

Project Name / Location

Discovery STEM Academy

Newport News, VA

Project Category

Institutional Architecture

Project Synopsis

Located in a low-rise urban area in Newport News, Virginia, the new Discovery STEM Academy Elementary School replaces the existing primary school located at 1712 Chestnut Avenue, and serves a capacity of 800 students in grades Pre-K through 5. The new school embraces Newport News Public Schools' (NNPS) significant STEM (Science, Technology, Engineering, and Math) pedagogical initiative where learning spaces facilitate learner-centered, student-driven, real-world, project-based learning. These environments promote

a “learning revolution” by focusing on the whole person and where students are challenged to be innovative, adaptable, and to operate in collaborative ways. The design of the school promotes the idea that students should be exposed to holistic learning opportunities that advance their intellect, health, and spirit. The four fundamental principles intended to promote a holistic student are Leadership, Nutrition, Fitness, and Discovery.

The new 3-story building is located on the northern edge of the site, fac-

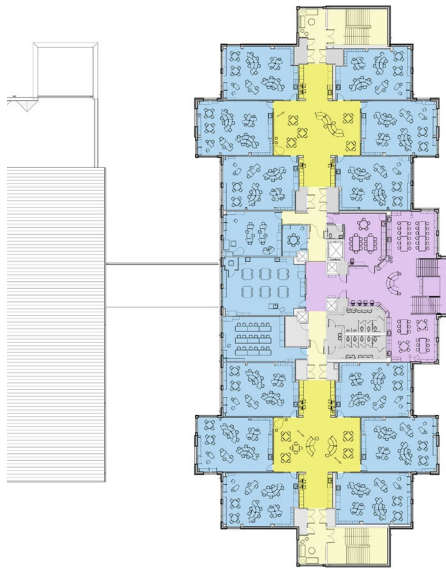
ing Chestnut Avenue. Early on in the process it was determined that it was critical for the new school to address the historical significance of Chestnut Avenue within the community. The compact building footprint was configured in part by the constraints of facing Chestnut Avenue and the limited site area available that faces Chestnut Avenue while the existing school is still in place.

With the compact multi-story footprint of the new school, green space will be given back to the school and the community. The existing school

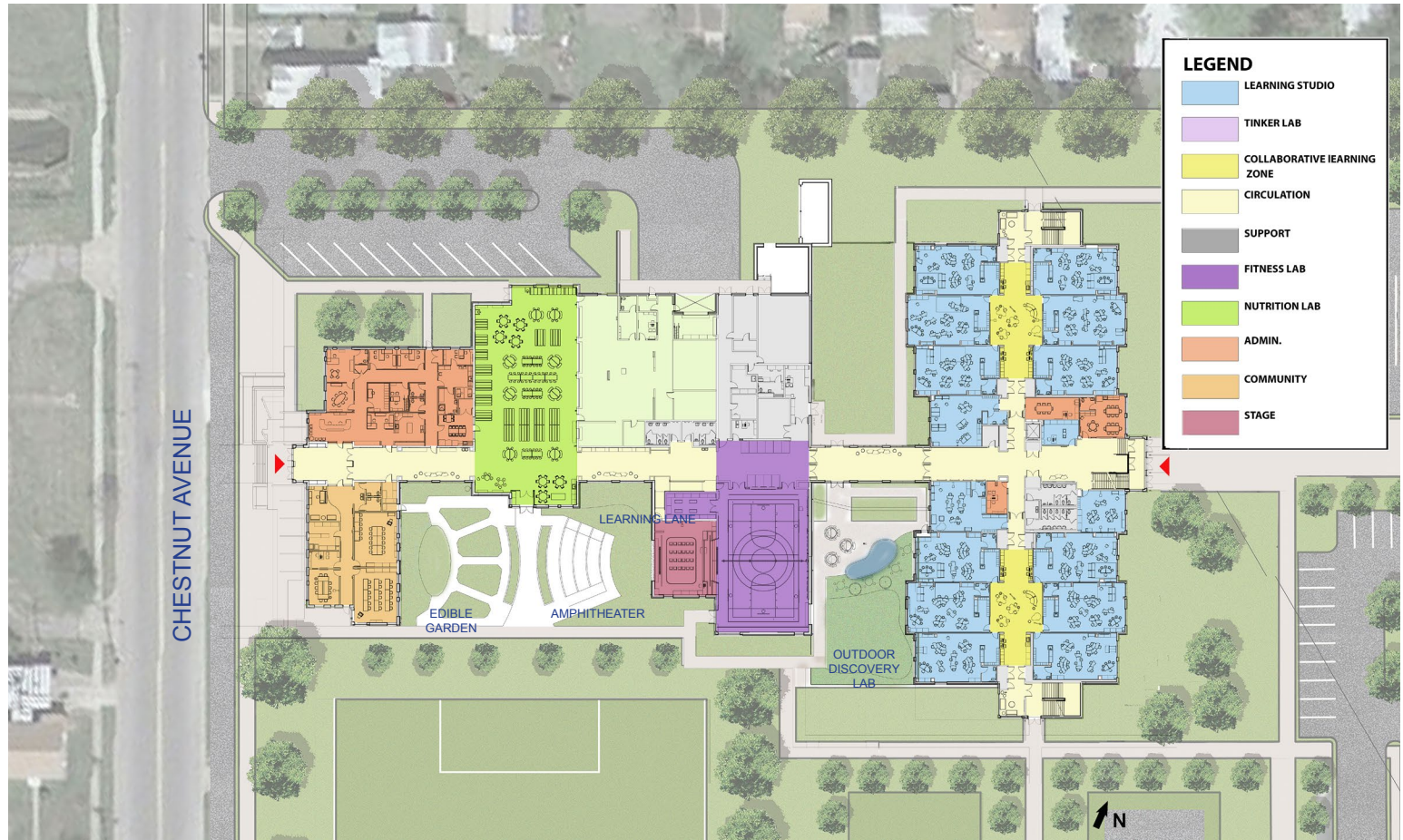
facility was demolished and replaced with a new ball field, playground structures and paved play areas, creating a large community green space at the prominent corner of Chestnut Avenue and 17th Street. An outdoor classroom, an outdoor learning area, an amphitheater, a student vegetable garden, and kindergarten play areas are located on the site in courtyards adjacent to the building.



Second Level Floor Plan

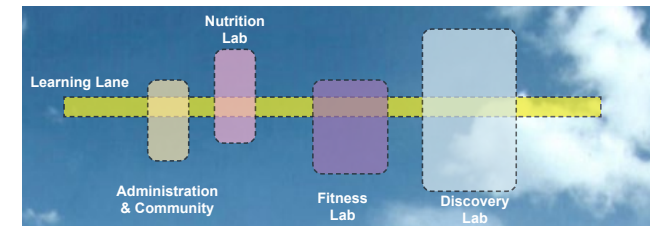


Third Level Floor Plan



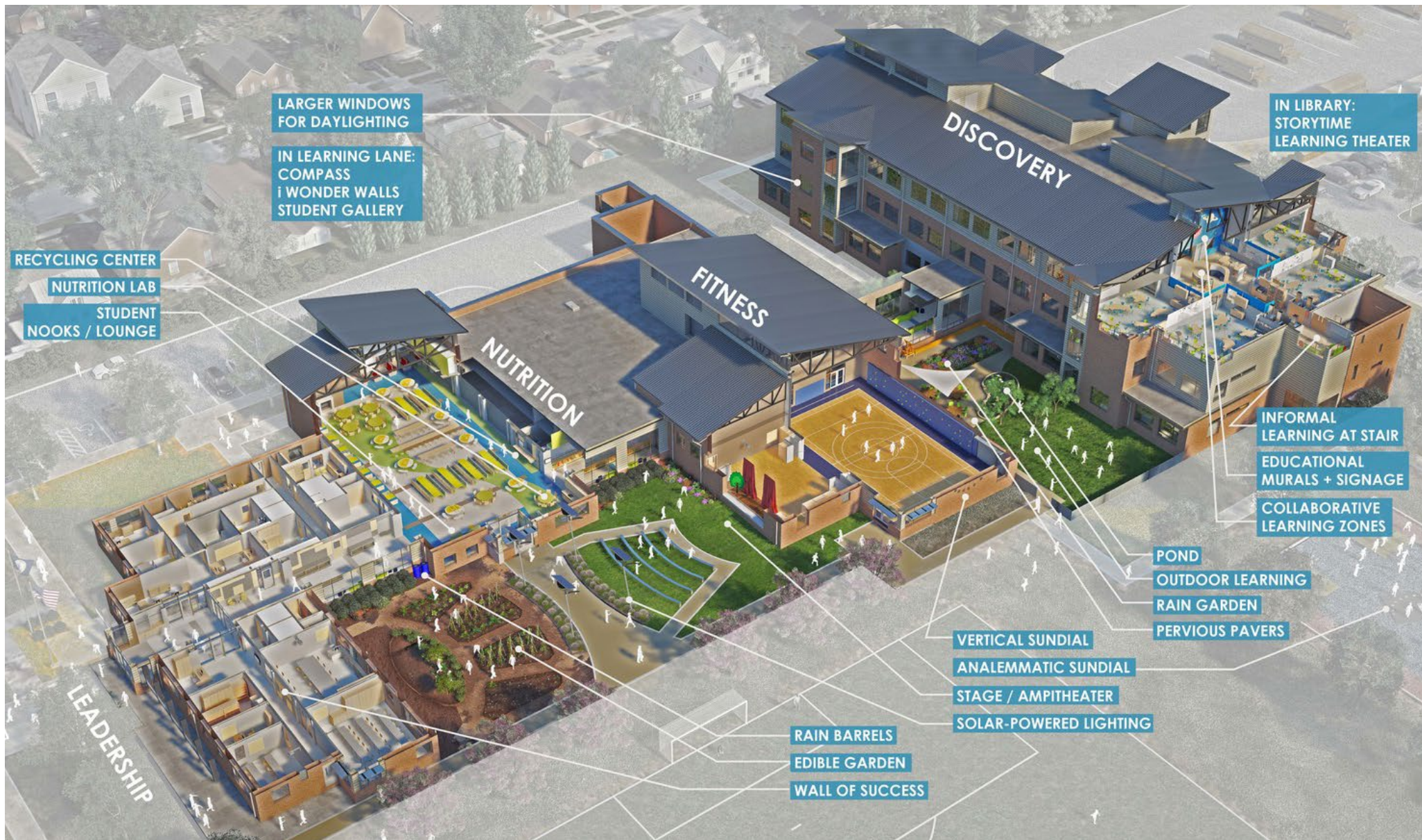
Site Plan | First Level Floor Plan

The layout of the building is organized by the diagram of the Holistic Student. The main circulation path (Learning Lane) connects a series of zones within the building starting with the Administration & Community Zone located at the Main Visitor's Entrance. On either side of the main entrance lobby is the Community Resources Wing and the Administrative Suite. Moving eastward along Learning Lane is the Nutrition Lab (Student Dining), Fitness Lab (The Gymnasium) and ultimately Discovery Lab (Classroom Wing). The Classroom wing is organized into a series of grade-level pods, which consist of a cluster of six classrooms and a special education classroom around a central collaboration space, or Collaborative Learning Zone (CLZ). Shared resources between grade levels are located at the center of the classroom wing including, Art, and the 2-story Media Center, or Learning Lane.



Interior concept

Innovative Features



The four fundamental principles of the holistic student are represented in the organization of the building's floor plan. Celebrating the collective and acknowledging that all individuals are part of a greater whole, the design provides the kinds of spaces and places needed to foster a sense of community both within and beyond the school. Flexible spaces that create diverse environments from inside to outside reflecting the fact that students DO matter.

Learning Lane



Nutrition Lab



The design promotes awareness and possibilities of healthy food choices and maximizes the opportunities for physical activity as part of the school day.

Fitness Lab



The design promotes opportunities for physical activity as part of the school day.

Collaborative Learning Zone (CLZ)



75% of students learn best by doing. In a STEM curriculum aimed at leveraging the power of collaboration, the CLZ offers spaces that are adaptable and multi-functional, promoting highly flexible learning environments. It is often a small group of individuals using their minds, books, technology, and other “quiet” manipulatives to create new knowledge together. It is also often a large group with access to a wide variety of manipulatives collaborating to deliver performances or build tangible objects in this environment specifically equipped to facilitate the tasks at hand.



Learning Studio

Beyond providing compul-sories to support a modern, comprehensive educational program the design celebrates teaching and learning, inspires greatness, and encourages lifelong learners. It provides the places and spaces necessary to foster the learned abilities, skills, and behaviors required of students as citizens of the world – creativity and collaboration.



Tinker Lab



An integrated maker-space where students foster skills such as communication, problem-solving, critical thinking within collaborative activities that allow for active hands-on learning. Learning and its effects are on display throughout the school.

Outdoor Discovery Lab

