



Bancroft Elementary School

Andover, MA

A4LE 2017 Exhibition of School
Planning and Architecture
Category of Entry: New Construction

Planning Process

The Town of Andover, one of Massachusetts' highest performing districts, sought to express its commitment to educational excellence and inclusion through its new Bancroft Elementary School. The project was conceived and advanced with community and abutter involvement over the course of hundreds of meetings, spanning more than two years.

It was resolved to not create a “brick box,” but rather to address the neighborhood with natural materials and distinctive facades.



Original School



Kids peeking in during construction



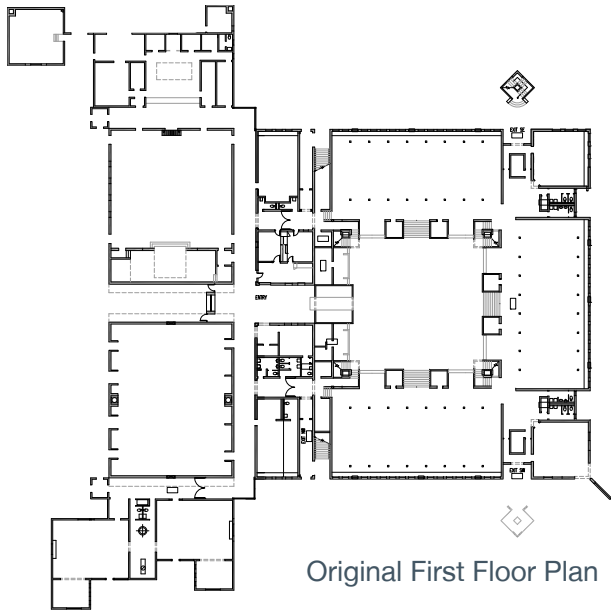
New School

Planning Process



Design team planners met with school and town leaders, as well as Bancroft neighbors, for sustainable design charrettes and educational programming forums, to discuss the school's commitment to environmental protection, measures to enhance site walkability and bikability for all students, and sustainable features incorporated into the design.





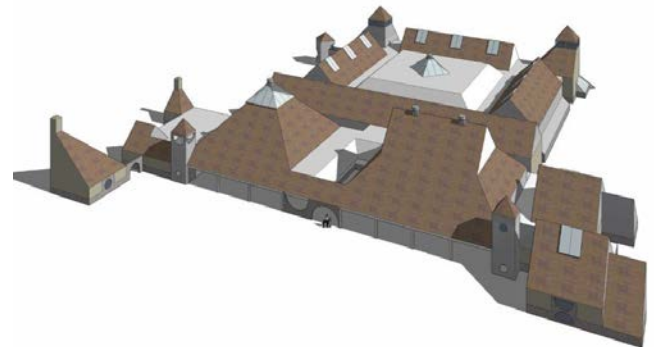
Original First Floor Plan



Original Site Plan and Building

A History of Bancroft's Open Plan

Nestled into one of Andover's more rural and pastoral neighborhoods—once farmland, with plots defined by both historic and newer stone walls and grand homes—the new Bancroft School replaces a beloved, but structurally failing, open-plan school from the 1960s that was whimsically designed to look like a castle (complete with moat!). With rising enrollments, school consolidation and changing educational needs, including increased autism program enrollment, the new school comprises twice the program area, precluding any opportunity for expansion.



Site Plan & Community Environment



A Star-Shaped Plan

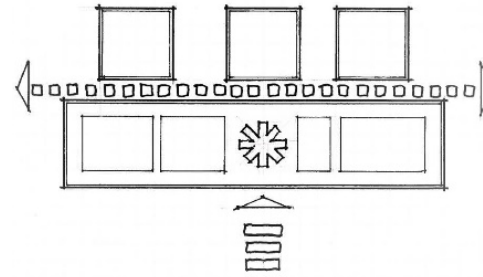
At first glance, the site appears expansive, but building near the existing structure and respecting the rural setback zones while simultaneously protecting three distinct wetlands necessitated its wholesale rethinking. Flipping the main entrance to face south altered the school's previous reference points, but also supported an improved microclimate, a more secure entrance, and better play areas.

The school's plan reaches out into the landscape, presenting narrow building ends with lower roofs at end-wall stairs and careful material compositions, proportions, and carved covered "porches" that serve as outdoor classrooms.

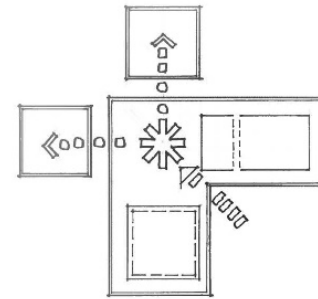


Existing school
remains operational
during construction

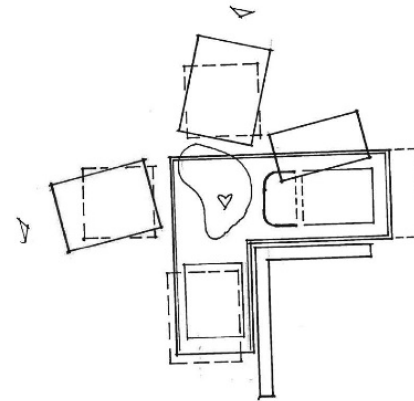
During



Bancroft Base Diagram



Centered & Stacked



Rotated & Layered

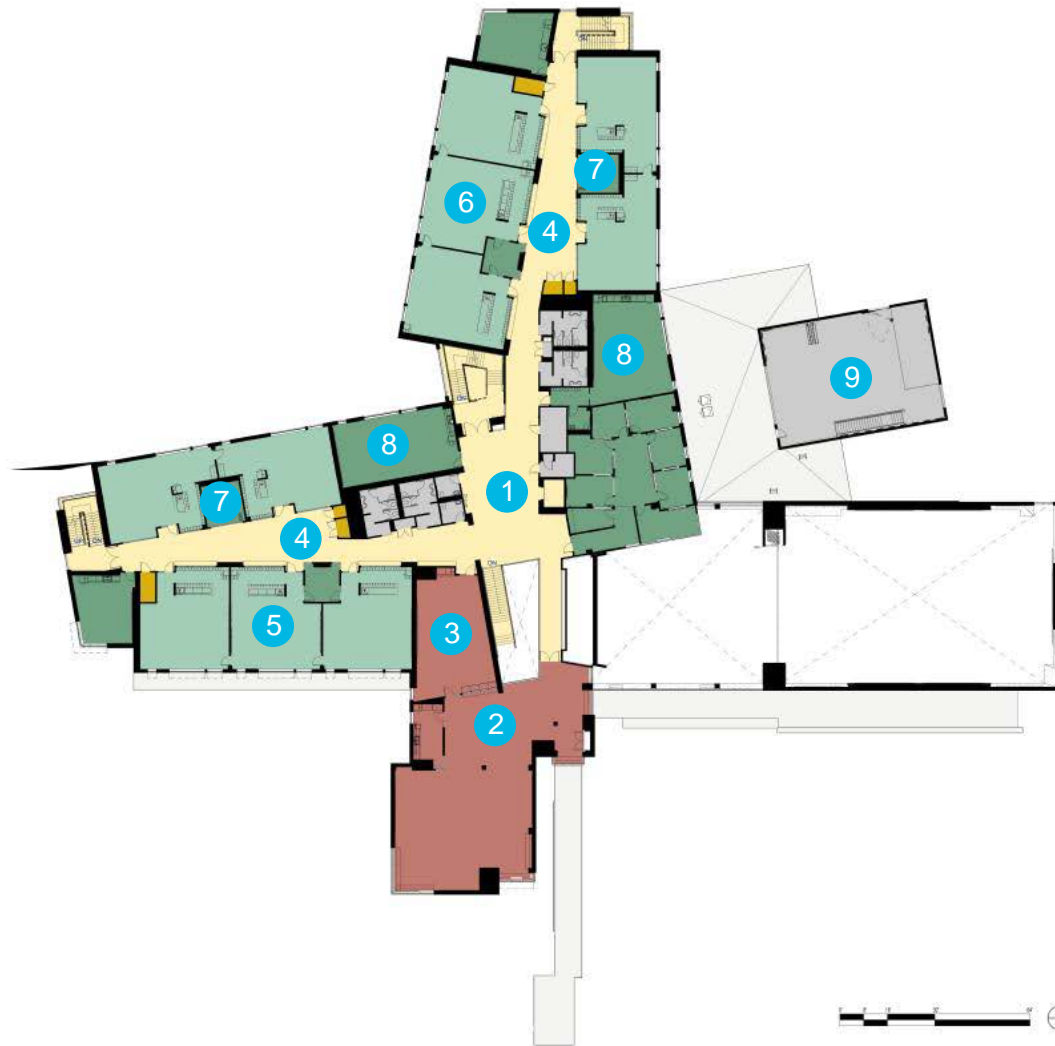
First Floor Plan

The Hub of the Star

The compact and efficient plan links four core gathering spaces vertically, with an open central stair and atrium. The media center overlooks the cafeteria/commons, which doubles in size when open to the gymnasium. Performing arts rooms, which can also open to form a large group gathering space, are the “hubs,” creating primary activity zones on each floor and organizing movement throughout the building. The grade-level classroom wings open wide, extending into a series of “living room” spaces.



Second Floor Plan



Third Floor Plan

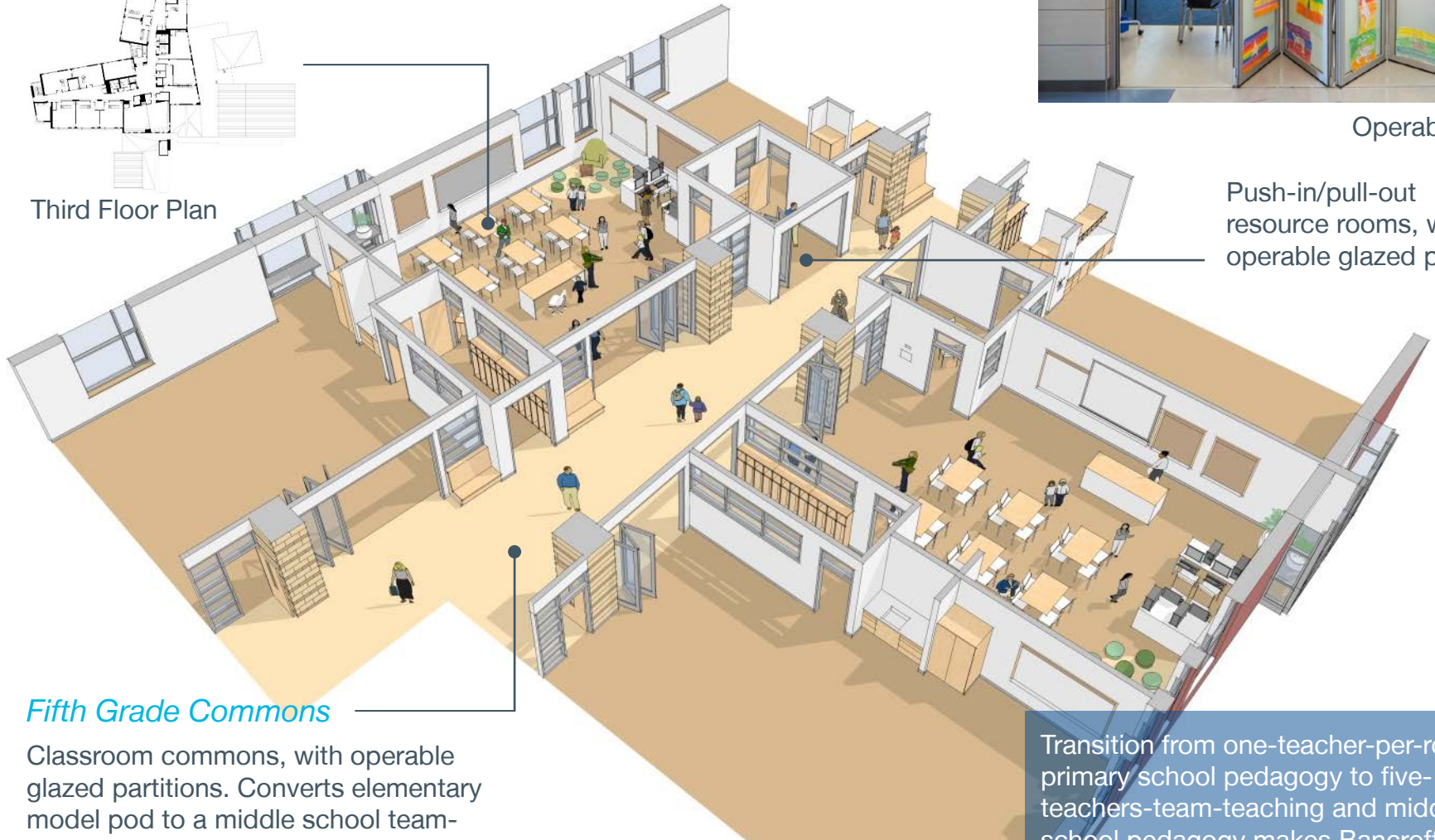


1. Media Center Tower
2. Music Room with Operable Wall (Large Group Space)
3. Art Rooms
4. Classroom Commons
5. 4th Grade Classrooms
6. 5th Grade Open Classrooms
7. Push-in/Pull-out Specialist Spaces
8. Autism Spectrum District wide Program

Fifth Grade Module



Third Floor Plan



Fifth Grade Commons

Classroom commons, with operable glazed partitions. Converts elementary model pod to a middle school team-teaching environment.



Operable Wall

Push-in/pull-out resource rooms, with operable glazed partitions

Transition from one-teacher-per-room primary school pedagogy to five-teachers-team-teaching and middle school pedagogy makes Bancroft a unique and flexible model.

Learning Environment

21st Century Spaces

Hallways are reimagined as a series of classroom commons, lending a sense of cohesiveness, identity, and safety to each 125-student grade. Every classroom has oversized borrowed lights and widened doorways, creating a more porous and open feeling that harkens back to the best of the old school's open-classroom planning.

Two push-in/pull-out specialist spaces are shared by five classrooms in each pod, on each level. These spaces are used by all students for differentiated and personalized learning.





Corridors at Classroom Commons

Daylit, exuberant, and active learning environments support student-centered learning on each floor

Learning Environment



Old Meets New

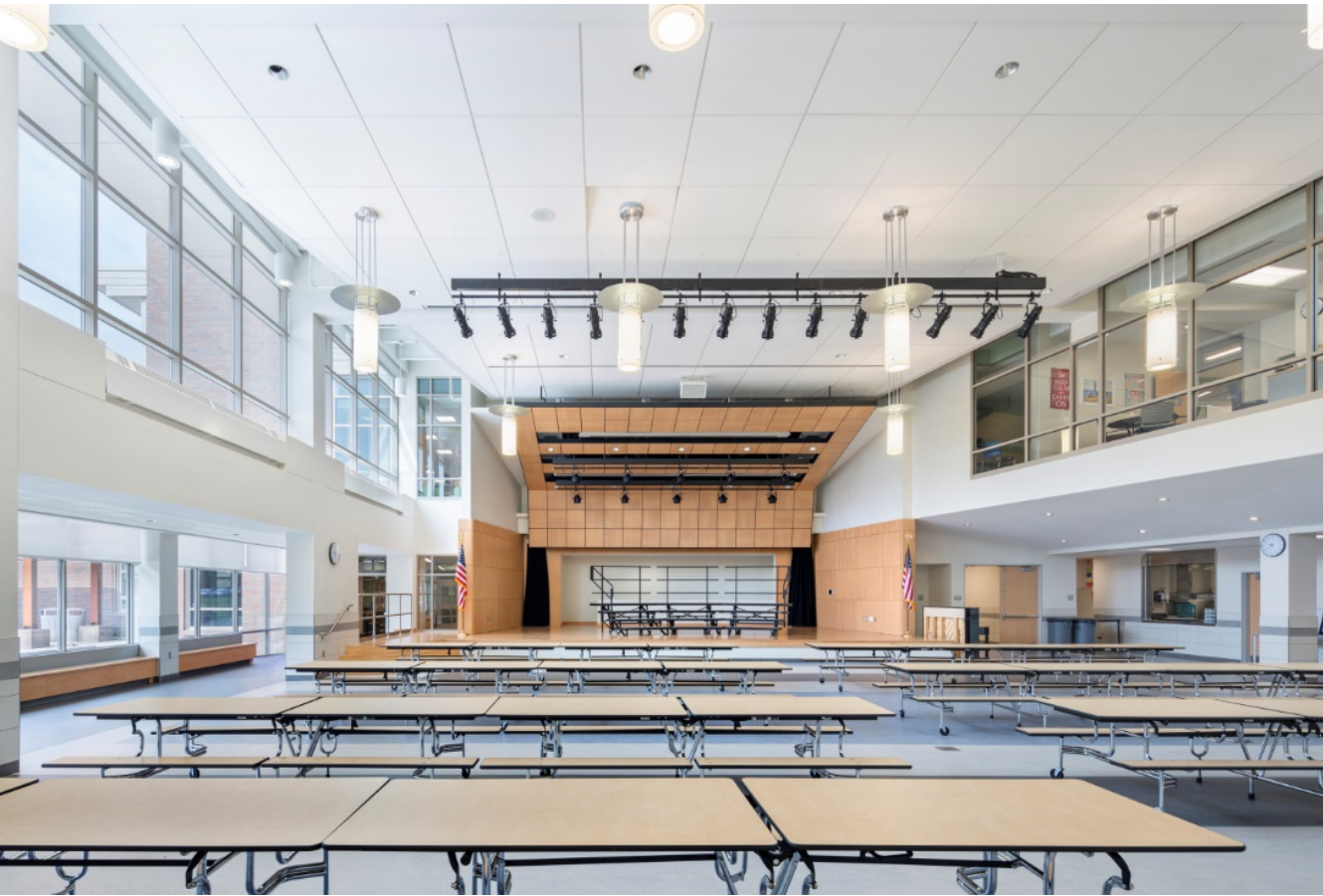
Visible Technology: The school's data acquisition display system is connected throughout its corridors and classrooms.

Reclaimed "castle" doors from the old Bancroft School in the new media center



Media Center

The centrally located media center faces the quiet, forested portion of the site



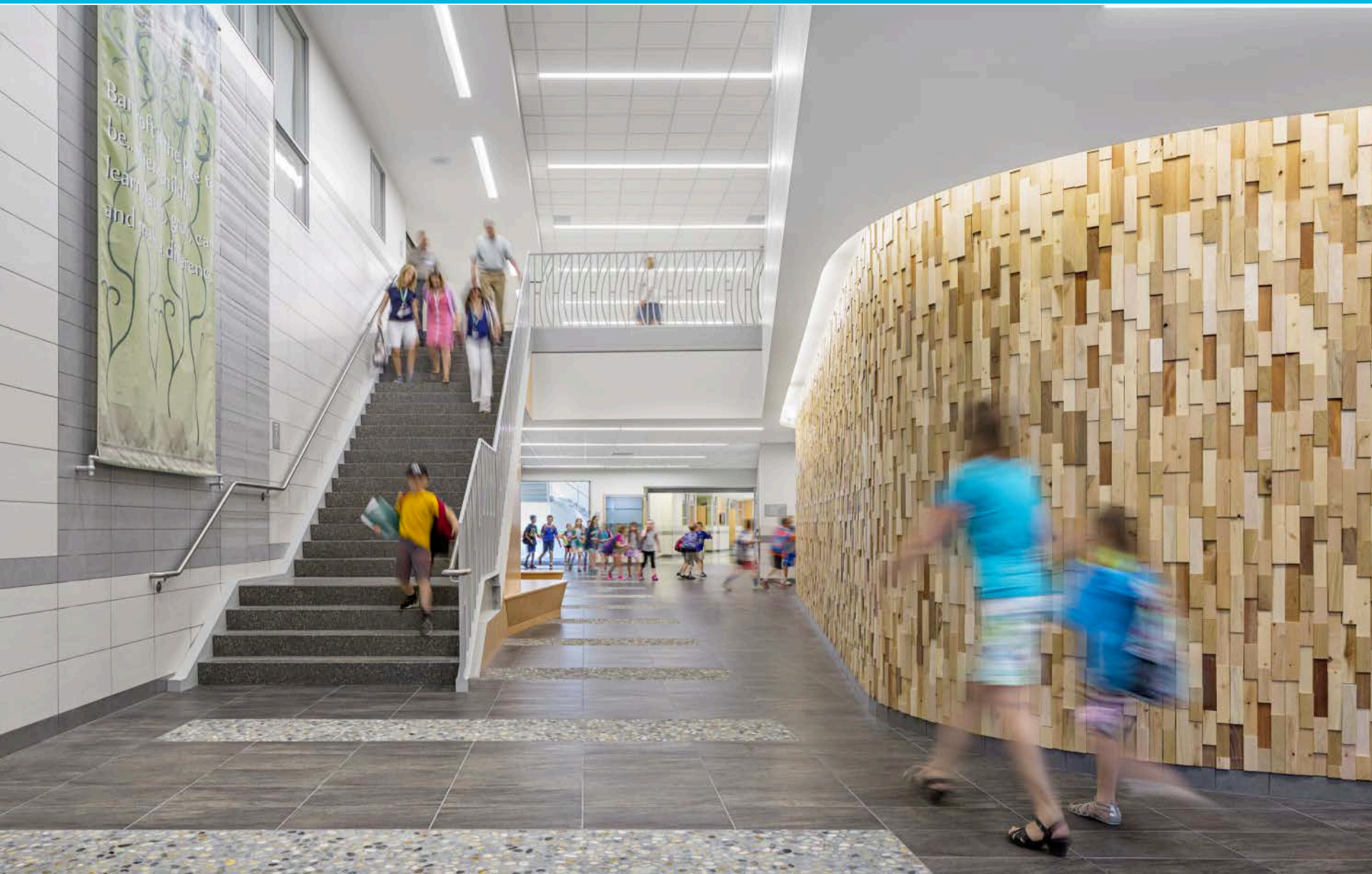
Cafeteria/Commons

The cafeteria/commons is activated by daylight and features built-in seating; overlooking spaces allow for the inter-connectivity of floors and educational programs (*from this view, the media center is located upper left, special education resource rooms upper right*)



Gymnasium

The cafeteria/commons and gymnasium are connected by a large, operable wall, and are often open for community and student activities after school hours



Lobby

The rural setting inspired the use of reclaimed wood on the organically shaped wall and river stone on the floor, and the main stair's guardrail design incorporates visual elements of native grasses and reeds

Exterior Learning Environment



In addition to the two age-specific playgrounds and ball courts, three outdoor classrooms and a vegetable garden also draw students outside, extending their learning environment beyond the classroom.





Playing to Learn

Bancroft was a complex, occupied site on which the existing school was situated on the most advantageous and central portion. Design interventions included numerous fields and courts, a hidden deck nestled in the woods, and bronze animal and insect castings waiting to be discovered throughout the site.

All elements were designed not only to fulfill programmatic requirements, but also to heighten a sense of play and learning. A solar panel (as a teaching tool) is integrated within the multi-age playground equipment area. Extensive vegetable gardens allow students to grow food for their cafeteria. Colorful, mathematically arranged sphere bollards invite students to unlock the meaning in their precise patterns.



Physical Environment



Before

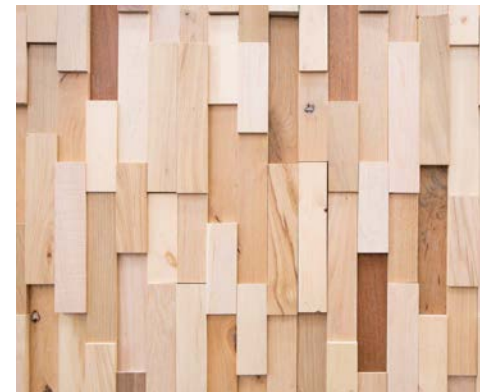


After: restored wetlands, native wildflower fields & walls

Physical Environment

A continuous plinth of darker, textured brick, inspired by local stone walls, terminates at the first-floor window heads. Above, 12-foot wood phenolic “clapboards” provide shadow relief – this subtle play on proportions settles the building into the landscape. The school is warm and inviting, its windows playfully composed across the façade to provide maximum daylight and reduce the institutional character associated with traditional school buildings.

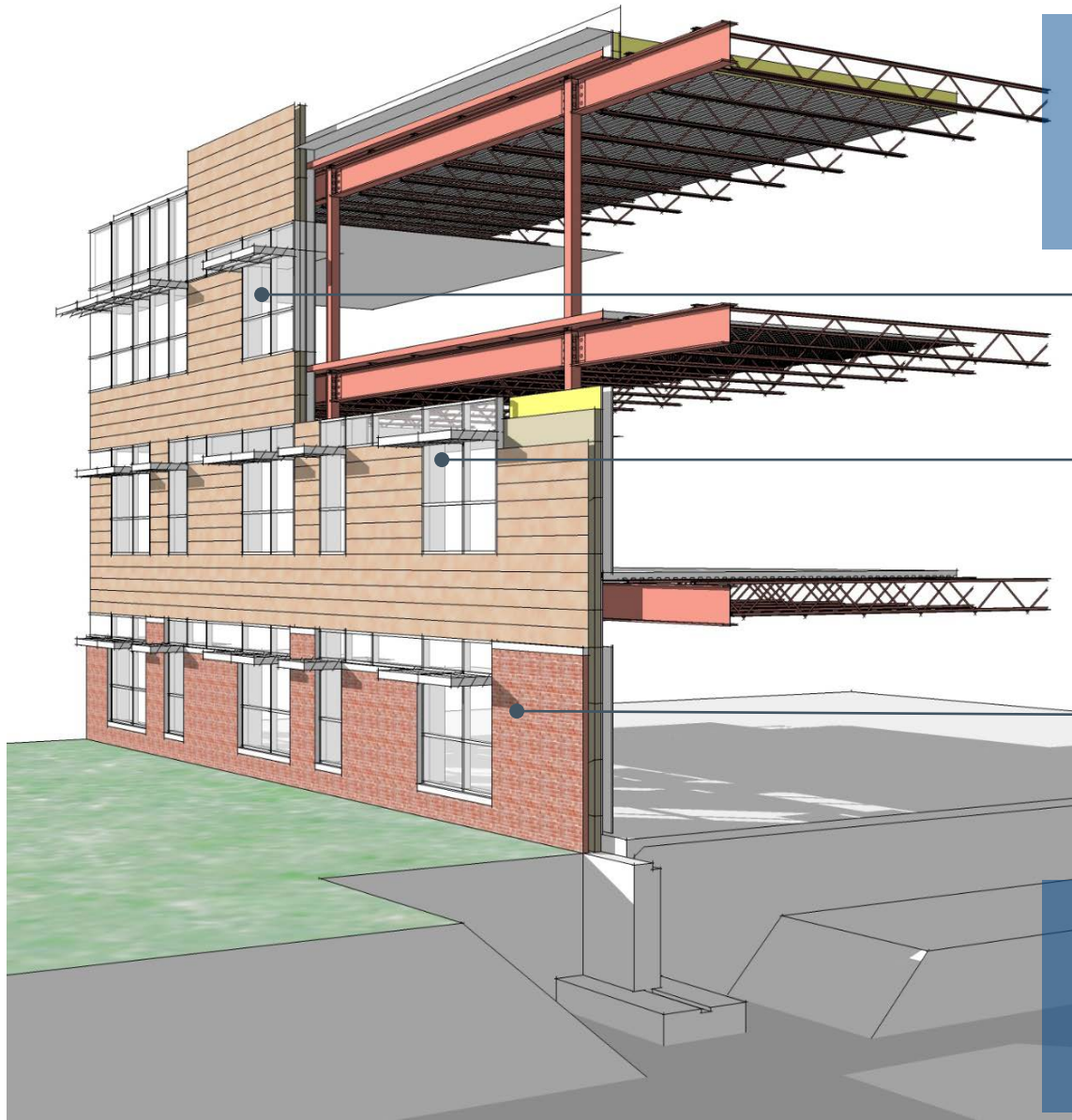




Main Entrance

Canopy and roof edges extend out to greet students and provide shelter. Child-scaled granite seat walls, colorful bollards, and interactive shapes hallmark the main entrance, while nature-reminiscent textures and materials work their way into the school.

Building Science & Energy Efficiency



LEED Silver-Certified Green School

- 40% energy performance beyond code
- 10 kW photovoltaic demonstration system & PV-ready roof
- 85% daylighting of educational spaces

Daylighting

- clerestory glazing
- exterior sunshades & interior light shelves

Phenolic Resin Wood Clapboard Rain Screen

- reduced building weight
- reduced structural steel
- added insulation
- aligned scale and aesthetic with neighborhood

10' First Floor Masonry Walls

- aligned with neighborhood scale & material
- improved durability
- eliminated structural relieving angles

- 40,000-gallon rainwater-harvesting system
- 95% FSC-certified wood
- 98% recycled construction waste
- 1,500,000-gal. annual potable water savings
- 30% water efficiency



Results

- In its four years since opening, the new Bancroft Elementary School has been embraced by the Andover community. Staff and teachers have particularly noted the benefits of its daylit interior, a positive contrast from the darkness inherent to the school's previous iteration.
- The district is currently exploring the possibility of reconstructing of another of its elementary schools, using Bancroft as a model.
- Despite initial concerns regarding the introduction of the secondary road, property values around the building have increased, to the delight of its immediate neighbors.
- The project has received four distinct educational planning awards and was selected by the Massachusetts School Building Authority as one of nine model schools for potential reuse in the Commonwealth.

Project Data

Project Name	Bancroft Elementary School
City	Andover
State	MA
District Name	Andover School District
Supt/President	Dr. Marinel McGrath
Occupancy Date	September 2014
Grades Housed	K to 5
Capacity(Students)	680
Site Size (acres)	20.2 acres
Gross Area (sq. ft.)	106,904 sf
Per Occupant(pupil)	157 sf
gross/net please indicate	
Design and Build?	
If yes, Total Cost:	\$40,218,065
Includes:	Comprehensive
If no,	
Site Development:	
Building Construction:	
Fixed Equipment:	
Other:	
Total:	\$40, 218, 065