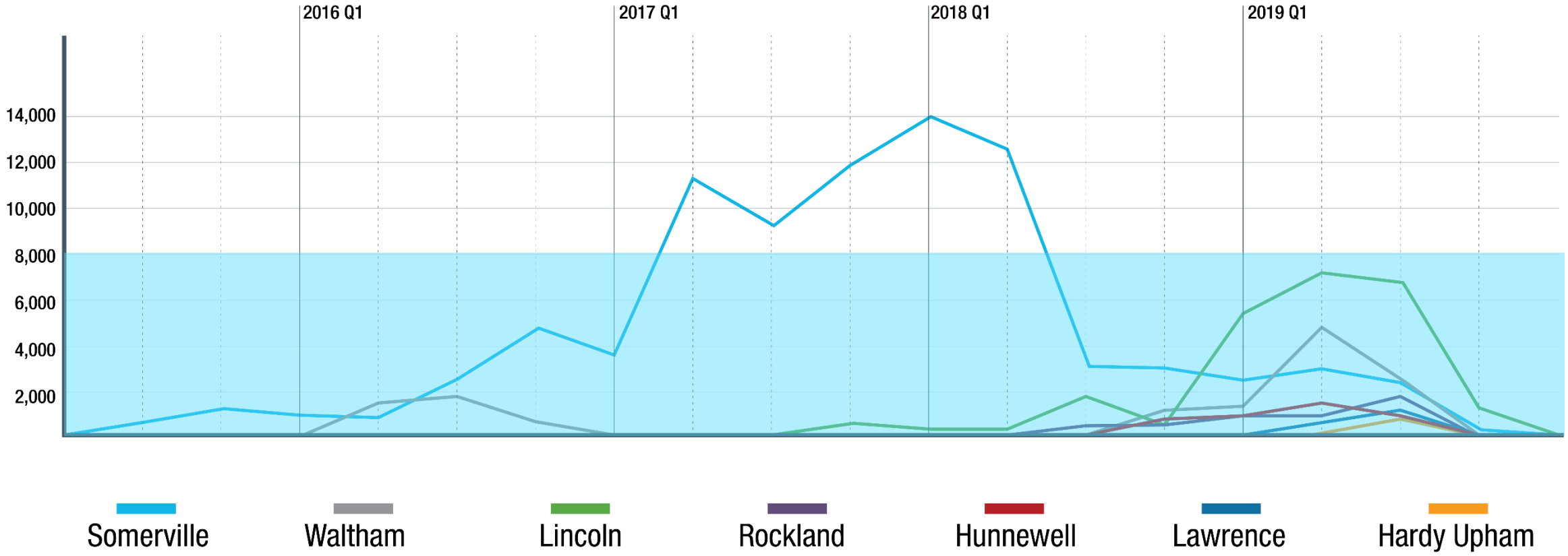
Martine Dion

Chase Gibson

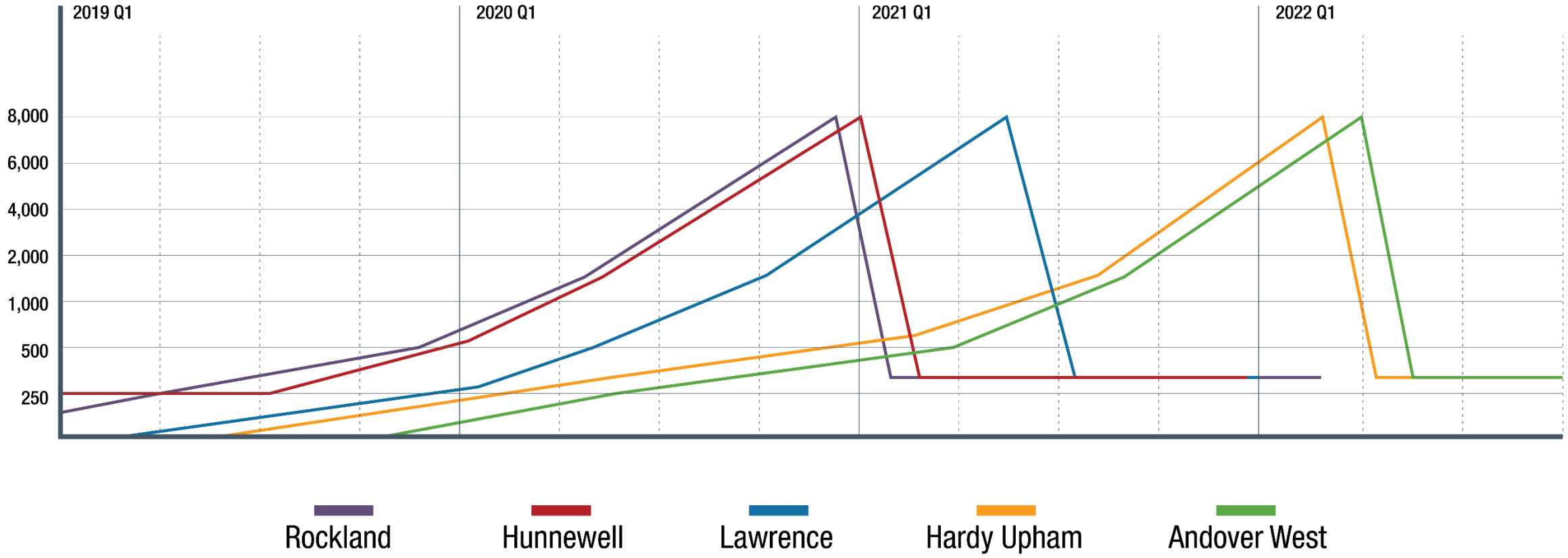
Matt Rice

Megan Tomkins

Workload: Actuals

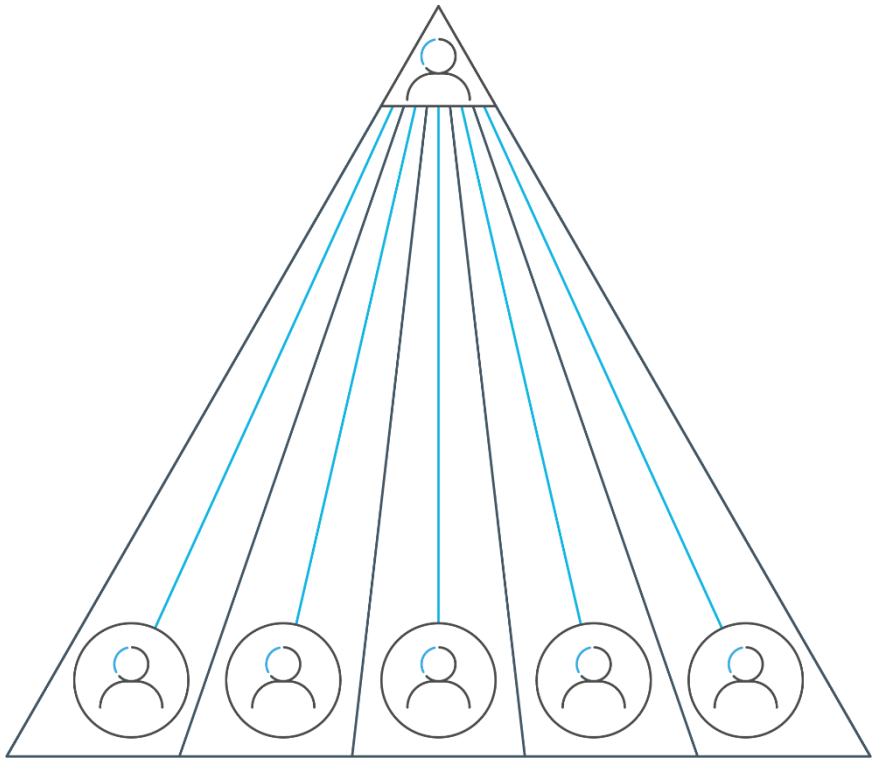


Workload: Prediction



Traditional Model

The
Top-Down
Model

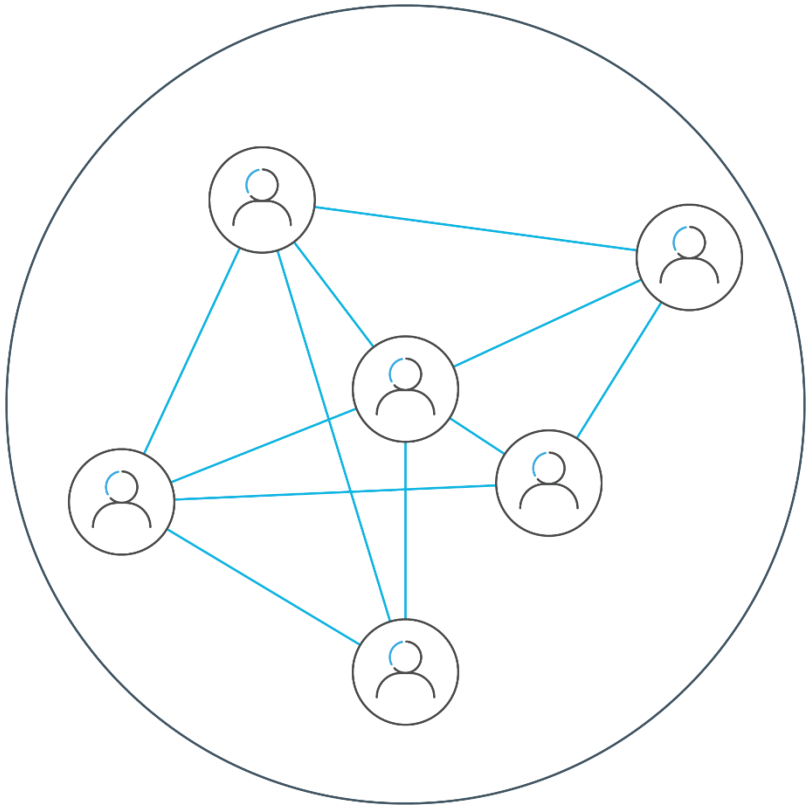


- Executive decision-making process
- Individual disciplines are **siloed**
- Team communication is **limited**
- Workflow is **reactive**

Our Integrated Model

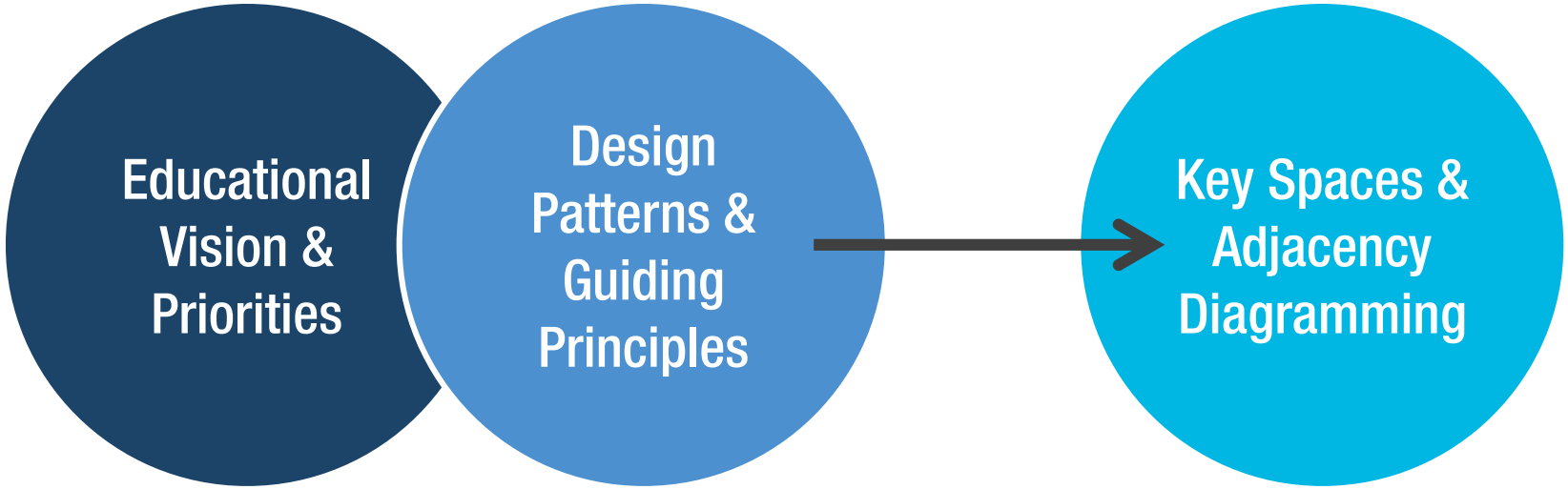
SMMA Works Differently

The Integrated Model



- Teams are **agile** and **nimble**
- Information is **transparent** and **open**
- Individuals are **empowered**, co-dependent and influential

The Visioning Process



Education Drives Design

What does Future Ready Teaching and learning mean?

THE 6 R'S

READING
WRITING
ARITHMETIC
RIGOR
RELEVANCE
RELATIONSHIP

THE 4 C'S

CRITICAL THINKING
COMMUNICATION
COLLABORATION
CREATIVITY
+ *Citizenship*

Head & Hand

SEL: Social Emotional

- Student-Centered
- Interdisciplinary
- Technology-Infused
- Fully Inclusive/Differentiated
- Universal Design for Learning
- Community Connected
- Problem and Project-Based
- STEM and STEAM
- Process and Product Oriented

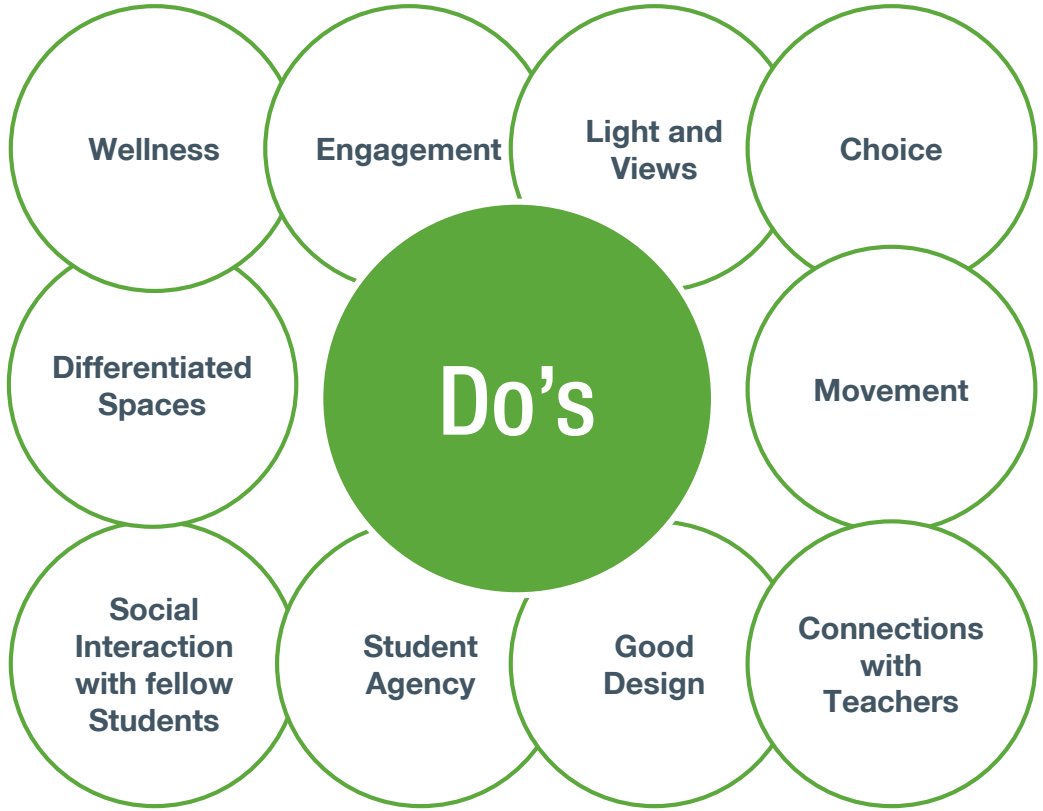
Social Emotional Learning

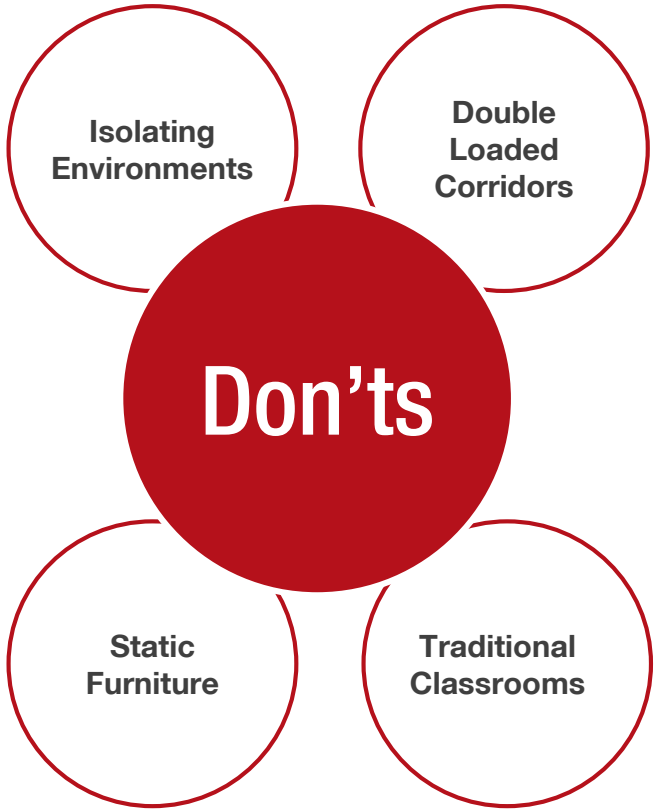
Social and Emotional Learning Core Competencies

- Ownership and Belonging
- Classroom Neighborhoods
- Transparency and Connectivity

Designing for Social/Emotional Learning

Do’s and Don’ts

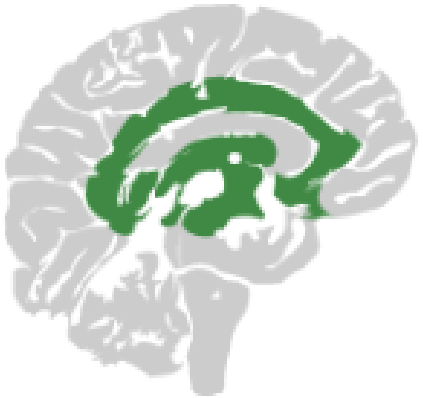




Universal Design for Learning

Recognition Networks
The “what” of learning

Strategic Networks
The “how” of learning



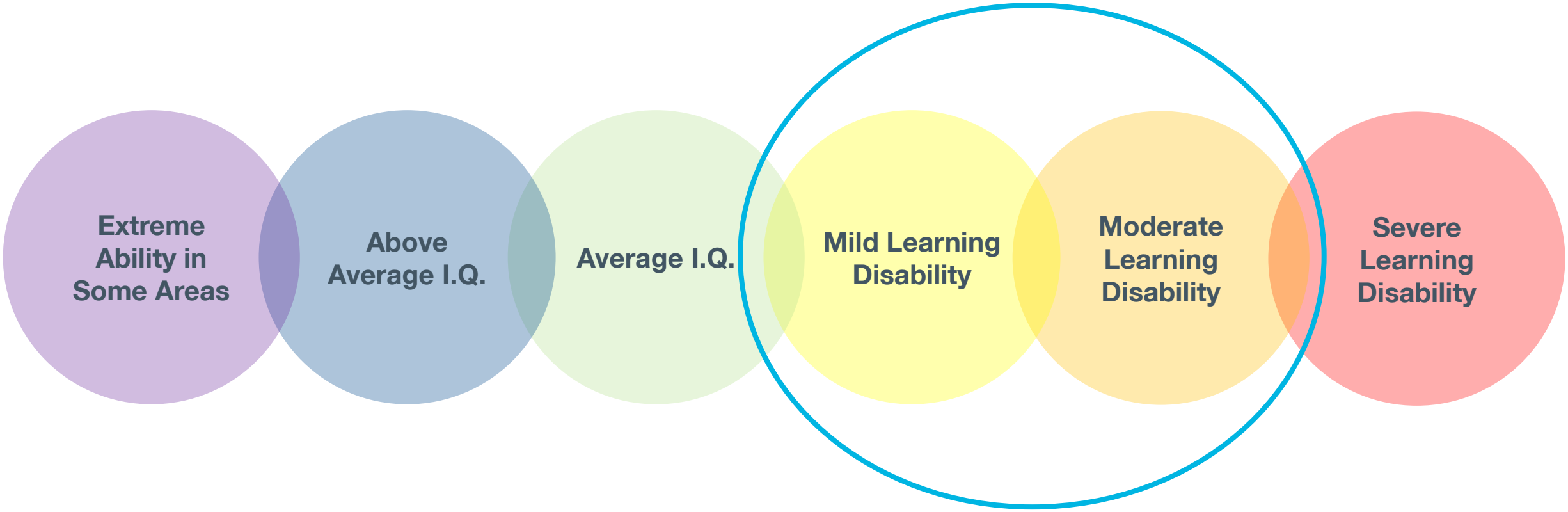
Affective Networks
The “why” of learning

Multiple Means of **Representation**, **Expression** and **Engagement**

- Varied Delivery Methods
- Hands-On Learning
- Action and Expression

West ES

Bridge Autism Program (ASD)

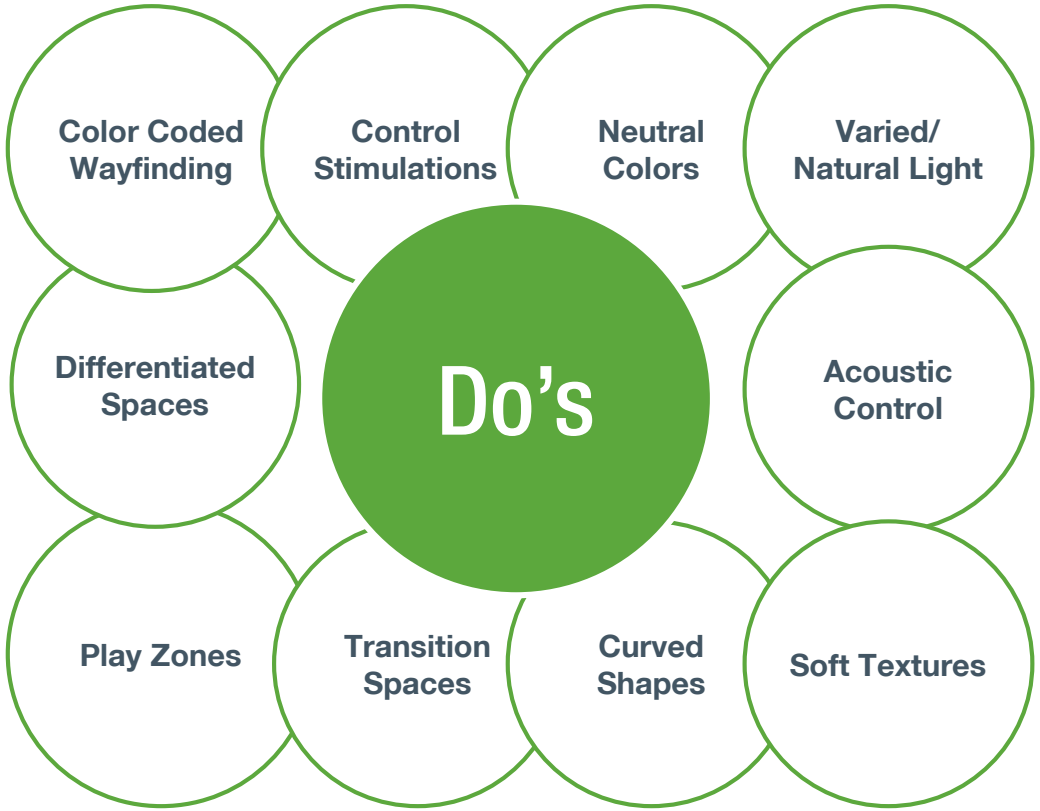


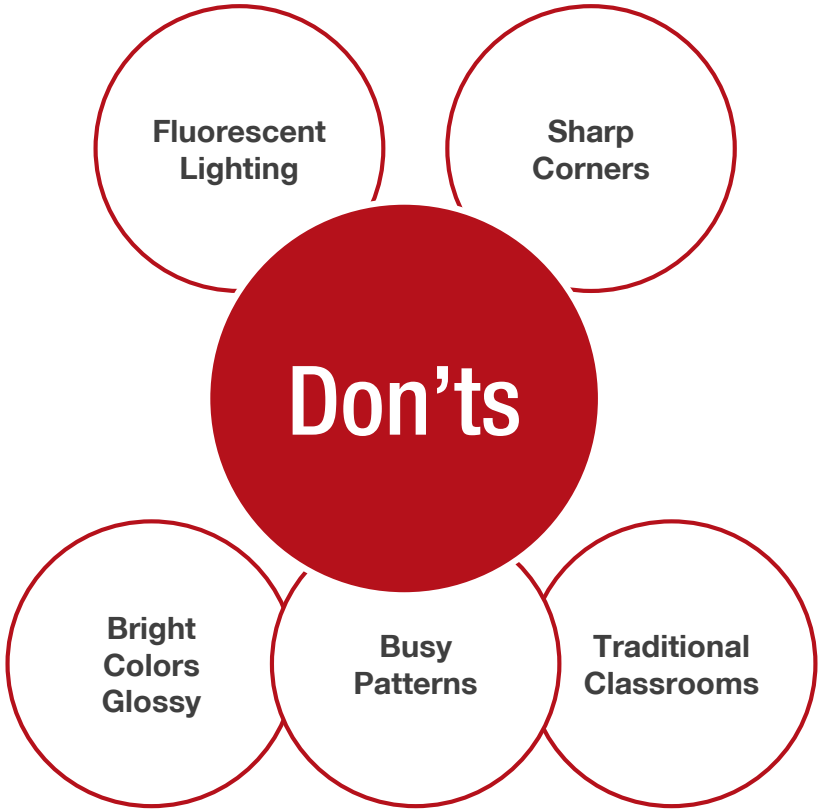
ASD effects 1 in 59 children

Designing for Every Student

Designing for ASD Students

Do’s and Don’ts





Andover as Educational Innovators

- Breakout / Pull Over Rooms for Special Education
- Neighborhood Learning Commons – Bancroft
- Transparency for Communication and Collaboration
- District Global Portal Studio (shown right) for Language Learners; Citizenship and Global Education

Evolution of Educational Environments

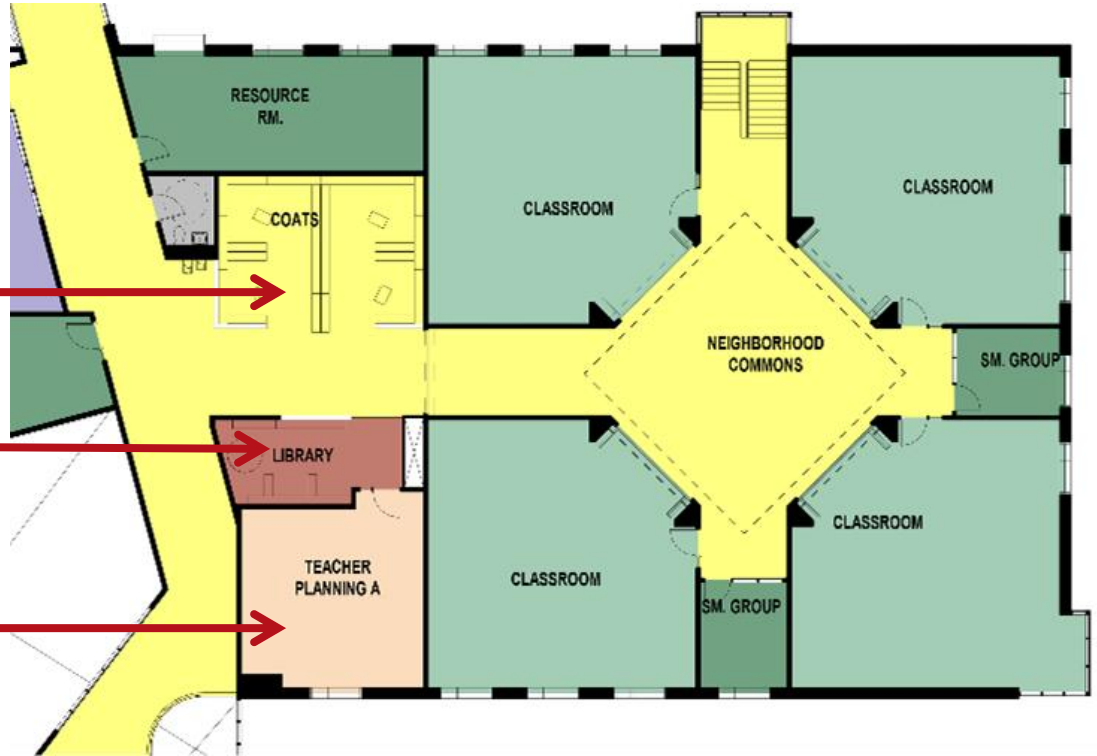
Through Visioning and Planning

- Breakout / Pull Over Rooms for Special Education for Differentiation and Personalization
- Social Emotional Learning from (CR) internal to Neighborhood Learning Commons
  - 5 sided in Hudson to 5 sided Rockland
  - for Communication and Collaboration

Centralized Coat Rooms

Grade Level Libraries

Student Access to Teachers

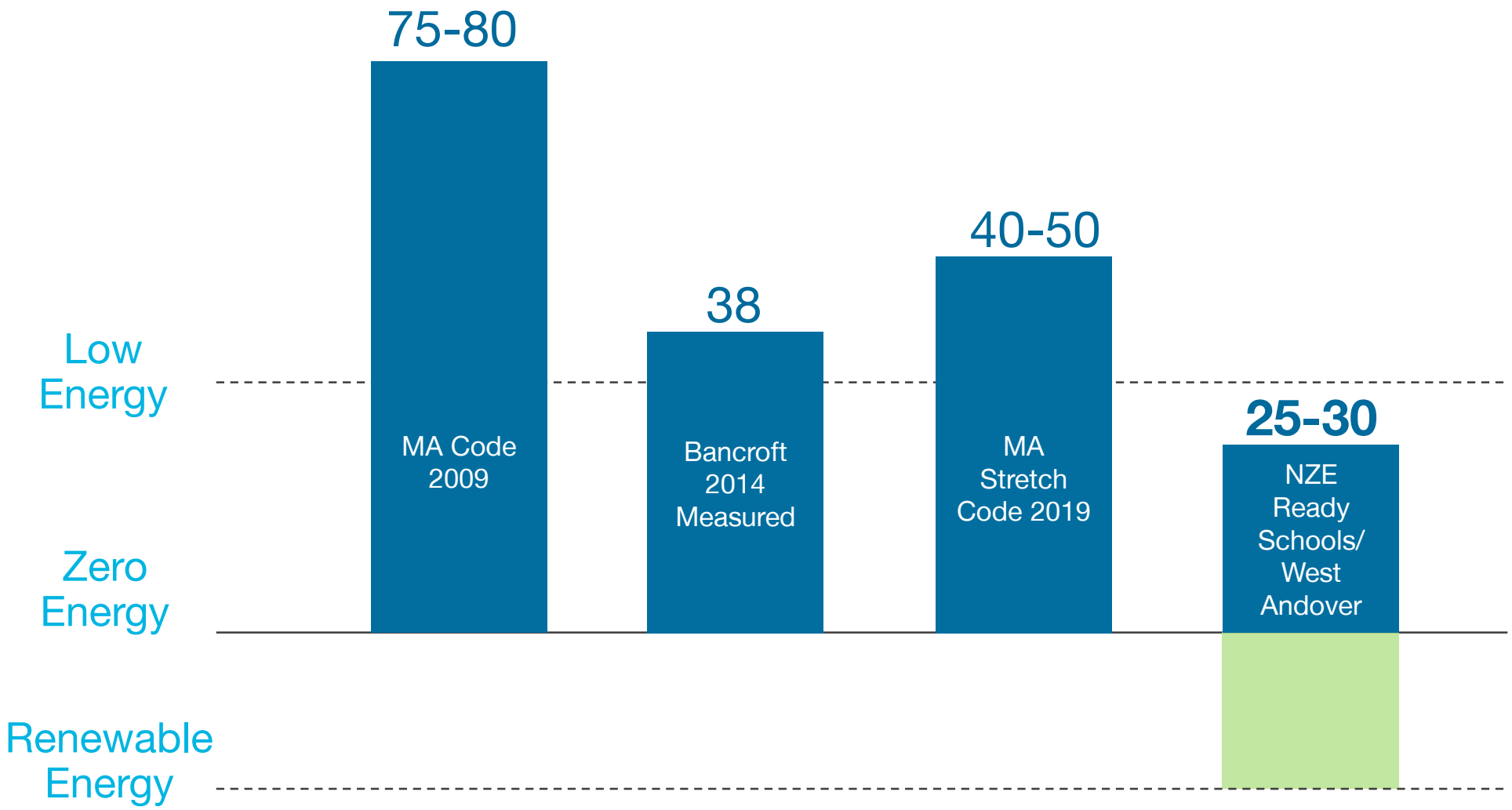


Building a Sustainable Andover

MSBA's Energy and Water Performance Mandate
Supported with Enhanced Commissioning

Energy Use Intensity Goal

25-30 kBtu/SF



Building a Sustainable Andover

Reduce

High Performance Design

Optimize:

- Building Orientation
- Building Enclosure Thermal Performance
- High Efficiency HVAC Systems
- Plug load and Reduction
- Lighting W/SF Reduction
- Low flow water fixtures
- Drought Tolerant Landscaping
- Energy Efficient Equipment and Appliances
- Occupant behavior

Reuse

High Performance Design

Utilization of:

- Energy Recovery Units
- Daylighting
- Operable windows

Recycle

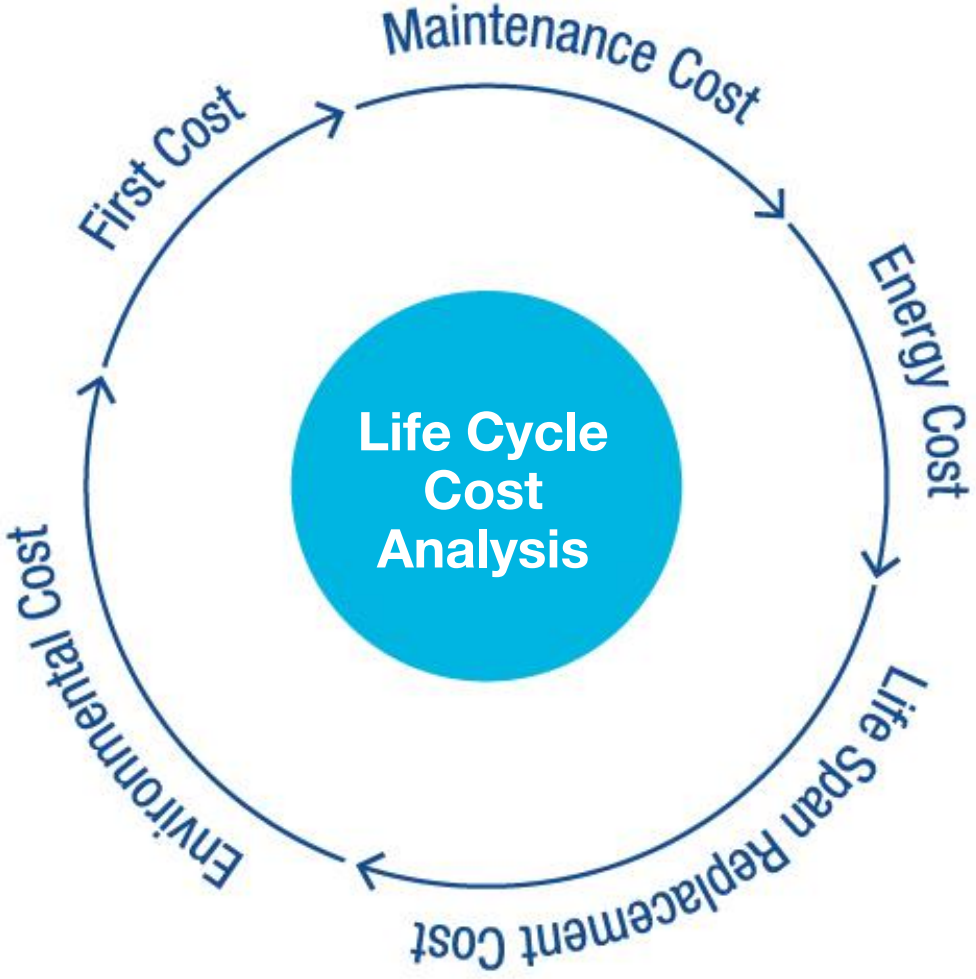
High Performance Design

Recycle Energy from Nature:

- Roof Mounted and Parking Canopy Solar Power Systems
- Passive Cooling During Shoulder Seasons
- Purchase renewable energy

MEP Systems Selection

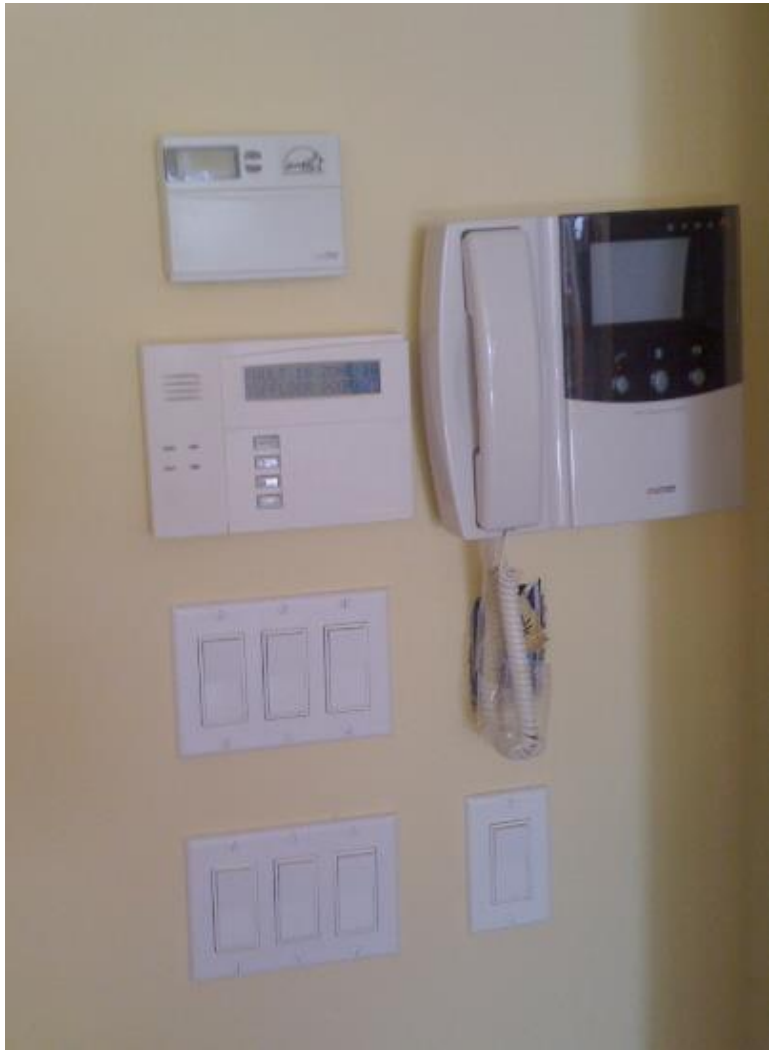
Holistic Approach



Establishing Criteria:

- First Cost
- Maintenance Cost
- Energy Cost
- Life Span
- Replacement Cost
- Environmental Cost

“Just Right” Controls

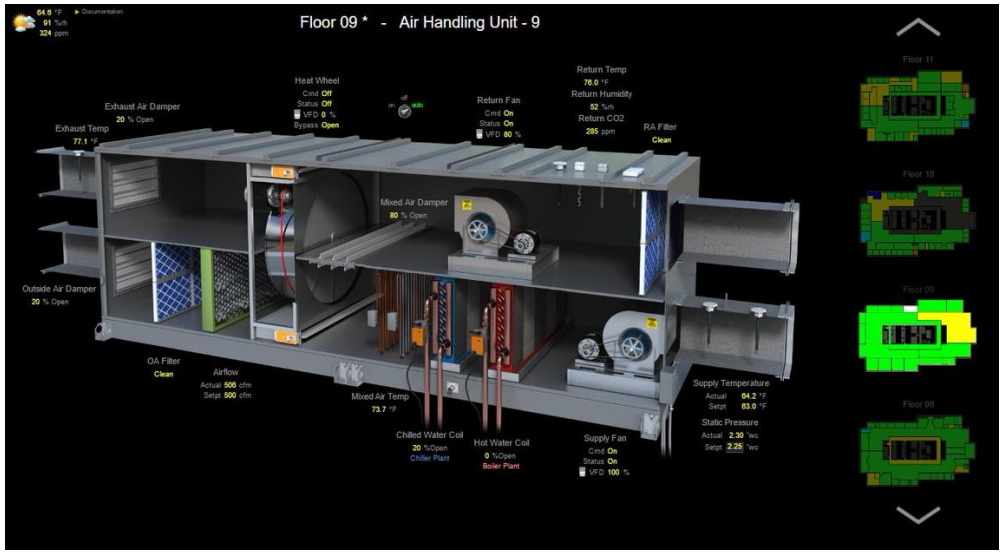


- Combined CO2 / Thermostat
- Single lighting controller
- Phone and emergency pairing
- Increased Occupant Controls

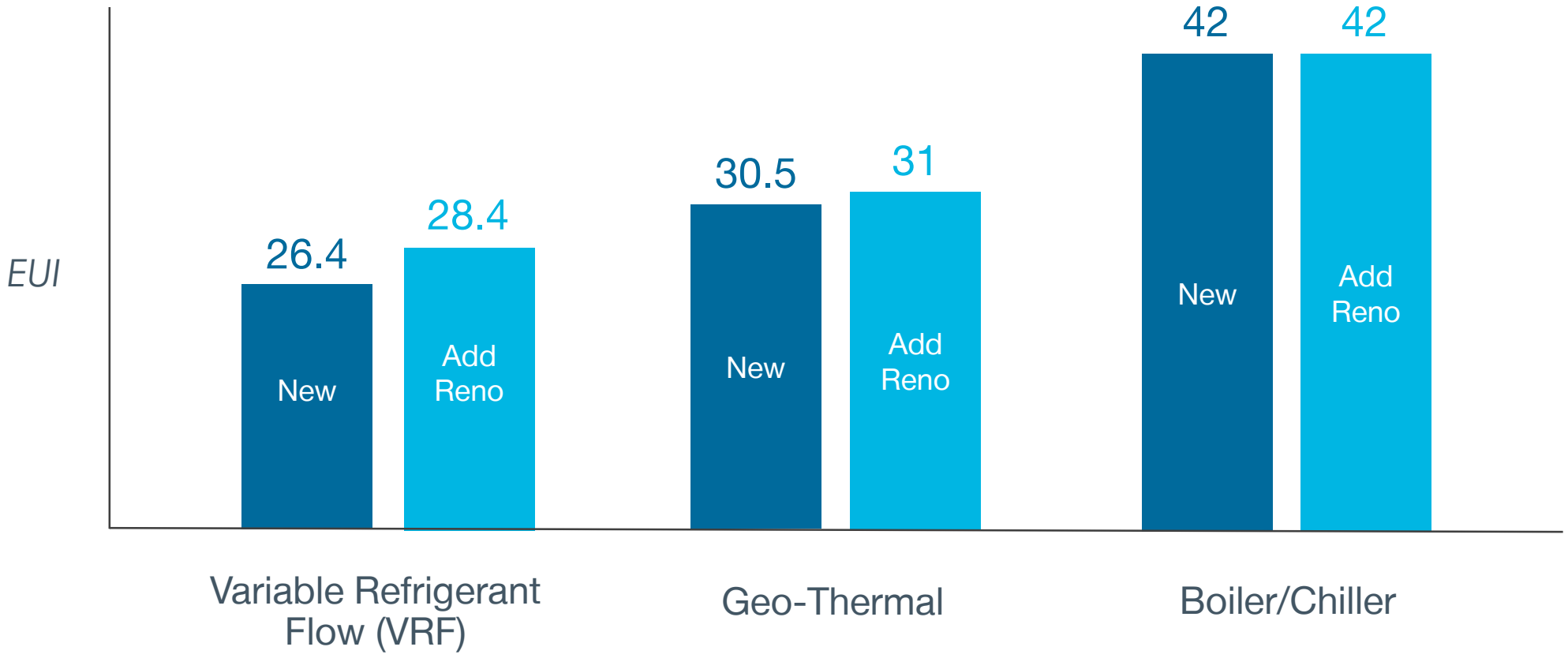
MEP Systems

Building Automation

- No packaged Controls
- Increased Occupant Control
- Easy to use interface



Hunnewell Feasibility Study



Cost Premium over Stretch Code:
0.3% - Less than 1%!

Net Zero Energy Cost Premium For West EL

*Cost premium (0.3%)**

$240,000

*Annual Energy Savings***

$126,575

Payback in Years*

1.9

- **Project Cost (est):** $80,000,000
- **Project Area:** 135,000 SF
- **Predicted Annual Energy Use:** 25 kBtu/SF
- **Stretch Code Facility:** 45 kBtu/SF

**Cost premium based on all electric heating and cooling systems*

***Electrical rate: $0.16/kWh saved, total electrical savings benchmarked over MA Stretch Code*

****Utility Incentives are likely to further reduce the payback.*

Inside & Outside

Design to Support Educational Goals

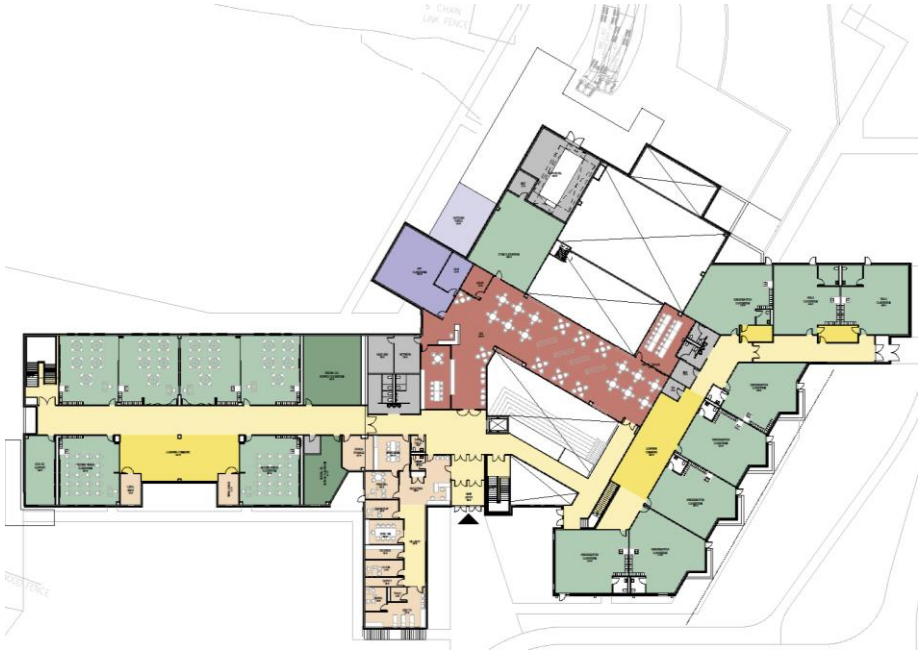
Responsible

Well-crafted

Venturesome

Beautiful

Learning Commons



Wake County, NC 6

Rockland, MA 4

Lincoln, MA 3

Neighborhood Learning Commons

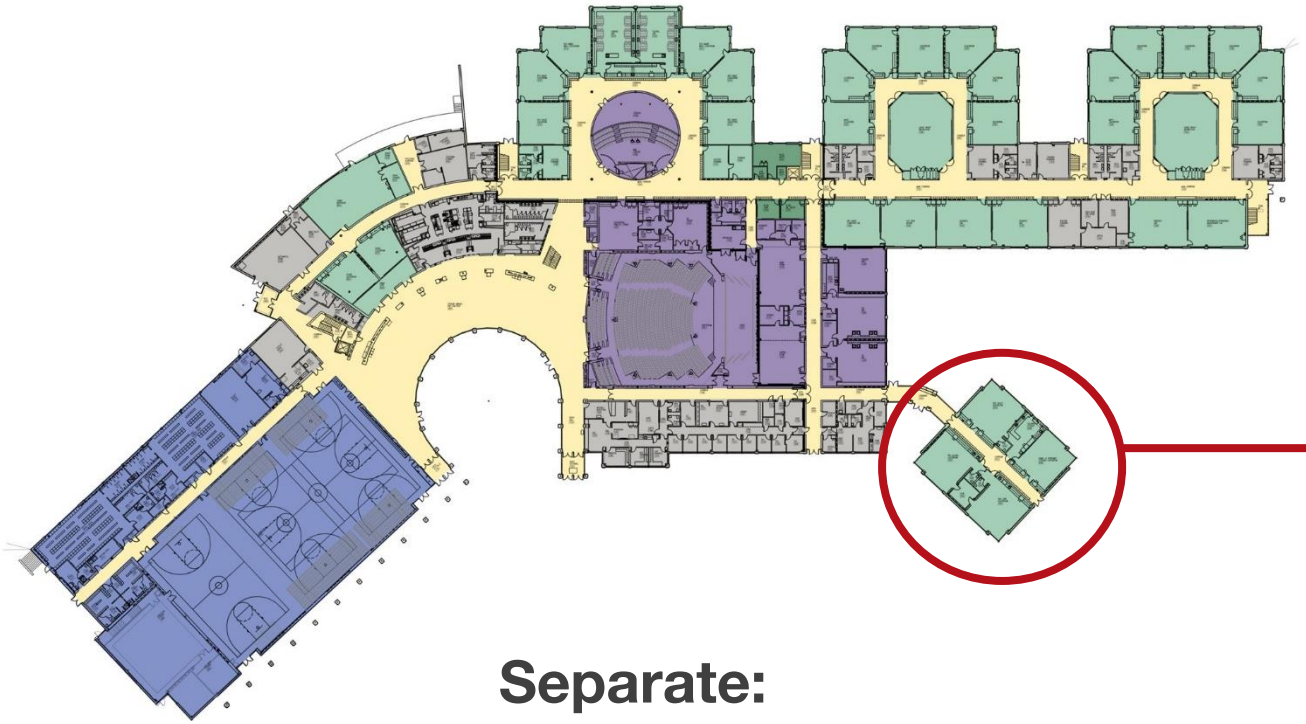
Hunnewell

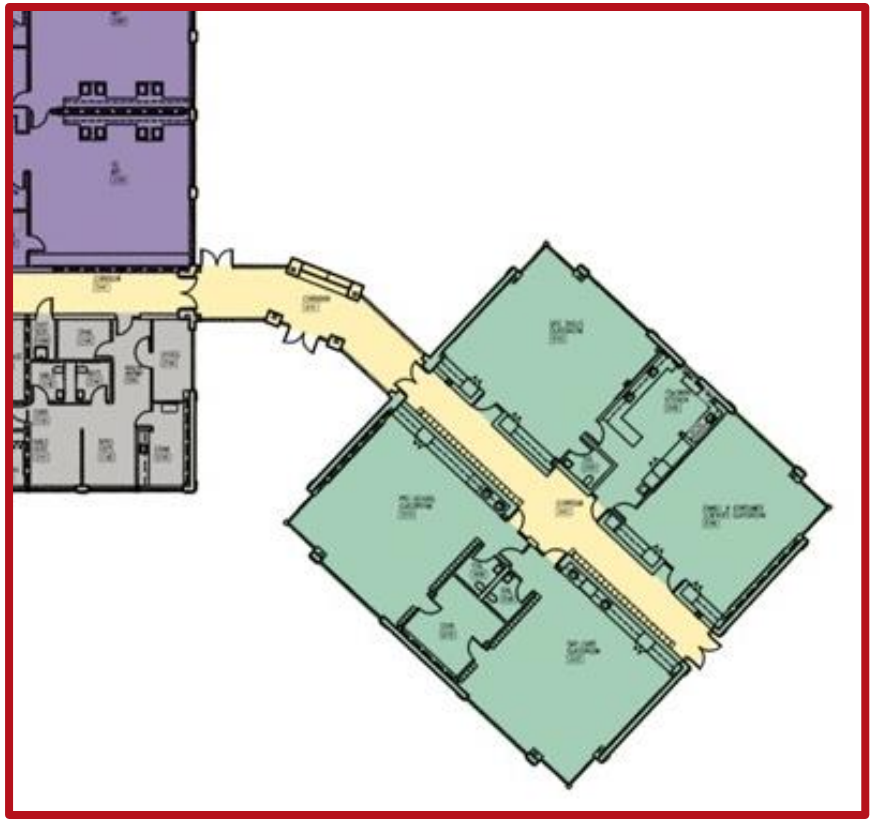
Maker Space & Specialist Collaboration

Rockland, MA

Preschool Integration

Hudson High School Early Childhood Program



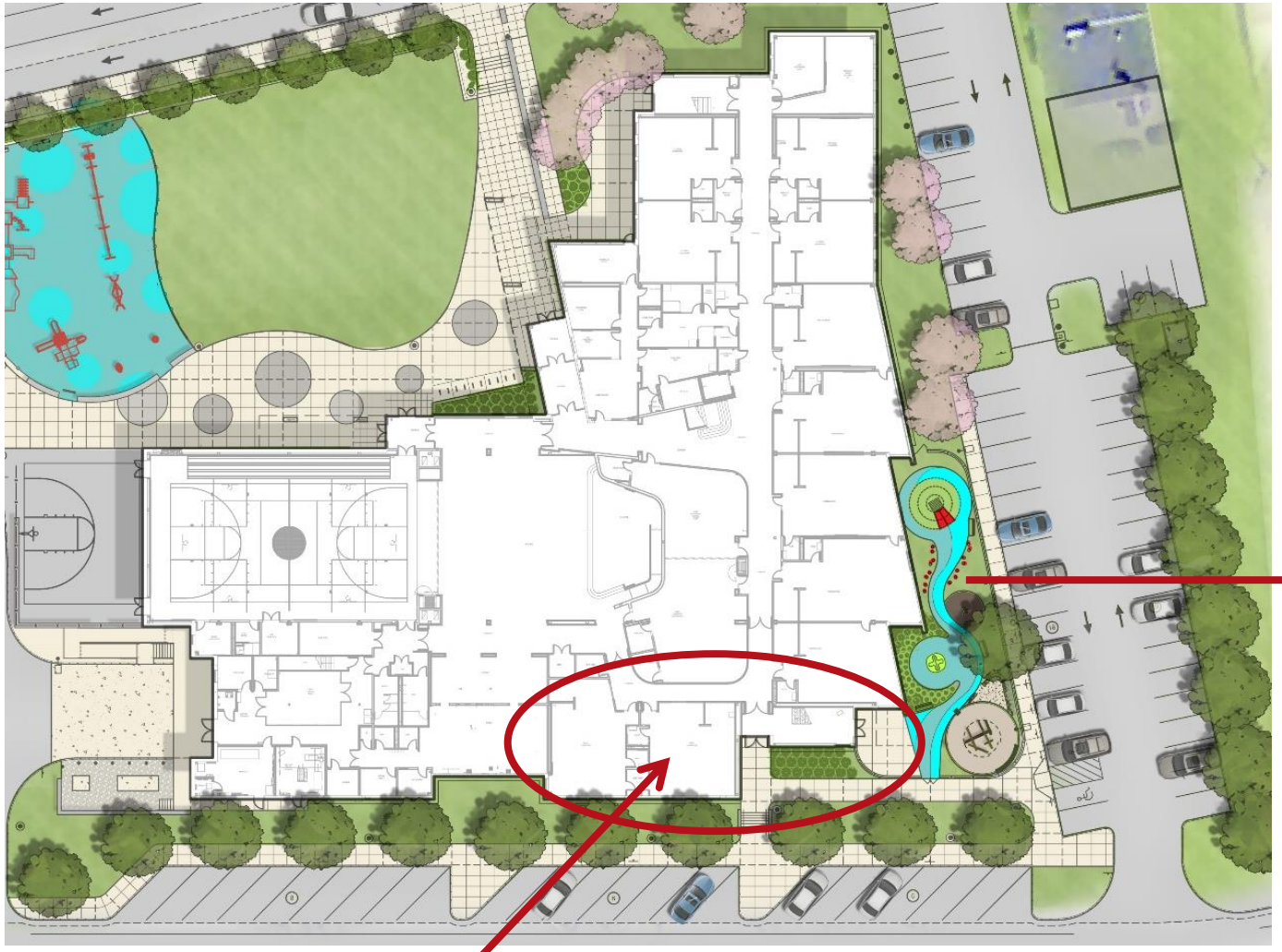


Separate:

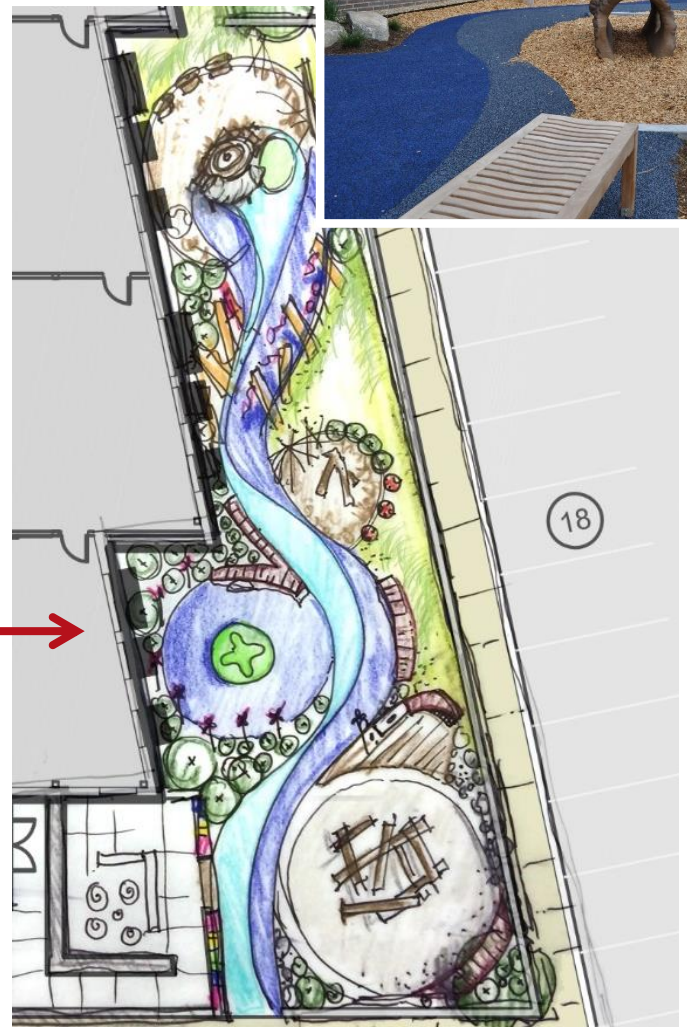
- Schedule to avoid conflict
- Entry / Security
- Fenced play area

Preschool Integration

Templeton Elementary School Pre-K



Early Childhood Program



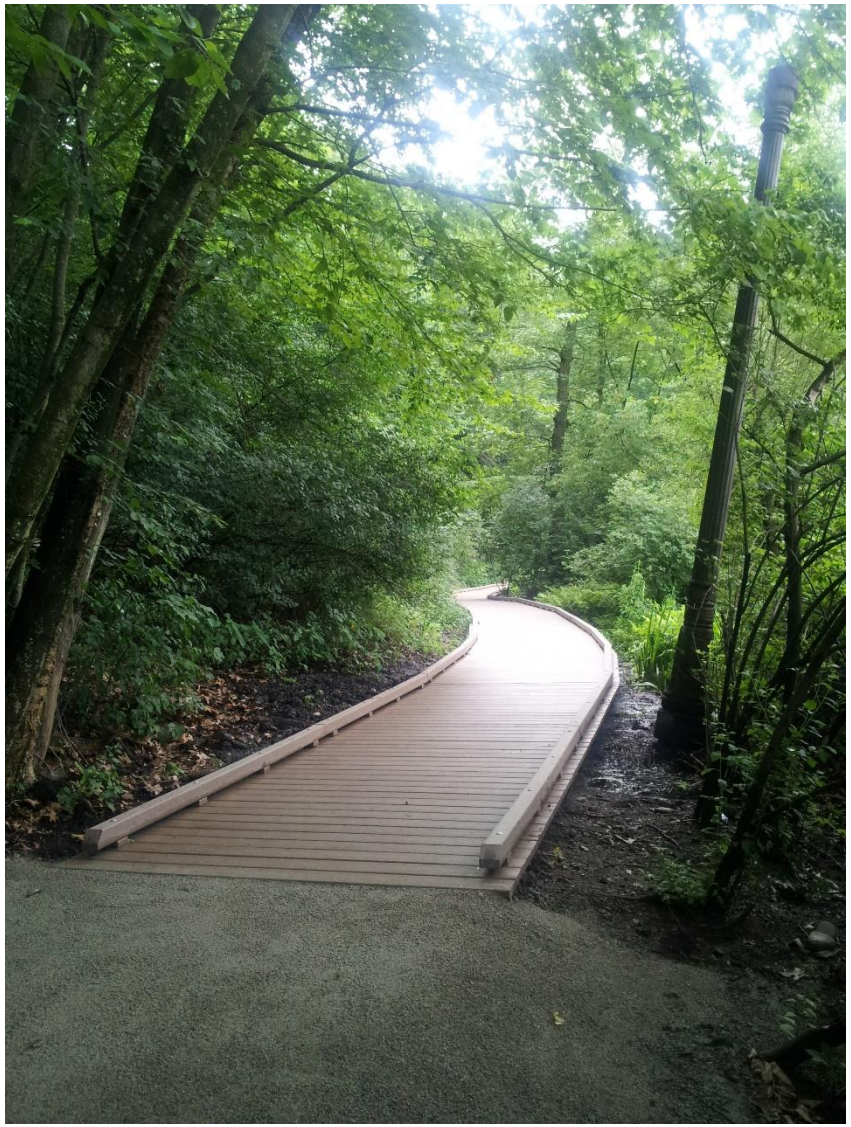
Experiential Play

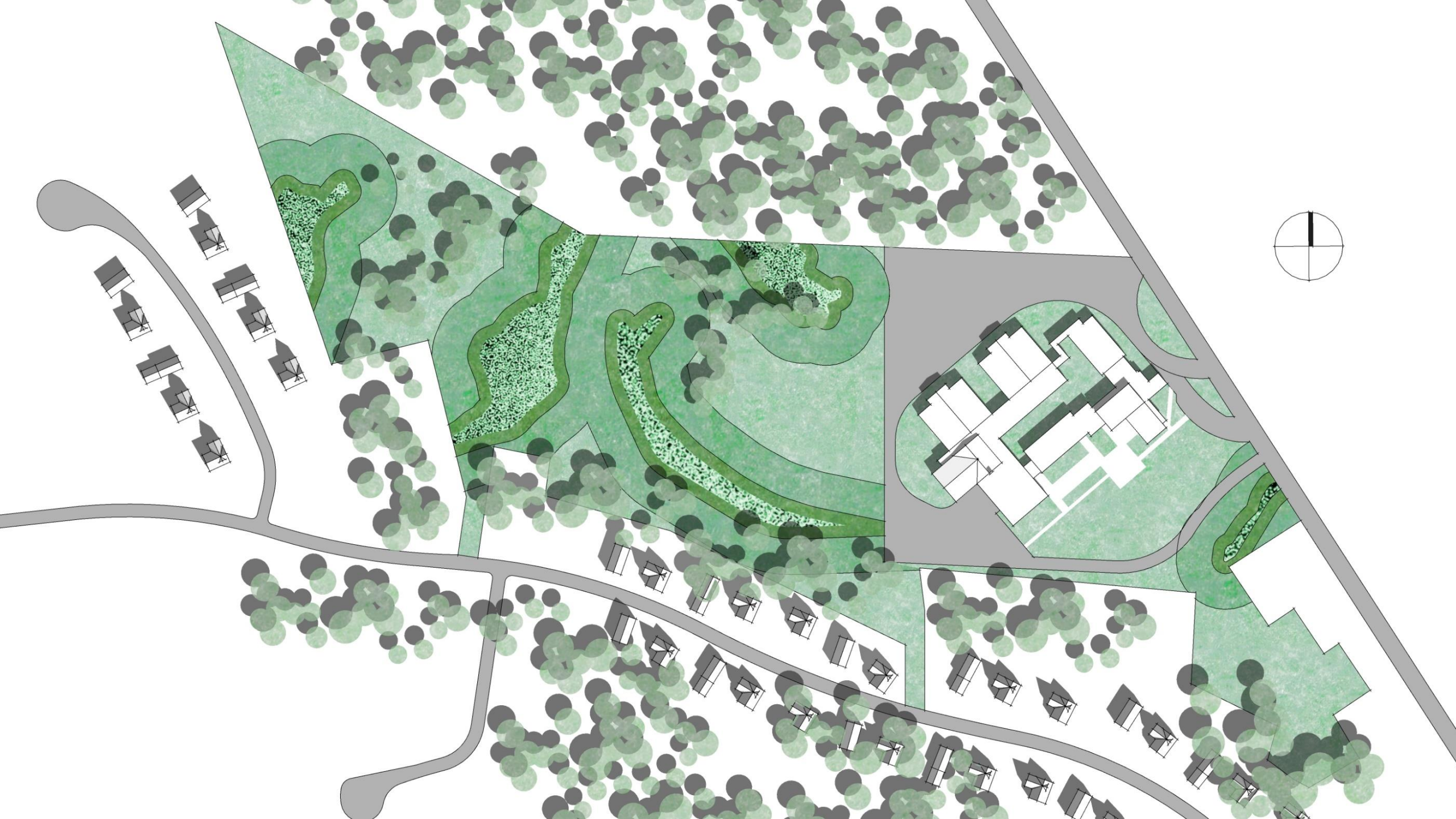
Preschool Integration

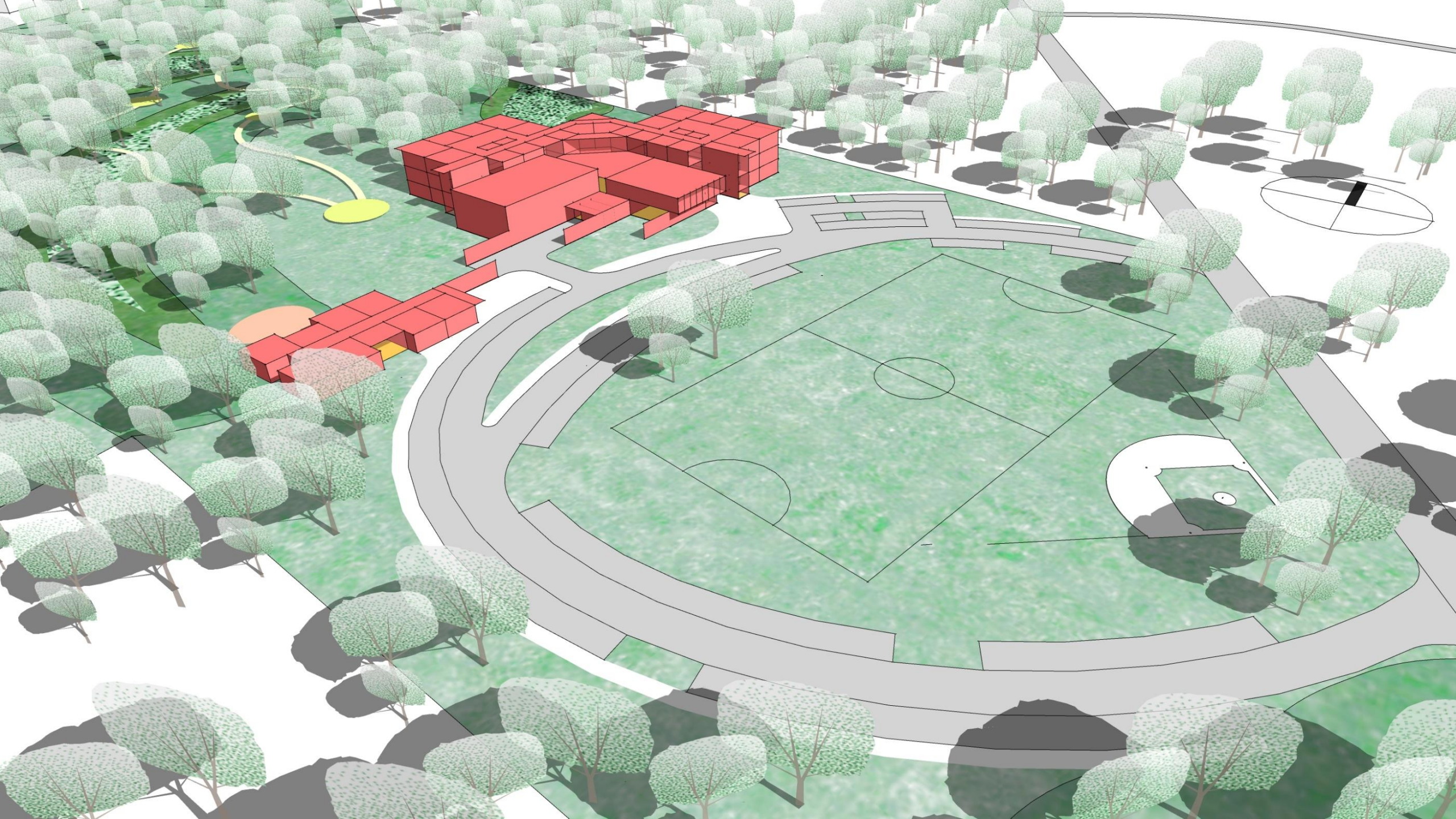
Outdoor Learning Opportunities

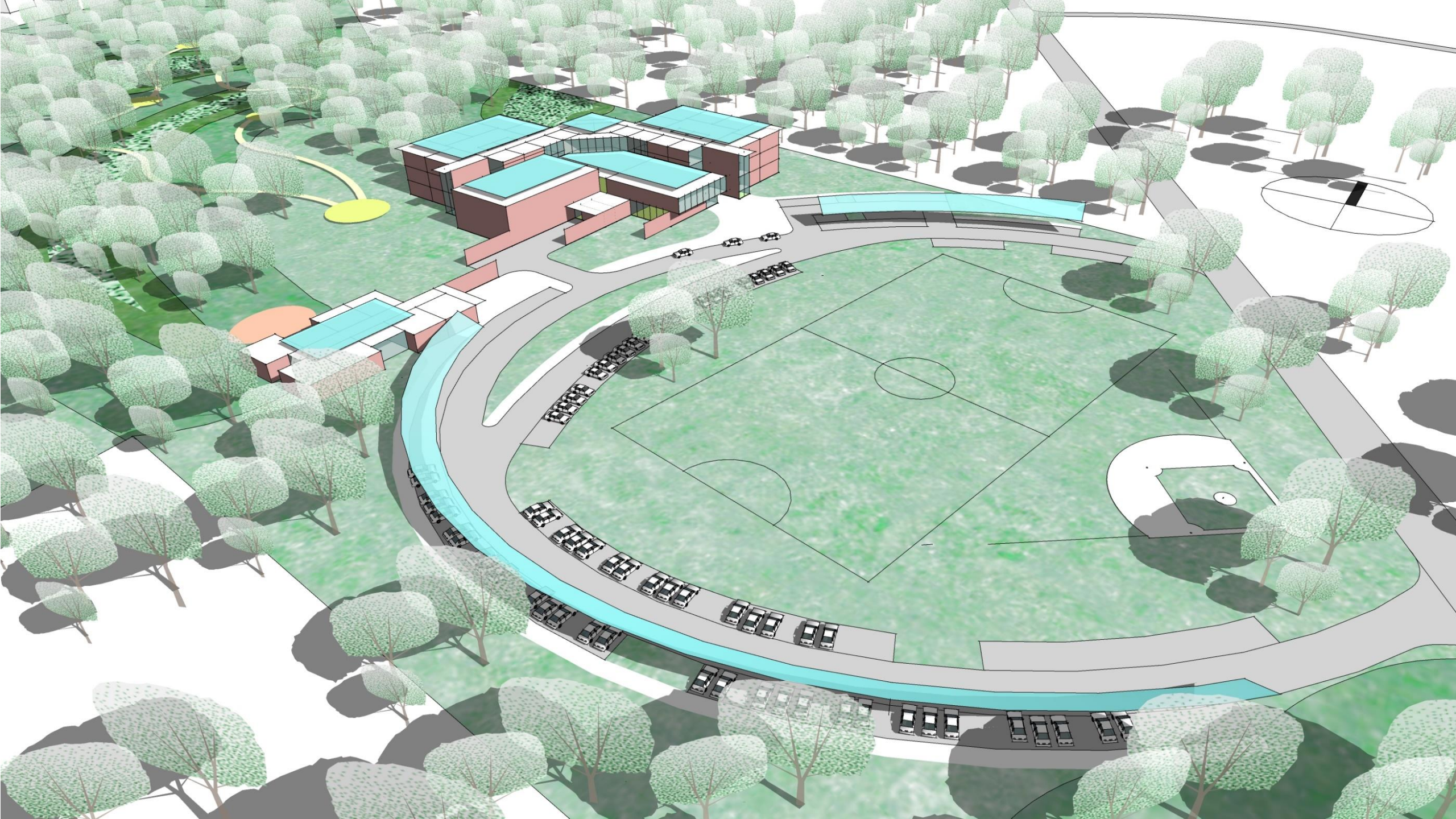
Learning Through Play

Site Specific Opportunities









Why SMMA

- Andover Public Schools Experience
- Visioning and Educational Planning Expertise
- Comprehensive In-House Team
- Sustainability and three NZE Public Schools

Discussion