

# GOOCHLAND ELEMENTARY SCHOOL

Goochland County Public Schools  
Goochland, VA.



# EXECUTIVE SUMMARY

A **unified, future-ready learning environment** where collaboration sits at the center of every student experience.

## PROJECT NARRATIVE

Consistently ranked as the #1 school division in the Richmond metro region, Goochland County Public Schools envisioned a new elementary school that would serve its growing population. As the district's first new school in 30 years, the project replaces the former campus that housed Pre-K and K-5 students in separate, aging facilities.

Shaped through community input, the new Goochland Elementary School breaks away from traditional planning models to reimagine place and purpose while creating an environment that nurtures curiosity and growth.

“

Students are thriving in the new school! The design truly reflects our commitment to creating a nurturing and engaging learning environment. It's not just the structure itself but the positive energy within it that makes this school so special. I am grateful to be part of such an inspiring place for students and teachers.”

Tina McKay, Principal



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# EXECUTIVE SUMMARY

## OVERALL OUTCOME

The project's success is defined by:

- **A community-driven visioning process** that unified district leadership, educators, families, and students around a shared set of guiding principles.
- **A combined Pre-K and K–5 learning environment** that enhances age-appropriate learning, school-wide collaboration, and a strong sense of belonging.
- **A flexible, future-ready school model** that supports evolving curriculum and enrollment growth through adaptable spaces and modular planning.



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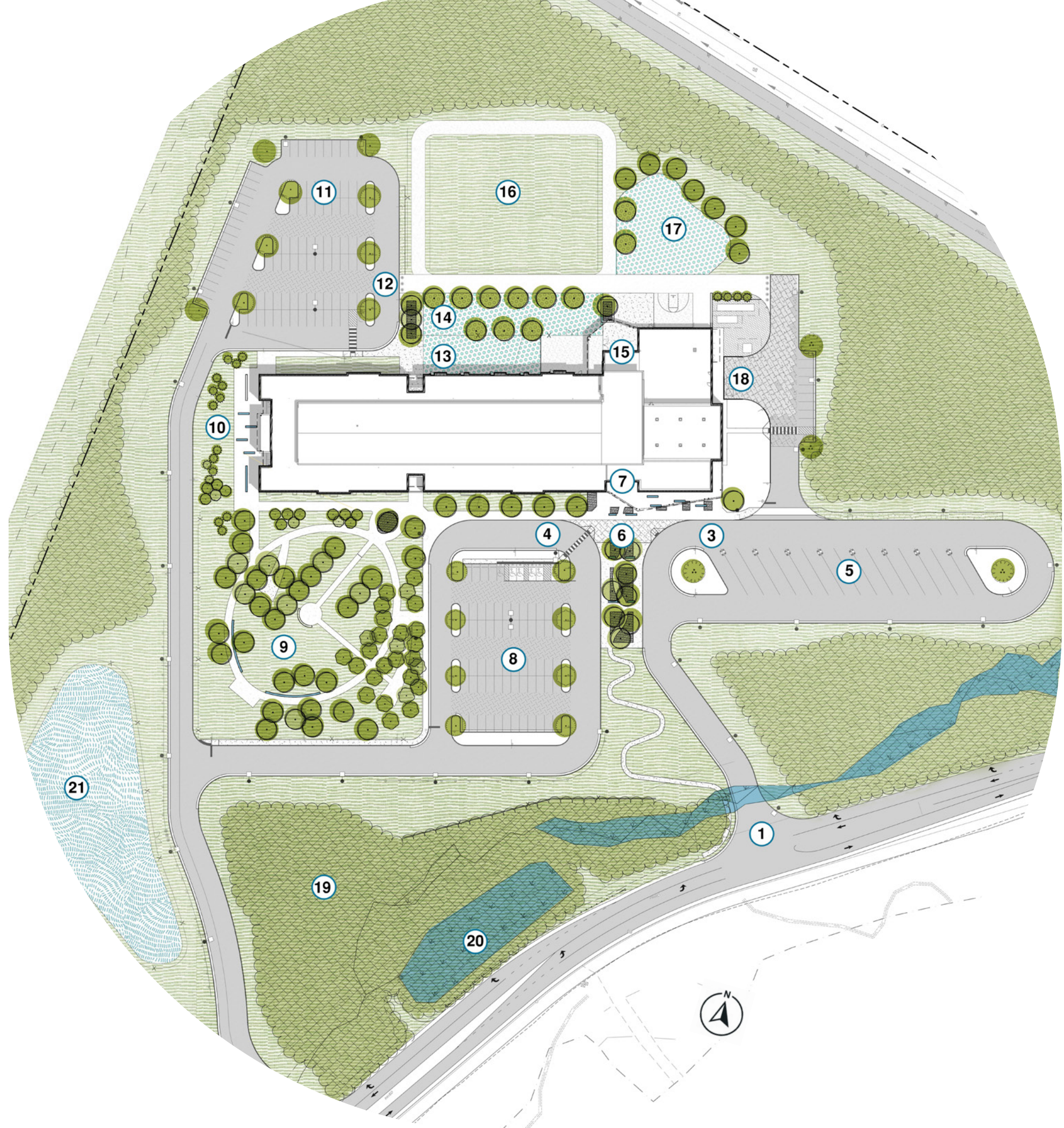
# EXECUTIVE SUMMARY

## SITE PLAN

Nestled within a wooded, rural setting, the school is set back from the main road and carefully integrated into the landscape. The design preserves mature trees and aligns the building along the flattest terrain, minimizing site work and establishing an east-west orientation that increases daylight and reinforces clear, intuitive organization.

### SITE PLAN

1. BUS ENTRANCE
2. CAR ENTRANCE
3. BUS DROP-OFF
4. CAR DROP-OFF
5. ELECTRIC BUS CHARGING
6. ENTRY PLAZA
7. MAIN ENTRANCE
8. VISITOR PARKING
9. LEARNING PARK
10. OUTDOOR LEARNING
11. TEACHER PARKING
12. ADDITIONAL FIRE DEPT ACCESS
13. PRE-K PLAYGROUND
14. LOWER PLAYGROUND
15. SECONDARY ENTRANCE
16. PLAY FIELD
17. UPPER PLAYGROUND
18. LOADING DOCK
19. EXISTING WOODED AREA
20. WETLANDS
21. STORMWATER MANAGEMENT



# EXECUTIVE SUMMARY

## INTERIOR PLANNING

The main entrance hall is designed to separate the public and academic wings. When community events are held after school hours, an overhead coiling door can completely close off the public spaces, including support rooms, a loading area, the gym, and administrative offices. This design ensures the public can use these areas safely, while the academic wing remains a dedicated, age-appropriate learning space.

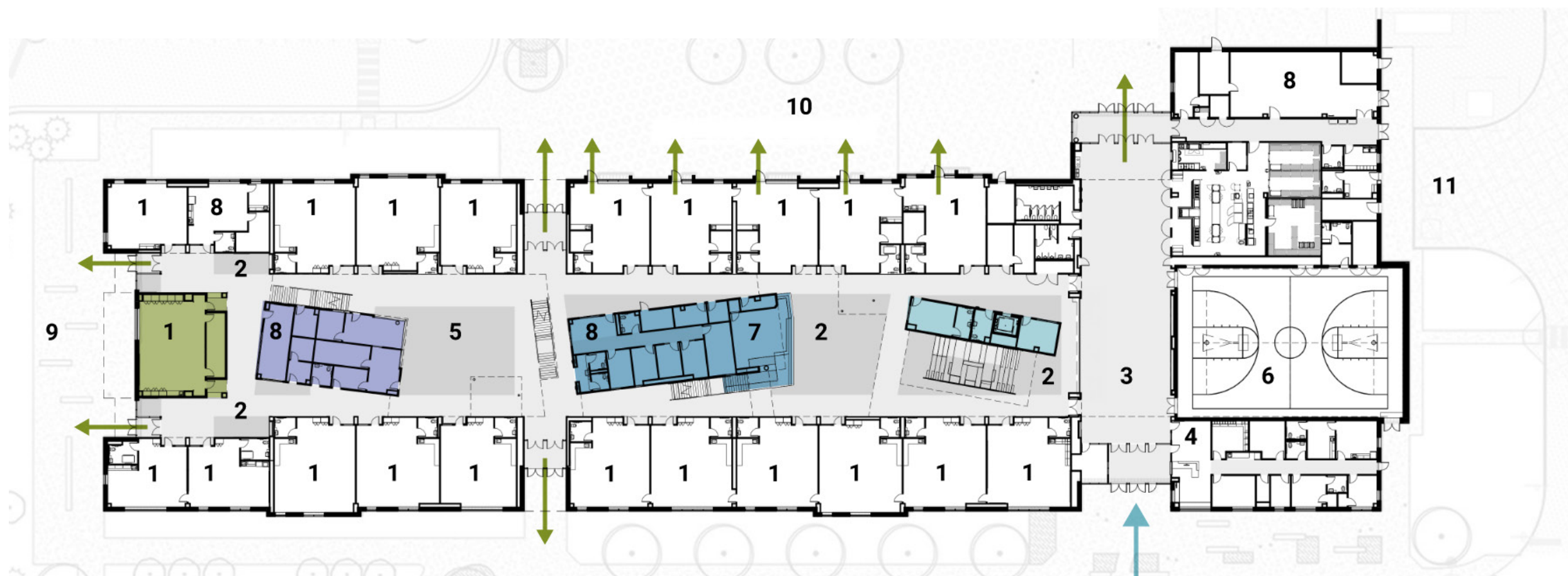
### The academic wing:

Collaboration is at the center of the learning experience. Rather than relegating shared spaces into residual areas, the plan establishes a full, double-height collaboration spine at the core of the building. This open, flexible zone supports group work, informal gathering, and hands-on learning, balancing active zones with smaller spaces for privacy, respite, and de-escalation.

### LEVEL ONE

- |                   |                     |
|-------------------|---------------------|
| 1. Classrooms     | 7. Performance Area |
| 2. Collaboration  | 8. Support          |
| 3. Cafeteria      | 9. Learning Park    |
| 4. Administration | 10. Playground      |
| 5. Library        | 11. Loading Area    |
| 6. Gymnasium      |                     |

- ← Main Entrance  
← Access to Outdoor Learning + Play



# EXECUTIVE SUMMARY

## The academic wing (cont.):

Classrooms line the perimeter on both levels, framing the spine while maximizing access to daylight and strengthening connections to adjacent outdoor learning areas. Circulation is similarly organized around this central space, with second-floor walkways overlooking the collaboration zone to create visual connections across grade levels and make learning visible. Bridges allow students to move across and above, reinforcing connectivity, while open staircases draw students into the collaboration zone to encourage interaction and curiosity.

### LEVEL TWO

- |                   |                     |
|-------------------|---------------------|
| 1. Classrooms     | 7. Performance Area |
| 2. Collaboration  | 8. Support          |
| 3. Cafeteria      | 9. Learning Park    |
| 4. Administration | 10. Playground      |
| 5. Library        | 11. Loading Area    |
| 6. Gymnasium      |                     |

- ← Main Entrance  
← Access to Outdoor Learning + Play



# EXECUTIVE SUMMARY

Drawing inspiration from the nearby James River, a regional resource and recreation destination, this spine becomes a “river” of shared collaboration space. Classrooms line its edges like banks, and bridges and program elements form islands of connection and discovery along the way.



## LOCAL INSPIRATION



## COLOR PALETTE



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# SCOPE OF WORK & BUDGET

Goochland Elementary School is a **105,000 square-foot**, two-story building designed for **700 Pre-K and K-5 students**.

The school enhances current needs through its interconnected learning environment while accommodating future expansion with its structural design.

## SERVICES:

Through a design-bid-build project delivery approach, our design team provided visioning, programming, architecture, interior design, and site design.

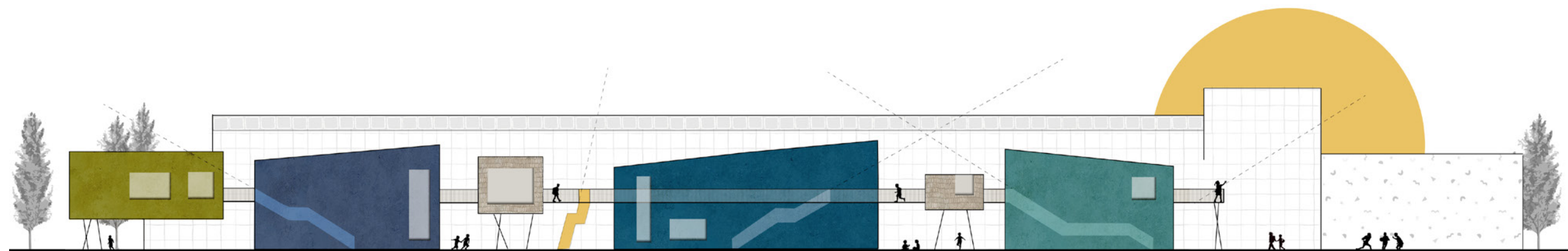
## BUDGET:

\$44.9 M

“

Our new elementary school reflects Goochland’s **shared commitment to excellence in education**, creation of learning environments that inspire both students and teachers, and our **responsible stewardship of resources**. We are **proud of what this project represents** for our school division and our county.”

Andrew Armstrong,  
Superintendent



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# SCHOOL AND COMMUNITY

Shaped by its **community**, inspired by its **landscape**, and designed for the **future of learning**.

## COMMUNITY

Located in a rural area west of Richmond, Virginia, Goochland County is a small, family-oriented community of nearly 30,000 residents. As one of 15 School Divisions of Innovation across Virginia, the education system is recognized for designing and implementing alternatives to traditional instructional practices and school structures that improve student learning and promote good citizenship. Engaged learning is further promoted through all five programs' designation as Apple Distinguished Schools.

For the complete replacement of the former elementary school, this community demonstrated its dedication to high-quality education, with over 85% of voters approving a bond referendum that authorized the county to borrow funds for major public projects.



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# SCHOOL AND COMMUNITY

## STAKEHOLDERS

During programming, the design team held visioning sessions with citizens, educators, school district leadership, and students. Discussing best practices in education, touring recently completed schools, and considering key design principles helped define four guiding principles for the new Goochland Elementary School.

The stakeholders envisioned a school that is:

- Flexible and adaptable
- Collaborative and engaging
- Student-centered and age-appropriate
- Connected to the site and nature



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# SCHOOL AND COMMUNITY

## CHALLENGES

As this building was the first new school in three decades, educators and students had long adapted to the limitations of outdated facilities. This familiarity with the status quo made it challenging to introduce spaces designed for 21st century learning.

To help faculty recognize the benefits of modern learning environments and imagine their ideal spaces, the programming process included tours of recently completed elementary schools. These visits highlighted the advantages of larger, flexible areas.

With this initial buy-in secured, the design team launched a website featuring a 3D walkthrough of the evolving design. This ongoing, real-time visualization allowed educators and stakeholders to see how the new school would look and feel, building excitement and anticipation throughout the community.

Additionally, the COVID-19 pandemic created unexpected budget issues due to construction market hyper-inflation. A thorough post-pandemic cost analysis produced a more accurate budget, prompting the district to seek extra funding through a second bond and the design team to revise their plans within the same schedule to meet new financial targets.



# SCHOOL AND COMMUNITY

## VALUE TO THE COMMUNITY

Goochland Elementary School is designed as a shared community asset, extending its impact well beyond the school day. The gymnasium, cafeteria and adjacent spaces are accessible for community events and recreation programs, creating a welcoming place for gathering and connection.

At the same time, the building can be securely zoned to protect academic areas, allowing public access without compromising student safety. This intentional balance of access and security reflects the pride the community feels in its investment.



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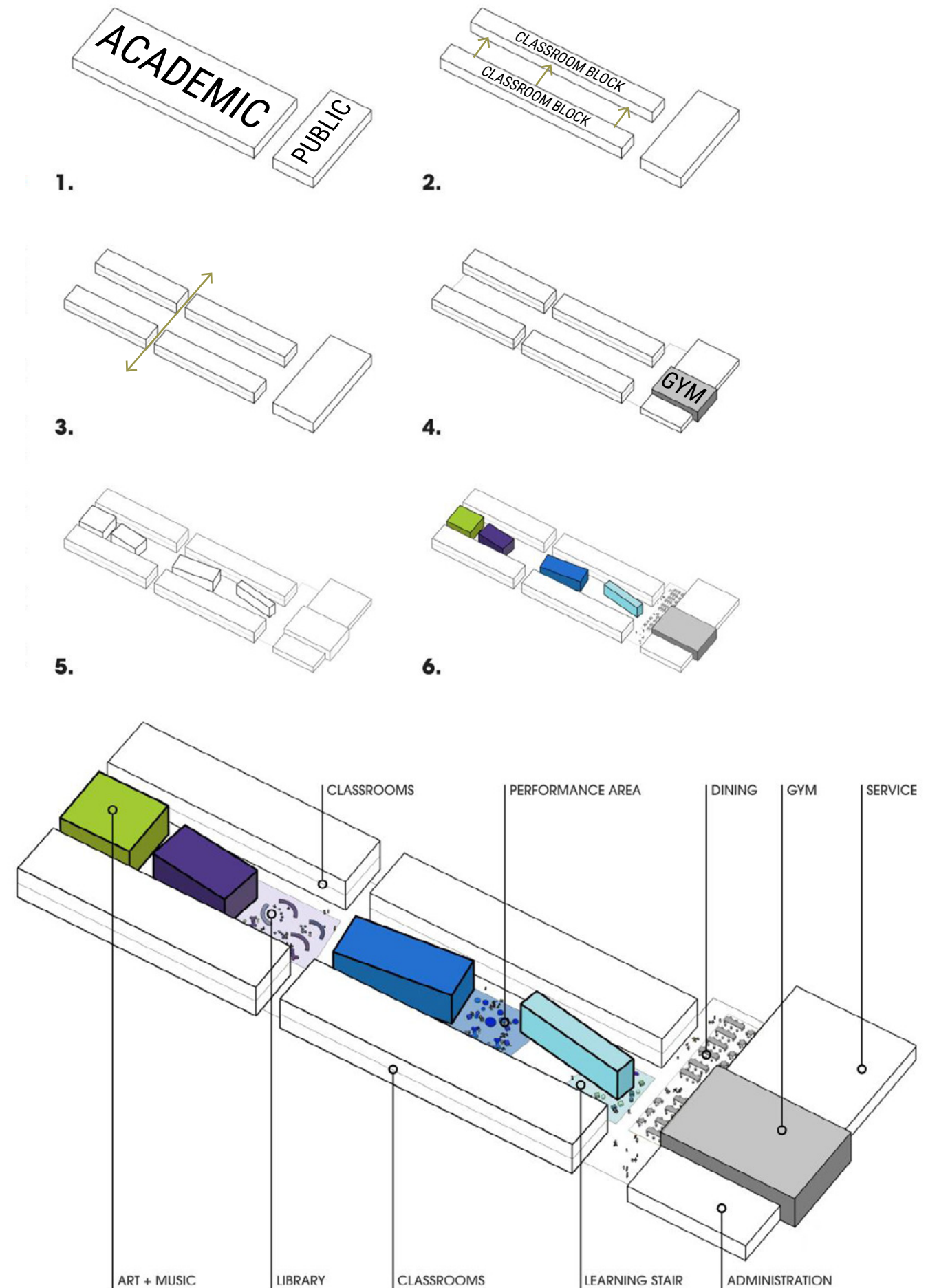
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# SCHOOL AND COMMUNITY

## AVAILABLE ASSETS

The 25-acre site offers natural beauty that sparks curiosity and drives learning. To surround students with nature, planning considerations emphasize physical and visual connections to the landscape. This includes outdoor learning spaces, ample views outdoors, and intentional connections between indoor and outdoor environments.

Nearby, the James River is a defining regional resource, supporting recreation and local identity, and it also informed the building's design approach. The school is oriented east–west to extend across the site in a long, linear form that echoes the river's movement through the landscape. That same idea carries forward in the interior as a simple organizing concept: a central “river” of shared collaboration space anchors the plan, with learning areas along the edges that mimic the banks and dedicated program elements serving as islands of discovery.



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# PHYSICAL ENVIRONMENT

A design **grounded in** place and organized around **connection**.

## ARRIVAL EXPERIENCE & FIRST IMPRESSIONS

All arrival, whether by bus or car, converges at a shared entry plaza, creating a more equitable and cohesive experience. Before entering, students are welcomed by the Learning Park, a circular quad anchored by an informal instruction area and surrounded by varied seating for gathering and play, establishing a social and inclusive front door to the school.

“Like a navy blazer over a Hawaiian shirt,” the traditional brick exterior responds modestly to the local vernacular, grounding the building in familiarity and civic pride. Inside, however, the architecture defies expectations, with massing and finishes inspired by the James River’s movement and texture to create a playful, biophilic interior experience.



SOUTH ELEVATION

# PHYSICAL ENVIRONMENT

## SAFETY & SUSTAINABILITY

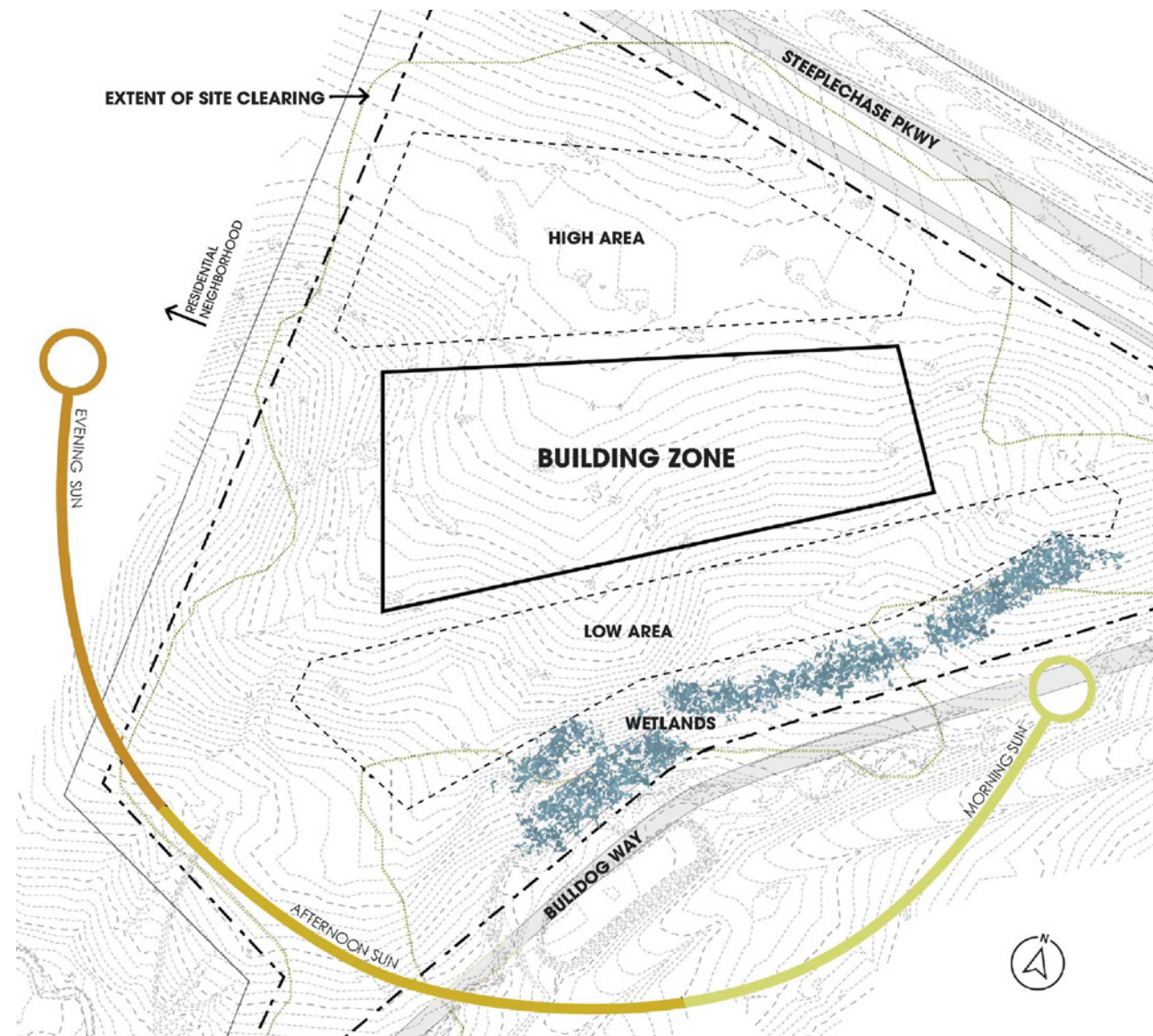
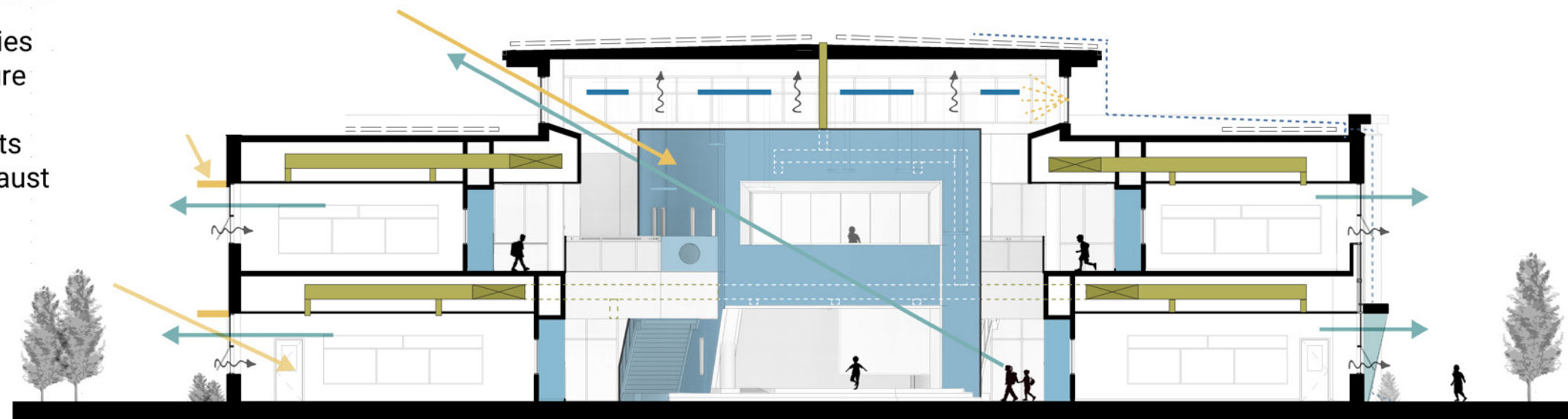
By aligning passive design, material health, and adaptable systems, the building creates a high-performing environment that supports student comfort and learning today while remaining flexible for the future.

### Passive and Active Strategies:

The design integrates passive strategies that prioritize learner comfort and environmental performance. The envelope is the first line of defense against heat loss, exceeding energy code requirements by 9%. To reduce reliance on mechanical systems and support a bright, healthy environment, the building's orientation optimizes solar heat gain in cooler months while providing consistent daylight year-round.

### BUILDING SECTION DIAGRAM

- Daylighting Strategies
- Connection to Nature
- Passive Cooling
- Wayfinding Elements
- Supply, Return, Exhaust
- Stormwater
- Future PV Panels



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## Passive and Active Strategies (cont.):

A clerestory wrapping the academic core further advances these efforts, bringing daylight deep into the collaboration spine while minimizing direct solar exposure. This improves thermal comfort and lowers cooling demand. South-facing glazing is carefully shaded to limit glare and heat gain while preserving natural light.

Active systems reinforce these strategies, prioritizing efficiency and adaptability. The all-electric building, including HVAC and domestic hot water, reduces operational carbon over time as the grid transitions to cleaner energy sources.



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## Materials & Wellbeing:

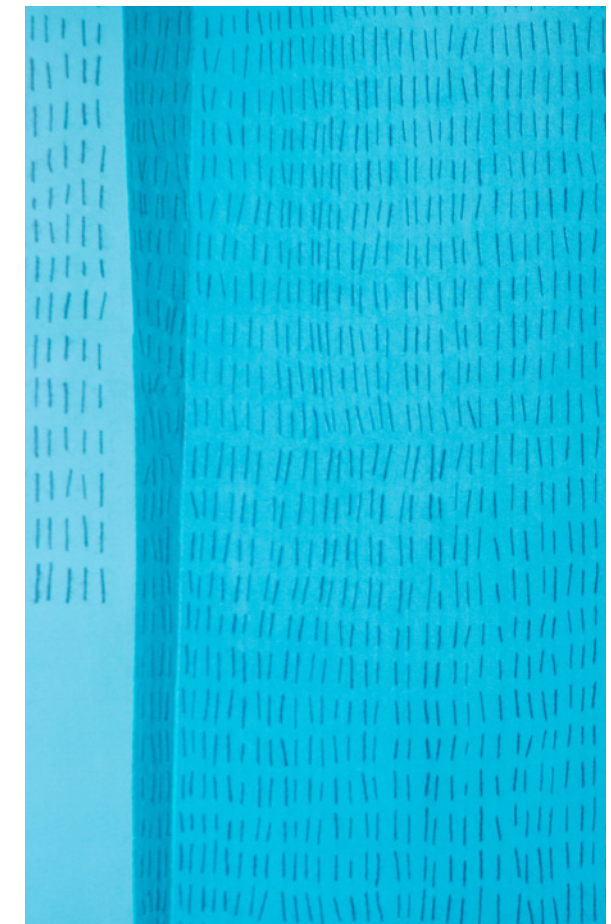
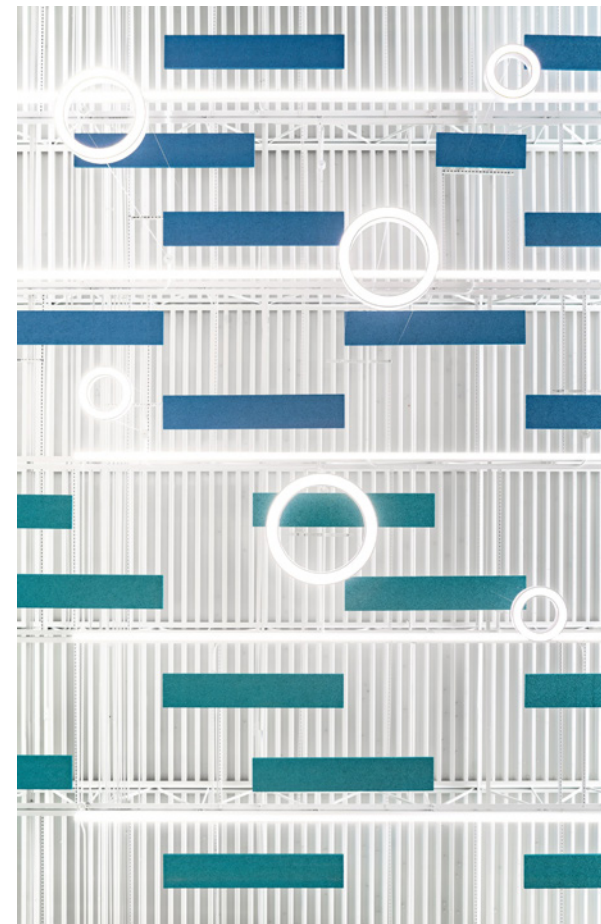
Interior materials prioritize durability, low environmental impact, and occupant well-being. High-impact areas feature PVC-free wall protection, while high-touch elements, such as nooks and portholes, use solid surface materials for longevity. Collaboration areas incorporate a textile composite with 47% recycled content, offering a cleanable, comfortable alternative to carpet.

Elsewhere, phthalate-free quartz tile flooring reduces life cycle costs and maintenance by eliminating the need for waxing or polishing. Felt ceiling panels made from recycled, Red List-free materials provide acoustic control in collaboration spaces, supporting focus, communication, and comfort.

Biophilic design strategies draw inspiration from the James River, integrating nature through jewel-toned colors, patterned fabrics, wood-look finishes, and custom graphics. These elements not only enrich the sensory environment but also serve as landmarks that support wayfinding and placemaking.

## Future Readiness:

The building is designed to support future phases of the district's sustainability plan, including three EV bus charging stations with infrastructure to expand 13 on-site spaces. Structural and electrical capacity also allow for future photovoltaic installations, while modular classrooms support easy reconfiguration as program needs evolve.



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Goochland Elementary School's educational approach blends strong academics with innovative instructional practices.

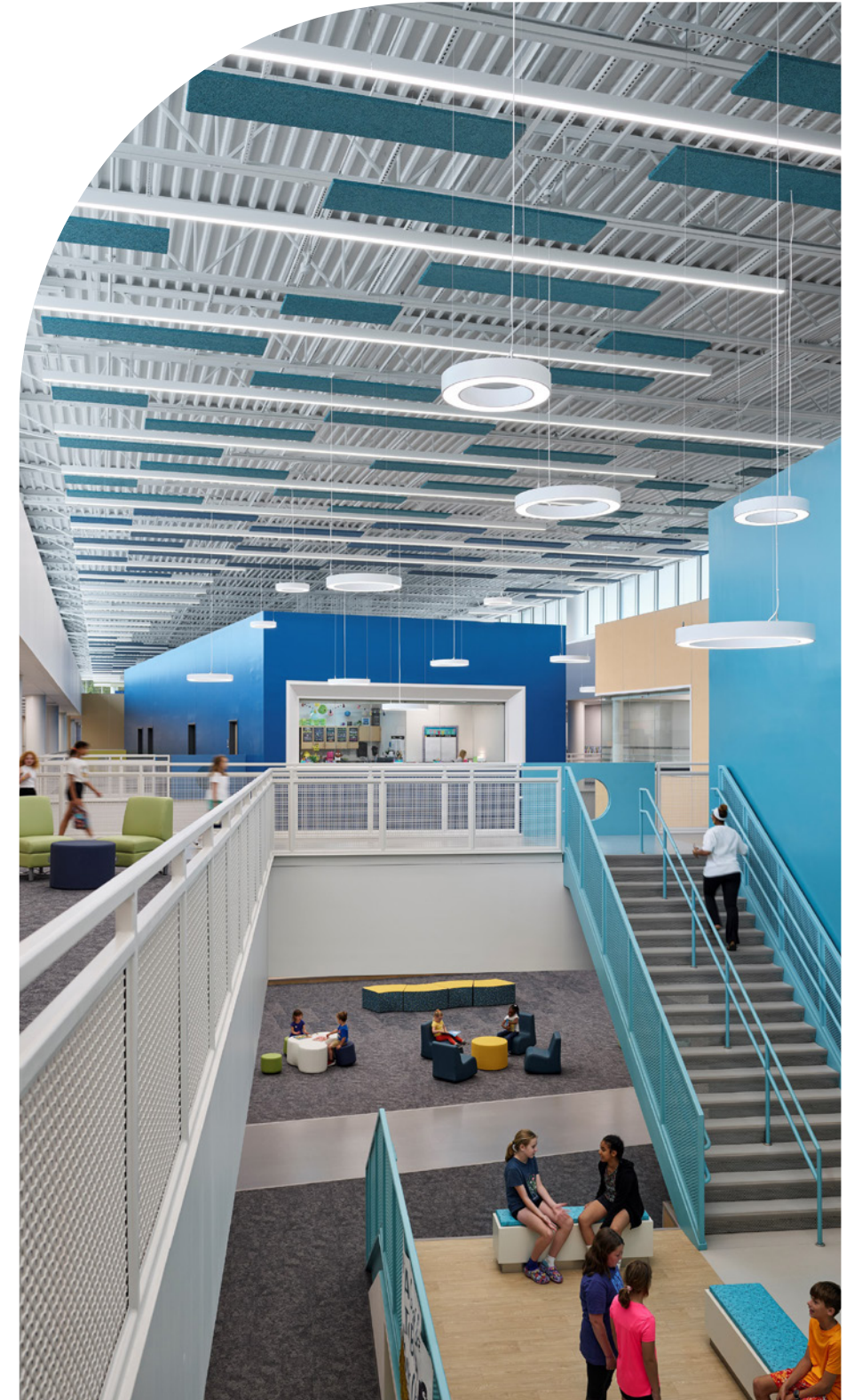
**Four guiding principles**, first defined during visioning, align the **physical environment** with these **pedagogical goals**.

- 1. Flexibility & Adaptability**

Flexibility is embedded at multiple scales, from in-the-moment reconfigurations to long-term adaptability that supports future expansion. Serving students from Pre-K through grade 5, shared spaces are designed to accommodate a wide range of activities and developmental needs.

For younger learners, where whole-group instruction is common, open space and visibility are especially important. As students gain independence, they partner with teachers to use multifunctional spaces for focused work and small group collaboration. Varied seating, adjustable furniture, and flexible spatial zones allow the environment to shift easily in support of different teaching and learning styles.

This adaptability is reinforced by modular classrooms and a steel structural system with simple bays, enabling future expansion and evolving technologies. At the same time, the structural system supports the larger spans and openings that foster the connected, transparent environment essential to the school's collaborative learning model.



# EDUCATIONAL ENVIRONMENT

**2. Collaborative & Engaging**  
By enabling students to cross paths and engage with a diverse peer group through the open model, the design reduces social barriers and supports the development of intellectual and interpersonal skills. Learning is made visible through windows into makerspaces and display areas integrated into walls, allowing students to observe and learn from one another.

Open collaboration areas are balanced by smaller, private nooks for quiet reflection. This range of spatial choices supports inclusion by allowing students to engage in ways that best suit their needs.



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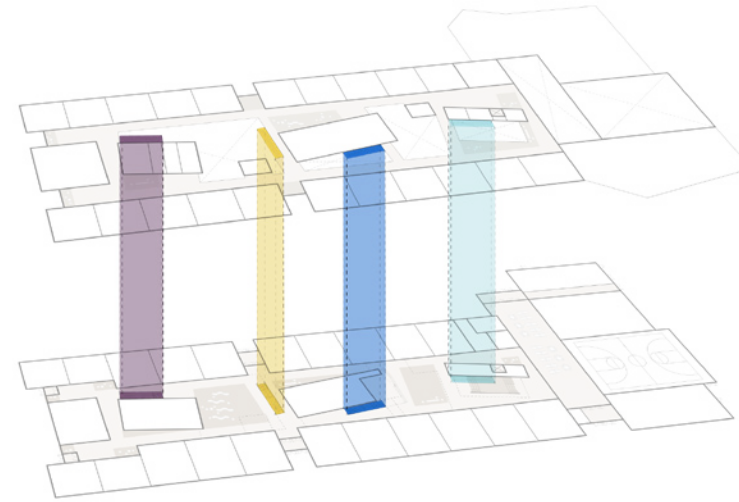
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## 3. Student-Centered & Age-Appropriate

A student-centered, age-appropriate approach informs wayfinding, color, and materiality. Color is used as an intuitive navigation tool, building confidence and independence for young learners. Distinct colors identify each free-standing learning “box” and extend to adjacent stairs, entryways, flooring, and ceiling elements. A color-blocked floor pattern along corridors subtly teaches younger students how to form a line.

Architectural moments further reinforce student engagement and placemaking. Carved niches create opportunities for students to find a place of their own, while playful details, such as portholes at stair landings, encourage curiosity and discovery.



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## 4. Connected to the Site & Nature

Connections to nature are central to education environments, supported by research-backed benefits for student learning and well-being. The design includes both physical and visual connections to the outdoors.

In classrooms, large, operable windows offer views of the surrounding landscape and allow for natural ventilation. A clerestory brings natural light deep into the collaboration core. These sky views were carefully preserved through an analysis of the building section, which helped conceal HVAC systems within the bridge structures.

Physical connections include outdoor classrooms that extend directly from music and art rooms, as well as Pre-K classrooms with dedicated access to secure outdoor play areas. Additionally, the nature-inspired palette reflects the flora and fauna of the James River ecosystem, extending a sense of connection throughout the school.

These four strategies create a cohesive educational environment where design and pedagogy work hand-in-hand to elevate student experiences. Here, learning is active, visible, and shared.



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# RESULTS

From a **fragmented, aging campus** to a unified, **future-ready school**.

## THE OVERALL IMPACT

For decades, students and educators navigated a fragmented, outdated campus that limited connection and flexibility. This new school replaces that model with a cohesive environment organized around shared space, intuitive movement, and strong connections to nature. Today, students move confidently through a range of settings—from active collaboration to quiet retreat—choosing spaces that support both their learning and their comfort.

Aligned with district, educational, and community goals, Goochland Elementary School has redefined daily learning for generations to come.



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KBTU/SF/YR  
PREDICTED ENERGY  
USE INTENSITY

710

LINEAR FT OF  
CLERESTORY  
NATURAL DAYLIGHT

BUILDING  
ENVELOPE EXCEEDS  
ENERGY CODE BY:

9%

3

DAY ONE EV  
BUS CHARGING  
STATIONS

13

FUTURE READY EV  
BUS CHARGING  
STATIONS

INTERIOR LIGHTING  
EXCEEDS ENERGY  
CODE BY:

15%

100%

OF SOUTH FACING  
WINDOWS HAVE  
EXTERIOR SHADING

# RESULTS

## ACHIEVING DISTRICT GOALS

The project translates long-term district priorities into measurable outcomes by:

- Consolidating two aging facilities into a single Pre-K–5 campus, improving operational efficiency, safety, and instructional alignment across grade levels.
- Right-sizing capacity, providing a long-term, maintainable solution aligned with projected enrollment growth.
- Leveraging a compact, efficient building organization and modular planning approach, maximizing long-term flexibility while maintaining alignment with budget constraints.



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# RESULTS

## ACHIEVING EDUCATIONAL GOALS

The design reimagines traditional classrooms to create a learning environment that is actively used and adaptable:

- Extending learning beyond the classroom, with a network of indoor and outdoor spaces that support individual, small-group, and whole-group instruction.
- Embedding collaboration into daily experiences, using a central learning spine and visual connectivity to make learning visible and shared
- Supporting a full spectrum of learners, balancing open, social environments with small spaces for focus, privacy, and sensory regulation.
- Enhancing engagement and well-being, through daylight, openness, and direct connections to nature.



“

I absolutely love our clean, bright, and beautiful school building! The flexible-use spaces and abundant natural sunlight are my favorite features, creating a bright and inviting atmosphere for learning. With these new areas, we can host collaborative projects, community events, and outdoor classes in ways we simply couldn't in our old building. It's a refreshing change that truly enhances the educational experience of our students.”

Kelley Taylor, Grade 4 Teacher

# RESULTS

## ACHIEVING COMMUNITY GOALS

The project reinforces the school's role as a civic anchor and shared investment by:

- Creating a dual-purpose facility that supports both learning and community use, with secure zoning that allows after-hours access without compromising student safety.
- Strengthening community identity and pride, delivering a first new school in decades that represents the county's investment in its future.

The new Goochland Elementary school is performing as intended, motivating students, inspiring teachers, and serving the community in a building that reflects its local context while pushing boundaries within.

“

Goochland Elementary School helps support all types of learners, whether you need a quiet space to go to and read a book or you are walking in the hallway and you get to see your sibling across the hall because of the open concept. I love that they were able to bring two different aspects together: the openness and the feeling of being in a community, as well as being able to break down into smaller groups and have a more intimate feeling.”

Liz Knarr, Preschool Teacher

