

2015 Exhibition of School Planning and Architecture

KELLAM HIGH SCHOOL REPLACEMENT

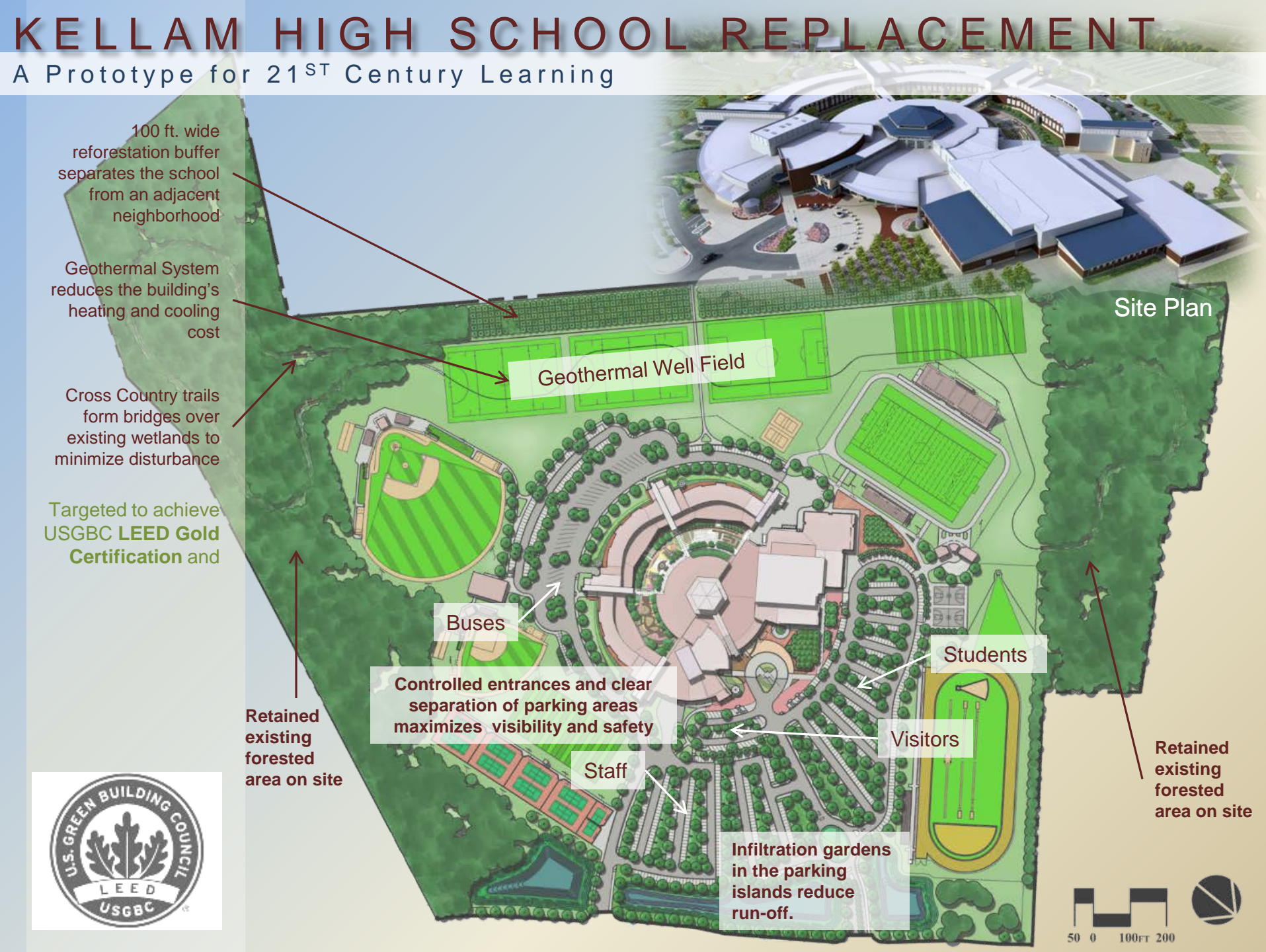
A Prototype for 21st Century Learning

Virginia Beach City Public Schools
Virginia Beach, Virginia



KELLAM HIGH SCHOOL REPLACEMENT

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From the beginning, this new 2,000 student high school was envisioned as a prototype for **21st century learning**. We established three clear objectives that would define success for this project:

1. Involve full spectrum of stakeholders in **collaborative planning and design processes** to maximize the value of design-thinking across diverse networks and also to achieve user and community “buy-in.”
2. Design a high school facility that will **facilitate and support** the implementation of a new curriculum and assessment model founded on the principals of student-centered **challenge-based learning** and focused on developing skills in critical thinking, creative thinking, collaboration and communication.
3. Create challenge-based learning opportunities for Kellam HS students that are integral to the planning and design process for the new school and that are collaborative efforts with the design team; incorporate design themes and elements into the school facility that will encourage students to become engaged as **lifelong “sustainable citizens”**.



Community Environment

Planning for the new Kellam High School started with the entire school division. School board members, teachers, students, design professionals, and various others met to discuss the program and preliminary space requirements. Further meetings were held to discuss the kind of spaces that would be needed to develop 21st century skills through project-based learning. Site Planning charrettes were held with neighboring community members to develop a site plan that featured proper adjacencies, buffers, and connections.



Building Planning



Courtyard Planning



Site Planning



Community Environment

Many of the features of Kellam High School pay tribute to the local agrarian environment.



Barn Style



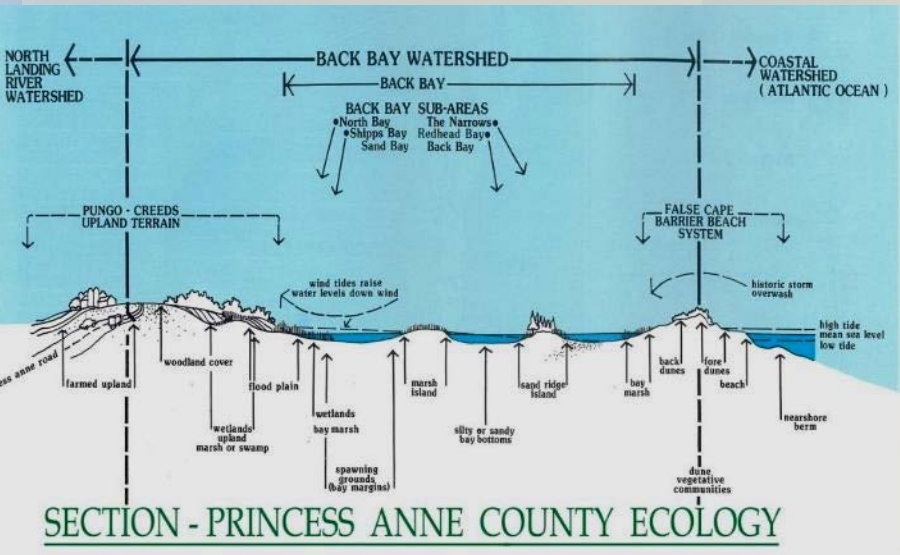
Marsh Meadow



Marsh Gut



Infiltration Garden



Silo-Style Rainwater Storage

Community Environment

Part of the project-based learning curriculum at Kellam High School has enabled students to interact with local businesses. Students practice beekeeping and the harvesting of honey on the school site with the help of a local beekeeper. They sell loofah plants, grown on the green screen in the Educational Courtyard, at the local farmers market. The school also hosted the Hampton Roads Sustainable Living Expo in 2014, allowing community members to use the space to showcase local sustainable movements.



Beekeeping



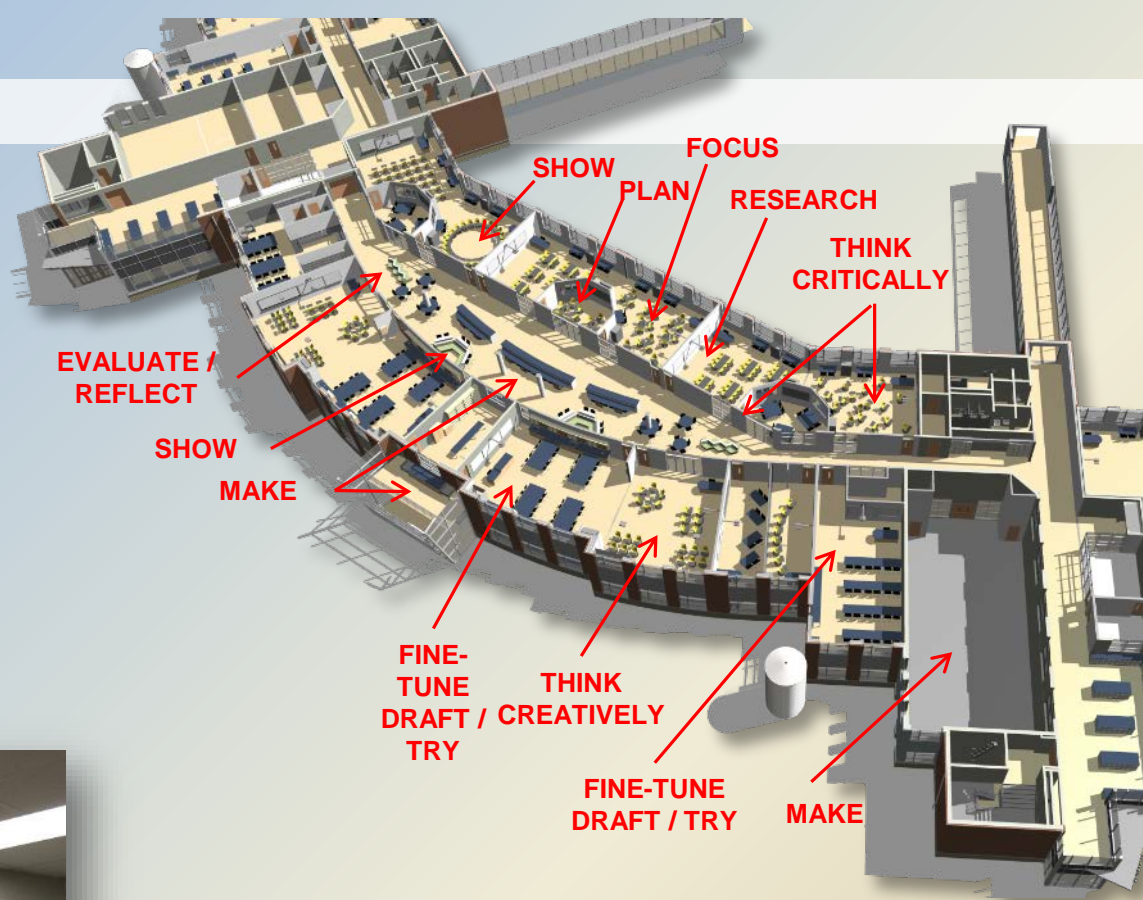
Green Screen



Loofah

Learning Environment

This High School is an educational facility that has truly been designed from the inside out, planned to support and facilitate a new challenge-based learning curriculum focused on engaging students in their own learning, and collaboratively designed by the stakeholders who will benefit from its realization. This unique and innovative **design directly responds and correlates to the new curriculum**, and serves as a model for future schools in the area. Through participating in the design and planning of this educational facility, the entire community has produced a new school that they can respect, take pride in, and get excited about.



Learning Environment



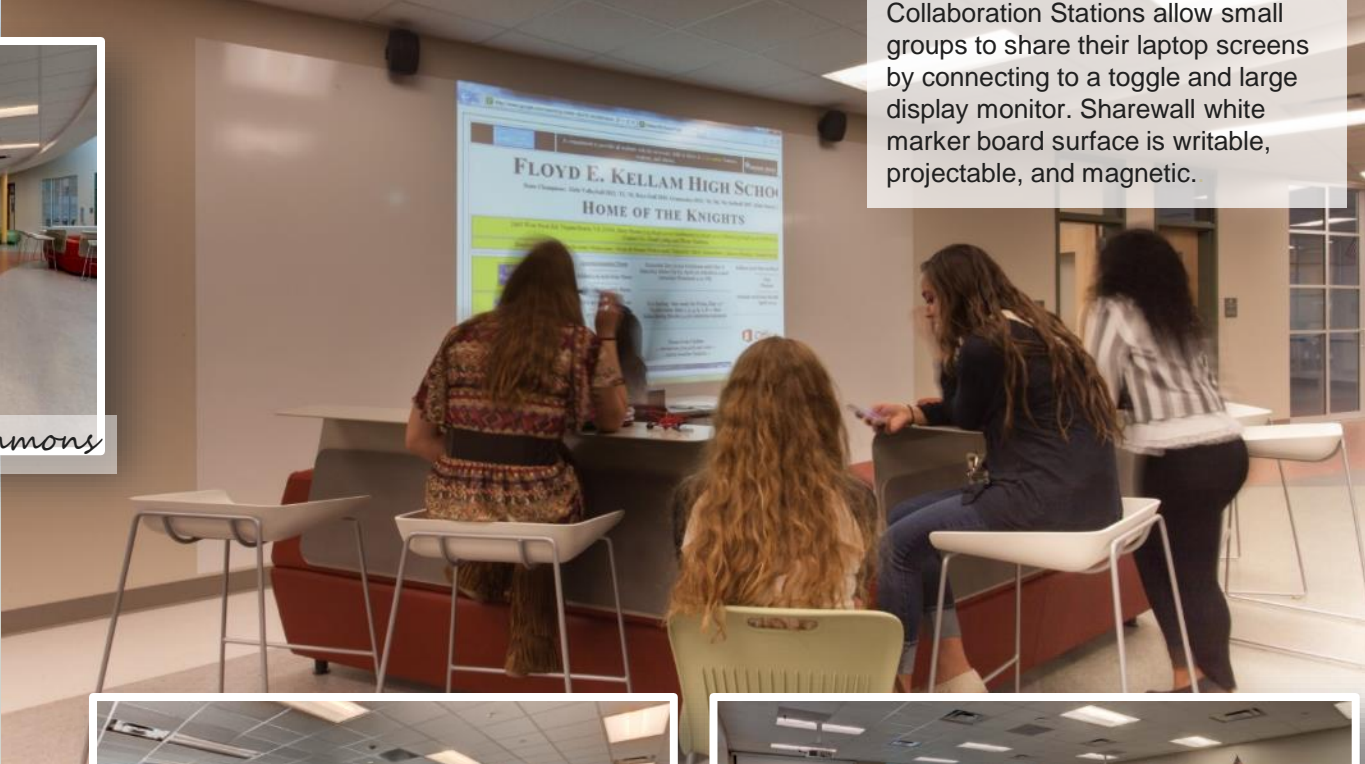
Learning Commons

The **Learning Commons** are at the core of each Learning Community, encouraging exploration and interaction.

Designed for Adaptability

The Learning Community is designed like a tenant fit-out in an office space: all walls are non-load-bearing partitions, allowing the entire space to be completely re-configured in the future without major expense.

The science lab opens directly to the experiential lab to support team teaching of multi-disciplinary curriculum.



Two Smart Boards and Three projectors in each Experiential Lab space give many avenues for the display of student work.

Collaboration Stations allow small groups to share their laptop screens by connecting to a toggle and large display monitor. Sharewall white marker board surface is writable, projectable, and magnetic.



Science Lab/Experiential Lab



Experiential Lab

Learning Environment

Innovative Learning Spaces

All Learning Community spaces are designed to facilitate student discussion and collaboration, as well as presentation and demonstration. **Student Centered Problem-Based Learning** is successful when the educational model provides for inquiry-based, multi-sensory, multi-path, collaborative learning that has real-world context. Students come to understand that problem solving is an interdisciplinary and iterative process, and that there is no one right answer; rather, that there a multitude of possible solutions and that each have benefits and consequences.



Culinary Arts Lab



Black Box Theater



Media Center Collaboration Area



Art Lab Vegetative Roof



Multi-Disciplinary Teacher Planning Space

Physical Environment

The myriad of **sustainable strategies** present in the school provides students with numerous opportunities to interact with environmental systems both in the planning phase and in the post-construction operations & maintenance phase.

All common spaces are flooded with natural light, and each classroom is designed with sloped ceilings and light-diffusing windows in order to **capture the most daylight possible**. This increases student productivity and reduces the need for electrical lighting. A high degree of transparency between Learning Commons and Classrooms promotes active learning and peer review for both students and teachers.

The interior color scheme is one of muted earth tones which promotes a sense of wellbeing and a connection with nature. Interior finish materials are both sustainable and easy to maintain.



Collab



Rain Pole



Learning Commons



Classroom Pair

Physical Environment



Edible Garden

The **edible garden** contains planter boxes, a greenhouse, composting bins, and an outdoor classroom constructed from sustainable materials.

The **planning, planting, maintenance, and harvesting of the garden** will be fully incorporated into the science and culinary arts curriculum.

Rainwater from adjacent roofs is collected for **sustainable irrigation** and run-off is directed through the gathering garden.

Gathering Garden

Rainwater from adjacent roofs is collected and added to the irrigation run-off in **Rainwater Runnels**, which meander through the Amphitheater, gathering areas, and outdoor café as a visual reminder to students of the role of water in their school and environment.

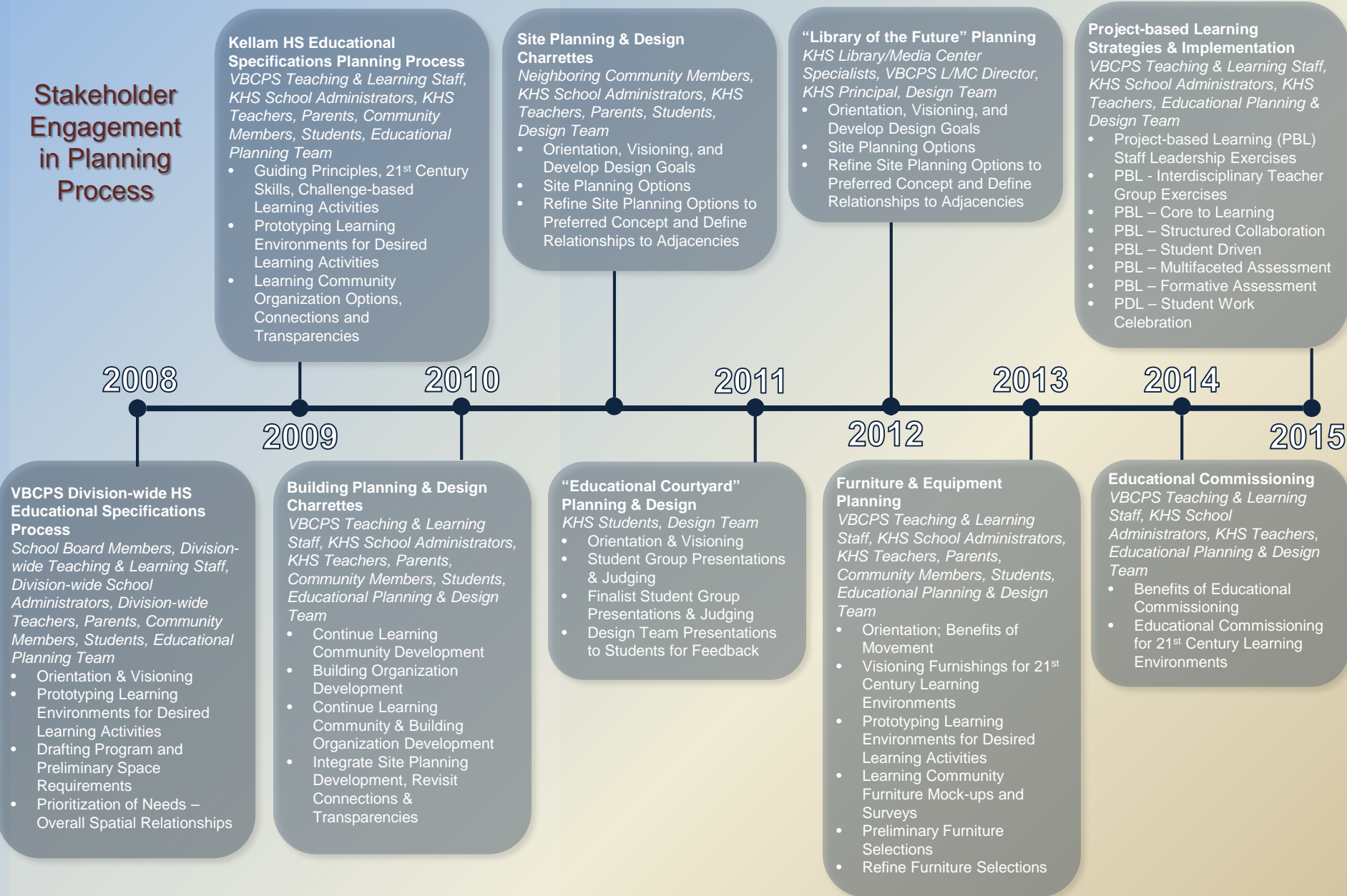


Infiltration Garden

Seating areas and sustainable decking are interspersed within a **natural marsh environment**, allowing students to directly observe water infiltration: the completion of the water's journey through the educational courtyard.

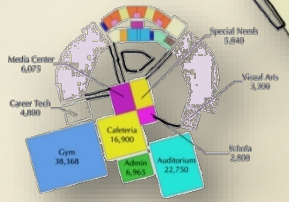
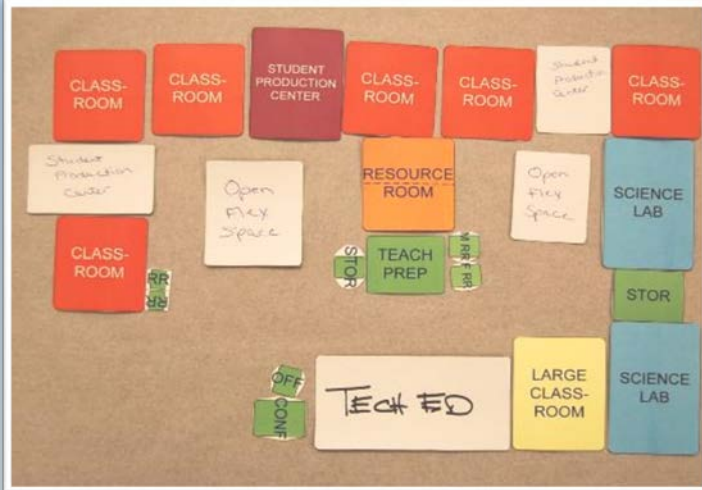
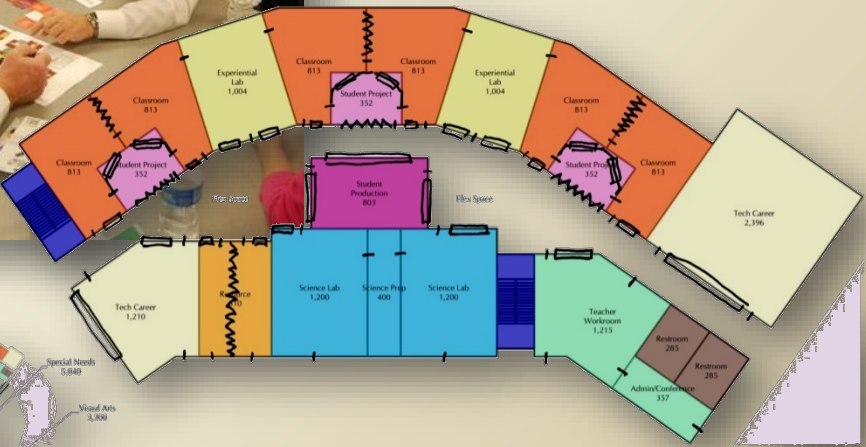
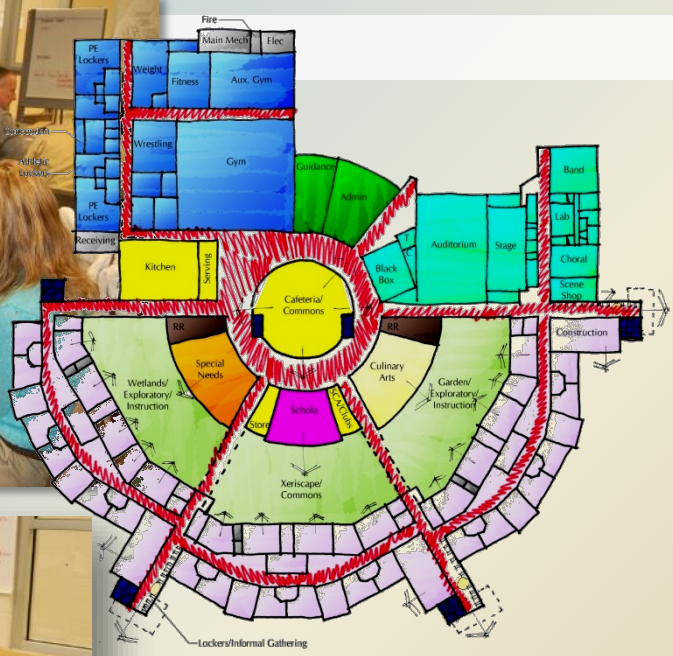
Planning Process

Stakeholder Engagement in Planning Process



Planning Process

From the beginning, this new 2,000 student high school was envisioned as a prototype for 21st Century Learning. Our goal was to design a high school facility that would facilitate and support the implementation of a new curriculum and assessment model founded on the principals of student-centered challenge-based learning and focused on developing skills in critical thinking, creative thinking, collaboration and communication. Our tools were space, light, color, finishes and furnishings.



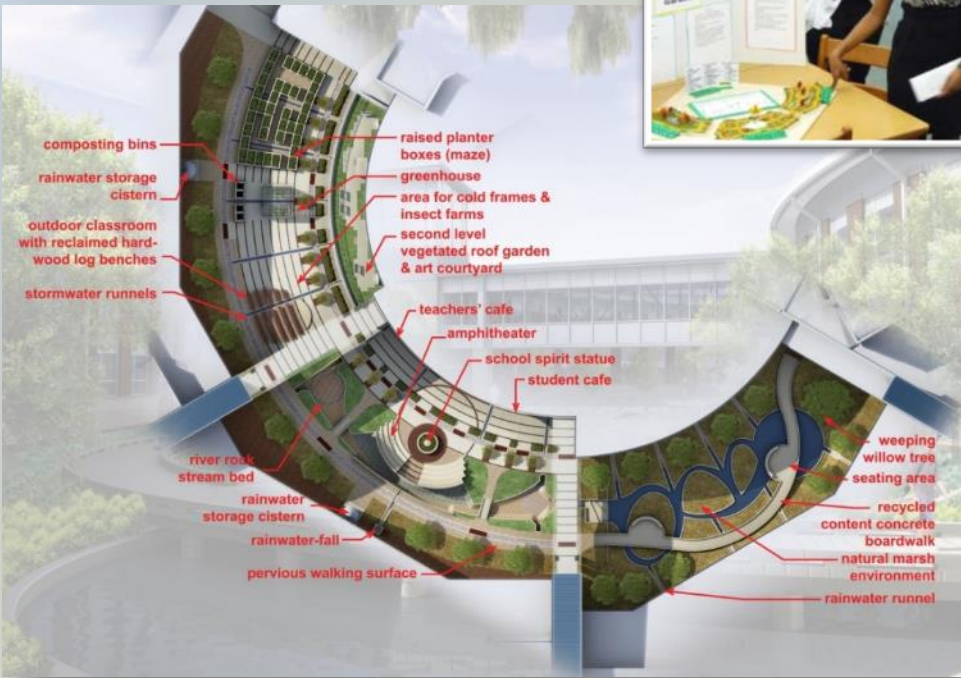
Planning Process

During the planning phase, we involved over 120 students from 5 AP Environmental Science classes in a **challenge-based learning project** to design the educational courtyard.

Common and unique attributes of each design were identified, discussed, and evaluated by the students before being incorporated into the final design.



Students Present Their Designs



FIRST FLOOR PLAN

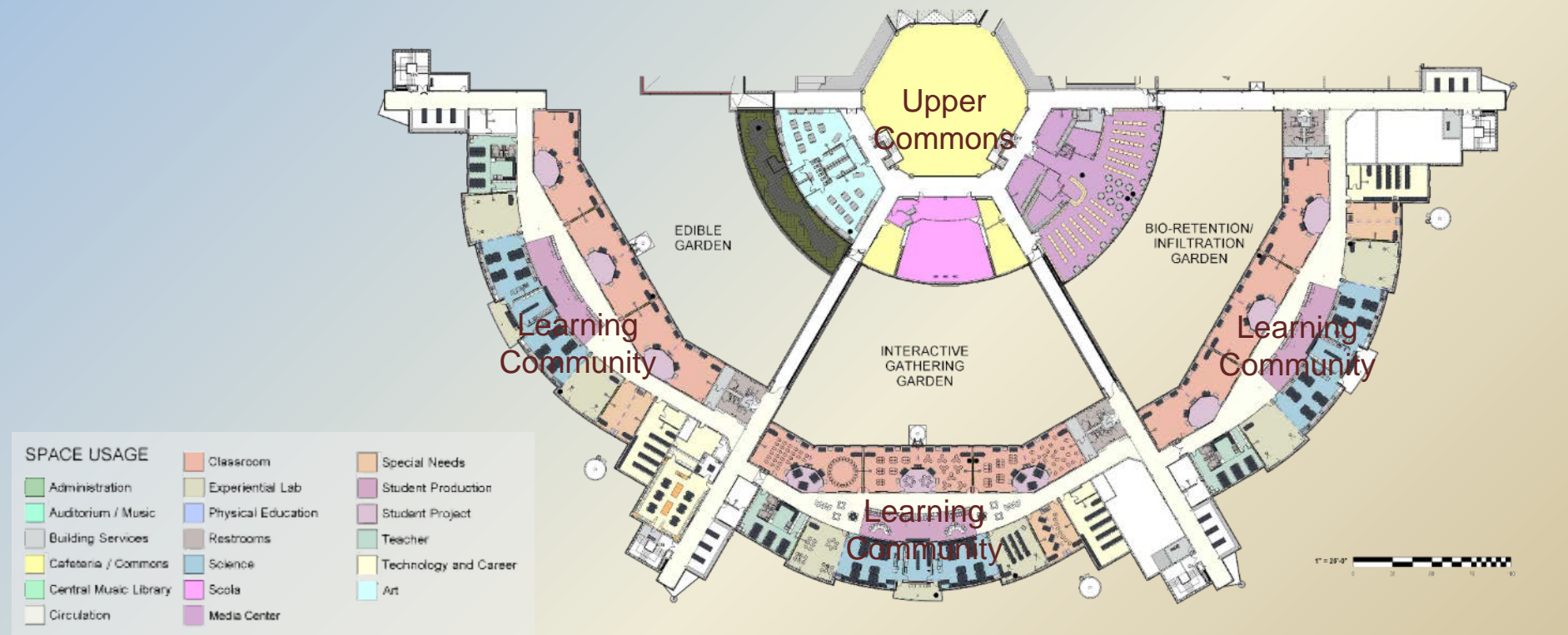


SPACE USAGE

Administration	Classroom	Special Needs
Auditorium / Music	Experiential Lab	Student Production
Building Services	Physical Education	Student Project
Cafeteria / Commons	Restrooms	Teacher
Central Music Library	Science	Technology and Career
Circulation	Social	Art
	Media Center	

1" = 25'-0"

SECOND FLOOR PLAN





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Exhibition of School Planning and Architecture Project Data

Submitting Firm :	HBA Architecture & Interior Design, Inc.
Project Role	Architect
Project Contact	C. Michael Ross, AIA , REFP
Title	Principal
Address	One Columbus Center, Suite 1000
City, State or Province, Country	Virginia Beach, VA, USA
Phone	757-490-9048

Joint Partner Firm:	N/A
Project Role	
Project Contact	
Title	
Address	
City, State or Province, Country	
Phone	

Other Firm:	N/A
Project Role	
Project Contact	
Title	
Address	
City, State or Province, Country	
Phone	

Construction Firm:	S.B.Ballard Construction Company
Project Role	General Contractor
Project Contact	Stephen B. Ballard
Title	President, CEO
Address	2828 Shipps Corner Rd.
City, State or Province, Country	Virginia Beach, VA
Phone	757-440-5555

Exhibition of School Planning and Architecture Project Details

Project Name	Kellam High School
City	Virginia Beach
State	Virginia
District Name	Virginia Beach City Public Schools
Supt/President	Dr. Aaron C. Spence
Occupancy Date	January 2014
Grades Housed	9-12
Capacity(Students)	2,000
Site Size (acres)	108
Gross Area (sq. ft.)	349,350
Per Occupant(pupil)	168 sq. ft
gross/net please indicate	66%
Design and Build?	No
If yes, Total Cost:	
Includes:	
If no,	
Site Development:	\$4,139,097.00
Building Construction:	\$74,787,701.00
Fixed Equipment:	---
Other:	---
Total:	\$78,926,798.00



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