



2018 LEsolutions Design Award

PROJECT OF DISTINCTION

BLUESTONE ELEMENTARY SCHOOL | HARRISONBURG CITY PUBLIC SCHOOLS | HARRISONBURG, VIRGINIA

Table of Contents

● Executive Statement	03
● Scope of Work + Budget	05
● School + Community Engagement	07
● Educational Environment	13
● Physical Environment	18
● Results of the Process + Project	25

O1



Executive Summary

Executive Summary

Nicknamed “the friendly city,” Harrisonburg is a designated refugee relocation city. Harrisonburg City Public Schools (HCPS) has experienced the highest school enrollment growth rate in Virginia over the past 7 years. Between 2002 and 2013, school enrollment grew more than 32% with an overall gain in city population by 21%.

35% of HCPS students identify as English Language Learners, representing over 60 different countries and speaking 58 languages. This diversity offers both cultural opportunities for learning as well as challenges in terms of ensuring appropriate levels of support are championed for this unique and growing population.

To meet the needs of the student body, the design of the school emphasizes a diversity of spaces and scales for learning while creating welcoming public areas that embody the school community’s values of inclusivity, creative expression, and learning from and with one other. Grade-level “learning neighborhoods” support differentiated opportunities for learning by providing a variety of core learning spaces, breakout areas, teacher resource rooms, and maker hubs that can be leveraged in different ways to support desired levels of autonomy and collaboration.

A continuum of transparency stitches together interior spaces while maximizing views to the Shenandoah Valley. An active landscape and wayfinding system celebrating Harrisonburg’s unique geography and ecology empower the diverse population of students to become stewards of this special place and feel connected to the larger world around them.



O2

Scope of Work + Budget

Scope of Work + Budget

Ambitious planning goals for Bluestone Elementary School included the creation of a net-zero energy building, as well as pursuit of LEED certification (the building is currently tracking LEED Gold). The building serves 755 students in grades K-5 with three stories that are approximately 103,000 gross square feet.

Bluestone is one in a series of school projects that will reflect the 21st century educational needs, goals, and core beliefs of the city of Harrisonburg. The school and its program accommodate expanding services and enrollment within the city, and foster new and dynamic relationships between academic, cultural, and recreational spaces.

The Programming Phase included a series of visioning and work sessions with the steering committee and design advisory groups to formulate programmatic and environmental opportunities for the school. The goal of these initial work sessions was to establish the planning principles for the city of Harrisonburg's 21st Century Schools initiative, identify space requirements to support contemporary instructional needs, and review the types of required spaces as listed in the space program.

The school opened in August 2017 and was constructed for \$26,682,344.

Owner's Budget: \$25,910,767

Actual Bid: \$25,120,000

Add Alternate: \$690,767

(Due to the building coming in under budget, three additional classrooms were able to be added to the scope of work.)

Final Bid: \$25,910,767

Final Construction: \$26,682,344

Project Cost (with sitework): \$31,055,000

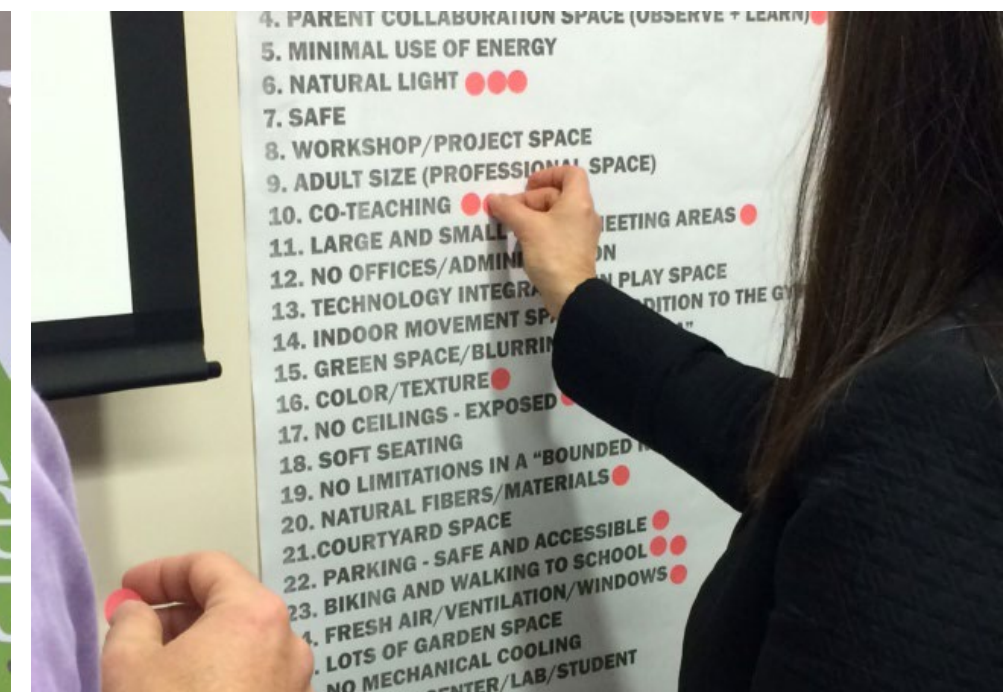
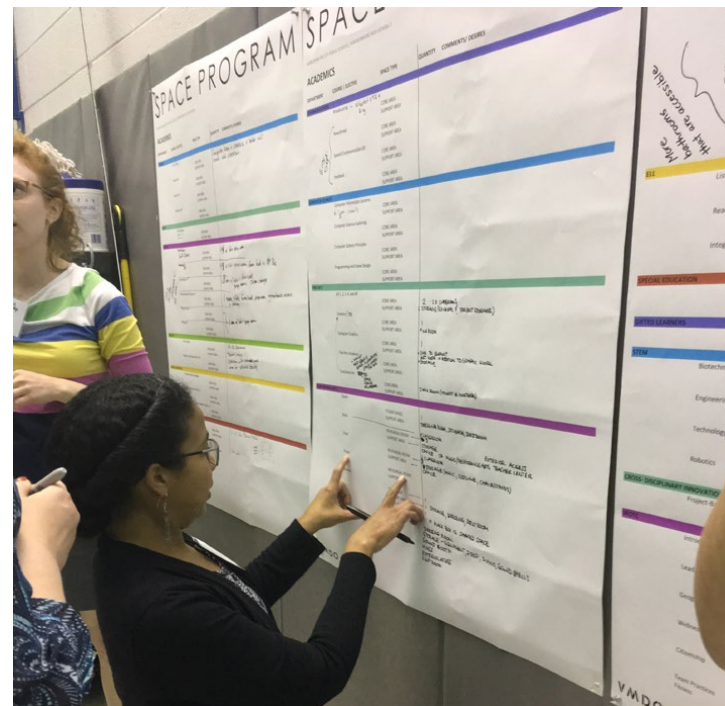
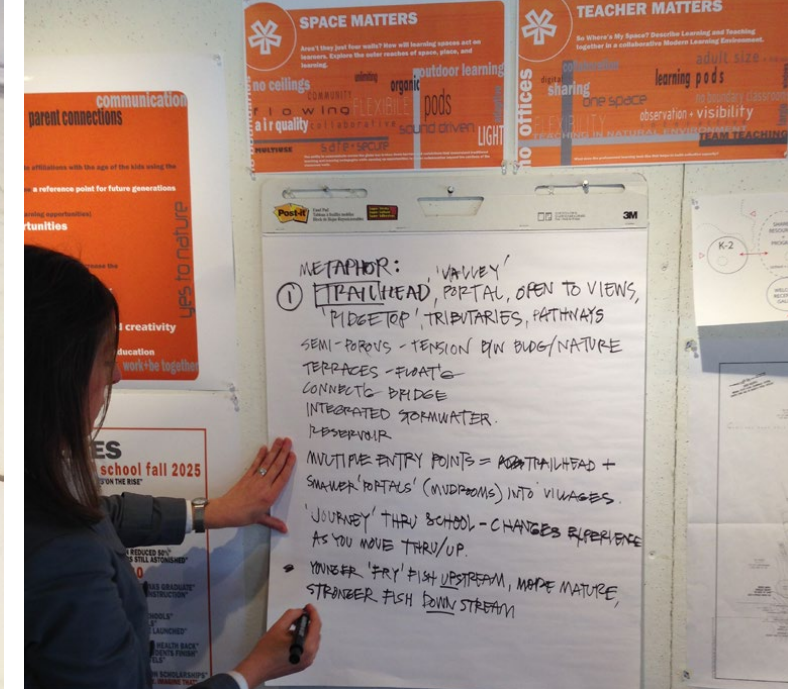
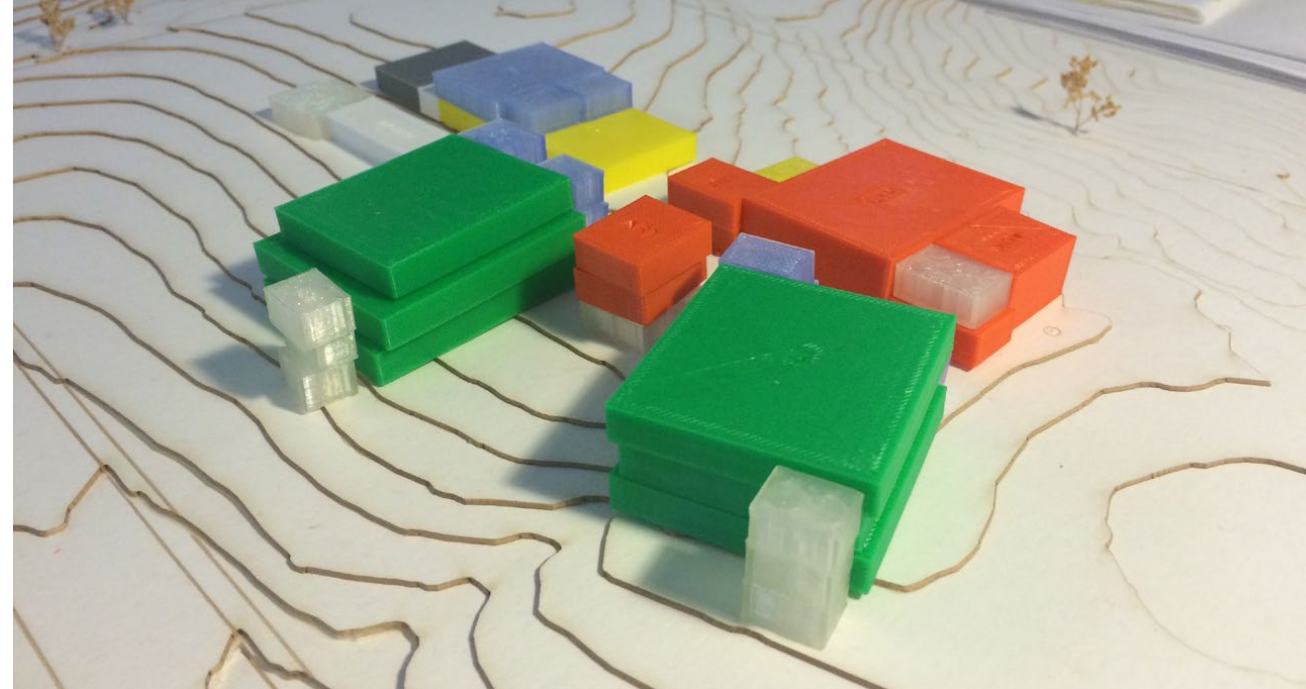


03

**School +
Community
Engagement**

Inclusive Planning Process

The inclusive planning group consisted of about 20 people including representatives across grades, subjects, specialized learning needs, food service, and facilities. Community meetings with parents and staff emphasized questions such as “What do you value?” and “What do you prioritize?” These questions and their responses informed both the pre-design and programming processes – and contributed to the development of a culture dedicated to equity and respect, where all students are valued, known, and told they belong.



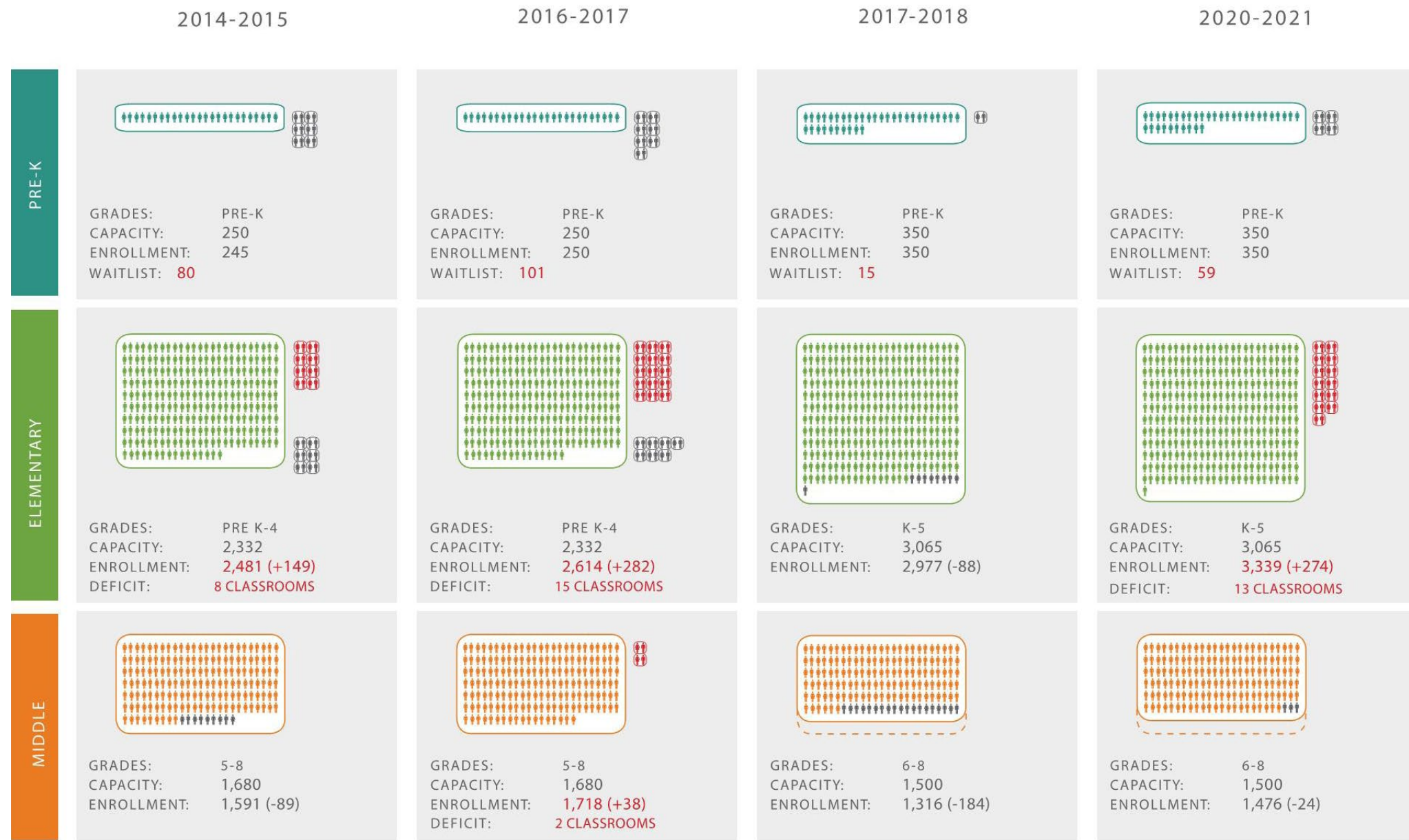
School District Growth

As part of the planning process for the new elementary school, the design team reviewed all HCPS building capacities and assessed various factors driving growth in specific areas of the student population. School district administration provided leadership in ensuring that the large 103,000 GSF school provided needed services without creating equity gaps in relation to older, existing schools.

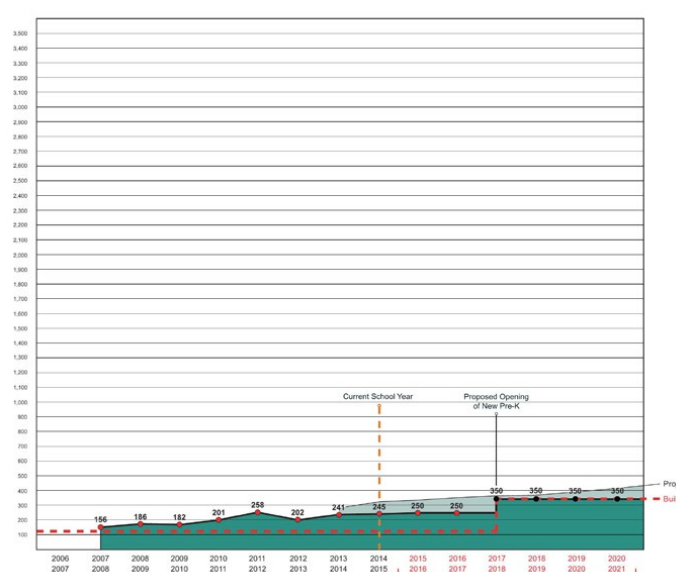
Working with the Weldon Cooper Center at the University of Virginia, the design team aligned strategic analysis of enrollment projections with facility needs and educational goals, building consensus and buy-in from stakeholders along the way.

The analysis produced two main recommendations:

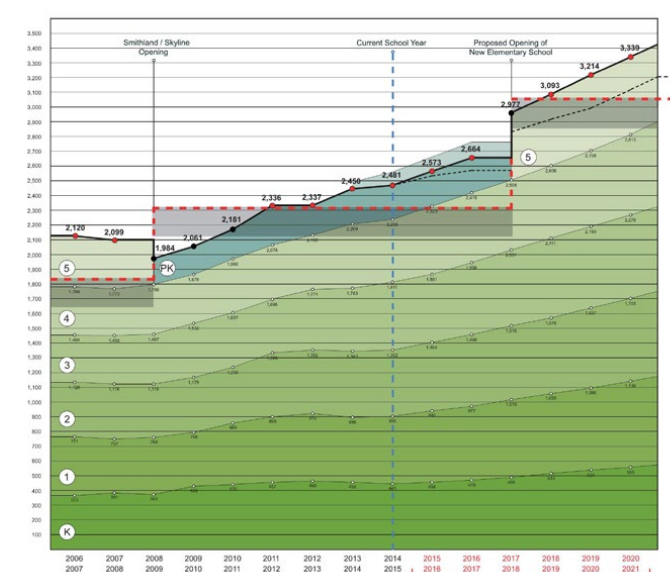
- **Grade Realignment:** 5th grade has been moved back to the elementary level to alleviate strain on middle school capacity. Multiple site options for a new Early Learning Center, a new elementary school, and a consolidated complex were studied. Final sites for Bluestone and the Early Learning Center were selected and approved.
- **Redistricting:** The City's school district borders were revised to re-balance enrollment and ensure equity and access to the new schools.



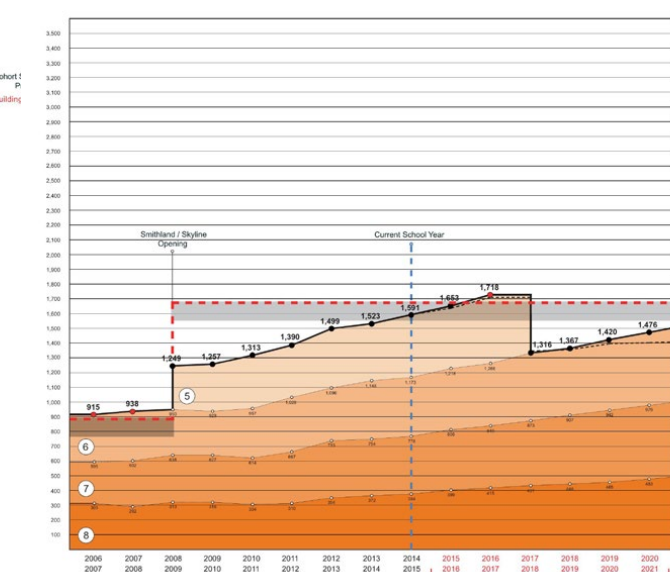
= 10 STUDENTS
 = 20 STUDENTS = 1 CLASSROOM
 = 15 WAITLIST STUDENTS



PROJECTION GRAPH: PRE-K ENROLLMENT



PROJECTION GRAPH: ELEMENTARY SCHOOL ENROLLMENT



PROJECTION GRAPH: MIDDLE SCHOOL ENROLLMENT

Grounded in Place + Community

The school's location is a greenfield site located at the edge of the city of Harrisonburg. Responding to a gently sloping topography, the design of the school steps down with the land and opens up expansive views to the surrounding mountains and Shenandoah Valley. The design team studied the path of the sun, prevailing winds, views, and safe ways to connect the site to the surrounding area through roadways and pedestrian connections. Visual and physical connections to Harrisonburg's natural beauty contributes to a strong sense of place and 'rootedness' that furthers the planning group's goal to celebrate and create community.

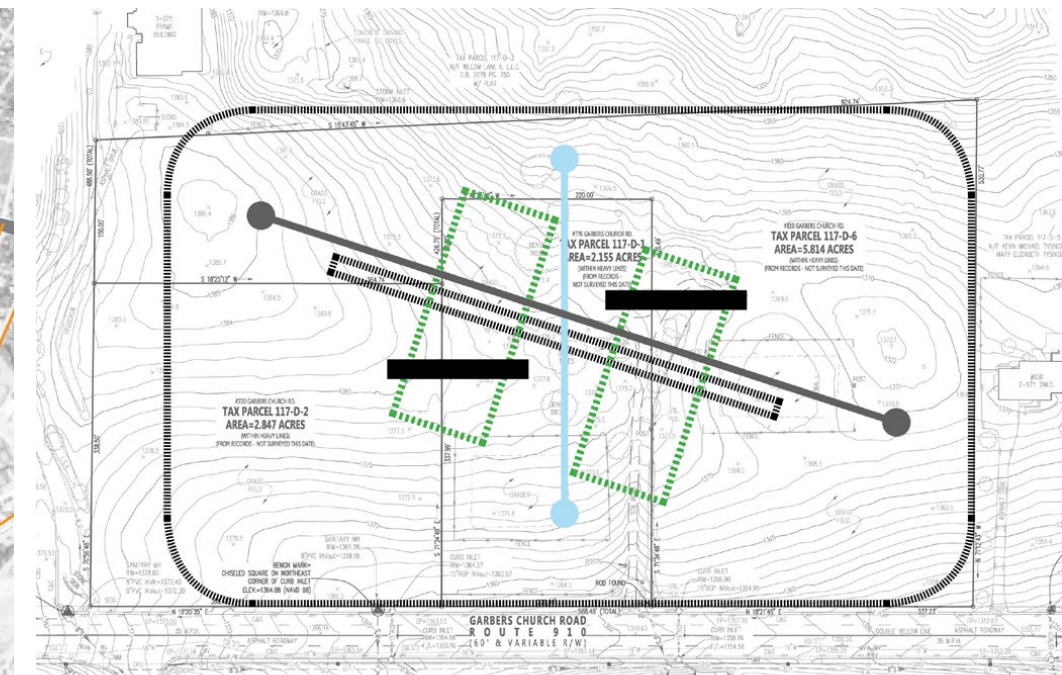
Inside and outside, the school creates differentiated learning opportunities that encourage students to take ownership of their school and school community. Through environmental graphics that celebrate the beauty, resources, and diversity of Harrisonburg, students learn to become caretakers of each other, their school, and their community. This sense of responsibility stems in part from the school's and school division's commitment to celebrating diversity and promoting community, which is reinforced both in Bluestone's physical environment and in the culture that administrators and teachers are dedicated to developing for students.



AERIAL VIEW OF SCHOOL



COMPOSITE SITE DIAGRAM OF STREAMS, PARKS, ROADS, AND WALKING PATHS



TOPOGRAPHIC DIAGRAM

103,000 sq ft
10.8 acres

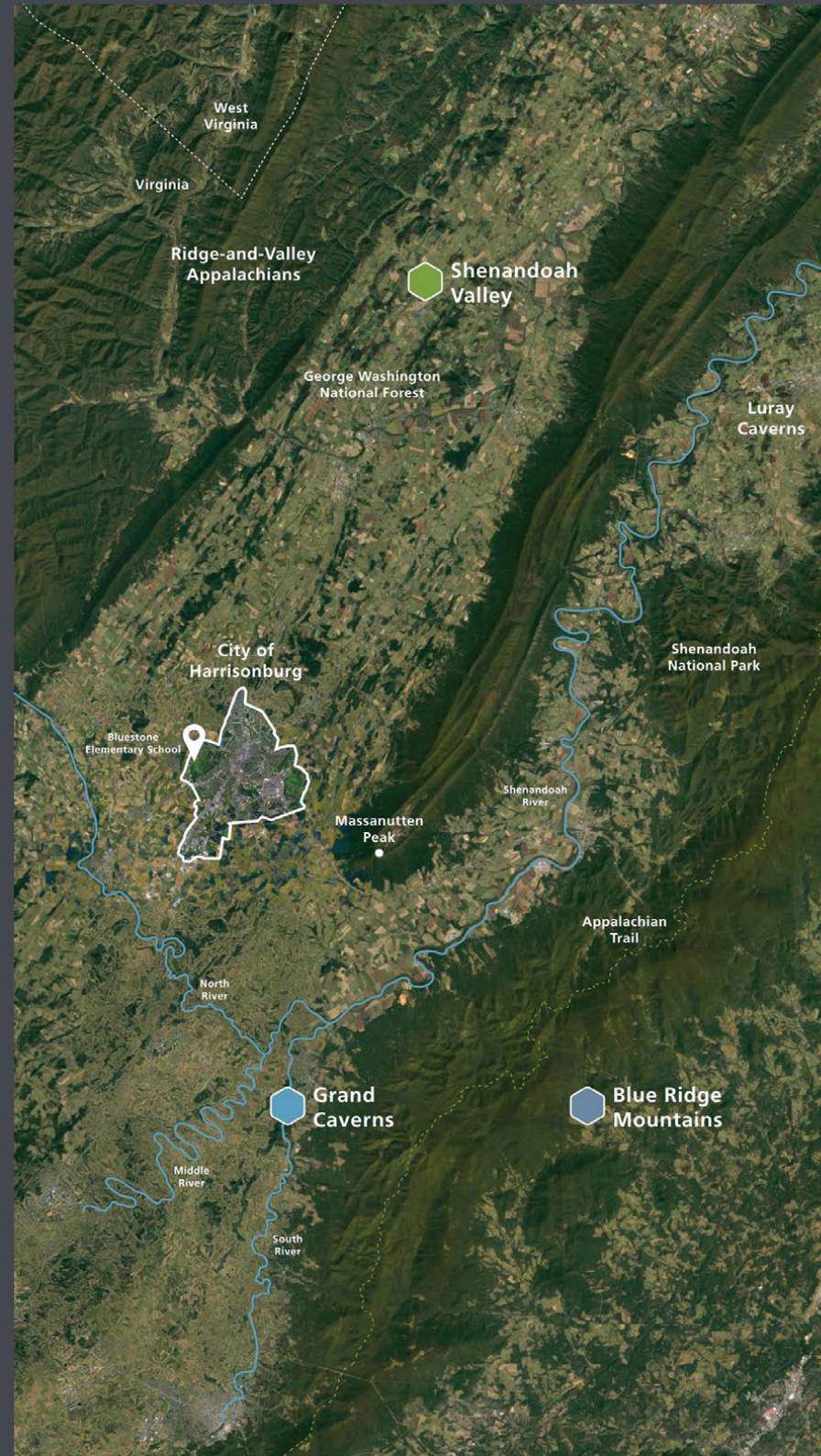
Welcome to Bluestone

750 Garbers Church Road
Harrisonburg, VA 22801

Exploring Bluestone Elementary School is like trailblazing through the Shenandoah Valley. Each floor of our school represents a geological layer of the region while each hallway becomes a trail you would find in that region. Continuing down the trails, each classroom is a local animal that would be found in that trail's surrounding landscape. Our school celebrates all of the unique landscapes and fauna our region has to offer!



EXTERIOR SIGNAGE



NEARBY GEOGRAPHIC AND NATURAL FEATURES



Mountains



Peak Trail



Ridge Trail



Waterfall Trail



Valley



Woodland Trail



Meadow Trail



River Trail



Caverns



Peak Trail



THE AREA'S NATURAL SYSTEMS, AND THE RESPECTIVE FLORA AND FAUNA FOUND IN THEM, ARE CELEBRATED IN THE SCHOOL'S THEMING AND EDUCATIONAL SIGNAGE, WHICH ARE ORGANIZED BY FLOOR — CAVERNS (FLOOR 0), VALLEY (FLOOR 1), AND MOUNTAINS (FLOOR 2).

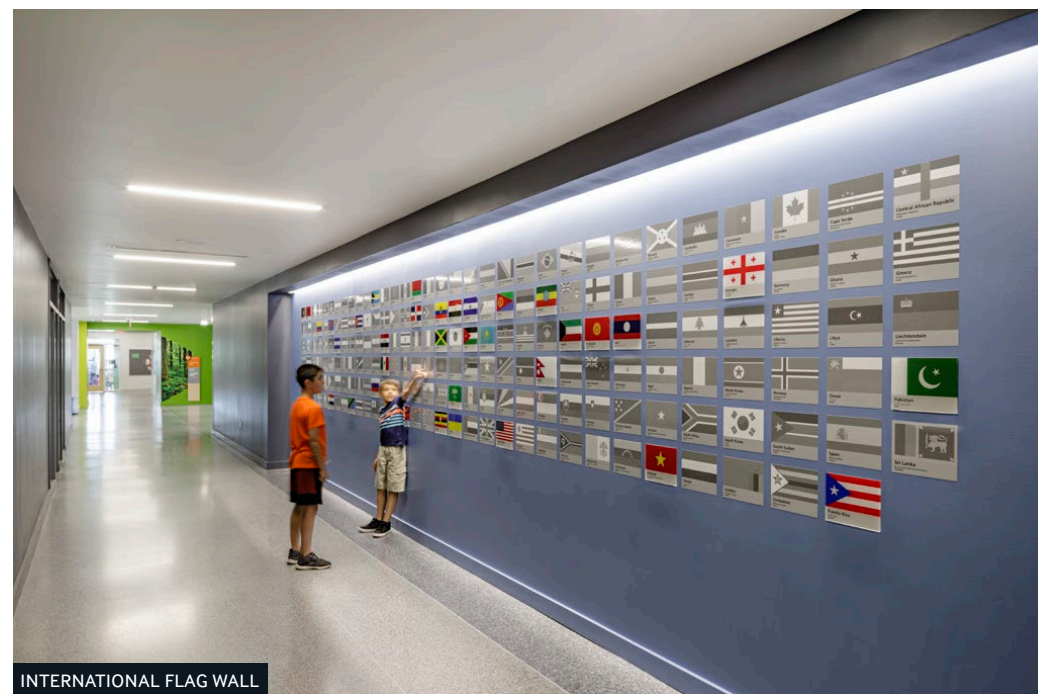
Promoting Community through Diversity

Educational signage and strategic visual connections found throughout the building, as well as to the landscape beyond, help to orient newcomers, promote school community, and celebrate the unique beauty of the Shenandoah Valley.

The school's design embraces cultural diversity while highlighting the relationship between the school and its global context. Near the lobby, a representative international flag exhibit highlights the diversity of the student population. Stepping down a level from the lobby, a welcoming Dining Commons features local wood and stone details to create a unique sense of place that emphasizes the significance of dining, sharing, and gathering as a community.



ENTRY LOBBY



INTERNATIONAL FLAG WALL



DINING COMMONS

04

Educational Environment

Learning Neighborhoods

Bluestone features 42 core-learning studios organized into grade-level neighborhoods. Neighborhoods are scaled to encourage relationship-building, collaboration, and novel curricular arrangements that enhance learning, while allowing for flexibility in how the spaces are used.

Bluestone's dynamic learning neighborhoods maximize flexibility, visual connections, and physical proximities through open areas, reconfigurable spaces, and transparency. The model consists of 5 main space types:

1. **Open Studio:** A double-core learning studio with an operable connection / partition that can support team teaching. The studio is open to circulation.
2. **Super Studio:** A double-core learning studio with separation from circulation.
3. **Single Studio:** A single-core learning space with separation from circulation.
4. **Shared Staff Resource / Meeting:** A space for team planning with visibility to circulation.
5. **Small Group Resource:** A space for small group and one-on-one learning with separation from circulation.



LEARNING NEIGHBORHOOD CORRIDOR AND RESOURCE / MEETING ROOM

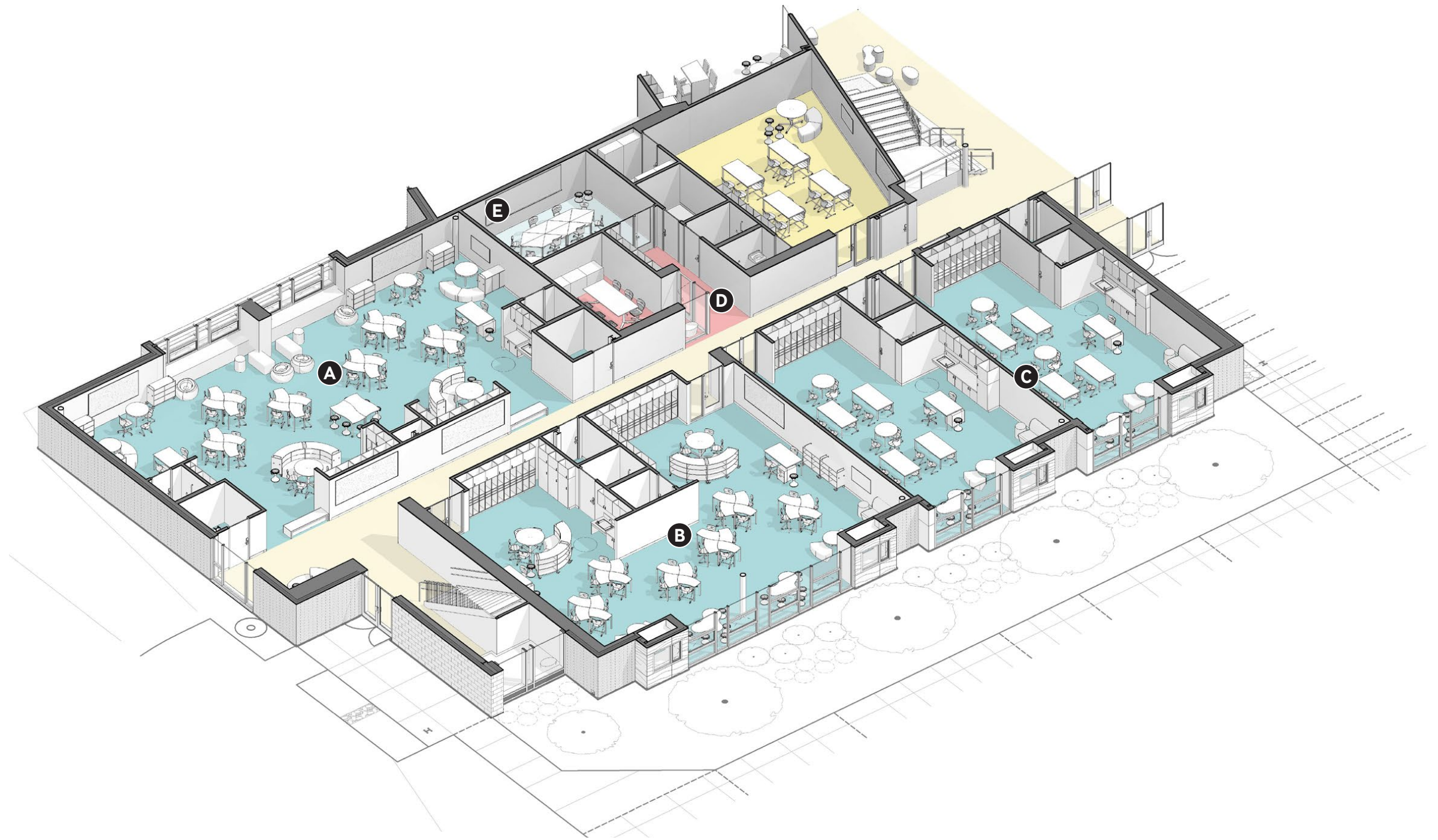


OPEN STUDIO



SUPER STUDIO

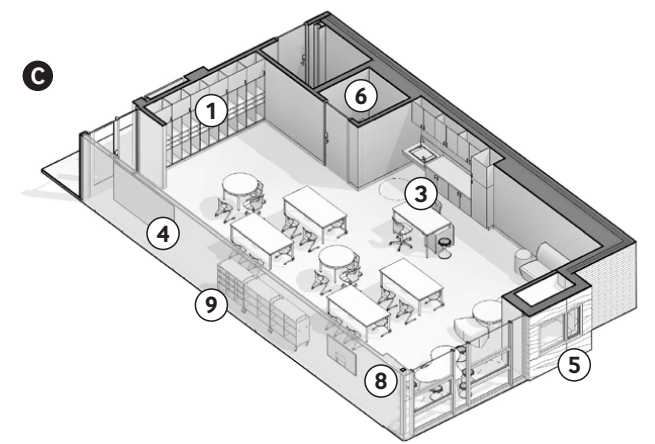
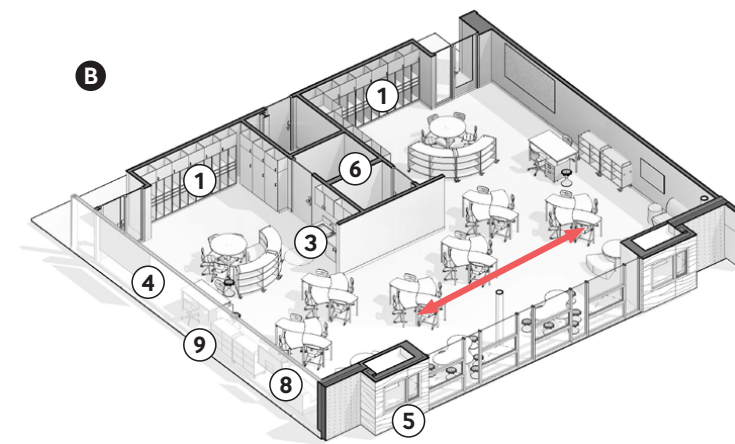
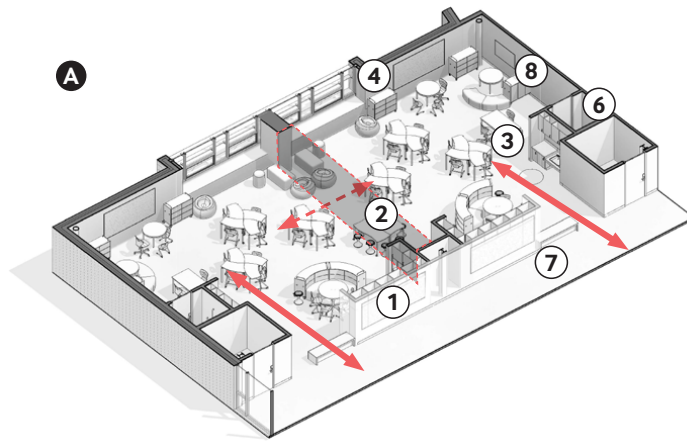
Flexible Studio Spaces



- A** OPEN STUDIO
- B** SUPER STUDIO
- C** SINGLE STUDIO
- D** SHARED STAFF RESOURCE / MEETING
- E** SMALL GROUP RESOURCE

- FLEXIBLE CONNECTION
- PERMANENT CONNECTION
- MOVABLE PARTITION

- 1** STUDENT + TEACHER RESOURCE STORAGE
- 2** MOVABLE PARTITION
- 3** SINK + RESOURCE AREA
- 4** TACKABLE SURFACE
- 5** READING WINDOW NOOK
- 6** STUDIO TOILET (K/1)
- 7** THRESHOLD BENCH
- 8** INTERACTIVE TECHNOLOGY
- 9** WRITABLE WALL



Agile, Adaptable Learning Spaces

During the planning process, educators expressed a desire for team teaching. The resulting design promotes teacher and student collaboration and individualized learning by creating spatially-diverse neighborhood environments that provide a variety of flexible scales and arrangements. Breakout spaces and resource hubs are distributed throughout the neighborhood to empower one-on-one collaborations that complement the project-based work occurring in studios.



MOVABLE / WRITABLE PARTITION

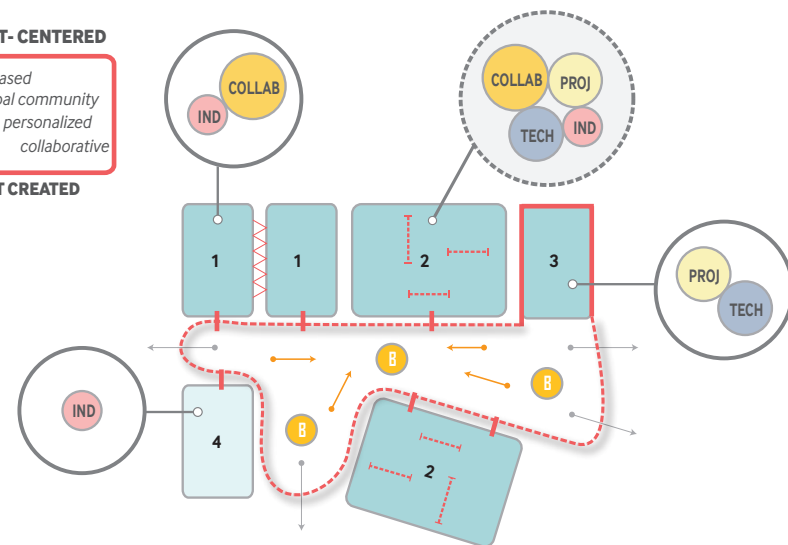


OPEN STUDIO WITH FLEXIBLE FURNITURE

STUDENT-CENTERED

project based
global community
personalized
collaborative

CONTENT CREATED



21ST CENTURY MODEL OF LEARNING

Learning Made Visible

Beyond the core learning spaces, opportunities for small group learning, collaboration, social connections, and physical activity are embedded throughout the school. In Grades 3-5, Exploration Rooms and makerspaces support STEM programs and hands-on learning. For all grades, a variety of active spaces – such as a climbing wall, movement center, and cozy niches furnished with active, reconfigurable furniture – encourage healthy movement and social engagement.



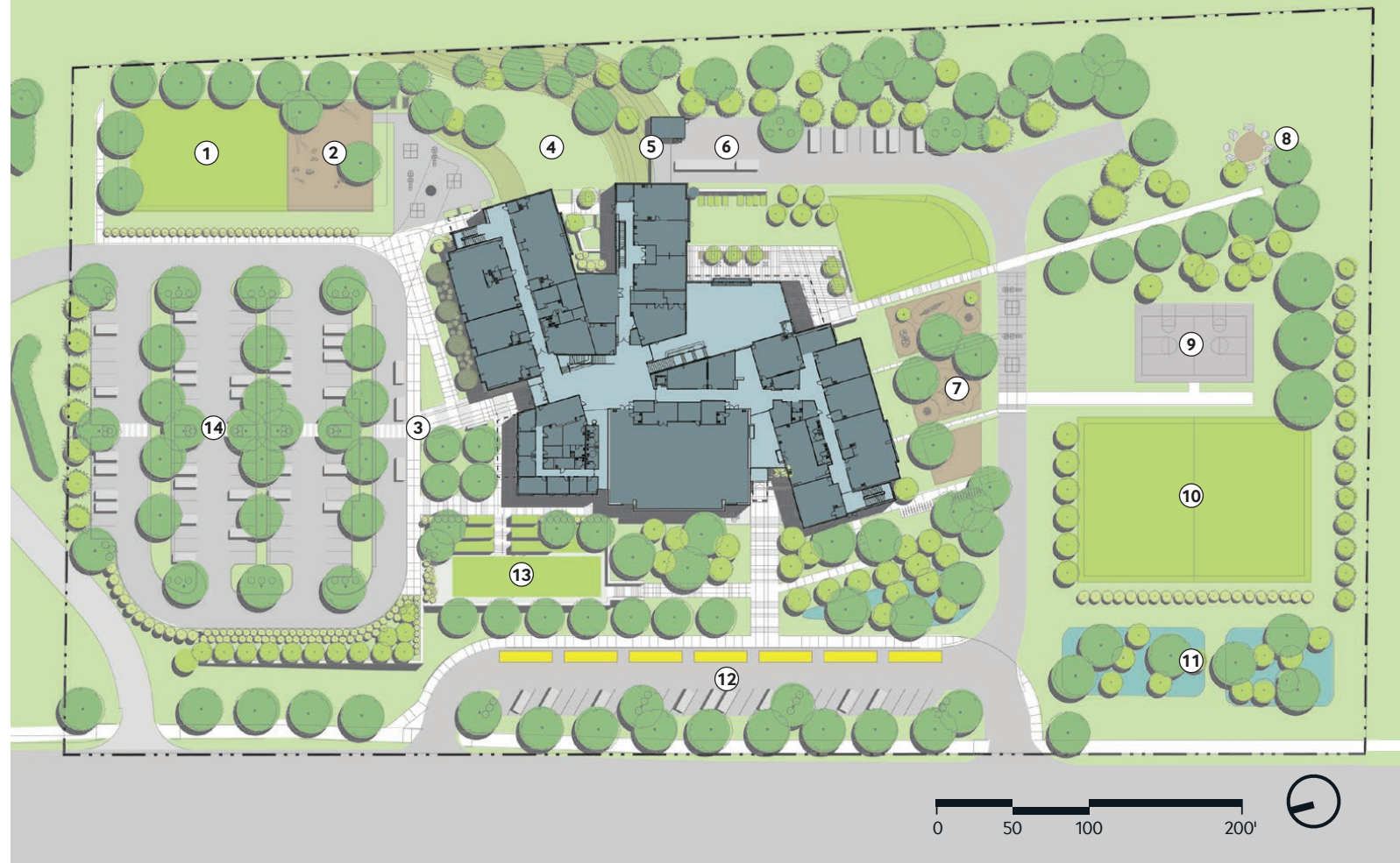
05

Physical Environment

Responding to Site + Context

The 10.8-acre site is a unique post-agricultural site with varied topography, rock outcroppings, and sweeping views of the mountains which afford dynamic opportunities for a place-based learning landscape. The school's compact, three-story massing maximizes site area for play and outdoor learning while the landscape supports environmental and human health education by creating a communal, active, and bio-diverse habitat.

Boulders and trees harvested during construction are re-purposed in the landscape as natural site and play features and are paired with native grasses, trees, and wildflowers that support visible water conservation and stormwater management. Learning wings are rotated 16 degrees to maximize daylight and limit glare in core learning spaces.



- SITE PLAN**
- ① Geothermal Well-Field
 - ② Grade K-2 Nature-Based Play Field
 - ③ Main Entry
 - ④ Native Meadow
 - ⑤ Bike Depot
 - ⑥ Building Service
 - ⑦ Grade 3-5 Nature-Based Play Field
 - ⑧ Outdoor Classrooms
 - ⑨ Hardscape Play
 - ⑩ 3-5 Play Field
 - ⑪ Biofilter / Rain Garden
 - ⑫ Bus Loop
 - ⑬ Amphitheater + Lawn
 - ⑭ Parking Lot

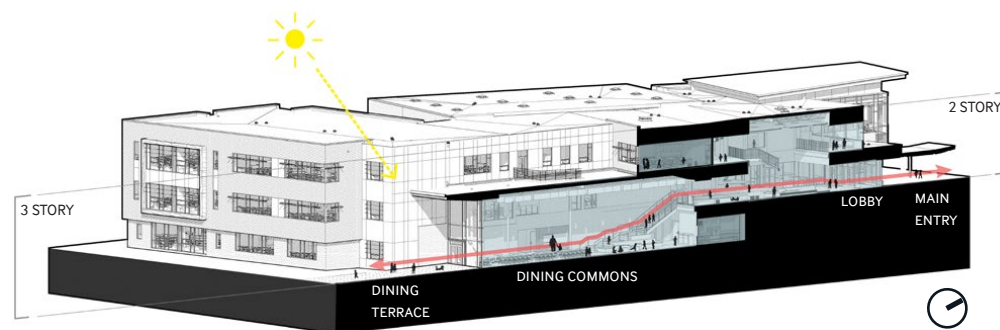


SOUTH ELEVATION + OUTDOOR CLASSROOM

High Performance Building

Designed to be net-zero ready, the project is tracking LEED Gold with an energy use index (EUI) of 18. The school incorporates a number of high performance building initiatives at a range of scales including reducing water and energy use, incorporating healthy low-emitting materials, promoting natural daylighting and abundant views to nature, ensuring healthy air quality, employing innovative stormwater capture and management, and providing a high-performance envelope design, including a geothermal HVAC system.

Built into the topography, the school features a 2-story K-1 wing stacked in proximity to the central whole-school communities dedicated to dining, music, art, language, movement, and the media lab. The 3-story 3-5 wing steps down with the hillside to offer older students greater independence and mobility to and from shared areas. The proximity of the wings encourages collaboration between grades and promotes shared resources and blended learning, particularly between grades K-1, 2-3, and 4-5.



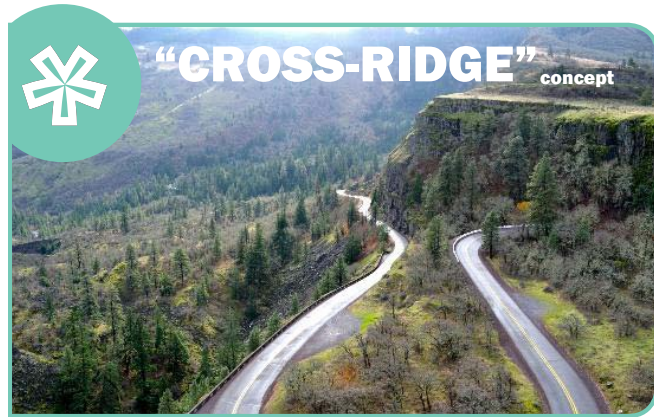
BUILDING SECTION



EXTERIOR VIEW OF PLAY FIELD AND DINING TERRACE + SCHOOL GARDEN BEYOND

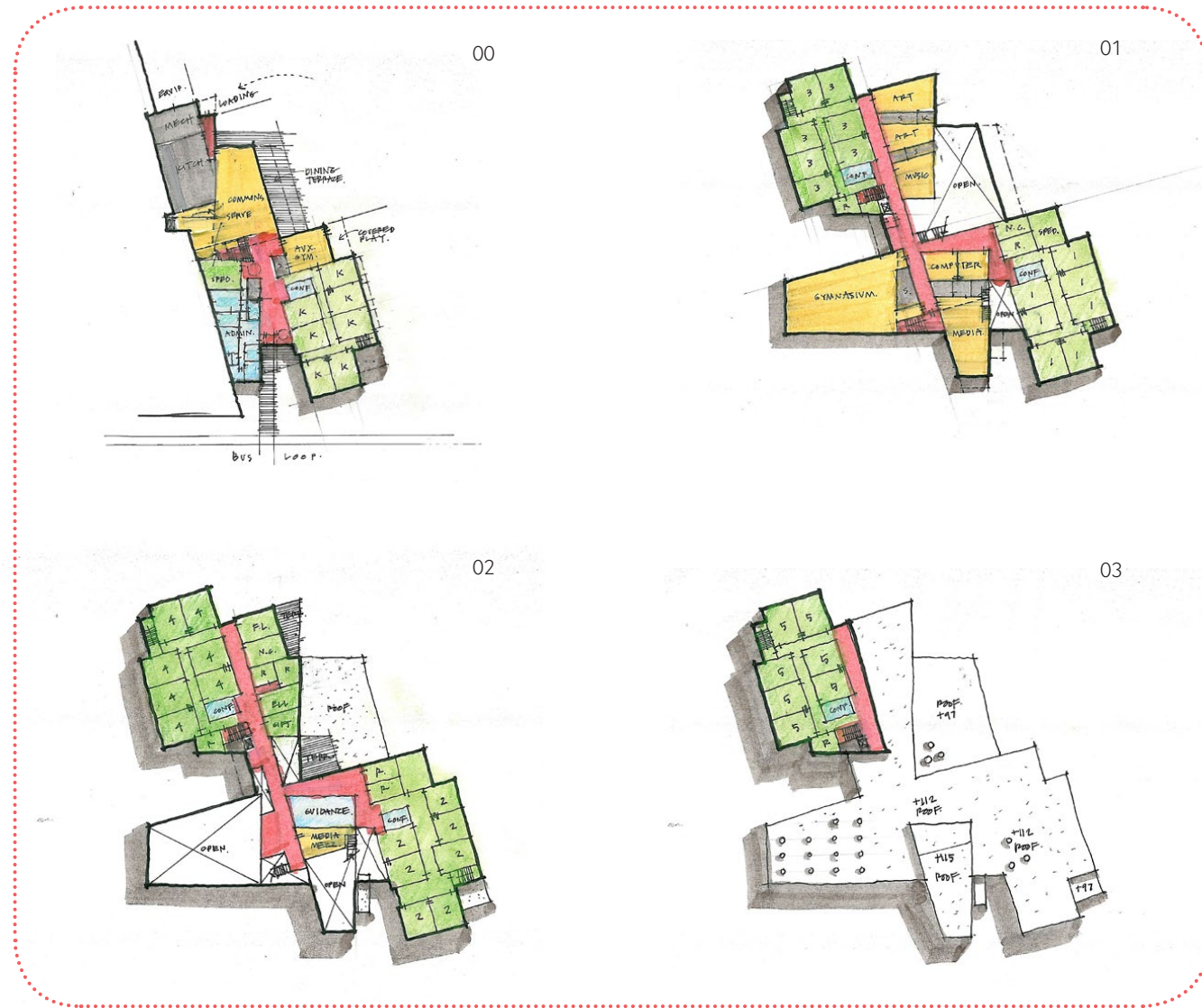
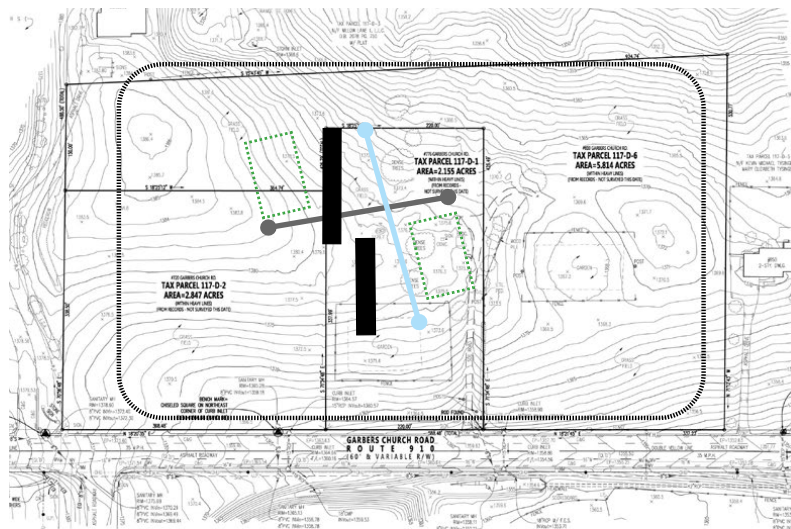


EXTERIOR VIEW OF BUS ENTRY + COMMUNITY TERRACE



Terraces + Carving

A major axis along the ridge creates an ordering element and primary view through the building's communal spaces. Site walls oriented across the ridge establish levels and define learning communities through terraces, which are organized on the main axis and extend out into the landscape. Each learning bar aids the creation of a related exterior learning and play space.



CONCEPT PLAN SKETCHES



3D COMPUTER MASSING MODEL



PHYSICAL MODEL STUDIES

Health + Learning Made Visible

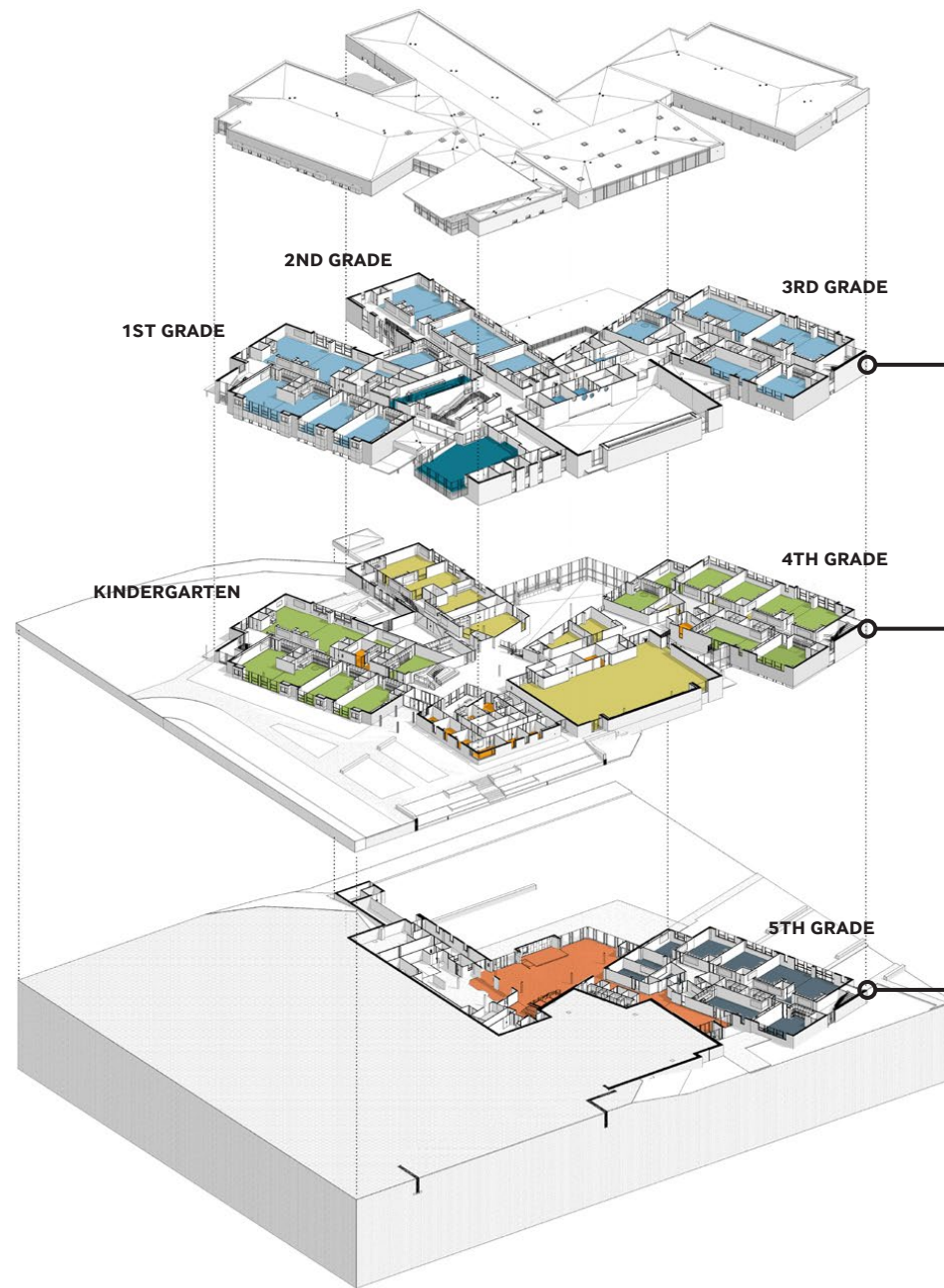
Modeled after a “garden patch” serving model, the Dining Commons is visually and physically connected to outdoor raised beds, learning gardens, and a variety of nature-based play spaces designed to incentivize healthy decisions, activity, and creativity. Outside each of the four school entry areas are unique outdoor patios, terraces, learning meadows, and outdoor classrooms carved out of the site’s topography.

Similar to the learning neighborhoods inside, outdoor learning spaces emphasize a variety of scales, allowing for a diversity of programming such as science experiments, art and music classes, and community events to occur at any time.



Place-Based Wayfinding

The school's wayfinding and graphics package emphasize the school's geographic and natural context to support vertical theming between floors and horizontal theming between grade levels. Levels 0-3 correspond with local natural systems including: Grand Caverns (Level 0), Shenandoah Valley (Level 1), and the Blue Ridge Mountains (Level 2). In celebration of the 100th anniversary of the National Park Service and the nearby trails of the Shenandoah Mountains, wayfinding across the school recalls hiking trails and trailheads to support navigation and a sense of adventure among students as they take ownership of their school and 6-year learning journey at Bluestone.



LEVEL WAYFINDING MURALS

Blue Ridge Mountains
LEVEL 2



Shenandoah Valley
LEVEL 1



Grand Caverns
LEVEL 0



EDUCATIONAL SIGNAGE + WAYFINDING

Educational Signage + Wayfinding



06

Results of the Process + Project

Overview of Findings

Through a flexible program that promotes learning, activity, and community, the architecture celebrates diversity while honoring the school's core values of creativity, expression, and identity.

Empirical evidence from the school's first year indicates increased student creativity and activity; increased student responsibility for personal learning and caring for their school; increased parent appreciation and community engagement; and increased staff collaboration, inspiration for their work, and excitement for new opportunities.



Fostering Critical + Creative Thinking

“At Bluestone, students understand that learning doesn’t start and end at a door,” shares principal Anne Linter. At the end of the 2017-2018 school year, Anne and her staff shared that the school’s spaces have contributed to a sense of “equity, opportunity, and free-flowing thinking.”

Learning extends from learning studios into hallways, niches, cubbies, and extended learning areas, which offer up views to the natural world and the broader school community. Because there are “lots of opportunities for lots of different children to learn,” students come to school curious and eager – excited by the fact that there is a multiplicity of spaces where they can find refuge, stimulation, community, and independence to support their needs and style of learning, shares Anne.

Creative and critical thinking is enhanced through hands-on learning opportunities fostered by a project-based learning curriculum. Applying this curriculum in the new school’s setting was a major goal identified during the planning process at the school and district levels. After one year, students are more willing to take risks, try new things, and develop creative solutions to problems posed by teachers and others. Flexible, adaptable spaces allow students to be agile and independent while experiencing the benefits of learning in a shared environment.

According to Anne: “the way the school is designed was tied to the planning process. So many schools seem to isolate children and teachers; this school brings people together and contributes to a sense of trust. That was our goal from the beginning.”

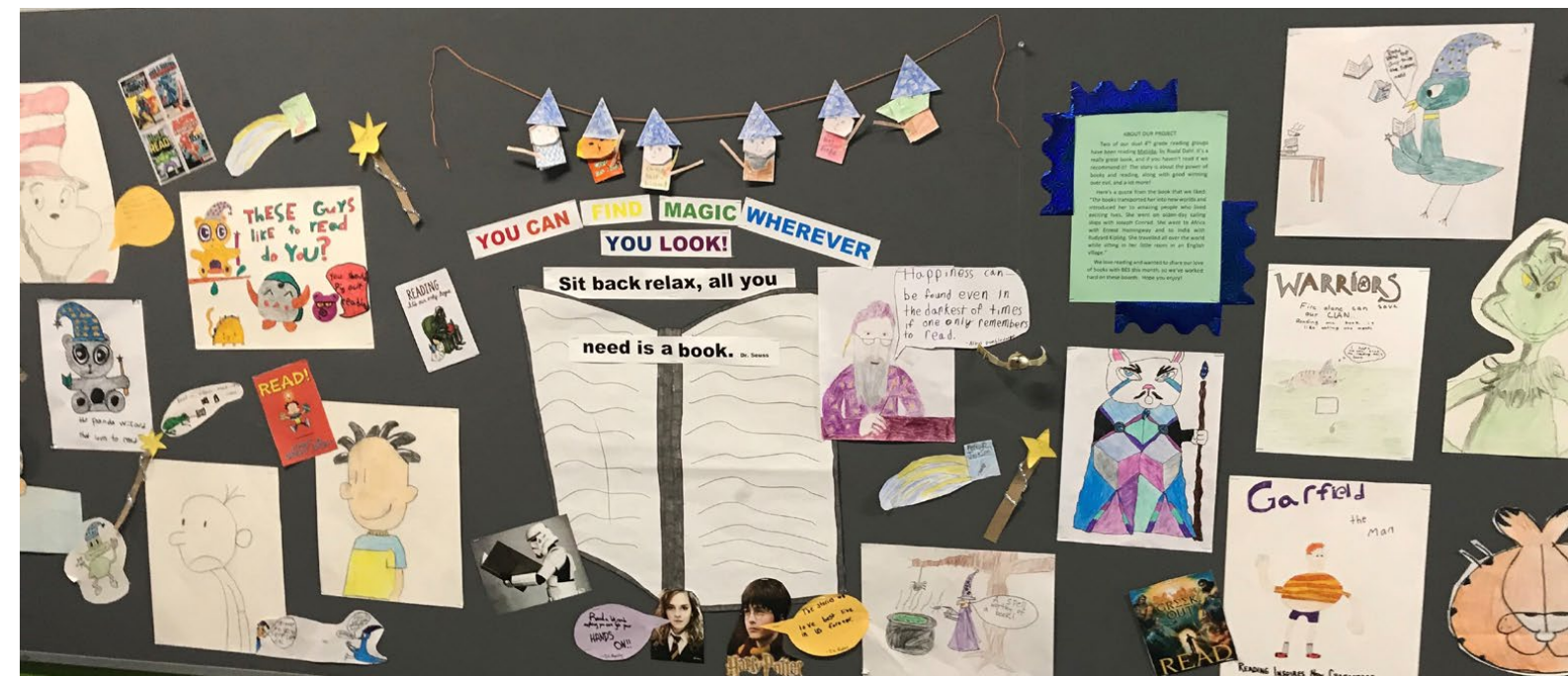


Creating a Sense of Ownership

Along with an increased sense of trust among the student body and school community, teachers and administrators have noticed students exhibiting ownership over the school's physical and communal spaces. "Students are learning how to be caretakers not only of themselves but also for each other, their school, and their environment," states Anne. Before and after large events in the school, students have started to help clean up in an effort to "pitch in and help out." Sometimes, students choose to remove their shoes at a classroom's doorway if they've become particularly dirty during recess or other outdoor activities.

An example of students learning the value of stewardship involves one of the school's Scrabble Walls, located in a collaborative hub. Anne shared that one day some of the Scrabble pieces went missing, which led to the board being taken away for a period of time. "Students eventually advocated that the board be put back in use, claiming that they could use it and take care of it." When the board went back into use, one of the first messages posted on it was: "We Love Bluestone" – a testament to the students' emerging belief in their role as stewards and caretakers of the school. Now, students routinely post messages on the board and have learned to share the space.

This lesson has been applied to the garden areas, where students are helping to cultivate local produce, which is offered during lunchtime in a special salad bar. Bulletin boards are curated by students (not teachers), which also encourages a sense of ownership, creativity, and expression among the student body.



Connection to Nature

Many of the student who attend Bluestone have never seen some of Harrisonburg’s natural features – such as the Grand Caverns, Shenandoah Valley, and the George Washington and Jefferson National Forests – much less put their hands in dirt or feet in local rivers. The area’s natural systems, and the respective flora and fauna found in them, are celebrated in the school’s theming and educational signage, which are organized by floor – Caverns (Floor 0), Valley (Floor 1), and Mountains (Floor 2). To bring this signage to life for students, teachers have organized field trips to the Grand Caverns, Shenandoah National Park, and nearby lakes / rivers and, closer to home, aligned curriculum with activities in the gardens and outdoor active learning areas.

Principal Anne Linter shares that students have expressed a greater appreciation for the natural world around them and interest in taking care of their garden and outdoor areas – inspired in part through the signage and associated field trips, but also through the school’s plentiful views to the mountains which are a constant reminder of place and placemaking.

As a new annual tradition, the school year culminates in “Bluestone is for Learners” Day – where hands-on learning is celebrated as a means to prompt answers to the broad question: “How do people, plants, and animals live together and support each other in the Shenandoah Valley?” As Bluestone’s version of a field day, various stations are set up with different activities that are led by teachers and community partners from the surrounding region. Representatives from the National Park Service, James Madison University, and local food and nature agencies like Shenandoah Growers engage students in activities related to agricultural history, water systems, beekeeping, recycling, symbiotic relationships, local music heritage, and active movement and yoga exercises.



Multipurpose Community Use

The building is used around the clock for various community and school-related activities before, during, and after the school day. Recitals, presentations, and community meetings regularly take place in the lobby and movement center. As students, teachers, and community members become more familiar with the school, more uses are found for gathering, sharing, and enjoying each other's company.

High school students from across the street mentor students through an iSTEM program that utilizes Bluestone's makerspaces. Community partners at the National Park Service, James Madison University, and Eastern Mennonite University are often invited to make presentations or collaborate with teachers and students on specific projects. And most recently, a special piano recital was held for two students who learned piano on the school's keyboard located in the lobby.

