QUINCY PUBLIC SCHOOLS

Richard DeCristofaro, Ed.D.
Superintendent of Schools
34 Coddington Street, Quincy, MA 02169
617.984.8701
richarddecristofaro@quincypublicschools.com

STERLING MIDDLE SCHOOL EDUCATIONAL PROGRAM

MODULE 3: PRELIMINARY DESIGN PROGRAM

1.2 EDUCATIONAL PROGRAM

OUTLINE FOR EDUCATIONAL PROGRAM

A. INTRODUCTION
   - Quincy Public Schools Mission Statement
   - City History and Future
   - Educational Vision

B. GRADE AND SCHOOL CONFIGURATION
C. CLASS SIZE POLICIES
D. SCHOOL SCHEDULING METHOD
E. CURRENT SPATIAL AND FACILITY DEFICIENCIES WHICH IMPACT PROGRAM
F. TEACHING METHODOLOGY AND STRUCTURE
G. TEACHER PLANNING, COLLABORATION, STUDENT REPORT, AND ROOM ASSIGNMENTS
H. LUNCH PROGRAM AND STUDENT DINING
I. TECHNOLOGY AND SECURITY
J. MUSIC
K. ART
L. PHYSICAL EDUCATION AND HEALTH
M. SPECIAL EDUCATION
N. MEDIA, VOCATIONS AND TECHNOLOGY
O. TRANSPORTATION POLICIES
P. FUNCTIONAL AND SPATIAL RELATIONSHIPS AND KEY ADJACENCIES

A. INTRODUCTION

Quincy Public Schools Mission Statement

The overall mission of the Quincy Public Schools is to provide a safe and nurturing learning environment for children to achieve their individual maximum potential. Our desire is to develop students who persevere in their studies, take responsibility for their choices, and are honest in their character. We seek to equip students with the necessary skills to thrive as productive workers and committed citizens, and to meet the challenge of change in a global community. We strive to help children discover and explore their gifts and talents, and to value and respect each other's uniqueness. In order to accomplish our mission, staff, parents, and students must work in a collaboration of effort and trust with open communication. Our success will be measured by our students who exemplify a lifelong love of learning.

We strongly believe that the Quincy Public Schools is a school system and learning community that functions with cohesive and unified goals that are understood and shared by all stakeholders. All areas of the school system consistently communicate, collaborate, and cooperate in order to provide the most effective, safe, and nurturing environment in which children and young people may grow and learn. We have a long tradition of educational quality and we pride ourselves on being a learner-responsive school system. Quincy Public Schools embraces the challenges of the future while relying upon the foundation of our value-rich tradition of excellence.

City History

The City of Quincy, incorporated in 1888, is a coastal community first settled in 1621 by Captain Myles Standish. Quincy is known as the birthplace of two United States presidents: John Adams and his son, John Quincy Adams. John Hancock, the President of the Continental Congress and the first signer of the Declaration of Independence, was also born in Quincy. Up to the start of the Civil War, Quincy was a thriving shoe manufacturing town, primarily in the South and West sections of Quincy. During the Civil War, the shoe markets closed and granite quarried in southwest Quincy came to be the major industry in Quincy. To support this rapidly expanding industry, the Granite Railway was constructed and was one of the first railroads in the United States. Quincy was also a major shipbuilding center in the 1880s. The Fore River shipbuilding area produced the *Thomas W. Lawson* which was the only seven-masted schooner ever built. The Fore River area also produced many well-known warships such as the aircraft carrier *USS Lexington*, the battleship *USS Massachusetts*, the *USS Nevada*, and the *USS Salem,* which was the world's last all-gun warship. John J. Kilroy, the originator of the famous "Kilroy Was Here" graffiti, was a welding inspector at Fore River. Quincy was also an aviation pioneer. Dennison Field in the Squantum section was one of the world's first airports and was partially developed by Amelia Earhart. In 1910, it was the site of the Harvard Aero Meet, only the second air show in America. It was later leased to the Navy for an airfield, and served as a reserve Squantum Naval Air Base into the 1950s. Quincy's population grew through the late 1800s and early 1900s to support these various industries, in part due to immigrants from many different countries moving to the Quincy neighborhoods that were ultimately serviced by the Sterling Middle School.

In the 19th century, Quincy became known as an innovator in progressive public education with the Quincy Method, developed by Francis W. Parker while he served as Quincy's Superintendent

of Schools. Four years after its implementation, a state survey found that Quincy students excelled at reading, writing, and spelling, and ranked fourth in the United States in math.

The City of Quincy occupies an area of 26.9 square miles and its current population is approximately 92,271 according to the 2010 U.S. Census. Quincy is bordered by Boston to the north, Milton to the west, Randolph and Braintree to the south, and Weymouth and Hull to the east.

The MBTA provides public transit services to 176 communities across Massachusetts, serving a population of nearly five million, making it America's fifth-largest mass transit system. Quincy is a major part of metropolitan Boston and, as Boston's immediate southern neighbor, is an attractive location for commuters who work in Boston. Quincy is easily accessible due to a robust transportation infrastructure. Interstate 93 and U.S. Route 1 travel south to north through Quincy. The Red Line subway system of the MBTA makes four stops in Quincy at North Quincy, Wollaston, Quincy Center, and Quincy Adams stations. The Commuter Rail service operates out of Quincy Center with service to South Station in Boston. Quincy Center Station is the principal hub south of Boston for all MBTA bus lines.

Distinct neighborhoods were established in Quincy due to certain residential patterns that formulated around past economic activities and natural barriers and resources. These neighborhoods are well established and remain clearly defined to this day. There are eleven distinct neighborhoods: Adams Shore, Germantown, Hough's Neck, Merrymount, Montclair, North Quincy, Quincy Point, South and West Quincy, Squantum, Wollaston, and Quincy Center. The South and West Quincy neighborhood includes the Sterling Middle School population.

City's Future

Mayor Thomas Koch is transforming Quincy Center with downtown multi-phased redevelopment projects focusing on bringing private investment into the heart of Quincy Center. The projects will include a 15-story residential tower, a hotel, a luxury condominium building, mixed-use residential and retail development in downtown Quincy, and the Adams Green Transportation Improvement Project. Mayor Koch has proactively invested in the future of Quincy's public educational facilities. In November of 1997, the Mayor's School Building Task Force produced a detailed report of the school facilities that service the City of Quincy. In December of 1997, the Quincy School Committee and City Council adopted the Task Force recommendations. In October of 2001, the School Committee reaffirmed the earlier vote of the School Committee and City Council.

Following the Task Force recommendations, the new Quincy High School was completed in 2009, and the new Central Middle School was completed in 2013. The Reay E. Sterling Middle School is the next school project to be addressed. Quincy is serviced by eleven elementary schools, five middle schools, and two high schools.

The Sterling Middle School is a neighborhood school currently serving grades 5-8 with a student population of 351. Sterling Middle School has 93 students in 5th Grade, 95 students in 6th grade, 78 students in 7th grade, and 85 students in 8th grade. There are five middle schools which service the 2,193 students in the City of Quincy. The middle schools are as follows: Atlantic

servicing 488 students, Broad Meadow servicing 351 students, Central servicing 662 students, and Point Webster servicing 341 students. The Sterling Middle School population has consistently been in the range of 320-340 students. The Sterling Middle School is located on 444 Granite Street and was constructed in 1926. The school services the South and West Quincy neighborhood. Sterling Middle School has provided numerous years of service for the City, and numerous retrofits have been performed to existing spaces in order to house programs that the school was not designed to accommodate. All previous and current reports identify the building's very poor physical condition and inadequate program spaces. Although possible renovation and reconfiguration will be considered, all work to date suggests that the building will not be a viable candidate for renovation/reconfiguration and that a new facility will be required. The undersized classrooms and antiquated building layout and systems severely impact the delivery of a modern 21st Century educational facility. It also places severe constraints on the ability of the School District to introduce innovative educational programming, provide desired safety and security measures, maintain an appropriate indoor environment, provide appropriate physical education activity, create adequate and safe parking conditions, and accommodate a safe arrival and departure from the site. The School Committee is committed to providing a 21st Century middle school facility for the Sterling community, while simultaneously maintaining the 5-8 grade configuration, small middle school population, and the class size mandate.

Educational Vision

The City of Quincy and the Quincy Public Schools have worked strategically to establish small-scale neighborhood middle schools that engage the student, parent, and the entire neighborhood in the goal of creating self-motivated investigators who are socially responsible and can flourish in a safe and inviting educational environment. A successful Sterling Middle School educational program will support this strategic planning while simultaneously taking careful note of the rich history, background, culture, community, innovation, and philanthropy that thrive within the City. It will be educationally innovative, historically respectful, and community sensitive. A successful Sterling Middle School project will also strengthen current campus connections to the neighborhood elementary feeder school, the Lincoln-Hancock Community School. The Sterling Middle School and the Lincoln-Hancock Community School serve a unique Quincy neighborhood with a culturally-diverse population. The creation of a "New" Sterling must clearly recognize the key elements that will foster a collaborative relationship of learning and service throughout the neighborhood, bringing all cultures and backgrounds together as one inclusive community which thrives on diversity. Much of the legwork for creating a roadmap to success has already been completed by the City of Quincy and the Quincy Public Schools. As part of the Preliminary Design Program process, the City assembled key educators and administrators for a series of meetings, discussions, and educational visioning sessions targeted at formulating a specific educational program for the Sterling Middle School which aligns with prior strategic planning but also delves deeper into the specifics of educational delivery within the Sterling Middle School environment. The Sterling Middle School environment is already a successful example of how an integrated and collaborative staff can work together to provide a highly successful and customized educational delivery to a very unique student and neighborhood population. The current Sterling Middle School environment utilizes teaming, cross-discipline instruction, and hands-on activities to engage students throughout the school day and beyond, offering a large array of after school activities targeted at providing an extended support environment to students. The educational visioning narrative and the educational

program information contained herein is representative of the discussions, collaboration, and desired goals developed by these groups. It defines the current and future direction for educational delivery within the Sterling Middle School environment. It includes a careful analysis and understanding of the various attributes that make Quincy a significant and historic City for education, and more specifically the specific attributes which can make the Sterling Middle School an even more successful educational and social environment for the students, teachers, parents, and the entire neighborhood. The program incorporates 21st Century middle school design patterns, and will bring innovative thought into a City with a history of innovation. It also includes a sensitive understanding of the specific Sterling Middle School neighborhood, promoting an environment where students, parents, and community members can come together in a harmonious environment of enthusiasm, confidence, respect, social exchange, and academic excellence.

Current and Proposed Education Program:

B. GRADE AND SCHOOL CONFIGURATION

Current:

Quincy Public Schools provides educational programs for students in Pre-Kindergarten through Grade 12. As of October 2014, there were 9,395 students enrolled across the Quincy Public Schools. Nine of the eleven elementary schools serve Kindergarten through Grade 5 students and the other two elementary schools serve Kindergarten through Grade 4. Quincy has five middle schools – three serve Grades 6 through 8 and two serve Grades 5 through 8. Both of Quincy's high schools enroll students in Grades 9 through 12. Students attend Quincy Public Schools based on their geographic neighborhoods with some movement between schools based on Open Enrollment granted to students on a space-available basis.

Sterling Middle School, located in southwest Quincy, educates students from Grades 5 through 8 and receives almost all of its students directly from the Lincoln-Hancock Community School. The current enrollment of Sterling is 351 students. With significantly higher enrollment in the lower grades currently at Lincoln-Hancock, the MSBA has authorized the City of Quincy to complete a feasibility study for renovation/expansion or new construction of a Sterling Middle School that would accommodate an expanded population of 430 students.

Sterling utilizes a cluster or teaming approach with approximately 90 to 100 students per grade. Grades 6, 7, and 8 are taught by core subject area teachers for Mathematics, English Language Arts, Science, and Social Studies. Grade 5 students have two core teachers, one for Math and Science and the other for English Language Arts/Reading and Social Studies. The ideal middle school design will separate students by grade level, allowing for controlled transitions; but will also make certain that some level of connectivity and collaboration across grade levels continues to exist, as discussed in the educational visioning sessions and further defined herein. Students will obviously need to travel to a central location within the building for some non-core classes (physical education, specialized art or music, media production and distribution, and health), but priority goals identified herein include integrating as many topics, activities, and disciplines

within the grade-level academic neighborhoods as possible. Space for administrative offices and the guidance services will ideally be located in a central part of the building for easy access, but there is also discussion herein regarding the desire to distribute a portion of these services, when applicable. Collaborative time is provided to each grade level team of teachers to allow for lesson planning, conferencing on the needs of students, and analysis of performance and curriculum data. Students are heterogeneously grouped to maintain high expectations for performance as well as to allow for role modeling and scaffolding between students. Many core classes include special education students and English Language Learners who are consistently mainstreamed with support. These classes are often co-taught by two teachers and considered inclusion.

Proposed:

The Quincy School Department and the Quincy School Committee have invested many years exploring strategic grade configurations that cater to the specific emotional, social, and educational needs of the middle school student population. Such efforts do not include a "one size fits all" approach, but instead specifically cater to the needs of varying neighborhoods and varying student populations. As a result of this desire to provide customized and student-focused learning environments in each neighborhood, the City of Quincy Public Schools include two different configuration models for elementary and middle school education. Three of the middle schools adhere to a 6-8 model, while two of the middle schools adhere to a 5-8 model. Sterling Middle School and its associated elementary school (Lincoln-Hancock) are configured to support the K-4 and 5-8 approach, and have a successful history as such. The other 5-8 middle school within the City is the Point Webster Middle School. The opportunity to create a modernized 21st Century 5-8 Sterling Middle School will strengthen the success that has already been achieved in this neighborhood, and has been part of the City and School Department long-term strategic plan for many years. The following are some of the advantages that have been realized within the Sterling neighborhood and school community as part of the 5-8 configuration model.

- The 5-8 model extends to the grade five students much-needed support services such as language, technical education, art, music, and other specialties that are part of the City of Quincy middle school curriculum offerings. It also allows 5th grade teachers to collaborate more closely with 6-8 teachers, enhancing the ability of teachers to work on vertical teams to increase student achievement.

- The 5-8 middle school model provides a longer grade span of years in the same school, reducing the frequency of transitions for this specific student population which needs additional support and connectivity with fewer transitions.

- This 5-8 model, by improving student transitions, is starting to show improvement in parental investment and involvement, a much needed achievement within the Sterling neighborhood. It also enhances collegiality, and improves communication/collaboration between staff and families.

For this reason, the proposed educational program is aligned with the 5-8 model and will continue on this path as part of the City's long-term strategic plan.

C. CLASS SIZE POLICIES

The Quincy School Committee recognizes that class size is an important factor in quality education and the highest priority within the budget process. Sterling Middle School, like other Quincy Public Schools, benefits from this policy and the funding that supports it. In 2014-2015, the classes at Sterling were well within the guidelines of a maximum of 24-28 students for Grades 4 through 8. 40 of 80 core class sections had 20 or fewer students, 38 had 23 or fewer students, and 2 sections had 24 students. These policies and practices are anticipated to continue for the foreseeable future.

D. SCHOOL SCHEDULING METHOD

Current:

The school schedule is revisited annually and adjustments are made based upon enrollment, student and programming needs, staffing levels, and contractual agreements around educator preparation and professional development. The student day is from 8:15 a.m. to 2:30 p.m. and consists of two bell schedules. Grade 5 has a schedule which consists of two (2) 105-minute periods in Math and ELA, one (1) 40-minute period in Science, one (1) 30-minute period in Social Studies, one (1) 50-minute period for each academic program, and one (1) 30-minute period for lunch. Academic Program periods are fifty (50) minutes in duration and rotate on a six-day cycle and include Art, Music, Physical Education, Technology/Engineering, Library/Media, and Health. Grade 5 has the capacity within its schedule to expand or adapt core instructional time to better meet the curriculum needs of its students. This flex time is generated and influenced by interdisciplinary units, student projects and presentations, guest speakers, community connections, and school-wide events. Of course, flex time also allows for a teacher to incorporate additional time for more in depth exploration or re-teaching opportunities in any core subject area. Grades 6, 7, and 8 have a schedule which consists of five (5) 50-minute periods in Math, Science, ELA, Social Studies and Reading, one (1) 50-minute period for Academic Program periods, one (1) 30-minute student support period, and one (1) 30-minute period for lunch. When scheduling, priority is given to students in Special Education or ELL programs, along with Instrumental students. All classes are heterogeneously grouped except for advanced offerings in Grade 6-8 Math/ELA and Grade 8 Foreign Language.

Offering a variety of student support at Sterling Middle School is a priority and this block of time is designed to benefit both students and teachers. All 6th, 7th, and 8th grade students are scheduled for a 30-minute Student Support period every day. Students use this period to seek out assistance in any of their classes when they need additional support, extra practice, clarification, or enrichment. This period is also used by their grade level teachers, guidance counselors, and administration to offer special presentations that assist or enrich students in the area of academics, social skills, test preparation, course selection, student and community leadership, or visual and performing arts. Teachers also benefit from the interaction and collaboration that takes place among educators during the student support period. The Administration can create common planning time for teachers to work with their grade level colleagues as well as to meet vertically by subject area in order to develop or enhance the

curriculum. Well-planned instruction and assessment is a priority of the Sterling staff, and all stakeholders benefit from the time to meet and develop the differentiated learning criteria needed to present the highest quality of education to all students in our classrooms, in all grades.

Proposed:

The proposed scheduling would follow current goals and guidelines for student scheduling while making consideration for block scheduling and other strategies which may allow for extended interdisciplinary instruction; allowing more time for two or more teachers who are teaming and need the extended instructional and application period. It will continue to align the 6th through 8th schedules to allow 6th grade students to participate in a teaming environment of interdisciplinary instruction. The 5th grade schedule, although different, will be aligned to allow 5th grade students to take advantage of any potential advanced learning opportunities that may be available within the 6th through 8th environment. It will also consider the possibility of creating mentoring opportunities for the older students within the lower grade levels. It will be based upon research-based best practice strategies that promote teaching and learning for all students. One of the identified goals is to provide students in grade 5 with access to a full complement of Expressive Arts opportunities by synchronizing the schedule as required to make these spaces available at the appropriate times. The schedule must also include the appropriate staff planning and collaboration time within the established school day.

E. CURRENT SPATIAL AND FACILITY DEFICIENCIES WHICH IMPACT PROGRAM

The existing 1926 building has served the City for almost 90 years without any major renovation, alteration, expansion, or improvement since the original construction. Over time, the Custodial and Public Buildings staff has been very attentive to the building's operational needs. It is highly commendable that the maintenance of this building has allowed for it to serve the District well beyond its designed life expectancy; the building's poor physical condition, undersized program areas, lack of specialized program space, and outdated organization and layout prohibits the delivery of a 21st Century educational program. The Sterling School was originally built as a junior high school and is not configured to provide the framework for the current middle school educational philosophy. The academic classrooms, academic programs, and academic support spaces are not arranged to facilitate efficient functionality of the school. The building has an uninsulated and very thin masonry exterior which requires constant maintenance due to deterioration which results in air and water infiltration. Most piping and plumbing fixtures are at least 50-years-old, with some components dating back to original construction. The original 1926 boiler is operational, but in poor overall condition. The electrical service is undersized and original with minimal upgrades and repairs over the lifespan of the school. Classroom lighting was updated approximately 30 years ago, but is outdated and inefficient by today's standards. Despite its four-story height, the building has no elevator. Significant amounts of asbestos remain inherent in the building construction, although appropriate steps have been taken to contain any potential exposure. Many non-traditional spaces such as storage spaces and basement areas are utilized for maintenance staff and instructional spaces. Adequate meeting space for faculty, staff, and parents is non-existent. All existing classrooms are significantly

undersized at 615-638 square feet. The cafeteria and kitchen are undersized, isolated, and lack modern acoustics. The available physical education space is well below MSBA recommendations and guidelines. The boys' and girls' restrooms and locker rooms are antiquated with exposed piping, deteriorated plaster ceilings and walls, exposed water valve controls, and inadequate temperature mixing controls. Lavatory and sink counters do not meet the needs for the student population in the boys' and girls' locker rooms.

Perhaps most importantly, the compromised functionality mentioned above does not support a modern 21st Century middle school educational program. Undersized classrooms are stacked along narrow corridors without the necessary small and large group instructional spaces to support hands-on project based learning. The media center and cafeteria are undersized and isolated from integration with other key academic areas. Critical spaces for teacher planning, collaboration, and work are non-existent. There are no technology application labs (maker/builder space), with only one grossly undersized classroom having been converted to a "Computer" lab. Although grade levels strive to operate as teams, the building's physical organization does not allow classrooms to be clustered in an organized fashion and does not provide the necessary support spaces. Special Education program space is not appropriately integrated with the remaining educational space, and appropriately sized and located resource and inclusion rooms are non-existent. Adequate meeting space for faculty, parents, and staff is virtually non-existent, as the staff struggles to integrate parents into this neighborhood school without any meeting space for conferences, collaboration, or discussions. There are no appropriate and dedicated spaces for art and music instruction, with only one small classroom having been converted to serve as a makeshift art room.

The existing building is awkwardly located very near Granite Street in a manner which prohibits appropriate automobile and bus arrival and departure. Students also have very little area to congregate at the front of the school, as the site area between the school and the street is extremely limited. The building's location also blocks easy access to remaining portions of the available site, greatly limiting the amount of parking on site.

Unlike many buildings of this era, the existing Sterling Middle School was an inexpensive building at the time of its completion (1926). It lacks much of the grandeur and many of the long-lasting, high-quality finishes and components often inherent in buildings of this time period. Faux-finished marble over plaster in the lobby, now deteriorated and peeling away, substitutes for the real marble often found in the lobbies of similar era buildings. Concrete floors provide a low cost alternative to terrazzo or hardwood in the corridors and lobbies, and even the exterior building envelope is a narrow (12") composition of brick versus the often found thicker masonry walls. Large mechanical distribution shafts, common in buildings of this era, are non-existent, as it appears the goal was to minimize overall building area and volume in the interest of saving cost. The glazed tile wainscoting often utilized during this era to create low-maintenance corridor wall finishes is not found in the Sterling Middle School, as inexpensive plaster walls have deteriorated and been covered with paneling, fiberboard, and other ad-hoc solutions. Older school buildings rarely meet current educational guidelines for general classroom size, but the existing Sterling building is particularly stingy in all program areas, with even typical classrooms averaging only about 600 square feet. Although none of these features prohibit the renovation of

the building, they do require a careful analysis to determine if any proposed re-use of the existing building is physically viable, financially feasible, and/or educationally appropriate.

The Sterling Middle School is designated as a Level 2 school by the Department of Elementary and Secondary Education and its students are hardworking and community service-oriented. The student population reflects the neighborhood diversity, with 77% of students classified as High Needs. Virtually all Sterling Middle School students attended the neighboring Lincoln-Hancock Community School located less than one-half mile away for some or all of the elementary grades. The goal will be to plan a newly reorganized and educationally appropriate Sterling Middle School which fosters connections in academics and the arts for students, parents, and Southwest Quincy community members.

As students journey through their middle school years, they are experiencing significant physical, social, and emotional growth. In order to maximize their education and care, the facilities need to be appropriately reflective of our commitment to them.

F. TEACHING METHODOLOGY AND STRUCTURE

Current:

The Quincy Public Schools has articulated specific instructional time allotments for all five of its Quincy middle schools. Therefore, Sterling Middle School's core subjects include Reading, Mathematics, Science, Social Studies, and English Language Arts. Academic Classrooms are supported and enhanced by Academic (non-core) programs. These Academic Program offerings also provide contractual preparation time and team planning for our Academic Classroom Teachers. The weekly time allotments for the core and non-core subjects can be found in the charts below.

Academic Classrooms Grades 6-8

Content Area	Grade Level	Time on Learning per week	# of Staff	Teaching Methodology
Reading	6-7	250-275 minutes	8	Whole class and small group instruction; classroom library and reading "nooks"
English Language Arts	6-8	250-275 minutes	3	Whole class and small group instruction; desks or tables used for writing, conferencing, and editing
Mathematics	6-8	250-275 minutes	3	Whole class, partner work, and skill group instruction; interactive whiteboard is used daily; computer labs used weekly/monthly for individual online instruction or assessments

Science	6-8	250-275 minutes	3	Whole class, collaborative groups, and lab settings; interactive whiteboard is used daily for online demos and interactive assignments; computer lab used for research
Social Studies	6-8	250-275 minutes	3	Whole class and collaborative groups; desks or tables for research and project planning; computer labs used each trimester for research
Foreign Language	8	250-275 minutes	2	Whole class, partner work and collaborative grouping is used for instructional purposes

Reading: The reading curriculum is based on the standards outlined in the MA Curriculum Frameworks for ELA and Literacy. Both system-wide and site-based professional development focuses on the skills and concepts for reading fluency, comprehension, and the analysis of complex text. Sterling Middle School teachers utilize novels, trade books, anthologies, periodicals, and eBooks for instructional purposes. Text selections range from a common novel to teacher selected articles, author studies, and independent reading. Teachers assess comprehension and fluency through tests and quizzes, book reports, and sample MCAS open response questions.

English Language Arts: Literacy standards for writing, grammar, and vocabulary are also directly aligned to the MA Curriculum Frameworks for ELA and Literacy. Language Arts and Reading teachers plan instruction around common themes, providing students with a strong connection between what they are reading and writing about in class. Every middle school language arts teacher uses a common resource aligned to the new state standards to develop lessons and assessments that support the theme or unit. The writing and language standards from the Common Core drive the planning of instruction, assignments and assessments.

Mathematics: The middle school math curriculum is aligned to the 2011 MA Curriculum Framework. Teachers follow a common pacing and alignment guide to plan their trimester and year-long learning goals for students. Each classroom is equipped with materials and resources from a common math program: Big Ideas in Mathematics. Teachers and students have access to textbooks, as well as online digital resources and assessments. Every math classroom is equipped with a computer, projector, and interactive whiteboard for interactive whole class lessons.

Science: Sterling's science teachers develop and implement units, projects, and assessments based on the current science, technology, and engineering state standards. While each grade level has a textbook aligned to specific topics at each grade level, much of the science curriculum is developed from best practices highlighted in the National Science Teachers Association professional resource online library. Hands-on activities, small group collaborative projects, and lab experiments drive the daily curriculum. The use of video clips, online demonstrations, and media-rich presentations are growing in popularity in middle school classrooms.

Social Studies: The curriculum is based on the current History and Social Science standards outlined in the MA Curriculum Frameworks. Geography, ancient civilizations, and the American Revolution are major themes highlighted throughout middle school. Primary sources, periodicals, virtual tours, field trips, web-based research, and teacher-created lessons all contribute to the design and implementation of the social studies curriculum. In both system and site-based professional development, teachers share best practice and supplemental resources. The social studies teacher is often asked to participate in the design of interdisciplinary units that connect history to current events, and provide students the opportunity to write persuasive essays or support a social commentary on community, state, or global issues.

Foreign Language: At 8th grade, students have the option of taking a foreign language. Currently Spanish I and French I are part of the eighth grade curriculum. Cultural awareness, conversational skills, vocabulary, basic grammar, and writing skills drive the instructional focus for the year. The student learning outcomes are aligned to the current MA Curriculum Framework for Foreign Language. If a Sterling 8th grader successfully completes his/her year in this course, he/she is eligible to take Spanish II or French II in high school.

Planning and Collaboration Grades 6-8

The school utilizes a cluster system with approximately 90 to 100 students in each of the grades. Grades 6, 7, and 8 are taught by a team of subject area teachers, one each from Mathematics, Science, Social Studies, and English Language Arts. Grades 6/7 have Reading as a core instructional area, while Grade 8 combines both language arts and analytical reading (ELA) in order to offer a Foreign Language to grade 8 students. Sterling teachers use weekly common prep periods to plan interdisciplinary units, grade-level projects, and community service events. Both vertically and as grade-level teams, teachers meet to analyze assessment data, examine student work, and review assessment results. Vertical meetings typically take place on early release days in the library media center, while grade-level teams meet during common prep time. These meetings are held in the teachers' room or an empty classroom.

Academic Classrooms Grade 5

Content Area	Grade Level	Time on Learning per week	# of Staff	Teaching Methodology
Literacy	5	525 minutes	3	Whole Class and small group instruction; desks or tables for writing, classroom library and reading "nooks"; easels and chart paper for group writing; word walls; displays of student work
Mathematics	5	525 minutes	3	Whole class, partner work, and skill group instruction; interactive whiteboard is used daily; computer labs used for individual online instruction or assessments; table for games and activities

Science	5	200 minutes	3	Whole Class demonstration, video lessons, small groups for hands-on activities and science stations; classroom library; clean up area; interactive whiteboard for group lessons
Social Studies	5	150 minutes	3	Whole Class and collaborative groups; desks or tables for research and project planning; computer labs used each trimester for research

Literacy: In 5th grade, the Literacy Block is an extended period so that students can learn critical reading skills, apply those skills in guided reading groups, and then independent reading. Students are reading and writing every day for different purposes. Reading selections range from literature to informational, technical articles. Vocabulary, grammar, and mechanics are taught with both an "anchor" text (reading) and within a writer's workshop. Sterling's 5th grade reading program is the same commercial program used through the District K-5 and is aligned to the 2011 MA Curriculum Frameworks for ELA/Literacy.

Math: Learning outcomes are directly aligned with the common core standards outlined in the 2011 MA Curriculum Framework for Mathematics. Teachers' lessons are supported with a commercial program used throughout the District K-5. Skills and concepts are taught within units while standards for mathematical practice or habits of the minds are reinforced throughout the year. A deeper understanding of critical concepts is balanced with procedural strategies and fact fluency. Math manipulatives, partner work, small skill groups, and whole class instruction are essential components of daily math instruction. The core resource comes with online assessments and practice assignments that students can complete at home.

Science: Sterling's 5th grade science teachers develop and implement units, projects, and assessments based on the current science, technology, and engineering state standards. Specific topics are assigned to Grade 5 and much of the science curriculum is developed from best practices highlighted in the National Science Teachers Association professional resource online library. Hands-on activities and small group collaborative projects drive the daily curriculum. Real world connections, problem solving, and using data to draw conclusions make up a big part of the lesson/unit design.

Social Studies: The curriculum is based on the current History and Social Science standards outlined in the MA Curriculum Frameworks. United States History, Geography, Economics, Government, and an Early Exploration to Westward Movement are major themes highlighted throughout Grade 5. Primary sources, periodicals, field trips, web-based research, and teacher-created lessons all contribute to the design and implementation of the social studies curriculum. In both system and site-based professional development, teachers share best practice and supplemental resources. In Sterling's 5th grade teaching model, the social studies teacher is also the reading or writing teacher – which creates the perfect opportunity to design interdisciplinary units that connect history to current events, and provide students the opportunity to write persuasive essays or support a social commentary on community, state, or global issues. Many novels, biographies, and historical fiction are used in both social Studies and ELA units.

Planning and Collaboration Grade 5

Grade 5 at Sterling Middle School is going through a transformation. Instead of following a middle school schedule, the Grade 5 team operates as an elementary model. Two teams have been established, taught by two subject area teachers: Teacher A Literacy/Social Studies and Teacher B Math/Science. Students will rotate for Literacy or Math. One 5th Grade classroom is self-contained, where the teacher will teach his/her students all core subjects.

Grade 5 teachers also use weekly common prep periods to plan interdisciplinary units, grade-level projects, and community service events. On early release days, the 5th grade teachers will either meet as a grade-level team or meet with their elementary counterparts across the system. As a grade-level team, teachers will meet to analyze assessment data, examine student work, and review assessment results. These common planning meetings are currently held in any available space, including an empty classroom or office space.

Proposed:

In order to prepare students for successful adulthood in the 21st Century, we must work to engage all learning types in a blended learning environment where students have opportunities to learn in multiple styles but also are guided by teachers in completing self-directed inquiry and investigation through research and hands-on activities. Teachers are being asked to expand their roles beyond a "sage on the stage", and also become a "guide on the side", strategizing to encourage students to be self-motivated investigators who can problem-solve in the 21st Century in jobs that likely have not yet even been created. This expanded responsibility of educators to both deliver instructional content and also guide the student learner as an investigator is key to creating successful life-long learners and professionals. It is an approach which requires an energized and collaborative staff that understands the evolving social and educational demands of the 21st Century. The Sterling Middle School already includes such a staff, and this group has been actively involved in identifying the strengths of the current middle school educational delivery and how these strengths can be reinforced through the creation of a well-organized educational environment with appropriate space for a variety of learning styles and activities. They have also identified the opportunities and goals which can provide a roadmap for how a new 21st Century middle school can help facilitate the necessary teaching, learning, research, and investigation. During the educational visioning sessions, the educators reviewed the physical (spatial) challenges of delivering a project-based or hands-on curriculum that supports self-directed investigation. These challenges include the limitations typically associated with a "Traditional classroom"; a space which was conceived during the industrial revolution and assumes that its primary function is to physically accommodate the appropriate number of student desks and provide a "Delivery area" for content and instruction from the teacher. This particular notion of a classroom fails to recognize the spatial requirements of hands-on student inquiry, investigation, and application. As a group of students begin to collaborate to design a building, an automobile, or a new computer application, the spatial limitations of the traditional classroom immediately impose restrictions on their ability to design, fabricate, create, explore, and document their ideas. The 5th grade students are unable to complete an investigation/exploration activity in the Greek Pyramids, as there is no room for them to combine their skills in the humanities, math, art science, engineering as they explore the design and

construction of their project; and moreover they are unable to utilize visual media and the graphic arts to document and present their project without the appropriate space to spread out for discussion and observation. Each academic neighborhood requires a spatial extension of the classroom that provides the spatial and functional amenities necessary to develop and present projects. This includes sufficient space to maintain "Works-in-progress" where student projects can evolve in phases over an extended period of time without the limitations associated with having to break down and store projects on a daily basis. Projects should be able to remain on display in a sort of "working classroom" which always exists in a works-in-progress mode. This allows student work product to remain on exhibit for observation, study, and discussion; and promotes a collaborative environment where students and staff can be energized by their peer group.

Each team neighborhood should include classrooms that wrap around a central "Hands-On Project Space" that serves multiple purposes. This Project Space shall be a clearly defined neighborhood space that is directly integrated into the classrooms and support areas. It cannot be an isolated space which is remote from the classrooms. It will be a Maker/Builder space that will serve as an application lab for each neighborhood, and will also help to support and promote social interaction, academic investigation, and student exhibit and presentation. It will meet the needs of extending the classroom environment as described above. The goal is to develop students who are self-motivated learner/explorers and therefore, such space should include provisions for project-based student inquiry including building, multi-media, research, presentation, and arts integration. It will allow learners the ability to develop large physical projects in an environment where it is critical to have appropriate space to spread out without the need to break down and store projects each period. It will allow small groups to create multi-media projects that are part of the academic instruction being developed in the classrooms, with a group of students capturing and preparing a video component of their project while their peers work in the classroom or small resource rooms on other aspects of the same project. It should allow individual students and groups of students to both present and exhibit their work. This Maker/Builder space should also include all necessary amenities to support STEAM (Arts) delivery, as it allows students within the neighborhood to work actively on projects that include an integrated art/media/visualization component without the restriction of having to leave their neighborhood in order to gain access to the necessary tools and amenities.

For purposes of the proposed space summary, the Hands-On Project Space (Maker/Builder space) will be created through the combination of three separate program areas combined into a single contiguous area. These areas include the STEM Applications Lab Support identified within Core Academic, the Project Based Applications Lab identified in Vocations and Technology, and the SPED Project Applications Area identified within the Special Education portion of the Space Summary. This approach was utilized because the space does exists to support each of these areas in the following way:

> STEM - As previously identified herein, a traditional classroom does not provide sufficient space for the development of projects which integrate science, technology, engineering, math, art, and the humanities. For this reason, a small academic spatial allotment dedicated to the extension of each of the surrounding classroom areas seems appropriate for providing the necessary space.

Vocations and Technology – many of the projects that will be developed within the Maker/Builder space will include the application of hands-on tasks in what could be described as a 21st Century vocations and technology program. Students are no longer being taught how to build bird houses, but instead are utilizing graphic media, video production, and computer applications to enhance their academic STEM projects. This is the "Vocations and Technology" of the 21st Century. In some instances, staff that would traditionally be teaching in the vocations and technology program will be co-teaching within the academic neighborhoods to assists general classroom teachers in overseeing student projects.

SPED Project Applications – one of the goals of integrating the special education classrooms into the academic neighborhoods is to also give these students opportunities for hands-on project instruction at a pace which is appropriate to their developmental needs and skill set. By allotting a small amount of space to the special education program the goal would be to insure that there is sufficient area within the Maker/Builder space to allow these students to work either independently or as part of the general education group; with sufficient space to accommodate their specialized needs.

The Maker/Builder space will be a scheduled space, but will not result in one of the other general classrooms being vacated during its use. It is an extension of the classroom space, and will be utilized simultaneously with one or more classrooms. This is the reason it must be located in direct proximity to the classrooms and must include transparency and visual connection to all classrooms. Currently proposed schedules and projects suggest that it will have a utilization rate equal to that of any of the general classrooms, as it acts to support one or more disciplines throughout each period of the day.

The proposed building project would continue the current educational organization of combining grades 5 through 8 in a single middle school facility, as this has been a successful model for the Sterling Middle School community and allows the staff and administration to continue advancing this success. The 6th, 7th, and 8th grade levels will become "grade-level teams", affording opportunities for students and staff to work in a horizontal and vertical interdisciplinary manner that fully integrates Special Education and project-based learning. The so-called "grade-level teams" will be teaching neighborhoods, with each neighborhood consisting of one Mathematics Teacher, one Science Teacher, one Social Studies Teacher, and one English Language Arts Teacher. Grades 6/7 have a Reading Teacher as their fifth core instructional area, while Grade 8 will combine language arts and analytical reading (ELA) as their fifth instructional area in order to offer a Foreign Language to grade 8 students. Each neighborhood will consist of approximately 100-120 students. The neighborhoods would be organized and designed to support co-teaching sub-teams within the neighborhood, particularly across the Math/Science disciplines and the English/Humanities disciplines. This may include provisions for combining two of these classrooms as a single contiguous space if such flexibility is deemed beneficial during the detailed planning process. 6th through 8th grade science curriculums currently include a significant hands-on involvement in the care and development of plants, flowers, and vegetables within a mini-greenhouse environment. Much of this program is attributable to the Farm to School initiative identified in the dining section below. Accommodations for these programs should be included in the newly proposed science labs or somewhere within the academic neighborhoods. Each neighborhood should include the full integration of Special

Education through the incorporation of resource, small group, and inclusion rooms. Sterling Middle School has a culturally diverse population where a large percentage of the students require some form of special education services. The goal would be to integrate these services into the neighborhoods as much as possible, while remaining mindful of the fact that some of these services (i.e. autistic spectrum) may require some level of acoustical and physical separation from the activity of the neighborhood. Integrating special education services into the neighborhoods when practical will allow the Special Education teachers to become part of a co-teaching solution and to work collaboratively with the other teachers and teams in the neighborhood. Additionally, strategies which afford the opportunity to integrate these spaces with the classrooms of the team neighborhoods (like transparency and adjacency) should be explored as part of the building design solution.

The 5th grade neighborhood should be similar to the 6th, 7th and 8th grade neighborhoods, as keeping all academic neighborhoods as flexible and interchangeable as possible will allow for variations and flexibility in future use. However, the 5th grade neighborhoods should recognize the need for further subdivision into two-teacher teams where applicable, and the organization of the grade-level team neighborhood should not prohibit this further subdivision. The 5th grade science classrooms do not include a requirement for lab instruction, and should remain as flexible as possible without built-in stations or lab tables. The Science and Math teachers will often be co-teaching and therefore adjacency of their classrooms is important to the efficiency of instruction. Two equally sized science/math hybrid classrooms within the 5th grade academic neighborhood would be more effective than one larger science classroom and one smaller math classroom. Because these science/math hybrid classrooms do not require lab space, they can be sized such that they are only slightly larger than a general classroom.

The educational visioning identified a need to carefully consider separation needs for the 5th grade neighborhood or "Academy". More specifically, educators expressed the desire to be sensitive to the differing needs of the 5th grade population and how this may require some separation from the older student population. This separation does not have to be extreme, as too much separation might result in the loss of benefits afforded by a 5-8 middle school organization. The staff and administration also felt that although the 5th grade educational program will be different from 6th grade, these 5th grade students can be allowed to mix freely with 6th grade students if this provides some organizational benefit to the building design.

The desired approach to educational delivery includes a strategic composition of varying instructional practices in all classrooms that are research-based, collaborative, and evidence-based (self-directed student inquiry and learning). Instruction must respond to varying student needs and learning styles. It should provide additional and unique support to students by collaboratively diagnosing any underlying issues, and by prescribing and implementing appropriate intervention strategies as a key component of the regular education program. Additionally, the school environment will continue to foster an acceptance of a culturally diverse Sterling community (students, parents, and professional staff), and promote and expect continuous learning opportunities that embrace and respect discourse as a pathway to growth. Finally, working to build a local neighborhood and community (outside of the school) that values education and believes that learners of all ages can continue to grow is an important goal. In

order to continue to support these goals, the proposed project will consist of Small Learning Neighborhoods as described herein, while simultaneously working to engage more of the parents, businesses, and neighborhood in the activity of the school. There will be an increased focus on a Global Education Language and Culture, and differentiated instruction as a result of available resources in a new 21st Century facility. 21st Century Skills and STEAM Instruction will be embedded into the curriculum and will include such skills as: self-directed inquiry; creative thinking and problem-solving; integrity, honesty, and respect; ethical decision-making; effective multi-modal communication; collaboration, leadership, teamwork, and innovation; and willingness to take risks as a path for learning and discovery.

G. TEACHER PLANNING, COLLABORATION, STUDENT SUPPORT, AND ROOM ASSIGNMENTS

Current:

Current practices for teacher planning and collaboration among teachers are described in the above "Teaching Methodology and Structure" section, and include a highly collaborative approach across disciplines, grade levels, and specialties. Additionally, there is a high level of collaboration which integrates critical student support services. There are currently two full-time Guidance Counselors and one Nurse at Sterling Middle School**.** The Guidance Office is centrally located in the Main Office area with the Nurse's Office a few doors down the hallway. Students, staff, and parents can access the Nurse anytime during the school day. Guidance staff are available to students any time during the school day for academic or social concerns. Sterling also has a thirty-minute student support block every day for grades 6, 7, and 8. A Homework Club is available to all students two to three times a week after school throughout the year. Guidance Counselors are essential components to Instructional Leadership teams, IEP team meetings, scheduling, transitioning new students, and parent communication. Through the ASPEN portal, an open line of communication between students, parents, and teachers relative to attendance, discipline, assignments, and grades is available. The Nurse plays a vital role in the support and wellness of students and staff. The Nurse also plays a key role in the planning and implementation of goals and action steps for the Sterling Wellness Team. Planning with job-alike peers occurs at system-wide professional development. During the school day, the Counselors and Nurse make time within their schedules to plan with classroom teachers, assess incoming students, participate in team meetings, and communicate with parents.

Proposed:

Technology has greatly assisted collaboration among teachers and staff; however, the power of face to face interaction has yet to be replicated by technology. Human interaction is everything, especially in the creative, innovative, and knowledge-intensive sectors, including education. Practice shows that a variety of environments with different qualities are necessary for a successful and intelligent work environment. The design of the Sterling Middle School must include strategies which address functionality in the context of the teachers' and pupils' needs providing the right conditions in the form of a range of different types of environments for different activities. For example, although teachers clearly need support space in close proximity

to students, there must also be spaces which have controlled sound and/or visual separation from students. Additionally, employees in most industries are no longer tied to their desk at work, but rather have a 'home' in the workplace from where they organize their activities across a variety of environments with a range of different qualities which they share with their colleagues. This approach also applies to an educational environment. The efficiency of sharing these multi-tasking spaces is another advantage of this approach since it can reduce redundancy of spaces within a building drastically. It will always be important to avoid creating an environment which provides 'back of house / front of house' separation between pupils and staff; however, teachers need to be able to control their presence and privacy in order to protect their position in the social hierarchy of the school.

It is also important to understand the critical value of teacher interaction in the workplace. Informal human interaction is one of the key drivers of knowledge exchange. In the creative industries, spatial and workplace culture is directly linked with productivity. Space planning and knowledge management are the key to successful workplace design. The strength of any creative organization is shaped as much by the day-to-day chance contact of its members as it is by formal gatherings such as scheduled appointments. In fact, innovation in the workplace is often the result of informal, 'unplanned' interaction. Critical information leading to educational innovation often comes from such informal encounters between teachers from varying disciplines and backgrounds. The proposed Sterling Middle School should consider the relationships between physical layout and space occupation strategy in order to optimize both informal and formal teacher interaction. One example of this would be the incorporation of teacher dining space and teacher work space into the teacher collaboration space, as this is also a great way to promote this unplanned interaction.

These varying spaces and their specific organization should be considered throughout the planning of the Sterling Middle School. Teacher collaboration and work spaces should be incorporated into each grade-level neighborhood in a way that allows teachers to interact, create, plan, collaborate, and complete their work. This space is critical to the successful implementation of a co-teaching and teaming model. Although these spaces should be in close proximity to the team neighborhood, consideration should also be given to the level of privacy required in some of the work and planning area. The staff and administration have also expressed an interest in developing both a 5/6 teacher collaboration space and a 7/8 teacher collaboration space; as there are many programmatic overlaps between these two groups and providing them with their own collaboration space was deemed advantageous by the faculty and administration. Locating the collaboration space within the core of the academic neighborhood was deemed advantageous by teachers, as it can provide an additional layer of oversight and visual observation of students who may be working or circulating within the neighborhood, maker spaces, work areas, or even the individual resource rooms. However, there should be a careful balance between neighborhood integration and also providing the necessary teacher privacy. The small group seminar rooms will not only provide pull-out space for students, but will also provide opportunities for parent/teacher conferences and support a better integration of parent involvement within the academic environment. Teacher dining areas should be organized to be flexible, allowing for collaboration and work while simultaneously providing the necessary dining opportunities.

Grade-level teams, including Special Education staff and Language teachers, will be located in teaching neighborhoods that include meeting areas, planning rooms, and teacher offices. These neighborhood areas will provide a visible and flexible learning environment for grade-level teams, Special Education staff, and Language staff, as well as provide a space for engaging parents and the greater community in the ongoing projects and activities of the team. These neighborhoods are intended to provide students with a better sense of self and to promote confidence and security, and integrating teacher collaboration space into these areas can help to promote a more in-depth relationship with the teachers. The Project Space will serve the purposes defined herein and will also allow teams to have entire neighborhood meetings which include the associated teachers and staff. They can provide space for teachers to exhibit their collaborative efforts, displaying student work and projects as an example of their interdisciplinary planning. Ideally, the relationship between the teacher collaboration areas and the Project Space would allow for teachers to move between these two areas efficiently; observing student movement and activity within the neighborhood and providing additional oversight such that's students can be offered more freedom to utilize their neighborhood as a safe haven before and after school; avoiding the less desirable herding into a large, less personal space such as the cafeteria or gymnasium.

All classrooms should be equipped with adequate windows to allow for proper natural lighting and should also provide transparency (glass) into surrounding spaces when it is functionally advantageous and has the potential to increase the opportunities for supervision of students. The educational visioning sessions included discussions on the value of transparency, but also on the need for privacy and how to balance these needs. The Maker/Builder space is to be an extension of each of the classrooms and strategies which help to promote this connectivity should be explored during design. Solutions should be explored and additional discussions should take place to determine the correct balance between transparency, connectivity, and classroom privacy. Neighborhoods and the related classroom and support spaces should include ample storage space, movable furniture, some movable walls for co-teaching, team teaching, and flexible grouping as defined above. Movable walls should be further explored to determine the specific areas of the building where they may offer value. Classrooms should include functional amenities such as ample electrical outlets, and all available walls should include expanded floor-to-ceiling whiteboard space, as students and teachers are encouraged to write, collaborate, and explore beyond the boundaries of a 4'x8' single whiteboard. Common planning time will be built into the schedule for all teams, including related arts and science. Neighborhood space will allow for the creation and delivery of student presentations, along with visual and physical access to neighborhood classrooms.

As mentioned previously, the grade 5 neighborhoods should have some separation from the 7/8 neighborhoods, but a careful balance of separation and adjacency is necessary as they should still be convenient to all grade levels for access to advanced placement and mentoring opportunities. The 6th grade neighborhood may balance connectivity to both the 5th grade neighborhood and the 7/8 neighborhoods, a topic which should be explored as the building design develops. Within the neighborhoods of the grade-level teams, there should be some consideration for adjoining Math and Science classrooms, along with possible adjoining of English and History classrooms. Access to maker/builder spaces is pivotal to promote the desired STEAM initiatives, and the necessary support amenities should be provided within the neighborhood commons as discussed

above. The inclusion of teacher collaboration, work, and conference space in each of these neighborhoods should exist for both convenience (reducing the distance staff must travel and therefore increasing efficiency and ease of use) and also as an additional strategy for visual observation of students at all times.

Science Labs (one per team) will be located in each grade-level neighborhood. This area will be equipped with appropriate furniture (rolling demonstration tables, workstations, ability to have students work both independently and in cooperative groups) and science materials. It will also be able to promote interdisciplinary work, including STEAM initiatives. The Science Labs should be flexible and should avoid built-in amenities that limit the flexibility of the space. Middle school science applications, labs, and experiments are more limited than those in high school, and the space should reflect such. Access to sinks, slightly larger overall size, and other minor programmatic needs should be the only characteristics which make this space any different from a typical flexible and interchangeable classroom. The Grade 5/6 Science curriculum will be different from Grade 7/8 curriculum and further study will be required to determine the specific impact, if any, this will have on the amenities within the science labs.

Support Staff such as Guidance Counselors, Nurses, Speech Therapists, and Occupational Therapists should have dedicated spaces with the necessary privacy, but should also be strategically located throughout the school, when practical, such that these services can become a more integral part of the academic neighborhoods. The Nurse will continue to have integral involvement in wellness and physical education planning and therefore should be located in an area which fosters such. Administration will continue to play a key role in monitoring the entry experience and control for students and parents, suggesting that these offices will be located adjacent to primary building entry points. Subsequent to the development of the proposed building arrangement, some consideration may be given to locating the two primary administrators (Principal and Vice Principal) in distinctly different areas of the building to provide a better distribution of administrative resources. Advantages and disadvantages of this approach were discussed during the educational visioning process and it was determined that further considerations are required through the development of a preliminary schematic building plan.

One of the key attributes of the academic neighborhoods is the teacher's ability to know each student within the neighborhood personally, and vice versa. This provides comfort and confidence to the student learner, and also allows the teacher to develop a detailed understanding of each student's needs, learning styles, and personality. For this reason, the goal within each grade-level neighborhood would be to have each teacher complete all instruction within the same academic neighborhood on a daily basis. There may be some interchangeability of the individual classrooms within the neighborhood, but the staff within the neighborhood would remain the same.

The Main Administrative Office will be located at the building entrance as a primary receiving, control, and security point, but will only include the administrative offices necessary to support this function. Some distribution of administration space may be desired to achieve the above-defined goal. This distribution of resources is believed to have some potential benefits in controlling security and discipline.

Space for key specialized staff such as Special Education support and the School Nurse will be placed based on the final organization of the building and their ability to support staff and students in the appropriate areas.

H. LUNCH PROGRAM AND STUDENT DINING

Current:

As a student evolves through grades 5 through 8, the development of social skills is an integral part of a student's education. Lunchtime offers students the opportunity to socialize and decompress with classmates. Unfortunately, when the current Sterling Middle School cafeteria was designed some ninety years ago, these considerations were not a factor and the resulting space is a long, narrow room with little acoustical treatment, no significant natural light, and no educational or social purpose. It is somewhat isolated from remaining program areas, limiting its use and flexibility as anything other than a dining space.

The current kitchen facilities are also very inadequate with many constraints as follows:

- The oven capacity is inadequate and electrical issues prevent the installation of newer ovens.
- Freezer and refrigerator capacity is insufficient; electrical and space constraints prevent installing updated equipment.
- Since there is no loading dock, food and supply deliveries must be made by maneuvering down a flight of stairs or through the gymnasium, often disrupting classes.
- The serving area has space for only one line of students, impacting their time to eat and socialize and limiting the variety of items that can be served.
- The amount of square footage is too small to accommodate the level of food preparation equipment necessary to serve Sterling's students and staff.

Currently the Sterling Middle School utilizes three lunch servings. This is not ideal, as it splits one of the grade levels into two groups and complicates scheduling. The school has experimented with four servings because it reduces overcrowding and allows for individual grade level dining; however, four servings results in a very early lunch start and a delayed lunch for those students participating in the fourth serving. The proposed lunch serving in the new middle school (two servings) as identified below would eliminate these challenges, allowing 5th and 6th grade to dine together in a single serving, and 7th and 8th to dine together in a second serving. This provides more educational programming time within the day, allows the dining space to be used for multiple functions throughout the day, and allows for a timely lunch for all students.

Farm to School Initiative: Sterling Middle School is one of three schools designated as a pilot school for a Farm to School initiative. The school community is already active in garden design and the growing of plants and vegetables through our Science curriculum. This includes a

dedicated plant and vegetable growth area (mini greenhouse) within the science classrooms. Sterling looks forward to expanding this initiative through newly designed outdoor spaces. Plants and vegetables grown will offer our Farm to School team the opportunity to educate and connect our entire student body to the significance of crop output, relative to personal and school-wide wellness goals. The Quincy Public Schools' mission statement summarizes the overall concept of the Farm to School initiative at Sterling Middle School:

WHEREAS, the Farm to School project complements the Quincy Public Schools Wellness goals for students, staff, and families through educational connections to nutrition, local sourcing of food, and the science of farming;
WHEREAS, the Farm to School project is an opportunity for Quincy Public Schools students, families, staff, and local partners to contribute to the improvement of the greater Quincy community;
THEREFORE, be it known the Quincy School Committee strongly supports the Quincy Public Schools collaboration with the City of Quincy's Planning & Community Development department on the Farm to School project.

This is an exciting initiative that will connect the entire Sterling Middle School community to classroom learning, health and wellness goals, and local resources.

Proposed:

The proposed student dining area(s) should be located and designed in a manner which promotes all-day student use, in lieu of being isolated and reserved for "lunch only" duty. Dining area(s) should include presentation opportunities, indoor/outdoor connections, and be in close enough proximity to remaining building program areas to promote their use throughout the day. Outdoor connections go beyond just the need for natural light or outdoor dining, as they also include initiatives associated with the Farm to School program described herein. Consideration should be given to creating these areas as flexible space with multi-use potential; locating them close enough to the student base (academic neighborhoods) to promote their high utilization while taking precautions to ensure that their functions do not compromise the use of surrounding areas. Ideally, the dining area would include sufficient space to allow two grade levels to dine together simultaneously, as this would streamline the daily schedule and provide more opportunity for diversity in the academic schedule. The educational visioning sessions included some discussion on how connections between this space and the academic neighborhoods could allow it to serve as an extended project space during portions of the day, providing socialization, presentation, and an additional work area during periods when it is not being utilized as a dining space. Additionally, it would provide an ideal space for grade level neighborhoods to assemble before school in a context and environment that is less intimidating than a large gym or cafeteria. Its location, design, and organization should also help support the identified goals of exhibiting student work and making connections to the greater neighborhood and the entire City. It will serve as the "Student Commons" for the entire building. The design and layout should foster communications between students by ensuring that the space design supports furnishings which enable the students to work and communicate in small groups. The layout should promote ease of meal distribution from the kitchen and should be designed to avoid bottlenecking students and

ensure that they are able to purchase their meals and be seated within a reasonable and efficient timeframe.

A new kitchen at the middle school should contain all the modern amenities available to support the needs of the kitchen staff when preparing food for a projected student body of 430 students. Food distribution would include a station concept, with a primary kitchen providing support of the offerings. Each proposed station would have its own point of sale, resulting in faster service for all students.

Student involvement and nutritional status could be further strengthened by the presence of a student and staff tended garden with direct physical and visual links to the kitchen and dining areas, as well as a greenhouse providing year-round fresh food production. Although this is not a required program area, it was identified in the visioning sessions as fostering a positive and comprehensive experience about healthy eating and an active lifestyle. Student-grown foods, supported by both the educational program as well as the community, could be integrated into lesson plans and the school meal programs. The gardens could be integrated into the desired requirement for outdoor learning and indoor/outdoor connections and could become an integral part of the exterior site design. This immediate source of food production would serve to strengthen the link between healthy fresh food production and consumption in support of the School Wellness Policy. It could also provide an added opportunity for community, business, and neighborhood connections.

I. TECHNOLOGY AND SECURITY

Current:

Current Technology

The existing Sterling Middle School building offers a myriad of technology challenges. Although the school community has worked hard to integrate new technologies within the classrooms at Sterling, technology integration is severely limited due to the building's age. The most pressing challenges impeding progress in technology integration are:

- Sterling has wall-mounted projectors and whiteboards, but these are dated and not interactive.
- Wiring for internet connectivity needs to be replaced with higher bandwidth capabilities and more wireless access points.
- Building design and construction materials are not conducive to adaptation or upgrades to facilitate technology use.
- Technology hardware is outdated and often not capable of wireless integration, even if the building infrastructure could support it.
- There is no possibility of one-to-one technology integration in the current environment.

The technology infrastructure at the current Sterling Middle School is antiquated and does not meet the system-wide vision currently most fully realized at Quincy High School and Central Middle School.

Current Security
As with all Quincy Public Schools, safety and security is of the utmost importance. Students who feel safe and secure in their environment will be better prepared to take advantage of the educational opportunities presented by the school's staff.

At this time, Sterling is not fully secure by current standards. There are no telephones in individual classrooms, nor is there the capacity to install them in the current structure. The only means of communication to the office is the call button on the intercom system. Teachers cannot communicate room to room, only directly to the office. The current intercom system is deteriorating and needs replacement, both in terms of wiring and the speakers. Several hallways do not have working intercoms at this time.

Although the Mayor and City Council authorized funding to update security throughout the Quincy Public Schools in 2014, Sterling has several issues:

- There is no school-wide access control system to initiate a lockdown of exterior doors or to initiate an audio lockdown message or automatically notify a monitoring system.
- Exterior and interior cameras are not IP type and not linked to the security network or viewable from remote locations.
- There are no panic buttons directly linking Sterling to the Quincy Police Department

Proposed:

Proposed Technology
As computer technology was initially introduced into the educational environment, it was primarily viewed as a tool, a device of sorts, much like a calculator, pencil, or chalkboard. Teachers and students began utilizing the tool to assist in learning and instruction. So-called "technology rich" classrooms had lots of tools at their disposal…and if a district had lots of computers available, they were generally referred to as having "lots of technology". Classroom instruction did evolve somewhat as a result of these tools but there was no fundamental change in the overall approach to classroom instruction, as the teacher remained the focal point of the classroom, but now had to create time-consuming interactive and multimedia activities and presentations to justify the existence of the new tools, adding support to his or her lessons. The goal was to capture the attention of the student by utilizing the new technology tools, but there was little change in the overall strategy of instruction. After several decades of technology evolution, we now understand that it is not teaching *with* technology that affords the greatest advantage, but teaching *through* technology that truly defines the future. In this evolving approach, the teacher not only delivers content, but also acts as a learning catalyst, orchestrating and facilitating activities that spark defining moments for students, facilitating discovery and creation. The students must become learning investigators, acting as explorers (e.g., engineers, scientists, sociologists) and designers (e.g., architects, authors, artists, builders, composers). This shift can allow teachers to spend less time creating presentations and more time orchestrating

powerful learning activities. Students and teachers can cover material with more depth and retention, and empowering these students as self-motivated investigators will give them more confidence, engagement, and an ability to validate each student's contribution to the class.

As part of the visioning sessions, the staff, administrators, and consultants reviewed the expansion of the traditional three R's to include the equally critical four C's: critical thinking, creativity, communication, and collaboration. Students of the 21st Century must continue to absorb a solid core curriculum, but their advanced success in secondary and postsecondary institutions, as well as in the workplace, will be highly contingent on their ability to master the four C's. Moreover, the evidence suggests that the effective application of these vital skills in a technology-infused life and workplace requires acquiring them in a technology-infused learning environment. This technology-infused environment is not about the device, but how it is utilized, calling for the placement of technology into the hands of students, and trusting them with broader and more progressive applications of such technology. The teacher cannot be the only holder of technology, as students must possess more access to technology than the teacher, and must be provided the freedom for thoughtful investigation and creation. They cannot be limited to a specific program, solution, or software application, but must be provided with as many resources as possible in order to achieve technology mastery.

Instead of beginning a lesson by listening to a teacher describe or present samples or examples at the front of the classroom, the students can be allowed to utilize the available technology resources for inquiry. Technology-infused discovery activities, Internet research, virtual manipulatives, and multimedia resources can allow students to explore unanswered questions. They can be challenged to utilize the resources in order to answer probing questions, learning to understand, analyze, and evaluate their research as they compile answers to the posed questions. Investigation and discovery activities will give students hands-on, real-world, problem-solving experience and ownership over their learning. It also will allow them to build on this knowledge base by bringing past investigations and observations into future lessons, debates, discussions, or other creation activities.

This type of technology infusion and application will be inherent in each classroom, but it is particularly critical that the technology also flow into the associated maker/builder academic project labs; as these spaces will be highly connected to the classroom neighborhoods and will serve as an extension of the investigation which starts in the classroom. The goal is for these spaces to be highly flexible and serve many purposes. A portion of their allotted square footage is being included under "Vocations and Technology" in the proposed space summary because, although this term may be somewhat outdated, it is true that these spaces are being utilized to achieve an advanced application of the four C's through the use of technology while simultaneously building critical knowledge that students will someday apply in their careers. This ability for the students to move seamlessly from the classroom to the maker/builder space in developing, creating, building, exploring, presenting, collaborating, and investigating within a technology-infused environment is critical in their preparation as successful life-long learners and achievers. These maker/builder spaces are also often referred to as application labs as they will include amenities to support presentation, media and video production, robotics, interdisciplinary projects, and project-based learning. Although the majority of their allotted space is included in the space summary under "Vocations and Technology", they also include a

spatial component defined in the space summary as "STEAM Support Lab". This is because these flexible maker/builder spaces will also serve as a primary agent for incorporating art, engineering, science, math, and technology directly into the academic neighborhoods. This means that they will require all necessary functional amenities to allow such, including provisions for storage, wet areas, testing, and assembly. These creation and design activities provide students with the opportunity to develop creativity and problem-solving skills by displaying their mastery in profound, meaningful, and tangible ways. One of the most significant benefits of technology infusion in an appropriately designed maker/builder space is the ability of students to create their work and express themselves before a broader audience. Students have traditionally composed their work for an audience of one - the teacher. Utilizing technological resources to provide students with a broader peer-based audience results in students knowing that their work is worth seeing, worth reading, and worth doing for a much broader audience. This student work can come in many forms - class presentations, school news shows, school websites, film festivals, literary publications, online publishing, contests and competitions, and video/audio communication and feedback with/from other classes around the world.

There will be no dedicated "Computer Lab" in the proposed new building, as the advancement in technology resources makes all technology applications available in almost any environment. Technology is available everywhere, and the concept of a dedicated lab being the only place for access is much outdated. The concept of teaching keyboarding or basic applications is also long gone as the typical student enters elementary school with a better understanding of basic applications and a more intuitive technology sense than most adults. Each classroom will be a so-called "Technology Lab", each maker/builder project space will be a "Technology Lab", and almost every space in the building, including some outdoors areas, will meet this same level of technology infusion.

Teacher collaboration areas will contain all of the necessary technology resources, and each staff member will have a dedicated mobile device. The entire building will obviously have wireless access, as learning spreads from each classroom, maker/builder space, resource room, inclusion room, planning room, collaboration space, and neighborhood into the media center and even the flexible socialization and dining areas. Each student will have direct access to technology on a daily basis, with Netbooks, handheld devices, and laptops being utilized to embrace 1:1 access for all students in Grades 5 through 8.

<u>District's Plan to Remain Current with Educational Technology Advances</u>:

> Quincy Public Schools has an extensive and detailed long-range technology plan which has been adopted and endorsed by the district. It includes funding, training, and equipment objectives as well as the personnel necessary for implementation. The plan is centered around the Information Technology Team's mission to communicate effectively with staff, students, parents and the Massachusetts DESE. The IT Team provides technological training, guidance, information, and services to school administrators and personnel that support state and local learning standards that contribute to the academic performance and development of all students. The Quincy

Technology Plan set the following benchmarks to ensure the Quincy Public Schools remain current with advancement in educational technology:

- *Clear Vision and Mission*
- *Assessment of Current Technology in the District*
- *Technology and Curriculum Integration*
- *Technology Professional Development*
- *Equitable Access to Technology*
- *Access to the Internet beyond the School Day*

In response to these benchmarks, Quincy Public Schools integrates common goals and action steps with the District Improvement Plan, Professional Development Plan, and District Technology Plan to assure the benchmarks are attained.

Districts' Plan to Maintain Educational Technology:

The District intends to maintain the educational technology within the Quincy Public Schools by setting realistic budgets for technology, staffing, and professional development training. The Quincy Public School's budget ensures the implementation of the long-range technology plan. Budget line items include staffing, infrastructure, hardware, software, professional development, technical support, and contracted services. Quincy Public Schools also seeks funding from additional resources through collaborative approaches and partnerships within the City, as well as state, local, and federal grants. The Quincy Public Schools has an Executive Director of IT, IT Data Coordinator, Systems Administrator, Technical Supervisor, Computer Technicians (4), and Clerical Support (2).

Safety and Security without Compromise

The educational visioning participants identified safety and security at the school as one of the most critical aspects of operating a successful school environment. In order for students to excel within all of the described disciplines, they must feel safe, secure, and confident. However, providing this sense of safety and security without including overly-restrictive physical barriers was also identified as being critically important. In other words, if it looks like a prison, feels like a prison…then it will most likely be characterized as a prison. Providing clear and controlled entry will be important, but within the academic neighborhoods safety should prevail without restricting the desired open and transparent connections between the learning areas. A clear approach for students and visitors which promotes supervision and observation at the point of entry will be key to allowing all to access the necessary support services. Safety also includes providing adequate and appropriately located space for support services staff and outside providers who provide needed mental health support for students. Students face and present with a wide array of mental health issues at early ages; therefore, it is vital that space is provided for these services to commence in a suitable space.

As part of the discussions on safety and security, several building systems were discussed as providing the necessary level of security without impacting the building's physical or organization appearance as an inviting and open learning environment for students, teachers, parents, and visitors. They include very specifically:

1. Access Control System. All exterior doors will be lockable, and some will be electrified to be locked and unlocked by the access control system. Doors that do not have electrified door hardware will be locked and unlocked by keys. Main entry doors will be electrified. The outermost doors are planned to be push-pull and unlocked during school hours. They will have a card reader if having these doors locked at all times is desired. The inner set of doors in the main entry vestibule will be locked at all times, except for drop-off and pick-up times, where it is planned to be scheduled locked and unlocked during specific times by the access control system. This set of doors has a card reader as well. There will be a video entry station at these inner doors to allow administrative staff to buzz people past them to enter the administrative area. There may be a third set of doors beyond the administrative area which would be locked in a similar fashion as the inner set. Panic buttons, which can trigger a lockdown event in access control (examples of what a lockdown event can trigger are the presentation of a PA announcement, dialing 911, locking all unlocked electrified doors, disabling card readers below a certain access level, sending email alerts, etc.), will likely be located in the following areas: administration; Principal's office; certain secretarial staff; custodian's office; Assistant Principal's office. Stairwell doors can be pulled off mag holders and programmed locked by access control, securing upper floors from remaining areas. Activation of the fire alarm system will de-energize these stairwell doors for fire safety and they will become unlocked. Exterior doors DO NOT become unlocked upon fire alarm activation. Depending on the IPTV system for the school, it is planned that a lockdown condition in access control shall trigger the IPTV system to turn on all projectors and televisions in the school and present a video file for lockdown purposes.

2. Intrusion Detection System. The intrusion detection system is the burglar alarm system that is armed when the building is unoccupied. This system will likely include motion detectors in every room on the first floor with windows, door contacts on every exterior door, and door contacts on every interior door shown on the drawings (stairwells, and any room with a card reader). The intrusion system will be programmed to dial the central office when an alarm condition is detected, either by a motion detector or door being forced open. Panic buttons in the administrative area can be programmed to have the intrusion system dial 911 in an emergency during occupied times for lockdown purposes if desired.

3. CCTV System. Cameras will be placed around the exterior of the building, the parking lots, hallways, stairwells, the administrative area, student dining, auditorium, courtyard, physical education areas, media center, and any identified road entrances to the property. A camera will be placed on all entry doors into the building. A forced door alarm will call up the video of a camera assigned to cover the door at the security station PC.

4. A bi-directional amplifier and antenna system will be installed for police and fire radios to function within the building without interruption.

J. MUSIC

Current:

Twenty-five 50-minute blocks are taught by one Music (Choral) teacher (1.0) and a band teacher (.4). Sterling Middle School has an exceptional instrumental and vocal music program. Grades 5 and 6 chorus classes serve as a foundation for the Sterling Singers Grades 5-8 and the middle school band that is growing in enrollment significantly. Band students receive instructional lessons weekly and participate as a full band twice weekly. Appropriate and adequate space for these programs is a necessity. Currently, there are no professional work areas and classroom or practice areas are non-existent.

Proposed:

The Music Education Program at Sterling Middle School should be a vital component of the total education a student receives. Its integration into a "STEAM conscious" curriculum which recognizes the value of the "Arts" within science, technology, math, and engineering provides a broader learning environment where students with varying learning styles and strengths can be engaged and energized. Through the study of music, all students develop knowledge and skills that prepare them to experience the power of music in human existence. Students discover music as a unique form of communication and as a means of self-expression not afforded by any other discipline. They learn of the universal role of music in the transmission of culture and the chronicling of history. The study of music gives children a broadened world vision and an appreciation of other points of view. As a performing art, music builds self-discipline and promotes self-esteem in ways that are not inherent in other curricular offerings. Because of the ordered nature of the elements of music, students learn to think with increased complexity; because of the creative potential in music, they learn to think in divergent ways.

Music benefits the overall learning process of every child. Research suggests that more areas of the brain become active when children engage in playing music. Program effectiveness is determined through collection and interpretation of data, which shows continual improvement in:

- The number of students in advanced courses
- The number of students who qualify for after-school and Gifted and Talented ensembles
- Participation and achievement in festivals and adjudications

The music program can foster and reinforce the four C's by providing opportunities in four broad areas:

Creativity:

- Imagine – generate musical ideas for various purposes and contexts.
- Plan and Make – select and develop musical ideas for defined purposes and contexts.
- Evaluate and Refine selected musical ideas to create musical work that meets appropriate criteria.

- Present creative musical work that conveys intent, demonstrates craftsmanship, and exhibits originality.

Performance:

- Select varied musical works to present based on interest, knowledge, technical skill and context. Analyze the structure and context of varied musical works and their implications for performance.
- Interpret – develop personal interpretations that consider creators' intent.
- Rehearse, evaluate, and refine personal and ensemble performances, individually or in collaboration with others.
- Perform expressively with appropriate interpretation and technical accuracy, and in a manner appropriate to the audience and context.

Response:

- Select music appropriate for a specific purpose or context.
- Analyze how the structure and context of varied musical works inform the response.
- Support interpretations of musical works that reflect creators'/performers' expressive intent. Support evaluations of musical works and performances based on analysis, interpretation, and established criteria.

Connections:

- Synthesize and relate knowledge and personal experiences to make music.
- Relate musical ideas and works to varied contexts and daily life to deepen understanding.

Each of the maker/builder spaces should include opportunities for the exploration of music, not necessarily in the traditional sense of vocal and stage performance as there will be specialized program areas within the building (like the auditorium) for this purpose. The maker/builder spaces should allow for exploring the incorporation of music into projects, presentations, exhibits, engineering, and discovery. For example, a project or presentation may require music to reinforce a particular idea, solicit a particular audience response, or invoke a specific mood or tone. Each space should also be flexible enough to serve as an ad-hoc MIDI (Musical Instrument Digital Interface) lab, allowing students to use technology to integrate keyboards, electronic musical devices, composition software, projection, and printing as a means of communication and exploration.

The proposed building should also include a dedicated music space which provides students the opportunity to explore and master each of the discipline specific standards. This dedicated space should include instrument areas, visuals, music technology space, secure storage, teacher work area, and movement space. Students can be allowed to develop in a specialized environment working to compose, play instruments, move, and critique within a lesson to deepen their understanding. Students of differing abilities and understandings can learn using multiple instruments and supports. Students excelling in a particular area can expand and extend their

learning through composition, conducting, or critique. A music classroom in addition to a choral stage with risers (auditorium stage) gives the teacher many more tools to reach students and allows such to occur with a more controlled environment. This music room should be located near the performance space (auditorium) to allow for smooth transitions from independent growth to ensembles skills development. Consideration should also be given to possible indoor/outdoor connections which may provide opportunities for outdoor performances. When students can play or sing together, they learn social and emotional skills that transfer out of the music classroom. When a classroom is designed thoughtfully, all students benefit from greater understanding and skills development.

An auditorium with appropriate acoustics that will hold a minimum of 280 people and that has a large enough wood floor stage to fit 50 musicians and percussion equipment or 125 choral music participants along with state-of-the-art curtain, lighting, sound, recording, and video equipment would allow Sterling to continue current important programs which are conducted in the existing auditorium. Ideally this space will be able to support full multimedia presentations with a screen that can come down from the ceiling and have space that can be rearranged easily to promote other learning in this area. It would also provide an ideal environment for professional development and distance learning, as well as give students the opportunity for a professional presentation or performance. As mentioned previously, the music room should be attached to the auditorium in a way that provides a strong connection to the auditorium and stage. The chorus program will utilize the stage as a practice and performance venue from time-to-time but will utilize the dedicated music room as an efficient way to obtain the much needed specialized instruction area.

K. ART

Current:

Twenty-five 50-minute blocks are taught by one Art teacher. Sterling has a strong school-wide Art Program. Instruction takes place in one classroom space; the age, condition, and physical constraints of this space will need attention within a new design.

"Set the Stage" After-School Program:

Visual and Performing Arts are critical components of the middle school experience. The "Set the Stage" after-school program brings a vocational element to our beyond-the-school-day program offerings. Sets are designed, constructed, and painted in accordance to the drama or musical presentation being offered during the school year. Under close teacher supervision, students are directly involved in the design and construction phases, as sets are assembled prior to a school performance. As an extension activity, students also serve as the stage crew during rehearsals and performances.

Proposed:

One of the priority goals established as part of the visioning sessions was the continued support for STEAM within the Quincy Public Schools, specifically including the integration of the Arts,

both visual and performing. These Arts foster creativity, providing one of the primary components of the four C's. In the case of the visual arts, students must have opportunities to integrate their creativity into hands-on project-based learning and investigation that will be occurring in the maker/builder space. Each such space within the academic neighborhoods should include all of the necessary support amenities to allow it to serve as a sort of satellite studio for the execution of painting, assembly, graphic design, and the numerous arrays of visual arts activities that the students will have at their disposal. These functional amenities will include sinks, material storage, work tables, etc. The goal is not to turn the maker/builder space into an art room, but to allow students to execute skills they are fostering in the specialized art room as part of their daily exploration and discovery in other disciplines. Additionally, the school should have a primary and specialized art classroom which becomes the hub of visual art instruction, it should be in close proximity to the media center, video production, and language instruction, as strong connections exists between the graphic and communications arts. A location in such a prominent area can also afford great opportunities for student exhibit. Some proximity to academic neighborhoods could be beneficial, but an adjacency to student commons and the core of the school is perhaps more critical. In order for this specialized art classroom to serve the entire school, as well as the individual academic neighborhood, it should meet the following criteria:

- Be in close proximity to the media center, video production, and computer/language instruction.
- Art room on the upper floor with access to significant natural light, if practical
- Art room equipped with good natural and artificial lighting (including track lighting for spotting still-lifes), cleanable surfaces, plenty of table space, and flexible furniture configuration
- Easy to clean flooring
- Increased built in storage for 2D, 3D projects, and resource materials
- At least three large stainless steel industrial sinks with back splashes, sediment traps, and faucets that swivel
- Multiple tack display boards throughout the room and around the school for displaying resource materials and student work
- State of the art technology including but not limited to electrical outlets in the walls, a mounted projector, surround sound, high capacity color printer, scanner, at least two computer stations for students
- Large storage room separate from the classroom that includes an assortment of utility cabinets, flat files, racks, and tables as well as built in storage
- Space for a kiln and a ventilation system
- At least two large stainless steel industrial sinks with back splashes, sediment traps, and faucets that swivel
- Space for storage of larger art furniture (i.e., multiple pottery wheels, light table, etc.)
- A dedicated kiln room

The Visual Arts also maintains a strong connection to media and video production, a program which is likely to have physical existence within the library media center function but be supported by the Art educators. For this reason, a strong connection to the media center and other

graphic arts programs and components should be considered as part of the proposed new facility design. This graphic/media/video production space should include the following:

- A dedicated technology area with a video projection and surround sound
- Twenty (20) MacBook laptops or appropriate mobile devices
- Twenty (20) digital cameras
- Enough electrical outlets for charging devices
- At least two high capacity color printers
- At least four scanners
- At least one large format printer
- 3D printer
- Photo/video editing and 3D design software

The performing arts will be utilizing the stage, music, and band rooms and would benefit from a ground floor location with strong connections to the outdoors. Possible indoor/outdoor performance opportunities were discussed as part of the visioning sessions and should continue to be explored through the design process.

L. PHYSICAL EDUCATION AND HEALTH

Current:

Our physical education program includes content that will allow students to experience progressive levels of achievement toward standards. Not only will students achieve competence in a variety of movement activities, but they also will understand the conceptual basis and principles that contribute to effective movement and fitness. Our goal is to insure that students fully recognize and understand the significance of physical activity in maintaining a healthy lifestyle. They also should have developed the skills, knowledge, interest and desire to participate in meaningful activity for a lifetime. We create activity experiences that develop personal and social behaviors consistent with responsible behavior in sport and in society. This includes an understanding of conflict resolution, the importance of rules and ethical behavior, and the positive social interaction required in physical activity settings. The Sterling Middle School program also focuses on cross-curricular connections with science, math, history, culture and games, sports and dance; all in an effort to expand students' understanding and appreciation of the universality of physical education.

Twenty-five 50-minute blocks are taught within the PE and Health program by a full-time Physical Education Teacher and Health Educator. As the gymnasium and locker room areas are antiquated, and the Health classroom lacks an appropriate and adequate educational environment, attention to these important areas is critical.

The existing Sterling Middle School building provides insufficient space for the delivery of physical education programs. The building includes only a single "Mini-gymnasium" which is approximately 35% smaller than a typical middle school gymnasium. The space cannot be subdivided and lacks the necessary flexibility with a folding partition in an effort to provide as

many spaces as possible. The lack of physical education space requires that many classes be configured to hold over 50 students. These students must be confined to half of the available area when special education students are utilizing portions of the gymnasium for adaptive PE of physical therapy. At other times multiple classes of 50 students utilize the available space simultaneously. Because of the required separation between 5/6 students and 7/8 students, programs within the gym are greatly limited by its small size and the inability to divide available space into two distinct areas. In order to deliver the desired educational program, physical education activities, including special education programs, spill out into any available room or space throughout the school; but many of these ad-hoc spaces are inadequate for the desired function and purpose.

There are locker rooms on each side of the gymnasium; girls have changing stalls, and boys have an open area. This area is circa 1920s, and does not represent current standards and practices.

Currently, there is no dedicated health classroom. The health teacher must travel to seek out available classroom space, transporting necessary materials. Many educational programs have a strong link to the gymnasium as a support space; but there is rarely a classroom available in close proximity to the gymnasium.

As indicated in the special education summary, there are no available spaces for the delivery of adaptive physical education and the incorporation of required occupational therapy and physical therapy spaces. Existing gymnasium space is too crowded and over-scheduled to incorporate adaptive PE and there is insufficient space to integrate some OT/PT activities into mainstream physical education courses.

Proposed:

Physical education is a component of the curriculum that is designed to educate all students, from the physically and/or mentally gifted to the physically and/or mentally challenged. A developmentally and instructionally appropriate physical education program promotes a physically active lifestyle. It accommodates a variety of individual differences, such as: cultural identity; previous movement experiences; fitness and skill levels; and intellectual, physical and social/emotional maturity. Appropriate instruction in physical education incorporates best practices derived from both research and experience for teaching in ways that facilitate success for all students. Providing a safe and inclusive learning environment allows all students to experience positive, challenging, and enjoyable physical activities while learning skills and developing an understanding of the benefits and importance of physical activity. In conjunction with these activity experiences, students develop a positive self-image and social skills that will provide personal competence in work and leisure situations.

For purposes of physical education and activity, the newly proposed 5-8 school will essentially operate as two independent student populations…a 5/6 population of approximately 215 pupils and a 7/8 population of approximately 215 pupils. In order to accommodate two distinct groups, a full size gymnasium which can be sub-divided into multiple teaching stations will be required. The proposed program offerings for adaptive PE and OT/PT require that consideration be given to further sub-dividing one half of the gymnasium into two areas. If possible, indoor walking

space should be provided on the perimeter of the gymnasium to accommodate adaptive programs that run simultaneously to non-adaptive programs.

Some specific program areas and amenities include:

- Full-size sub-dividable gymnasium space (3 areas)
- Mat hoists to allow for the delivery of stretching, yoga, dance, etc.
- Dedicated health classroom with close proximity to the gymnasium as an activity lab
- Men's and women's PE office and storage space
- Health storage space to accommodate support materials
- Changing stalls in both locker rooms
- Outdoor walk/jog and fitness trail
- Outdoor playfields

M. SPECIAL EDUCATION

Current:

Special Education Classrooms and Programs

Content Area	Grade Level	Time on Learning per week	# of Staff	Teaching Methodology
Math Reteach; ELA/Reading Resource Room	6-8	minutes	3.5	Small group instruction
CARES	5-8	minutes	2	Small group instruction
LDC	5-6	minutes	1	Whole class, partner work, and skill group instruction; interactive whiteboard is used daily; computer labs used for individual online instruction or assessments

Sterling Middle School houses the city-wide autistic program which includes two classrooms. Students in this program have a spectrum of abilities allowing some to be included in general education with support from the Autistic teachers and some requiring a substantially separate setting. There are two classrooms: one is on the second floor and is in an interior room with no windows and whose space does not comply with Massachusetts Special Education regulations; the second classroom is on the third floor in a regular sized classroom. Students who participate in this program spend half their day on the second floor and the other half of the day on the third.

The current facility limits the ability to provide pre-vocational activities and personal hygiene activities which are essential for students with this disability. Both classrooms will necessitate a kitchen/laundry area for foundational skills to prepare students for the vocational program they will participate in at the high school level.

Students who are integrated into the general education program also attend and assist class in these classrooms to help reduce the anxiety they feel from the social and academic pressures they experience from the demands of the general education setting. These students need a specially designed space where they can get organized and decompress away from the other students in the classroom. All students in this program need an area specially designed as a place to take a sensory break.

Students use the designated boys and girls room as they are able. Some students require more supervision and have to go down to the first floor Nurse's office. This often necessitates going down two levels of stairs to use the restroom. Some students have some issues around toileting and having a bathroom in each of these classrooms will reduce their time and the paraprofessionals' time away from the classroom.

There is a Resource Room for each of the four grade levels. Inclusion is offered and pull-out depending on the student need. The Inclusion Math also offers a reteach which is a second block of Math retaught by the Special Education teacher. The Resource Room locations are within their grade-level general education wings, facilitating opportunities for communication and collaboration. Not all Resource Rooms meet Special Education regulations for having facilities at least the same size and make-up as the general education facilities.

The Occupational Therapist, Speech Therapist, and Physical Therapist do not have dedicated space. When the specialists schedule their students, they also need to identify a space for that specific time. This presents a significant issue around confidentiality as well as a considerable hardship as they have to carry their materials from room to room. Occupational and Physical Therapy services are related educational services that are provided for students requiring intervention in order to access the curriculum and the life of the school due to a disability. Occupational Therapists work with children to improve fine motor and sensory functioning, while Physical Therapists focus on gross motor needs of students. Occupational and Physical Therapists often work collaboratively in a co-treatment model. Although these students often require specialized space which is independent of the primary physical education space, it is the goal of the program to utilize the mainstream educational space such as gymnasium and fitness room for all activities deemed applicable. This requires that these spaces not be so heavily scheduled that they are unavailable for appropriate occupational and physical therapy activities. There is very limited space for the 5.5 teachers and specialists to test. Some of the space utilized is in loud areas that compromise the validity of the test results.

Ideally, the Special Education classrooms will be equipped with classroom technology, moveable furniture for flexible grouping, and a teacher area with securable file storage for student records.

There are 94 students on IEPs and 5.5 teaching staff. This translates to numerous TEAM meetings each week. There is currently one conference room to be shared with all the parent, teacher, and TEAM meetings of the school. Meetings are being held in classrooms to accommodate the need for TEAM meetings which presents concerns for student confidentiality. This meeting space at Sterling is insufficient for the needs of the Special Education Department.

English Language Learners

Content Area	Grade Level	Time on Learning per week	# of Staff	Teaching Methodology
ELL	5-8	**Level 1-2:** 750 Minutes **Level 3-4:** 300 Minutes **Level 5:** 150 Minutes	1	Whole Class, small group and one-on-one instruction; desks or tables for writing; a standard whiteboard, CD player, classroom library, textbooks, vocabulary centers make up are the basic Instructional tools

Sterling Middle School has a very diverse group of English Language Learners (ELLs), with seven different languages spoken within the group. While the group tends to be small (15-20 students on average), the needs are the same as any classroom.

Currently there is one instructor for the ELL population at Sterling. English Language development instruction is taught with a pull-out model, meaning students are scheduled to be with the instructor for certain periods of time per day dependent upon their fluency levels. Instruction takes place with the whole class in small groups or one-to-one as needed. The classroom currently has desks and one table, a standard whiteboard, CD player, and bookshelf to assist with instruction.

Ideally, an ELL classroom will have access to storage for a large variety of materials (such as complete book series, learning kits), classroom technology (such as several classroom laptop computers, a Mimio/interactive whiteboard, document camera, good quality audio setup for listening exercises, and video clips), moveable furniture for flexible groupings, and a teacher area with files for keeping student records. ELL classrooms will hopefully be large enough to provide independent spaces for one-to-one instruction that might happen simultaneously with larger group instruction.

Planning and Collaboration for ELL Teachers

Sterling has just one ELL Teacher, which means that planning with job-alike peers occurs at system-wide professional development. During the school day the ELL Teacher makes time within her schedule to plan with classroom teachers, assess incoming students, participate in team meetings, and communicate with parents – all on top of her teaching duties.

Proposed:

The proposed building project will afford the special education program to be an integral part of the school community and fully integrated into the academic neighborhoods. Ample classroom space, resource rooms, small group rooms, inclusion rooms, office space, testing space, meeting space, de-escalation space, and adaptive PE/occupational therapy space will be provided in order to best meet the educational needs of all students. Where possible, this program should be delivered within the same space utilized by all students. In instances where a specialized space is required for Occupational and Physical Therapy, this motor skills room should be adequate in size and would be similar to a full-size classroom; accommodating both gross and fine motor activities taught simultaneously. The IEP needs for students often recommend specialized motor equipment. The motor room should also allow space for gross motor activities, individual and/or small group therapy sessions. There would also need to be equipment for the children, including a large floor mat, balance beam, a swing, and a ball pit, as well as ample room for gross motor movement. Sensory motor activities and/or fine motor work would require a space for up to two tables and up to eight student chairs. If possible, one of the walls should be mirrored to allow students to model and demonstrate their skills. This design will afford more opportunities for students and staff to work horizontally and vertically, and to incorporate interdisciplinary ways to fully integrate special needs programming, while having the capacity to expand current program and develop new programming as population change and increase.

The new Sterling Middle School will continue to house a growing city-wide autistic population and will need three full size classrooms to accommodate these students. These classrooms should be distributed throughout the general academic classrooms. These classrooms will necessitate a kitchen/laundry area for foundational skills to prepare students for the vocational program they will participate in at the high school level. One full-size classroom will be required as a Resource Room within each of the four grade levels. Inclusion and pull-out instruction will continue to be offered dependent upon student needs. However, resource classrooms should be fully integrated into the academic neighborhoods, facilitating opportunities for communication and collaboration. A Language Learner Classroom will be provided to support a large contingent of special education students who need assistance with their English language skills. This classroom will also support some general education students.

One of the goals of integrating the special education classrooms into the academic neighborhoods is to also give these students opportunities for hands-on project instruction at a pace which is appropriate to their developmental needs and skill set. By allotting a small amount of space to the special education program (SPED Project Applications) within the Maker/Builder space, the goal would be to insure that there is sufficient area within the Maker/Builder space to allow these students to work either independently or as part of the general education group; with sufficient space to accommodate their specialized needs.

The Sterling Middle School will continue to support a full continuum of services for students through 8th grade. The implementation of a comprehensive interdisciplinary model will allow students to access the general curriculum in classes taught by both a general education content area teacher and a special education teacher. Self-contained programs will be strategically

located in areas of the building to best support student access. All special education programs need to be located close enough to content and elective general education programming so that inclusive opportunities can be realized when possible. Programs for students with severe cognitive and communication disabilities will have a newly designed daily living support area to include kitchen and laundry within a semi-private space with a designated de-escalation area to support a more protected and dignified learning space.

Professional office and testing spaces will be designated for related service providers in the areas of: Speech and Language Pathologists, Occupational Therapists, Physical Therapists, Behavior Specialists, Vision and Hearing Specialists, Reading Specialists, Adaptive Physical Education, School Adjustment Counselors, School Psychologist, etc., as well as for the Team Chairperson.

The new middle school will include many smaller meeting rooms for individual and small group tutorials, outside therapists, and specialists. These rooms may be used for regular teacher/tutor meetings and for small group testing environments and will be fully immersed within the academic neighborhoods. Along with special education teachers, para-educators and tutors will have shared space in an office with computer access for storing materials, etc.

Lastly, critical to the success of special education programs and related service providers is the ability to observe students in their school environment. Consideration to the structure of learning spaces will provide opportunities for parents, teachers, and consultants who work closely and carefully with the special education population to observe and learn from one another.

N. MEDIA, VOCATIONS AND TECHNOLOGY

Current:

Fifteen 50-minute blocks are taught by a half-time Library Teacher, covering grades 5-7. The Sterling Library serves as a library and a school-wide computer lab. Significant adequate space is needed for the library to appropriately serve as a teaching area as well as a resources center for all students and staff. Currently the Sterling Library/Media space:

- Is not centrally located
- Needs more display/storage areas for a growing circulation of resources
- Is not designed for optimal collaboration and project based learning
- Operates as a dual purpose setting, with students competing for the attention of staff and resources for both computer assignments and collaboration/research

Twenty 50-minute blocks are taught by one Technology/Engineering teacher (.8 FTE). The Technology/Engineering curriculum is offered appropriately to all Grade 5-8 students and is aligned with the Science Curriculum at Sterling. A technological, hands-on, creativity-based classroom is important to students and staff with in the new design.

Proposed:

Media Center and the Distribution of Media

The library media center should be a media distribution and retrieval resource which students can utilize throughout the school environment. The functions of the library media center should be carefully considered throughout the planning process, as the focus on creating academic neighborhoods may warrant the need to satellite some media resources to the individual neighborhoods or grade-level communities. Media research will occur in many places throughout the school environment, and distributing some library/media resources may prove beneficial in creating a more dynamic environment. Media broadcasting, video editing, and video production are all academic endeavors which will occur within the academic neighborhoods in some capacity, but will also require more sophisticated facilities that may be better placed central to a media resource center. During the educational visioning sessions, there were many project-based activities that involved strong media and data content. The library media center may ultimately be the best place for support of these activities.

Multimedia and Video Production Lab:

As media and video becomes more heavily integrated into many career and technology applications, the need to offer specific instruction in this area remains relevant. This space will have a strong connection to the media center and be located such that it can potentially be supported by instruction and equipment provided by local business partners and the City's cable broadcasting entity. Consideration should be given to strong connections between this program and the arts and language instruction.

Vocations and Technology

The role of vocations and technology education in the middle school environment continues to be insuring that students are offered exploratory courses in business applications, technology applications, life skills, technology systems, and career decisions. However, this role is expanded in a project-based learning environment where students are learning, working, and building within their academic neighborhood. Vocations and technology has a required satellite component within each academic neighborhood (the Project Based Applications Lab component of the Maker/Builder space), but also requires a more advanced and specialized space for the delivery of certain applications that are beyond the capabilities offered within the academic maker/builder space. These more specialized and sophisticated spaces include the Engineering and Technology Applications Lab and the Computer/Language lab.

Vocational education will continue to offer young adolescents with self-understanding of who they are, a social understanding of an individual's life work, and the commencement of goal development in terms of identifying what they might want to become. The vocational education program at the middle school level will provide students with a correlation between the academic subjects they are studying, the projects and hands-on experiences they are developing, and the professional careers that are evolving in a global world. The specific program space dedicated to vocations and technology should be highly flexible and should be integrated into the neighborhood teams and their maker spaces as much as possible. They include:

Project Based Applications Labs:

Vocational technology should have an active an integrated role in the delivery of STEAM within each of the individual academic neighborhoods. This space, combined with the allotted STEM

Applications Lab Support space identified within core academic and the SPED project applications area, is located within the core of each academic neighborhood. It will provide the collective space necessary to create the neighborhood Maker/Builder area and support the necessary inquiry and exploration. It will draw vocational and technical instruction into the academic neighborhoods while simultaneously supporting the academic classrooms by providing addition project space.

Engineering and Technology Applications:
This will be a dedicated classroom area within the academic core utilized for the specific instruction of applications which can support broader projects. For example, offerings within the classroom will include computer-aided graphic design, computer-aided drawing, and multi-media applications. It will provide a "Seated lab" environment with the intent of supporting the nearby hands-on project labs that exists within the academic neighborhoods. It is anticipated that program offerings will continue to change and evolve with technology and the global economy. The instructor will work collaboratively with the academic leadership to integrate lesson plans which allow students to support their project-based inquiry and learning assignments within their integrated academic production labs and to have opportunities to support that exposure within the engineering and technology applications lab.

Computer/Language Lab
This will be a dedicated classroom which supports video production, audio production, and language instruction. It will be located in close proximity to the library/media center and the proposed video production program within the media center. It will have a career-based focus which exposes students to the value of language, audio/video communication, and broadcasting in a global economy.

O. TRANSPORTATION POLICIES

At Sterling Middle School, only Grade 5 students and Special Education students are offered transportation to and from school. The Quincy School Committee Transportation Policy provides for transportation of children in Kindergarten through Grade 5 who reside more than two miles from their neighborhood school to be transported free of cost to six elementary schools and two middle schools. If a child resides between one and two miles from the school, families pay $200 for transportation per student. A child residing less than a mile from school may also be eligible for transportation for $200, on a space-available basis. There is a maximum per family charge of $400 for transportation. Although there is an increased enrollment forecasted for the Sterling Middle School, this will have no effect on the School Committee Transportation Policy for families in southwest Quincy.

P. FUNCTIONAL AND SPATIAL RELATIONSHIPS AND KEY ADJACENCIES

Current:

As repeatedly described herein, the existing Sterling Middle School building is a 90-year-old facility originally designed as a junior high school. It includes small classrooms strewn along narrow hallways and lacks all of the functional, spatial, and adjacency relationships necessary to promote a 21st Century learning environment. Many program areas are isolated and do not have the necessary adjacencies to other key programs, and academic teams cannot be assembled within a cohesive and physically connected academic neighborhood. Special education and student support services have been shoe-horned into available storage, balcony, classroom, and closet areas; and lack the necessary integration with remaining academic programs.

Proposed:

The Educational Visioning sessions conducted with faculty, staff, administrators, and building committee members provided much insight into the early planning of the proposed new 5-8 Sterling Middle School. Much of this insight is captured in the above-defined requirements for specific program areas. However, there are also overall functional, spatial, and adjacency requirements not mentioned above that were identified throughout the discussions and are important to capture in the overall planning process. These items are either priority goals or are keys to insuring that priority goals can be achieved. These concepts are summarized below in no particular order or prioritization.

A Neighborhood School

The Sterling Middle School functions as a true neighborhood school, promoting the positive attributes of such, and responding to the specific needs of the local population. There was much discussion (during visioning sessions) about the strengths and challenges of the Sterling Middle School and how a newly proposed Sterling Middle School can work to reinforce the strengths and overcome the challenges. A "neighborhood school" is a generally flattering description which assumes that all positive characteristics are inherent in such. However, a neighborhood is simply a place defined by geographical boundaries and the benefits of such a neighborhood generally come as a result of the strength of the community where community consists of the social aspects of that place. A neighborhood exists for all, while a community may be weak, strong, or non-existent for some. A community is built upon relationships people have with one another in a place. These relationships are strengthened by involved parents and residents who share common experiences, activities, interests, and goals.

The sense of community among the students, staff, educators, and administrators at the Sterling Middle School was identified by all as being extremely strong and one of the priority goals would be to promote the contagious spread of this strong sense of community to the entire neighborhood outside of the boundaries of the school campus. Parents and community members who are currently participating in school activities are highly involved and provide a strong sense of support. However, the current facility does not foster the engagement of neighborhood parents and residents, and the planning of the newly proposed facility should include considerations for how to facilitate stronger engagement of the parents and residents. It must be a welcoming environment for not only students and staff but also for all residents of the neighborhood and associated businesses. The proposed facility should be designed in a way that allows visitors to experience student activity and work and to provide support for such in meaningful ways. Being able to strengthen the greater community through both ease of facilities use and the presentation

and display of student work is of vital importance. Because visitors will not necessarily be privy to the day-to-day learning experiences of students, providing opportunities to view student work that is rigorous and engaging will help to build a sense of community between the school and the neighborhood residents. Other strategies for strengthening community may include a more accessible campus, shared work and conference areas for parents, program areas which can be shared by the neighborhood during non-school hours, exhibit areas for local businesses, and numerous other possibilities.

Strength of School Community

As mentioned previously, one of the most significant strengths identified during the educational visioning sessions was the strength of the internal school community within Sterling Middle School. Educators work enthusiastically and collaboratively on a daily basis to overcome the challenges facing the school, including the challenges associated with a grossly inadequate school facility. There was significant discussion regarding the characteristics which could continue to maintain and strengthen this sense of school community and it is clear that the organizational attributes of a new building can foster this need by creating a learning community which promotes safety, identity, personalization, pride, belonging, support, and confidence. The facility must be organized in a way which responds to student needs from morning arrival until end-of-day departure. The student must feel a personal connection to the staff and students of their community, and such connection begins at arrival. The current building lacks any semblance of an inviting arrival experience and planning for the new facility should consider options for making this a welcoming and safe experience. The previously identified need for student exhibit of work and personalization of space can also be a contributing factor in strengthening the sense of school community, as students and teachers can see the fruits of their efforts surrounding them at all time; reinforcing their sense of purpose but also personalizing the school environment. Consideration should be given to strong connections between the entry experience and the student commons, such that students and visitors are immediately moving into an area which represents their work and their environment. Academic neighborhoods that feed off of this student commons would also help to promote this sense of personalization of space.

Indoor/Outdoor Connections

The connection of indoor and outdoor spaces is important to creating a vibrant and energized educational environment. Students can become more engaged in utilizing outdoor space if an effort is made to ensure the appropriate visual and physical connection. Outdoor space can be used beyond recreational use and can provide project space, social space, classrooms, study areas, and other support areas for the educational environment. This would also provide an even better opportunity to utilize elements of the outdoor environment in specific science and environmental instruction. Indoor/outdoor connections can also be reinforced through the use of indoor/outdoor transparency in key student activity and movement areas such as the student commons; and obviously the academic classrooms.

Learning Neighborhoods

There has been much discussion herein about the academic grade-level neighborhoods that were discussed throughout the educational visioning process. Although the current facility does a very poor job providing appropriate space and organization, these educational neighborhoods are

already in place at the Sterling Middle School in that the current middle school embraces a model that emphasizes teaming students. The team consists of four general education teachers (Mathematics, Science, English Language Arts, and Social Studies) as well as Special Education Liaison(s) associated with Special Education programs connected to that particular team. While a team approach is utilized, the physical layout of the building inhibits the teachers' ability to provide interdisciplinary opportunities on a regular basis. In order for teachers to be able to facilitate the blending of multiple disciplines of academic instruction, the proposed new facility should organize these teachers into grade-level "Teaching and Learning Neighborhoods". These neighborhoods will contain five general education classrooms, a dedicated science classroom, and a "Neighborhood Commons" space to facilitate inquiry, presentation, community, project-based learning, teaming, and STEAM. Each neighborhood will include opportunities for small group work and study areas which allow students to move in and out of the classroom area without interruption. Special Education spaces for reading, resource, and inclusion will be an inherent part of each neighborhood. A shared teacher work, planning, and collaboration area in each neighborhood is an integral piece of the design and will allow collaboration on assignments, student progress, and the planning of rigorous cross-disciplinary opportunities. There was much discussion about how the individual grade-level teachers remain connected without being isolated into their individual neighborhoods, and the design process should explore the possibility of creating collaborative planning areas that keep teachers close to their neighborhoods but also allow them to collaborate across grade levels, with particularly strong connections between the 5th/6th staff and the 7th/8th staff. Although some separation is desired between the 5/6 students and the 7/8 students, the visioning group agreed that there were strong benefits to controlled connections between grade levels and that this connectivity should be explored during the design process.

Campus Connections to the Surrounding Neighborhood and Parks

Although most of the educational visioning discussions focused on the educational program within the building, there was also thoughtful discussion about the opportunities which lie within the redevelopment of the entire Sterling Middle School campus. These opportunities included functional improvements such as parking, drop-off, and pick-up, which were believed to have significant impact on the student experience and identified as requiring more exploration and consideration during the design process. Additionally, there were discussions about the value of making campus connections to the surrounding neighborhood, parks, and schools. The group expressed interest in exploring campus connections to the adjacent Kincaide Park and also identified shared uses with the nearby Lincoln-Hancock Elementary School. The park is located between the existing Sterling campus and the Lincoln-Hancock ES and was identified as a potential "Bridge" between the two facilities that should be further explored. There were also discussions about balancing campus security with the need for making stronger connections to the surrounding neighborhood in an effort to strengthen the surrounding community and engage the entire neighborhood in the activities within the school.

The Flexible Classroom and Associated Maker/Builder Space

Although many of the specific discussions surrounding the proposed classrooms and the maker/builder space are captured in other sections of the Educational Program, there were some conceptual ideas and visions that are equally as important. Spaces utilized for 21st Century instructional practices should not segregate instruction from application. The modern

comprehensive middle school environment must be a flexible space that accommodates both instruction and application. The maker/builder spaces that are dedicated to project-based learning should be highly integrated to the remaining academic classrooms and/or environment. It should allow for students to be creative and grow as learners throughout the course of their day. Additionally, teachers can collaborate with colleagues more easily through flexible spaces.

The flexible classroom is meant to describe an "area" rather than a specific room defined by four or more enclosing walls. This "Area" can be extended with strong connections to the maker/builder space and an ease of movement for students and teachers between the two areas. Staff and students agree that learning within a group of spaces that allow for varying approaches and environments, facilitated by a teacher or combination of co-teachers, provides the best opportunity for varying learning styles and progress. In some instances, having as many as three contiguous spaces with the necessary supervision can allow the facilitators to customize the learning program for each student. Transparency between these spaces will be a key factor in the successful use of these collective spaces as a "flexible classroom". Various options for balancing transparency with privacy and security should be considered throughout the design process. There was much discussion about the need for small group spaces integrated within the classrooms and neighborhoods. Some of these spaces require a high level of transparency for supervision and connectivity to remaining neighborhood spaces, while others may require more privacy but the same level of connectivity in terms of adjacency. There are also numerous physical characteristics required within the flexible classroom including ubiquitous technology and large-scale instructional walls which allow "every wall to be a teaching and collaboration wall".

Personalization of the School Environment and Student Instruction

The visioning group felt strongly that one of the key attributes of a strong school community involves the ability to personalize the school environment. This fosters a sense of ownership, belonging, and pride. The grade-level academic neighborhoods and project spaces will provide an enormous canvas for the personalization of the school environment. They also will afford an opportunity to personalize the specific instruction being offered at each grade level. These spaces will allow educators to meet the needs of all students in an engaging, creative, and collaborative way. They should be flexible enough for the students to influence their organization and appearance, as they become reflective of the work being produced by the students. They should include opportunities for both short- and long-term exhibits, and have the feel of a productive workshop for learning and exploration.

STEAM Business Partnerships

The Sterling Middle School already has a number of key neighborhood business partnerships. In fact, Arbella Insurance Group is one of these key partners and provided a professional off-campus environment for the educational visioning sessions. These partnerships, coupled with a focus on STEAM initiatives, will allow teachers and students to participate in real-world application both inside and outside of traditional classroom spaces. The modern 21st Century middle school environment allows for the integration of the key subjects of Science, Mathematics, Technology, Engineering, and Arts into real-world business and scientific applications in an effort to help students not only understand the importance of these topics individually, but to also understand the way they support each other. It is critical that the newly

proposed facility be designed in a way which helps to strengthen and expanded these business partnerships. This could include something as general as making sure that the school is easily accessible to these business partners, to providing specific exhibit and learning opportunities and exposure for each business within the school.

Campus-Wide Educational Technology

Although the desire to provide a robust technology environment is well documented in many areas of the educational program, participants wanted to emphasize that campus-wide wireless access is key to creating a flexible environment where students can complete assignments without the outdated confines or boundaries of a fixed classroom or computer lab. The seamless integration of technology through both a high capacity wireless network coupled with durable small devices (i.e., iPad, Chromebooks, Laptops, etc.) for each student will allow students to access information more readily to assist in the production of rigorous performance based tasks that foster creativity and the development of 21st Century skills. The technology goals described previously herein will apply to the entire campus - indoors and outdoors. Additionally, media broadcasting, video editing, and video production are all academic endeavors which will be supported within the academic neighborhoods and through the provisions of the video production lab. This will also allow students to create and engage in a variety of community events through the use of a variety of media.

Flexible Dining Areas with Increased Utilization

During the educational visioning sessions, the participants reviewed many approaches to student dining and were particularly enthusiastic about the possibility of more flexible use of the dining space, beyond its limited and specific function as a dining area for students. There was discussion about its social function and how locating the dining space in a prominent and easily accessible position within the floor plan could improve its ability to serve as a space for socialization, student exhibit, and academic projects. It will require some level of separation from the academic area, but close proximity to the learning environments will also be important. It will include strategies to enhance student socialization, expanded project and exhibit space, and personalization by students and staff. The development of social skills is an integral part of a student's middle school experience. The ability to communicate with both adults and peers is consistently developed through formal and informal interactions throughout the school day. Dining time offers students the opportunity to socialize and decompress with their classmates, but the traditional cafeteria where students are herded into a large space with many students and directed to function in a very rigid way is not necessarily conducive to social development. Schools where social dining is distributed throughout the school environment with less restrictions and/or boundaries have proven to promote student collaboration while simultaneously reducing discipline problems. The student dining area can also play a significant role in parent and community interactions with the school by providing flexible space which supports presentations, programs, and events. These things should be considered when developing the dining areas for the Sterling Middle School students, as these areas might potentially be designed in a way which breaks down the scale of dining to the individual communities and make them more accessible to students for other activities throughout the school day. This more flexible approach might provide a well utilized and efficient space as it becomes a place for projects, presentations, study, and work when not utilized for dining. Discussions also included some of the functional challenges associated with dining areas and

their proximity to academic neighborhoods, all of which should be considered as part of the design process.

The School as a Whole Day Support Entity

For many of the students within the Sterling neighborhood, the school becomes a full day support system from early in the morning until late into the evening. This often places students both inside and outside the building well beyond the official school day and should be considered as part of the building and campus design. As parents have more daily demands and students become more involved in school-related activities, the time they spend on the academic campus has expanded. These activities include music, performance, athletics, research, science, academics, tutoring, and numerous extracurricular activities. Many students study after school as they await upcoming practices, performances, or activities that involve them or their friends. The school also becomes a safe haven for spending time in social and recreational activities. Providing appropriate and safe indoor and outdoor spaces for such activities is a key component of a successful Sterling Middle School environment. The following is a summary of the "Beyond the School Day" programs offered before and after school, covering a wide variety of academic and enrichment programs. Many of these "beyond the bell" clubs and activities culminate in evening or weekend events. Some examples include:

- Performing Arts Drama Club
- Get It Done Homework Club
- Set the Stage (Set design)
- Creative Imagineers
- Robotics
- News Flash
- Making Memories
- Sterling Singers
- BOKs Morning Fitness Program
- Baking Club
- Student Council
- Intramural soccer, basketball, kickball and flag football
- Extramural volleyball, wrestling, tennis, cross country, spring track and swimming
- Farm to School Initiatives
- Guitar Club
- MCAS Prep Programs
- Community Service Initiatives
- Book Club
- Big Brother/Big Sister Workplace Mentoring at Boston Financial Data Services
- Tutoring and mentoring made available through community service with former students.

These programs add to the need for flexible, multipurpose spaces that can address the needs of students "beyond the bell" and the needs of the support staff. The design, organization, location, and flexible use of these spaces will be critical to any newly proposed Sterling Middle School facility.