

Final Report



Master Plan and Building Facilities Study

February 25, 2014



Millis Public Schools
Millis, Massachusetts



February 25, 2014

Ms. Nancy Gustafson & Mr. David Byrne
Millis Public Schools
245 Plain St.
Millis MA 02054

RE: Master Plan & Building Facilities Study

Dear Ms. Gustafson and Mr. Byrne:

We are pleased to submit Tetra Tech's Final Report for the Millis Schools Master Plan and Building Facilities Study. It has been our pleasure to work with you on this important project to evaluate your schools and develop solutions to alleviate the space capacity issues faced by the Millis Public Schools.

Thank you again for the opportunity to work with the Millis Schools on this project. We hope that the report and our recommendations will be helpful to you as you plan for the future capital project work. If we can be of any further assistance, please let me know.

Best regards,

Sincerely,

A handwritten signature in black ink, appearing to read 'Garrett Hamlin', with a long horizontal flourish extending to the right.

Garrett Hamlin, AIA, NCARB
Director of Architecture



MILLIS PUBLIC SCHOOLS - MASTER PLAN AND BUILDING FACILITIES STUDY EXECUTIVE SUMMARY FEBRUARY 2014

FACILITIES EVALUATION

Tetra Tech performed a facilities assessment of the Clyde Brown Elementary School and the Millis Middle/High School. A team of architects and engineers met with District staff, toured each school, and developed an interactive master planning spreadsheet that identifies future maintenance and capital improvement work.

The Millis schools are receiving regular maintenance and, as a result, both Clyde Brown and the Middle/High School are in good condition. Priority Facilities Evaluation items include:

- Roof replacement at the Clyde Brown Elementary School
- Security enhancements at both schools
- Educational technology enhancements at both schools
- Athletic field improvements (in conjunction with Town master planning efforts)
- Address overcrowding at both schools

ENROLLMENT PROJECTIONS

The enrollment projections provided in this report indicate that the student enrollment in the Millis schools will decline slightly over the next decade. This decline will start in the Elementary grades, and then migrate up through the Middle School/High School levels. The projected student enrollment decrease will ease some of the current space utilization issues; however it will not be enough to relieve the overcrowding that exists in the schools.

LONG RANGE MASTER PLANNING

The Middle/High School is undersized and overcrowded. The Clyde Brown Elementary School is also undersized and lacks appropriate spaces for required special education services. The space shortages in both schools result in significant scheduling issues and increased class sizes. In order to successfully maximize educational programming for Millis students, additional space needs to be constructed at the Middle/High School to relieve overcrowding. Adding space at Clyde Brown, and/or reconfiguring existing spaces is also needed to better serve the elementary school population, especially for students receiving special education services.

RECOMMENDATIONS

Tetra Tech recommends maintaining the 5th grade at the Middle School. The staff and administration have taken many steps to ensure the 5th grade transition to the Middle School is orderly and effective. Based upon interviews with staff and responses to the online survey, there is a general satisfaction with the current Middle School grade configuration. The 5th graders are benefitting from additional academic opportunities, including technology and unified arts, that are available to them at the Middle School.

(Continued)



Tetra Tech recommends submitting a Statement of Interest (SOI) to the Massachusetts School Building Authority's Core Program. This program could provide capital project financial assistance to expand the Millis Middle/High School. Select renovations and possible athletic field upgrade funding should also be included in the SOI for the MSBA's Core Program. SOI's are due on April 11, 2014.

Tetra Tech also recommends submitting an SOI for the Accelerated Repair program (2015 cycle) for funding to perform necessary roofing repair and window work at Clyde Brown Elementary School. We believe that the roofing and window work are excellent candidates for inclusion in the MSBA's Accelerated Repair program.

The overall proposed master plan for the Clyde Brown Elementary School and the Millis Middle/High School includes:

- Additional classroom space at the Middle/High School
- Secure entry improvements at all main offices
- Special Education space improvement at the Elementary and Middle/High Schools
- Additional gymnasium space
- Athletic field improvements

Section 1

Space Needs Questions

Responses to Space Needs/Renovation Questions

- 1) **In light of the current enrollments and the fact that Millis seems to be attracting young families with pre-school and school age children, what are possible solutions to address current overcrowding in both school buildings? What are the economic impacts of each option? Is there a definition/standard for “overcrowding”?**

The Clyde Brown Elementary School and the Millis Middle/High School are undersized and overcrowded. The Clyde Brown school building is 68,000 square feet; it has 28 general purpose classrooms with a current student population of 492 students (Grades K-4). The Middle/High school building is 125,000 square feet; it has 32 general purpose classrooms with a current student population of 457 students (Grades 5-8) and 391 students (Grades 9-12). Both schools experience severe space utilization issues that are impacting education.

Both the Clyde Brown Elementary School and the Middle/High School buildings are smaller than the Massachusetts School Building Authority (MSBA) gross square footage allowances for new school construction in the Commonwealth. In addition to this, the general purpose classroom count in the Middle/High School is below the MSBA’s guidelines for space utilization.

These space shortages results in significant scheduling issues and increased class sizes. While the administration and staff in both schools are doing a good job of making the best of their situation, the physical facilities are impeding the delivery of top quality education to the Millis students.

The enrollment projections provided in this report (Section 2 – Enrollment Projections) indicate that the enrollment at both Clyde Brown and the Middle/High School are projected to decline slightly over the next decade. This decline is projected to start in the Elementary grades, and will then migrate through the Middle School and eventually into the High School level. This slight population decrease will ease some of the space utilization issues, however it will not be enough to relieve the overcrowding that currently exists.

Several possibilities for alleviating the overcrowded conditions were considered by the Facilities Evaluation team. These options included:

- Adding temporary “modular” classrooms at the Middle/High School
- Constructing additional permanent classroom space at the Middle High School
- Adding classroom space at Clyde Brown and relocating the fifth grade back there

Each of these options is discussed in more detail in Section 5 – Master Planning Considerations.

2) Is there an average (industry standard) number of per square foot needed for current enrollment? If so, is it broken down by elementary and middle/high school?

There is no general agreement or industry standard at the state or federal level for the optimum classroom size or the minimum square footage per student in schools. The MSBA has developed per student space allowances for use in determining the maximum square footage that the MSBA will fund for new school construction. These space allowances are listed below.

The MSBA is clear that while these space allowances are “reflective of realistic, future-oriented, and contemporary educational program goals”, they are only intended for “determining the maximum size and costs related to new construction and should not be used for assessing the safety standards and guidelines that prevailed at time of construction.” That said, these MSBA gross square foot cost guidelines are still a worthwhile starting point for discussing the current sizes of the Millis Schools.

- 986CMR 2.06, Table 1: Gross Square Feet per Student – Elementary Schools, lists 158 Gross SF per student for a 492 student Elementary School. (*Max. for a new Elementary School: 77,736 SF*)
- 986CMR 2.06, Table 2: Gross Square Feet per Student – Middle and Junior High Schools, lists 186 Gross SF per student for a 457 student Middle School. (*Max for a new Middle School: 85,002 SF*)
- 986CMR 2.06, Table 3: Gross Square Feet per Student – High School, lists “to be determined” as the Gross SF per student for High School populations less than 600. (Millis High School is 391 students.) For High School populations of 600-610 the table lists 226 SF per student. (*Max. for a new HS: 88,336 SF*)

3) If there is one, how does CFB and MS/HS compare?

The existing Clyde Brown and Middle/High School both fall below the MSBA’s maximum size limits for funding of new school construction projects.

4) Under the present layout and structure how many children can the MPS comfortable educate before overcrowding impacts delivery of services?

The space constraints at the two schools are a result of different factors. At Clyde Brown, there are just enough general purpose classrooms to schedule the school, but most of the classrooms are undersized. (Typical classrooms in Clyde Brown are 780 square feet, compared to the MSBA’s guideline of 900-1,000 square feet. Typical Kindergarten rooms are 780 compared to the MSBA’s guidelines of 1,100-1,300 square feet) The space utilization challenges at Clyde Brown are exacerbated by a lack of Special Education therapy, counseling, classroom, and small group instructional spaces. Accounting for these factors, the Clyde Brown’s student population is slightly above the building’s capacity at this point.

The space constraints at the Middle/High School are directly related to a shortage of general purpose classrooms. Comparing classroom counts in the school to the MSBA’s Space Summary Template worksheet reveals that the building’s general purpose classrooms are least 3-5 classrooms (or 10-15%) over capacity at this time. Additionally Special Education programs in both schools struggle for space needed to provide required services, which exacerbates the overcrowding.

5) What would be the recommended maximum number of students per classroom in CFB and MS/HS?

The MSBA's guidelines for spaces for students per classrooms in each grade level are as follows:

- Kindergarten: 18 students in 1,200 square foot classrooms.
- Elementary: 23 students in 900-1,000 square foot general purpose classrooms
- Middle School: 23 students in 850-950 square feet general purpose classrooms
- High School: 23 students in 825-950 square feet general purpose classrooms

The majority of classroom spaces in the Millis Schools are smaller than these room size guidelines. Class sizes in the Millis Schools frequently exceed these numbers.

6) Given the different specialized educational and personalized needs of students that must be met by schools, what space configurations or options can better meet those needs?

At Clyde Brown, there is a lack of space to meet the unique needs of children with disabilities. This is especially important in providing intervention services that are required on each child's IEP, including test accommodations. Some of the therapists (OT, PT, etc.) are working in improvised and inappropriate locations including music rooms. There remains a lack of suitable smaller spaces for therapies – especially for test accommodation. At the High School, Special Education needs for custom spaces are impacting already tight quarters for regular instruction. Some of the spaces for special needs are very small. The offices for Special Education located at Clyde Brown lack parking and easy access for parents for meetings.

Due to the current lack of available space at both schools, we believe that providing adequate spaces for these required educational activities will require additional space to be added to the schools.

7) Can the existing space/structures be reconfigured to compensate for existing or future overcrowding to maximize educational programming for our students?

The existing space/structures can certainly be reconfigured to address the overcrowding at both schools. The school buildings are well cared for, and in our opinion do not warrant replacement.

While the population in both schools is projected to decline modestly in the coming years, this alone will not be enough to ease the overcrowding. In order to successfully maximize educational programming for Millis students, additional space needs to be constructed at the Middle/High School to relieve overcrowding. Adding space to Clyde Brown may also be advisable, depending on the additions and renovations that are performed at the Middle/High School.

Along with additional space, selective renovations at both schools are needed to create more effective high performing educational facilities. In addition to special education space improvements noted above, the following items also should to be addressed:

- Secure vestibule/entrances are needed so visitors are required to check in at the Main Offices
- Technology updates including infrastructure are needed at both schools
- Phones are needed in classrooms
- The libraries need small spaces for conference rooms
- Ample dedicated art and music space is needed at both buildings
- The outside athletic fields and track are in need of major improvements
- Gym space is limited, especially at the Middle/High School

8) What can be done to improve the traffic flow through the campus complex and especially at Clyde Brown School?

After reviewing the Habeeb & Associates, Inc. Traffic Circulation Study dated February 17, 2004 and witnessing existing traffic patterns at both the Clyde Brown and Middle/High School it is clear that there are several opportunities and challenges to improving traffic flow through the campus complex and at each individual site. Identifying options for improving overall traffic flow throughout the overall campus would require a much more extensive traffic analysis which would encompass both schools, the town offices building, recreational areas, and all adjacent streets including Spring Street, Plain Street, Main Street, Park Road, McCabe Ave., Monroe Street, and internal driveways. However, any options utilizing all of the adjacent roadways would most likely require some type of vehicular connection between the two schools through the wooded area. At this time, we agree with the Habeeb study which notes that a potential connection between the two sites does not currently seem like a realistic option given the topographic and property constraints. We therefore will focus on potential options that relate to each site individually.

Clyde Brown- In 2005 a secondary access point was constructed to allow student drop off/pick up at the southeast corner of the school with access via Spring Street. The addition of this entrance addressed many of the issues concerning internal circulation around the school. The parent drop off/pick up seems to now function smoothly, does not appear to hamper traffic on Spring Street, and affords students a safe pathway to the school without crossing other traffic streams. Additionally, removing the drop off/pick up traffic from the main access points reduces conflicts with buses navigating the narrow access roadways. The bus drop off/pick up currently seems to function well with all buses arriving, exiting, and loading/unloading at the same time with direct access to sidewalks for the students and no need to cross other traffic streams.

The following situations represent the primary remaining constraints to traffic flow around the school:

- Minimum roadway radii and widths along bus access routes
- Combined traffic flow between buses and daycare/school staff

Potential solutions for these situations include the following:

- Widening bus access roadway radii and widths

- Adding third entrance from Main Street to the staff parking area through the existing utility corridor.
- Utilizing access road on south side of building to connect parking existing parking areas.

Middle/High School- The primary constraint to the circulation at the middle/high school is that both access points are narrow roadways that allow only one way traffic. This results in combined bus and parent/student vehicle traffic flows, and the inconvenience of exiting the site on Spring Street while entering on Plain Street. Overall, there is adequate space for drop offs/pick ups, however the one way entrance can limit the rate that parents and buses are able to gain access. Finally, pedestrians being dropped off have to cross the access road to get to the school. There are two crosswalks where this happens with one traffic monitor assisting traffic flows.

The following situations represent the primary constraints to traffic flow around the school:

- Narrow access and egress roadways
- Narrow connecting roads (Spring and Plain)
- Combined traffic flow between buses and passenger vehicles
- Dangerous student/traffic crossings
- No connections between parking areas

Potential solutions for these situations include the following:

- Additional traffic monitors
- Reversing circulation
- Widening roadways to allow two-way traffic on both access roads. This would allow separated bus and passenger vehicle circulation.
- Connect existing parking lots.
- Utilize park/town entrance to school

9) What should the CFB and Middle/High School learning environment (class room/infrastructure) look like for digital natives / 21st century learners generation.

Classrooms of the 21st Century should be flexible spaces that are full of technology. Classrooms should be fully wireless with smart boards, ceiling mounted projectors and document cameras. Ample wiring and electrical power is needed to support these devices. Other attributes include:

- Spaces for large and small group collaboration
- Furniture with easily movable tables and chairs
- Lighting that is flexible and zoned to create multiple learning environments simultaneously
- Doors that are lockable
- Telephones in every room
- Pervasive technology that is connected to an efficient and powerful internet connection
- Infrastructure for all students to have tablet/iPad computers
- Classrooms that can accommodate on-line conferences and distance learning
- Accessing the library system (including the Town) from the classroom
- Ample storage areas for equipment and student work
- Places for students to exhibit their work

10) What are the population trends in Millis for the next 10 years for class sizes? How does the average estimated class size compare to the average & median class sizes over the past 5 years?

The enrollment is slightly declining by 2.1-2.5% per the Enrollment Projection Study (see Section 2 – Enrollment Projections). It is reported that class sizes have increased over the last five years, which is consistent with the overall population trends that have occurred.

11) What opportunities exist to connect the CBS and Middle School to solve overcrowding, lack of gym space, playgrounds, cafeteria and kitchen space, school parking and circulation concerns?

Significant opportunities exist to address school space limitations, and parking and circulation issues, with substantial land being available between the two schools. The primary hindrance to this plan is the topographic challenges presented in this area. Most expansion and all connection alternatives between the schools would require significant clearing, excavation, and soil disposal. If there is interest in pursuing this option, we would recommend conducting borings in these areas to identify the material to be excavated and verify the presence of ledge. Removal of ledge through this area would greatly increase the cost of any proposed project. Additionally, once the material to be excavated is classified, the town should evaluate opportunities to reuse as fill for other projects since the cost for the work in this area would be driven primarily by the disposal costs (assuming no ledge).

12) Are the Pre-K to 4th grade, 5th to 8th grade and 9th to 12th grade groupings in the best model for Millis to educate our children?

The academic research that looks at grade level configurations does not support a single “ideal” sequencing of grade levels that will work best in all situations. Research on the topic is limited, and what little exists contains unique attributes which do not tend to apply universally to other situations.

There is research literature that suggests that smaller schools demonstrate greater student achievement. Further, the research supports fewer transitions between schools tends to reduce student knowledge loss due to the transitions. The question of grade span was further complicated by the development of the middle school. The separation of students in grades 5, 6, 7 or 8 in middle school is justified by some schools and leaders because they believe that middle schools better meet the developmental needs of preadolescents. The question of fifth graders being developmentally appropriate for middle school is really an issue of transition. In a successful fifth grade middle school span, a student’s first middle school experience is adapted to make the transition developmentally appropriate and meet the students’ academic and social needs.

Based upon our interviews and the community survey, the Millis middle level program focuses on a transitional years in grade 5 into the Middle School building. There are additional academic opportunities including technology and unified arts that are available to 5th graders at the Middle School. The students, parents and staff who responded who had already experienced the Middle School at fifth grade were generally positive about the experience.

Recommendation:

Maintain the 5th Grade at the Middle School. This grade has been at the Middle School for approximately sixteen years. The staff and administration have taken many steps to ensure the transition and orientation is orderly. Classes at 5th Grade are more focused on each child and a smaller number of teachers compared with older children. The 5th and 6th grade students are physically isolated from older children during most of the school day.

This recommendation is also supported by the lack of additional classrooms at Clyde Brown to accommodate the 5th grade. An addition to the building would need to be constructed if 5th grade were to move to Clyde Brown. (Refer to Section 5 Master Planning Considerations)

Clyde Brown will experience some enrollment decline over the next decade (50 +/-). However, the decline would not be sufficient to accommodate the added grade level. School lunch schedules would be disrupted and more pressure would be placed on the Clyde Brown gym, library and cafeteria.

13) Do joint venture opportunities exist to share facilities with other functions of Millis Town government, or non-profits, such as the YMCA?

We feel the best opportunity for joint ventures and sharing facilities with other organizations are found in the athletic field conversations that are ongoing with the Town of Millis. The athletic fields at the High School are in need of significant improvements, and collaborating with the Town and other athletic groups to plan for the most appropriate solutions makes excellent sense.

Additionally, the shortage of gym space at the Middle/High school also offers a possibility for shared use with other organizations. Construction of a second gym would eliminate the need for the school to rent offsite gym space during the year. It could also provide a positive revenue stream from rental to outside groups.

14) Evaluate building systems and current code compliance.

Refer to Facilities Evaluation Capital Planning spreadsheet found in Section 4.

15) What steps are required to qualify for state funding?

The Massachusetts School Building Authority funding process starts with having a Statement of Interest approved by the MSBA and being accepted into their Capital Project Planning process. We understand that the Millis Schools have submitted SOI's to relocate the 5th grade back to Clyde Brown as a way to alleviate the overcrowding at the Middle High School.

Tetra Tech also recommends submitting an SOI to the MSBA's Core Program (extensive repairs, renovations, additions, new construction) for a project at the Middle/High School. This project would

provide for additional classroom spaces at the Middle/High School. (Refer to Section 5 – Master Planning Considerations for preliminary ideas and options for how to best expand the Middle/High School which is situated on a severely constrained site.) Middle/High School renovations and possible athletic field upgrade funding should also be included in SOI for the Core Program. SOI's are due on April 11, 2014.

Tetra Tech also recommends submitting an SOI for the Accelerated Repair program (2015 Round) for funding to perform necessary roofing repair and window work at Clyde Brown Elementary School. We believe that the roofing and window work are excellent candidates for inclusion in the MSBA's Accelerated Repair program.

16) How can building, classroom and furniture design enhance learning and be efficient to operate and maintain?

The academic research is very clear that buildings can enhance education. Student performance and teacher satisfaction improve when facilities are well designed, secure and comfortable. Project based learning spaces, ample technology, and furniture that supports flexibility all contribute to achieving 21st century educational facilities

17) What is the top need based on your evaluations?

- Additional Classroom space at the Middle/High School
- Secure Entry Improvements at all Main Offices
- Special Education space improvement at the Elementary and Middle/High Schools
- Continued Capital Investment to preserve infrastructure (Roofing at Clyde Brown, etc.)
- Additional Gymnasium space
- Athletic Field Improvements

Section 2

Enrollment Projections

Five & Ten Year Enrollment Projections & Analysis of the Millis Public Schools

School Committee
Millis Public Schools
Millis, Massachusetts

February 25, 2014



*Kevin S. Baughman, Ph.D.
Educational Planning Services*

Millis Public School Student Enrollment Analysis and Projections

Methodology

The projection models utilized for this analysis were a ten-year and a five-year cohort survival coefficient. The cohort survival enrollment analysis method is widely used. It uses historical enrollment data to predict future changes in enrollment. It compares the number of students enrolled in one year, with the amount of students enrolled in the succeeding year and grade level. The reliability of the prediction is increased by examining the progression – or “survival” – of the number of students over a five or ten year period of time. For each year of change, a coefficient is calculated. A 1.00 coefficient indicates that there was no change in the enrollment between a grade level in year one to the next grade level in year 2. A value less than 1.00 indicates a loss or *out-migration* of children while a value greater than 1.00 indicates an increase or *in-migration* of students.

Another key process in calculating student enrollment regards measuring or assessing the localized regional population changes. Through analyzing data including birth rates, new housing starts, and regional and local population trends, the cohort survival prediction models can be enhanced to increase the accuracy of prediction. The combination of regional population trends *and* student cohort analysis forms a hybrid enrollment projection model. This hybrid model is favored by certain state agencies including the Massachusetts School Building Authority (MSBA).

There are circumstances under which to prefer either the ten or five year cohort survival coefficient analysis. When there has been recent volatility or fluctuation in student enrollment – with a reasonable expectation that this trend will continue – selecting the five year model provides a likely more accurate model of prediction. Conversely, the ten year model is best used when there is fairly stable student enrollment, or volatility that is not expected to continue.

Limitations of Accuracy of Enrollment Prediction

There are many variables that impact on student enrollment prediction that are difficult to control in a projection model. Factors that contribute to unanticipated enrollment changes may include but not be limited to: 1) a new local private school; 2) changes in state rankings and ratings of schools; 3) economic conditions; 4) property values; 5) an event that occurred in one of the schools; 6) changes in program offerings; 7) new home development; and 8) loss of commercial businesses; etc.

The most accurate enrollment projections are those that take a shorter view – three to five years. The longer the projection over time, the less reliable the prediction. It is also recommended that school districts input new data into the projection process no later than every two years, with annual input and review being ideal. Further, one year of unusual (low or high) student enrollment – especially at kindergarten – adversely affects a long term prediction since this data will predict grades 1, 2, 3, etc. Thus, a prediction model can either suppress or exaggerate long term student enrollment merely from a single statistical occurrence that is an anomaly.

Assessing Localized Millis Town Population Changes/Trends in Predicting Future Enrollment

Possible Development

Residential or mixed-use future development of the GAF site could yield 100-200 units of about 800-1,000 square feet each including townhouses, condominiums, and apartments (source: *Millis Town Center Feasibility Study Phase II*). Although yield factors may vary, at a conservative .33 school age child per unit could yield between 33 and 66 students – representing approximately a possible 3% increase in district enrollment. However, the final use of the land and plans for redevelopment were uncertain during our time of analysis and discussions with town and school officials. *Therefore, this possible change in student enrollment was not factored into the projection model.*

Barriers to Residential Development

There is a lack of prime developable land for construction of residential units. Developable land is further restricted by regulatory constraints (source: *Millis Town Market Survey by Larry Koff*). *It is unlikely that there will be major development of residential housing in the Millis Town in the next several years that could impact student enrollment.*

Housing Units & New Construction in Millis

In 2010, there were 3,158 housing units in Millis – up 92 units from 2000 (2.9% increase), with approximately two-thirds of the properties were single family homes. (source: *Millis Town Properties Feasibility Study – MPAC – March 27, 2013*)

Population Growth

The overall population in Millis, according to the US Census, remained relatively stable between 2000 and 2010 (7,891 in 2010). The population of Millis is shifting and getting older. Between 2000 and 2010, the percentage of the total Millis population comprised of residents between age 0 and 5 decreased from 8% to 6%. The population between ages 5 and 17 changed from 17% to 19%. The birthrate could have been affected by a number of factors including the economic recession that began in 2007-2008. Stable or slightly declining birthrates in the region and state, coupled with an aging population locally, suggests that the long term student population in Millis Public Schools will likely be stable or will slightly decline over the next ten years with some fluctuations. With fewer births and fewer young children ages 0-5, the incoming kindergarten classes will periodically be smaller than in the past five to ten years.

An Historical Analysis of Enrollment in Millis Public Schools 2004-2014

Table 1 summarizes student enrollment for the period 2003-2014 – eleven years. This data window allows a ten year prediction analysis working off a base year of 2003-04. Over this period, student enrollment hit a high of 1,501 in 2010-11, and an enrollment low of 1,335 in 2003-04, a difference of 166 students. The average enrollment during this period was 1,401 students (1,390 in-district plus out of district placements).

Preschool program enrollment grew steadily from a low of 50 to 82 in 2013-14. This growth is likely a combination of parents working, convenience, and the reputation of the program. There is a statistical correlation between the number of pre-school students and kindergarten students at 1.35 over the time period of the table. However, there is little data to suggest a predictive correlation or causality. In other words, an increase in preschool students is not likely to predict a future increase in kindergarten enrollment. There appears to be no predictive pattern.

A notable change in enrollment was the number of children attending half versus full-day kindergarten. Over the past ten years, the number of children in half-day went from a high of 79 in 2005-06 to a low of 16 in 2012-13. Conversely, the number of students enrolled in full-day kindergarten rose dramatically from a low 37 in 2004-05 to a high of 82 in 2011-12. The ratio over the past five years is nearly 3:1 favoring the full day program. *This is significant in that additional classrooms are needed for a full day program. An additional 1-2 classrooms are now needed annually to accommodate this shift towards a full day program.* This change has created additional room demand in Clyde Brown Elementary School.

Table 1: 2003-2014 Historical Enrollment Data

Millis Public Schools Enrollment - Historical

	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Preschool	52	51	50	53	55	74	78	77	70	74	82
Full day K	38	37	40	40	77	84	63	80	82	76	59
Half-day K	72	63	79	63	45	39	43	37	18	16	17
Total K	110	100	119	103	122	123	106	117	100	92	76
G1	113	116	102	115	98	118	124	107	114	101	91
G2	119	111	106	97	113	99	116	120	113	110	98
G3	101	124	107	107	99	114	101	116	119	111	112
G4	103	98	119	103	108	103	113	98	120	120	115
G5	118	104	94	122	101	111	102	125	99	121	117
G6	115	119	105	93	123	103	110	102	124	102	117
G7	105	113	111	109	93	117	107	111	98	122	97
G8	98	106	111	110	105	94	124	110	113	97	126
G9	78	69	83	85	94	84	86	114	103	103	88
G10	74	79	63	85	88	93	90	85	105	102	99
G11	71	79	80	61	87	86	90	93	85	107	97
G12	62	75	74	79	60	82	86	92	88	87	107
Integrated	0	0	0	0	0	4	5	4	0	0	0
Out of District	16	17	16	17	17	22	24	30	27	26	22

Total:	1,335	1,361	1,340	1,339	1,363	1,427	1,462	1,501	1,478	1,475	1,444
In-District:	1,319	1,344	1,324	1,322	1,346	1,405	1,438	1,471	1,451	1,449	1,422

Total Enrollment - By Grade Configuration

	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Grade K-4	546	549	553	525	540	557	560	558	566	534	492
Grade 5-8	436	442	421	434	422	425	443	448	434	442	457
Grade 9-12	285	302	300	310	329	345	352	384	381	399	391
Integrated	0	0	0	0	0	4	5	4	0	0	0
Out of Dist.	16	17	16	17	17	22	24	30	27	26	22

Total:	1,267	1,293	1,274	1,269	1,291	1,331	1,360	1,394	1,381	1,375	1,340
Preschool	52	51	50	53	55	74	78	77	70	74	82
Total In-Distr.	1,319	1,344	1,324	1,322	1,346	1,405	1,438	1,471	1,451	1,449	1,422

	3 Yr. Ave.	5 Yr. Ave.	10 Yr. Ave.
Grade K-4	530.7	542.0	543.4
Grade 5-8	444.3	444.8	436.8
Grade 9-12	390.3	381.4	349.3

One interesting trend of decreased enrollment was the out-migration of students progressing from eighth but enrolling elsewhere for grade nine. During the period from 2003-04 to 2008-09, this averaged approximately 23 students annually representing approximately a 1.6% loss in total district enrollment. It should also be noted that beginning in 2009-10 and continuing, this out-migration has slowed to an approximate annual loss of 9 students between grades 8 and 9.

The Impact of Choice Students on Millis Enrollment

Table 2 shown below provides information non-resident children attending school in Millis. Known as “Choice”, the data indicates that since 2008-09, the number of students has increased and the change has been reasonably sustained. Over the past three years, the number of students has averaged 64, while over the past five years, the average was 62. This represents approximately 4.4% of the total student population. In the *Choice* program, all grade levels see non-resident students with little variability regarding the number of students among grade levels. Further increases in this program could impact long term student enrollment projections.

Table 2: Student Out-of-District Choice to Attend Millis

Millis Public Schools Choice Enrollment - Historical

	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Full day K	0	0	0	2	3	0	4	4	3	3	1
Half-day K	2	0	0	0	0	1	0	3	0	0	1
G1	1	5	1	2	2	3	3	3	4	8	3
G2	2	0	4	1	3	2	3	6	4	3	6
G3	1	3	2	4	1	3	2	4	5	5	2
G4	4	1	1	1	4	3	4	2	4	5	4
G5	4	5	1	3	3	4	3	11	4	5	4
G6	4	3	5	1	4	3	4	4	11	6	6
G7	3	4	4	5	1	5	3	4	6	9	8
G8	8	3	5	2	4	1	7	7	4	2	10
G9	4	3	2	3	1	4	4	5	5	3	1
G10	3	2	3	1	5	3	4	4	5	6	3
G11	3	4	4	3	0	6	3	5	6	6	3
G12	3	5	4	3	4	4	7	4	5	5	7
Total:	42	38	36	31	35	42	51	66	66	66	59
										3 Yr Ave.	64
										5 Yr Ave.	62
										10 Yr Ave.	53

The Student Cohort Survival Coefficient

Table 3 shown below provides information on the coefficient for each grade level transition over the course of ten years. The aggregate cohort survival of each grade level predicts future enrollment. The ten-year average coefficient for grades 1-4 (.9773) and five-year coefficient (.9972) show a small out-migration or loss of students. Over the most recent five year period, the student loss at grades 1-4 indicates a slight, negligible decrease.

For grades 5-8, there is a positive but slight in-migration of students. This was true for both the ten and five year analysis. For the period 2004-05 through 2013-14, the coefficient was 1.0042, while the most recent five year period beginning in 2009-10 shows a coefficient at grades 5-8 of 1.0285. In other words, grades 5-8 tend to retain students or actually attract additional students to Millis – especially I the past five years.

The coefficient drops dramatically between grade 8 and grade 9 as previously discussed. For the period 2004-05 through 2013-14, the coefficient was .8323 while the most recent five year period beginning in 2009-10 shows a coefficient at grades 9-12 of .8969. In other words, grades 9-12 are not losing as many students during the high school period over the past five years, but still average over the past ten years losing about 19 students between grade 8 and 12.

In summary, at most grade levels beginning with the transition from kindergarten to first grade and continuing through grade 12, there is a slight out-migration of students with exceptions already noted.

Table 3: Cohort Survival Coefficient

Cohort Survival Coefficient - Millis Public Schools

	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Preschool	51	50	53	55	74	78	77	70	74	82
Full day K	0.71	0.78	0.80	1.45	1.53	0.85	1.03	1.06	1.09	0.80
Half-day K	1.21	1.55	1.26	0.85	0.71	0.58	0.47	0.23	0.23	0.23
Total K	100	119	103	122	123	106	117	100	92	76
G1	1.05	1.02	0.97	0.95	0.97	1.01	1.01	0.97	1.01	0.99
G2	0.98	0.91	0.95	0.98	1.01	0.98	0.97	1.06	0.96	0.97
G3	1.04	0.96	1.01	1.02	1.01	1.02	1.00	0.99	0.98	1.02
G4	0.97	0.96	0.96	1.01	1.04	0.99	0.97	1.03	1.01	1.04
G5	1.01	0.96	1.03	0.98	1.03	0.99	1.11	1.01	1.01	0.98
G6	1.01	1.01	0.99	1.01	1.02	0.99	1.00	0.99	1.03	0.97
G7	0.98	0.93	1.04	1.00	0.95	1.04	1.01	0.96	0.98	0.95
G8	1.01	0.98	0.99	0.96	1.01	1.06	1.03	1.02	0.99	1.03
G9	0.70	0.78	0.77	0.85	0.80	0.91	0.92	0.94	0.91	0.91
G10	1.01	0.91	1.02	1.04	0.99	1.07	0.99	0.92	0.99	0.96
G11	1.07	1.01	0.97	1.02	0.98	0.97	1.03	1.00	1.02	0.95
G12	1.06	0.94	0.99	0.98	0.94	1.00	1.02	0.95	1.02	1.00
Integrated	0	0	0	0	4	5	4	0	0	0
Out of District	17	16	17	17	22	24	30	27	26	22

First Projection: The Five Year Student Cohort Survival Method

Table 4: Five Year Cohort Survival Coefficient Projection

Millis Public Schools Projected Enrollment - 5 Year Cohort Survival Coefficient

	Actual										
	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Preschool	82	76	76	76	76	76	76	76	76	76	76
Full day K	59	72	72	72	72	72	72	72	72	72	72
Half-day K	17	26	26	26	26	26	26	26	26	26	26
Total K	76	98	98	98	98	98	98	98	98	98	98
G1	91	76	98	98	98	98	98	98	98	98	98
G2	98	90	75	97	97	97	97	97	97	97	97
G3	112	91	76	98	98	98	98	98	98	98	98
G4	115	113	92	77	99	99	99	99	99	99	99
G5	117	117	115	94	78	101	101	101	101	101	101
G6	117	117	117	114	93	78	100	100	100	100	100
G7	97	116	115	115	113	92	77	99	99	99	99
G8	126	99	119	118	118	116	95	79	102	102	102
G9	88	116	91	109	108	109	107	87	72	93	93
G10	99	87	114	90	107	107	107	105	86	71	92
G11	97	98	86	113	90	107	106	106	105	85	71
G12	107	97	98	86	113	89	107	106	106	104	85
Integrated	0	0	0	0	0	0	0	0	0	0	0
Out of District	22	26	26	26	26	26	26	26	26	26	26
Total:	1,444	1,416	1,396	1,409	1,413	1,390	1,390	1,375	1,362	1,347	1,334
In-District	1,422	1,390	1,370	1,383	1,387	1,364	1,364	1,349	1,336	1,321	1,308

Total Enrollment - By Grade Configuration - 5 Year Cohort Model

	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Grade K-4	492	468	439	467	489	489	489	489	489	489	489
Grade 5-8	457	449	465	442	403	387	372	379	402	402	402
Grade 9-12	391	398	390	399	419	412	427	405	369	354	341
Out of Dist.	22	24	24	24	24	24	24	24	24	24	24
Total:	1,340	1,314	1,294	1,307	1,311	1,288	1,288	1,273	1,260	1,245	1,232
Preschool	82	76	76	76	76	76	76	76	76	76	76
Total In-Distr.	1,422	1,390	1,370	1,383	1,387	1,364	1,364	1,349	1,336	1,321	1,308

	3 Yr. Ave.	5 Yr. Ave.	10 Yr. Ave.
Grade K-4	489.4	489.4	480.0
Grade 5-8	401.6	391.2	410.1
Grade 9-12	354.8	379.1	391.2

Table 4 above provides enrollment projections based upon using only five years of historical data. The advantage of this model is that it captures recent variability, while not considering data or trends that were more than five years old. However, the five-year cohort coefficient survival model may predict lower than realistically anticipated enrollment because it is adversely affected by two smaller kindergarten classes in Millis in 2012-13 and 2013-14 – the two smallest in the past eleven years. These

two lower than expected enrollments depress future kindergarten projections since this data remains in the projection model throughout the next ten year period (i.e. at grades K, 1, 2, etc.). For this table, kindergarten full and half-day enrollment is based upon a five-year average of 72.0 full and 26.2 for half-day, totaling 98.2 kindergarten students, which is lower than the ten year average of 63.8/42.0 totaling 105.8 kindergarten students using ten years of historical data averaged.

In the five-year projection model in Table 4, the largest enrollment is in 2013-14 (1,444 students) while the lowest is in 2023-24 (1,334 students) a difference of 110 students. The average annual student enrollment over the ten year projection period would be 1,383 total students, and 1,357 in-district. It would be advisable to revisit future kindergarten enrollments to review the trend to improve the accuracy of the prediction models.

The total enrollment in each of the grade configurations by building provides additional information using the five-year cohort survival method. Over the ten year period, grades K-4 in Clyde Brown Elementary School would average 480 students versus an average of 542 students during 2009-2014, approximately 62 fewer children. The middle school would average 410 students over the next ten years versus 444.8 students during 2009-2014 period, a difference of about 34-35 students. The high school during these same comparison periods, would see an average of 391, which is about 10 students *more* than during the most recent five year period.

The five year projection model suggests that the Clyde Brown Elementary School and the middle school would see slightly fewer children enrolled on average during the next ten years, while the high school would see a slight increase in students.

Second Projection: The Ten Year Student Cohort Survival Method

Table 5 below provides enrollment projections based upon using ten years of historical data. The advantage of this model is that it assumes long term stability, and has a smoothing effect on unusual or infrequent data anomalies. However, recent trends are mitigated thus potentially losing some accuracy in projecting enrollments as well as old trends tend to remain in a calculation. For table 5, kindergarten full and half-day enrollment is based upon a ten year average of 63.8 full and 42 for half-day, totaling 105.8 kindergarten students using ten years of historical data averaged.

In the ten year projection model in Table 5, the total average enrollment shows a small average increase of about 5 students versus the previous five-year projection model. This can be largely accounted for by inputting the larger incoming kindergarten classes as mentioned above. The largest enrollment is in 2013-14 (1,422 students) while the lowest is in 2023-24 (1,346 students) a difference of 76 students. The average annual student enrollment over the ten year projection period would be 1,389 total students, and 1,367 in-district.

The total enrollment in each of the grade configurations by building provides additional information using the ten-year cohort survival method. Over the ten year period, grades K-4 in Clyde Brown Elementary School would average 515 students versus an average of 542 students during 2009-2014, approximately 27 fewer children. The middle school would average 421 students over the next ten years versus 444.8 students during 2009-2014 period, a difference of about 24 fewer students. The high school during these same comparison periods, would see an average of 365, which is about 16 students fewer than during the most recent five year period.

The ten year projection model suggests that the Clyde Brown Elementary School, middle school, and high school would see slightly fewer children enrolled on average during the next ten years. The ten year projection shows less of a reduction in students at grades K-8, while more of a reduction in grades 9-12.

Table 5: Ten Year Cohort Survival Coefficient Projection

Millis Public Schools Projected Enrollment - 10 Year Cohort Survival Coefficient

	Actual										
	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Preschool	82	66	66	66	66	66	66	66	66	66	66
Full day K	59	64	64	64	64	64	64	64	64	64	64
Half-day K	17	42	42	42	42	42	42	42	42	42	42
Total K	76	114	106								
G1	91	76	113	105	105	105	105	105	105	105	105
G2	98	89	74	111	103	103	103	103	103	103	103
G3	112	92	76	114	106	106	106	106	106	106	106
G4	115	112	91	76	114	106	106	106	106	106	106
G5	117	116	113	92	77	115	107	107	107	107	107
G6	117	117	116	113	92	77	115	107	107	107	107
G7	97	115	115	114	111	91	76	113	105	105	105
G8	126	98	116	116	115	112	92	76	114	106	106
G9	88	107	83	99	99	98	95	78	65	97	90
G10	99	87	106	82	98	98	97	94	77	64	96
G11	97	99	87	106	83	98	98	97	95	77	64
G12	107	96	98	86	105	82	97	97	96	94	77
Integrated	0	0	0	0	0	0	0	0	0	0	0
Out of District	22	22	22	22	22	22	22	22	22	22	22
Total:	1,444	1,406	1,384	1,410	1,403	1,385	1,392	1,385	1,381	1,373	1,368
In-District	1,422	1,384	1,362	1,388	1,381	1,363	1,370	1,363	1,359	1,351	1,346

Total Enrollment - By Grade Configuration - 10 Year Cohort Model

	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
Grade K-4	492	482	461	512	535	527	527	527	527	527	527
Grade 5-8	457	446	461	436	396	395	389	404	434	426	426
Grade 9-12	391	389	375	374	384	376	388	367	333	332	327
Out of Dist.	22	24	24	24	24	24	24	24	24	24	24
Total:	1,340	1,318	1,296	1,322	1,315	1,297	1,304	1,297	1,293	1,285	1,280
Preschool	82	66	66	66	66	66	66	66	66	66	66
Total In-Distr.	1,422	1,384	1,362	1,388	1,381	1,363	1,370	1,363	1,359	1,351	1,346

	3 Yr. Ave.	5 Yr. Ave.	10 Yr. Ave.
Grade K-4	526.6	526.6	515.0
Grade 5-8	428.3	415.6	421.2
Grade 9-12	331.0	349.5	364.6

Summary

Student enrollment projections were calculated for the Millis Public Schools based upon a historical analysis of enrollment using the cohort survival coefficient model window of both five and ten years. Additional data was examined and included regional birth rates, housing starts, and population trends in the town. The residential development data indicated that there are no major developments planned. With fewer births and fewer young children in the town, ages 0-5, incoming kindergarten classes are likely to be periodically smaller than in the past ten years. Smaller incoming kindergarten classes will have an affect across all grade levels over time as each incoming smaller kindergarten class “matures” into successor grade levels.

Preschool student enrollment has continued to increase. Although, there does not appear to be a correlation between the number of preschool children and later entrance into kindergarten. The mix of half-day and full-day kindergartens has changed dramatically over the past ten years, strongly favoring full-day attendance. This has created a need for between 1-2 additional classrooms annually over the past five years.

The transition between each grade level and its successor level typically sees a small decrease or out-migration of students annually. The largest decrease in students is the transition between grade 8 and the high school, with small out-migrations through grade 12. Although the out-migration continues, the past five years have seen less of a loss of students in the transition to high school (beginning in 2008-09). The only significant exception to the annual out-migration of students is the middle school years. Beginning with the transition to grade 5, there has been a positive in-migration of students. This is especially true in the past five years.

The School Committee permits non-resident students to attend school in Millis under a *choice* program. This program has grown over the past ten years, averaging well over 60 students annually. The increase has been especially significant in the past five years.

Due to a lack of large incoming kindergarten classes coupled with limited residential housing development and an aging town population, *the long term student enrollment projections predict a slight decrease in overall student enrolment between 2014-15 and 2023-24.* Using two predictive models, the five-year and ten-year cohort survival methods, the five-year suggests an average annual total enrollment of 1,383; while the ten-year projects 1,389 students on average. Compared to the previous ten years of actual data where the average annual total enrollment was 1,419, the five-year would be 36 students fewer annually, or a reduction of 2.5%. The ten-year prediction model suggests a loss of 30 students, or a reduction of 2.1%.

Regarding grade levels and buildings, the Clyde Brown Elementary School and the middle school would both see under either projection, fewer students on average over the next ten years than the actual average of the past five years (2009-2014). For the same comparisons, the enrollment at the high school would be slightly fewer under a five –year projection model, and slightly more under a ten-year analysis. Under every scenario and projection, *there is no long term anticipated increase in students that would further stress the size of each school and the number of available rooms.*

Section 3

Community Survey Analysis

Analysis of the Millis School and Community Survey on School Facilities

School Committee
Millis Public Schools
Millis, Massachusetts

February 25, 2014



Kevin S. Baughman, Ph.D.
Educational Planning Services

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Organization and Interpretation of the Analysis

Tetra Tech Architects and Engineers work with schools and communities to plan, design and construct effective 21st century school facilities. The Millis Public School Committee contracted with Tetra Tech to provide a review of facilities and the development of an updated long range facility improvement plan. To encourage community engagement and input into the planning process, Tetra Tech Educational Planner and consultant, Dr. Kevin Baughman, developed a survey instrument which also reflected input from school district. The on-line survey instrument was available on the district web site during October and November, 2013 and participation was voluntary. It was available to all students, staff, teachers, parents, community members, and others. Data was collected from approximately 187 survey participants through a series of open-ended responses. This document is a qualitative analysis summary of the responses to each question. The respondent total aggregate responses for each question are in a separate addendum document.

There are numerous strategies for interpretation of an open ended response format. The qualitative analysis strategies for analyzing open-ended survey questions may include coding, context redundancy, word frequency, examination of similarities or differences, and the recognition of unique ideas or comments. It is difficult to detect all subtleties of personal expression involving multiple ways of phrasing a particular idea. Since this was an open response to a general question, *the strategies used were: context or idea redundancy (frequency) and uniqueness of ideas*. The combination of these two strategies was intended to capture the essence of the participants ideas in a manageable manner.

Perceptual open ended surveys have a number of limitations. Perceptions are not necessarily reality. They are based upon knowledge, and influenced by personal values. The interpretation of the data comes with a level of subjectivity since the evaluator screens responses and attempts to aggregate and simplify. Although every attempt was made to objectify aggregation, this limitation is noted.

In the design of the survey in question 1, individuals selected the category that most closely represented them (e.g. Parent, K-8 Student, 9-12 Teacher, Community, etc.). However, some respondents selected a sub-group for which they were likely not a member (K-8 student) feeling that they could respond for their child. This was evident in some of the responses in student categories which were unlikely made by students. Regardless of any co-mingling, most sub-groups responded in a similar manner and with similar responses to most questions. Therefore, importance of sub-groups in responding became less important. Further, some of the response groups represented less than 1% of total responses. In the case of sub-group “Community”, and “Other”, due to their lack of participants, the responses were aggregated into the “Parents” sub-group, that being the largest group.

In some cases where the middle school and high school facility needs are co-dependent and there is much greater sharing of common space, the analysis was aggregated.

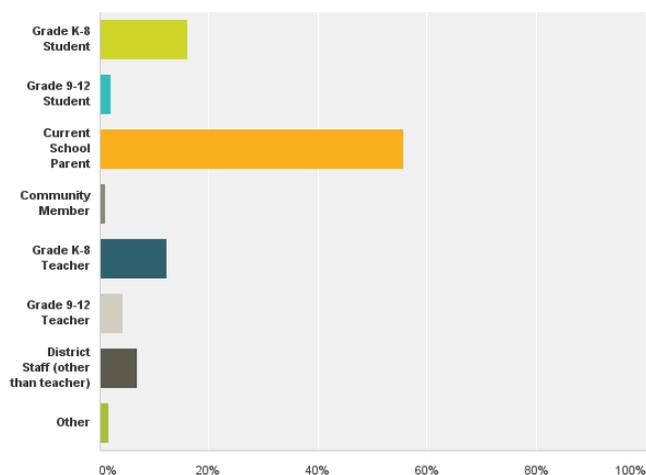
Kevin S. Baughman, Ph.D.
Educational Planning Consultant
On behalf of Tetra Tech Architects & Engineers
Framingham, Massachusetts & Albany, New York

Executive Summary

Question 1: The initial question asked each respondent to identify their subgroup.

Q1 Please check the box that most closely describes you.

Answered: 187 Skipped: 0



Answer Choices	Responses	
Grade K-8 Student	16.0%	30
Grade 9-12 Student	2.1%	4
Current School Parent	55.6%	104
Community Member	1.1%	2
Grade K-8 Teacher	12.3%	23
Grade 9-12 Teacher	4.3%	8
District Staff (other than teacher)	7.0%	13
Other	1.6%	3
Total		187

Question 2: Survey respondents shared perceptions regarding the challenges and benefits of relocating the fifth grade back to Clyde Brown from the middle school. *Regardless of position, a person will use developmental appropriateness, learning opportunities, and space availability to support a position for or against the relocation.* The challenges focused on a dominant concern that there was a lack of space at Clyde Brown plus a potential lack of learning resources for fifth graders (technology, Unified Arts, etc.). Additional challenges included lunch schedules, limited physical education space, and staffing changes. There was a general sense that the fifth grade transition is well organized and provides instructional and developmental benefits to fifth graders housed at the Millis Middle school.

The benefits of a fifth grade returning to Clyde Brown focus on the perception that it is more developmentally appropriate. Further, that is beneficial separating the fifth grade students from the language and behavior of older students. Finally, that the move would free up space at an already crowded middle and high schools.

Interestingly, one suggestion was that a possible space solution would be to move the Extended Day and Pre-School programs to the Community Center or rent the old Episcopal church for a Daycare/ Preschool/ Kindergarten Center. Then, you could create elementary grade clusters of 1-2, 3-4 and 4-5.

Question 3: Respondents shared views on the availability of space and layout of the buildings for children with special educational needs. Some of the participants who have limited knowledge of children with special needs were unable to provide relevant information. *At Clyde Brown*, there is a consistent perception of a lack of space to meet the unique needs of children with disabilities. This is especially important in providing required intervention services as required on each child's IEP including test accommodations. Some of the therapists (OT, PT, etc.) are working in improvised and inappropriate locations including music rooms. *At the middle school*, the perceptions include concerns that the middle school facilities may lack accessibility for some disabled students – especially regarding access to an elevator. There

remains a lack of suitable smaller spaces for therapies – especially for test accommodation. The Learning Center is perceived to be small. *At the high school*, special education needs for custom spaces are impacting already tight quarters for regular instruction. Some of the spaces for special needs are very small. The offices for Special Education located at Clyde Brown lack parking for parents for meetings.

Question 4: This question asks participants to provide input on the space and layout of each library and the resulting impact on students and staff. While some respondents perceived the available space in the *Clyde Brown library* as adequate, others would contend that the space in the library lacks technology, needs to be automated, requires small spaces, and a conference room. Some of the stress on space is the result of the library being used for many non-library tasks including student tutoring, test accommodation, and adult work spaces or offices. At the middle/high school library, some survey participants perceive the current middle/high school library is adequate because of the new Millis Town library available to students. Other responders indicate that similar to Clyde Brown, the library should not also be used for non-library purposes. The library lacks a dedicated classroom separate from the main library. There appears to be a demand for more technology and small spaces for small group work, research and collaboration. Some respondents also reported the challenges of sharing a library between two schools. Despite these challenges, there were positive comments that the staff “make it all work”.

Question 5: Survey respondents were asked to identify what space/layout was needed in each building to better support project based learning and the use of technology by 21st century learners. This question spurred much thought and reaction. Responding to what is needed in *All Schools*, students need effective and reliable wireless, bluetooth connectivity, tablets for each student, a network back-bone, appropriate hardware, software, smart boards, intelligent white boards, easy hookup of iPad or PCs, audio and teleconferencing accessibility, video conferencing, and good internet access. There was a consistent request for more spaces for technology and project based learning and collaboration. There were suggestions for more flexible spaces/classrooms that could be adjusted in size, lighting, etc. to accommodate various activities. All classrooms need working telephones. Regarding *Clyde Brown Elementary*, there appears to be a greater focus on the social interactions of the child and a focus on hands-on learning vs. enhancing technology tools. The requests for technology enhancements were modest compared to the upper grades. The focus is greater tools for teachers (IPads, smart boards) with some support for more mobile technology that teachers can choose to access. There were consistent requests for a better more reliable network for access to internet, etc. At the *middle/high school*, there was a consistent perception that the middle/high school buildings needed updated computers and other technology. There was a sense that this technology should be more readily accessible by students and staff. There was indication there is not a consistent connectivity of the computer network. Increased use of smart boards and hanging projectors would be helpful. Teachers would like to not have to be plugging in and setting up technology before class instruction. Space is needed to set up and have students collaborate on projects. Improved lab/science space is needed. At the middle school, children may not get to work on any computers other than limited iPad use. 24/7 computer/internet access would be desirable. There remain some who fear digital will supplant dialog and discussion.

Question 6: This question inquires about the level of security provided by the current configurations of each building. *for all schools*, there is a strong consistent suggestion that there be more cameras indoors and out – including parking lots. There was mention of adding a second vestibule to main entrances as a second tier of security. Some suggested that merely wearing the security badges would be helpful as well as not propping open exterior doors during the school day. Some respondents felt the existing processes provide adequate security. Regarding *Clyde Brown*, due to the high visibility of Clyde Brown staff, many responding to the survey felt that the building was relatively secure. Concerns were expressed regarding dismissal, drop off/pick up locations, and traffic bottlenecks. There were comments regarding the buzz-in system and the need to visibly see the person before letting in. A suggestion was to include a

second vestibule. Again, there was mention of the need for staff to wear id badges similar to the “all schools” information mentioned above. Regarding the *middle school and high school buildings*, the key issues shared by survey participants regarding security at the middle and high schools concerns the location of the middle school offices, and the buzz-in system for both buildings. Outside people can access the building by being buzzed in and then not go into the office to sign-in. There is no barrier or vestibule to direct a potential unwanted visitor from walking past the offices. There appears to be some issues with a person signing in in one office and then going into other areas (middle school, e.g.). There also remains a significant concern among middle school staff regarding a lack of locking between interior classroom to classroom doors.

Question 7: This survey question focused on the space and layout of the facilities regarding music and art programming. At *Clyde Brown*, there appears to be a lack of sufficient space for both art and music. There is a lack of practice space and music performance space is restricted to the Cafeteria. Kindergarten does not participate in the music program. In particular the music room size, condition and location are not ideal. At both the *middle school and high school*, similar to the concerns at Clyde Brown, there is a general perception that the spaces for art and music programming are not ideal. The band and music programs are in old wood shop room. The art and music rooms are also used by other disciplines and sharing of spaces is common. The condition of the auditorium could use some upgrading of lighting and sound equipment.

Question 8: This question examines how Physical Education & Athletics programming is impacted by available interior space and layout of the outside grounds. At *Clyde Brown Elementary School*, there was positive feedback on the new playground. The Clyde Brown gym generally appears to meet school needs although there was mention of need for better ventilation. The primary issue is the lack of access to the Millis Town fields which limits the PE programming for students. At the *middle school/high school*, the comments regarding the availability and conditions of athletics regarding indoor and fields focused on a lack of quality fields, the need for an updated track and main playing field, the location and size of the existing weight room, and the need for more gym space. The lack of the indoor and outdoor facilities are perceived to seriously impact the physical education and athletic opportunities for students and community. There appears to be a frustration for an inability to resolve these long identified needs between the various municipalities and the school.

Question 9: The survey question asks how increasing enrollment has affected student learning and services to students. At *All Schools*, respondents indicated a concern for the sheer number of children in classes and hallways. The scale of the buildings wasn’t designed to accommodate the number of children currently in the schools. There remains a need for smaller spaces and places for student and staff collaboration. Although staffing would help with some overcrowding, you would need more classrooms. More specifically, at the *Clyde Brown School*, the student class size within classrooms remains a concern of respondents. This is especially true within the Spanish Immersion program. There is also some concern that due to enrollment and budget some children who require additional services are being denied needed services due to the number of students in the buildings and/or lack of resources available. Even if enrollment is beginning slight decline as shared by some participants, the facilities are being stressed due to total children currently inhabiting the facility. At the *middle and high schools*, there is concern for the student – teacher ratios. The larger ratios make it difficult for teachers to differentiate or provide individual student attention. Some classes are quite large. Due to the increased students, some high school classes are forced to hold class in the middle school. The number of students also makes the therapist caseloads high.

Question 10: This question collects perceptions on ways current school facilities limit educational programming. The comments are aggregated and not separated by facility. Due to a combination of student enrollment and size of cafeterias, the eating times begin very early and go far beyond a traditional lunch eating time. The technology must be

updated and accessible. Athletic fields and indoor athletic facilities need upgrading. There is a high demand for storage. Due to so many classrooms being shared for multiple purposes, many teachers are on carts and sharing spaces affecting preparation and the content and richness of lessons. There lacks spaces for quiet study in either the library or elsewhere. There is a lack of adequate music spaces.

Question 11: The survey question inquires about examples of sharing of staff, services and facilities within the schools. The staff, administration and School Committee of the Millis Public Schools aggressively pursue and engage in many sharing opportunities to reduce costs and stretch resources. Examples include: Middle/High School cafeteria, music and art space, nurses, reading and specialists. Sharing also includes physical education staff, special education staff, facilities staff, and technology staff. Teachers are shared between buildings and teacher aides. Shared spaces include the HS/MS Library, MS/HS gym, and MS/HS cafeteria. The outside athletic fields are shared with the Millis Town (and vice versa). Art and music teachers are shared. Technology and computers are shared too. Classrooms are shared among many teachers who travel on carts.

Question 12: The final survey question focuses on anything else the respondents wish to share regarding facilities and future needs. The School Committee should consider developing a Long Range Strategic Plan for school and instructional improvement. All children should have an iPad or other tablet to study with. Schools need to be expanded and updated. The parking, driveways, and pickup & drop off for both schools are need to be addressed. Facilities need to be remodeled to bring them more current, with new heating units. I love Millis and am proud to call this town my home. I love the schools attitude towards advanced learning and I love the staff at each school. Car drop-off and pick-up line should not be running through a parking lot. Need a bigger lunch room. The locker room facilities are in awful condition. Cleanliness and updating are needed at all facilities at all times just like a house. All parking areas are extremely dangerous to students. Computer access is needed in all rooms as well as better music and art facilities. Fields need updating and expansion in order to be more viable in the future. The school needs a cosmetic update and an update to today's learning style. I feel like the town has come a long way but our schools have been left behind. Money should be spent to upgrade the restrooms at Clyde Brown. You should think about the church for sale across the street to annex as part of your campus.

Summary of Responses by Question by Sub-Group

Q2 If the fifth grade relocated to Clyde Brown Elementary School, what would be the challenges and the benefits?

Answer Choices	Responses –
Challenges	91.19% 145
Benefits	89.94% 143

Challenges ...

School Parent

Clyde Brown already taxed, outdated, and lacks sufficient space. Concern that 5th graders would not have enough access to computer labs, and resources. Relocation would be a real challenge. Closets are already used for offices. Other concerns included disparate ages in the school if fifth grade returned, plus, children like changing classrooms.

District Staff (other than teacher)

Staff perceived a loss of student freedom and loss of academic time due to recess as well as loss of Unified Arts. Others also felt there would need to be an increase in staffing. Other staff voiced a concern about a change in working environment (working with younger children.)

Grade 9-12 Student

Space

Grade 9-12 Teacher

Space and reintegrating/re-assimilating to elementary.

Grade K-8 Student

Major concern is space, and scheduling for lunches. Additional mention of small parking lot.

Grade K-8 Teacher

The fifth grade team has developed a transitional program for fifth graders. Some fifth grade teachers are content certified and not necessarily elementary certified. Thought that if parents of fifth graders were surveyed, an overwhelming approval rate. It would shift to 6th grade the transition needing to spend time on transition. Fourth graders would lose their "big person" status. Room and scheduling for physical education classes.

Benefits ...

School Parent

The primary benefit of relocating the fifth grade students to Clyde Brown is the concern of the developmental appropriateness of fifth grades being placed in the same facility as middle and high school students. There was a sense that 5th graders are closer in maturity to 3rd & 4th. There is a concern regarding busing and dismissal. There is a sense that an additional year in a smaller, more nurturing environment is beneficial to the students. A smaller school with staff that the students already know. There was a concern that it is a big step between 5th and 6th graders emotionally, physically and socially. An additional benefit mentioned was that this might free up instructional space at the Middle/high School facility.

District Staff (other than teacher)

Concern that children have to grow up too fast if fifth grade continues at middle school. Some saw the benefit in the elementary setting through peer role models for younger students. Others saw it as an additional year to prepare for middle school. The issue of freeing up space at the middle school was also mentioned.

Grade 9-12 Student

Benefits included the fifth grade having a leadership role plus it would alleviate a crowded high school.

Grade 9-12 Teacher

The dominant response was it would ease crowding in the middle and high schools. Also mentioned was the delay in transition to middle school. Lunch schedules at middle and high school might be eased.

Grade K-8 Student

Primary belief that 5th graders should be in elementary school, apart from high school, not influenced by the language and behavior of older children.

Grade K-8 Teacher

Fifth graders are young and immature and would benefit by remaining at the elementary an additional year. A continuing perceived benefit is that this would free up space at the crowded middle and high school. There was a perception that this might allow fewer teachers in the district to not have to travel between buildings.

Q3 How are children with special needs impacted by the available space and current layout of each building?

Answer Choices –

Clyde Brown School
 Millis Middle School
 Millis High School

Responses –

83.61% 102
 77.87% 95
 64.75% 79

At Clyde Brown ...

School Parent

Parents indicated that there is little segregated space for children with disabilities. There was a general sense of a lack of private space for therapies (OT, PT, speech, psychological services, counseling). Limited space at Clyde Brown limits options for certain children requiring customized spaces as part of an IEP. There was specific mention of the integrated special needs preschoolers program lacking access to 2-3 small size toilets.

District Staff (other than teacher)

Staff indicated a lack of a private location for services for children with disabilities.

Grade 9-12 Student

Insufficient responses

Grade 9-12 Teacher

Insufficient responses

Grade K-8 Student

Respondents predominantly did not have sufficient knowledge to respond. Others indicated that specialists often come in to classrooms to provide services since there is sometimes a lack of space.

Grade K-8 Teacher

Availability of space to accommodate children with disabilities is limited at Clyde Brown. There is insufficient space to provide adequate services. Specialists (OT e.g.) are working in the music room, which could be distracting. It is difficult to meet the special secluded test accommodations for children as required on some IEP's.

At Middle School ...

School Parent

Many responses indicated the parent was unaware or lacked suitable knowledge to respond. It was shared that there may be a lack of access for students with physical disabilities – lacking ramps and an inconvenient location of a single elevator. The Learning Center when moved to the middle school has is smaller than when at Clyde Brown.

District Staff (other than teacher)

Space remains an issue – it is difficult to find an empty room to take small groups of students who need an alternate setting to take tests/quizzes. A single elevator requires a key to operate.

Grade 9-12 Student
<i>Insufficient responses</i>
Grade 9-12 Teacher
Lack of space creates challenge for providing services for small groups. Most classes on the second floor while lunch/nurse/gym on first floor. Children using the faculty bathrooms.
Grade K-8 Student
Not enough space - one resource room for middle school that is very small.
Grade K-8 Teacher
Insufficient space to provide adequate services. Learning Center could probably use a bigger space.

At High School ...

School Parent
A large number of responses indicated a lack of knowledge or experience in this area. Special education needs for custom spaces are impacting already tight quarters. The main Special Education Office should be at the High School not at Clyde Brown. Parking for meetings an issue.
District Staff (other than teacher)
Somewhat lacking in space for interventions.
Grade 9-12 Student
<i>No new information shared.</i>
Grade 9-12 Teacher
It is difficult to provide services for small groups due to a lack of space, especially when testing. Already large class sizes are further challenged by many students with IEP's. Very small rooms and others are in closet like settings. All offices are at CFB, creating a feeling of isolation from PPS decision making. The extended day room is in a classroom that needs space for testing.
Grade K-8 Student
<i>No new information shared.</i>
Grade K-8 Teacher
Insufficient space to provide adequate services.

Q4 How does the current school Library available space and layout meet student and staff needs?

Answer Choices –	Responses –
Clyde Brown School	81.29% 113
Millis Middle/High School	80.58% 112

At Clyde Brown Library ...

School Parent
The library should be for library purposes only, not for special classes/teachers. There needs to be better integration between the tech space and library space to teach kids how to perform research. The layout creates disruptions as a cut through from one side of the building to the other. There lacks private conference areas and spaces for meetings. The library needs automation and is lacking in technology. The library is used for so many meetings and student testing that it is hard for the Librarian to be effective. The library is used for small group or personalized tutoring while library class is going on.
District Staff (other than teacher)
CFB Library decreases every year to accommodate other staff offices/cubicles and may not be suitable for student and staff needs.
Grade 9-12 Student
<i>No new information shared.</i>

Grade 9-12 Teacher
<i>No new information shared.</i>
Grade K-8 Student
The library is very hot in the summer. A separate entrance that isn't near where the librarian reads with the students would an improvement.
Grade K-8 Teacher
Need a good meeting space for the staff. It would be nice to see more of a Media Center rather than just the library. It would be nice to have smaller learning spaces and more technology access. It is hard to give tests or use the library for an extra work space as other classes are there picking out books.

At Middle School/High School Library ...

School Parent
Some respondents perceive that the middle/high school library is adequate – especially with the new Millis Town Library available to students. The library should be used for library use only, not for special classes/teachers. The library does not have the space for quiet learning/study. Library class should be in a classroom partitioned from rest of space.
District Staff (other than teacher)
Is a well maintained and organized space that accurately meets the needs of all students.
Grade 9-12 Student
There should be sufficient computers and enough seats for every student.
Grade 9-12 Teacher
There should be more technology available as well as areas to support small group instruction. There needs to be more space to separate classes in library and students working independently. It is a difficult setting for the younger students when the high school is in the library. More space is needed for students to work quietly or collaborate.
Grade K-8 Student
<i>No new information provided.</i>
Grade K-8 Teacher
There is not enough technology or areas to support small group instruction. It is difficult to send small groups of middle school students down to use space in the library. The library staff make everything work out. There is no "classroom area" for library class. Library space is crowded between the 2 schools. The library is great. I think it's a perfect size for all of our needs.

Q5 In preparing 21st century learners for the digital age, what is needed in each school building regarding space or layout to better support project-based learning and the use of technology in the classrooms?

Answer Choices –	Responses –
All Schools	72.13% 88
Clyde Brown	36.89% 45
Millis Middle	32.79% 40
Millis High School	25.41% 31

At All Schools ...

School Parent
Technology should be one of many tools, but not the only tool. Our students need effective and reliable wireless, Bluetooth connectivity, tablets for each student, a network back-bone, appropriate hardware, software, smart boards, intelligent white boards, easy hookup of iPad or PCs, audio and teleconferencing accessibility, and good internet access. Needed is open space for group and project activities. Larger classrooms would be helpful for group activities. Portable digital media for books vs. investing in more library space. Classrooms that are more flexible - can be easily converted into larger space, smaller space, depending on the class needs and technology being used. A technology lab space for project based learning would be ideal.

District Staff (other than teacher)
<i>No new information shared.</i>
Grade 9-12 Student
Better lighting. Teachers knowledge and use of technology would also be helpful. Textbooks on the digital device. Printing capacity during studies. More plugs in convenient locations I each classroom.
Grade 9-12 Teacher
Better and more reliable wireless. We need greater electric capacity to keep the equipment charged. Printers that work with ipads. More spaces for students to collaborate without being distracted by other students working/collaborating.
Grade K-8 Student
Video conferencing capability. Workrooms for project work. Language labs. All classrooms need working telephones
Grade K-8 Teacher
<i>No new information shared.</i>

At Clyde Brown School ...

School Parent
Some concern about focusing more on hands-on learning vs. more technology. More computer accessibility especially iPads. The type of different tables in the classroom that would better support group discussion learning. Traveling technology carts/mobile technology.
District Staff (other than teacher)
IPads for teachers. Availability for students to access IPads. Better network connections.
Grade 9-12 Student
<i>No new information shared.</i>
Grade 9-12 Teacher
Better wireless network. Smart boards, typing classes.
Grade K-8 Student
<i>No new information shared.</i>
Grade K-8 Teacher
CFB needs more labs plus we need additional power accessibility in classrooms. A broader wireless bandwidth. Furniture to foster collaborative work. Teachers need IPads. A network that does not drop connections.

At Middle School & High School ...

School Parent
Updated technology I all classrooms. There was a sense that this technology should be more readily accessible by students and staff. There was a continued sense that there is not a consistent connectivity of the computer network. Increased use of smart boards. Space is needed to set up and have students collaborate on projects. Improved lab/science space. At the middle school, children may not get to work on any computers other than limited iPad use. 24/7 computer/internet access. There remain some who fear digital will supplant dialog and discussion.
District Staff (other than teacher)
Smart Boards, teacher iPads. Very hard to get consistent internet access.
Grade 9-12 Student
<i>No new information shared.</i>
Grade 9-12 Teacher
Printers that work with iPads, keyboards for iPads, laptops, mounted projectors, more computers that are centrally located.
Grade K-8 Student
Better wireless network, video conference, on-line learning courses. Smart board use integrated with curriculum. More Computer usage training.
Grade K-8 Teacher
Mounted projectors and ready docu-cameras without having to plug in. Improved wireless connectivity. Classrooms need more electrical outlets, modern computers, mounted projectors .

Q6 How does each building's current design provide adequate security and protection of students and staff? What might be needed?

Answer Choices –	Responses –
All Schools	55.91% 71
Clyde Brown	45.67% 58
Millis Middle	31.50% 40
Millis High School	26.77% 34

At All Schools ...

School Parent
Surveillance cameras throughout (interior, exterior). Student ID's with a scanner (like the teachers). Speed bumps to slow traffic. A second secure layer or entrance after main front doors. Need staff badges and staff need to wear them. The buzz in system works. Cameras in all parking lots. Better lighting in the evening.
Current District Staff (other than teacher)
Staff should be wearing ID badges. I feel the designs of both schools provide adequate security and I never feel that my kids are not safe there. Double entries might be helpful in all buildings.
Grade 9-12 Student
<i>No new information shared.</i>
Grade 9-12 Teacher
Using the passkey to enter, having parents checking at front office and wear name badges. Needs updating to include newer technology for door and window access. Security - telephones in each classroom.
Grade K-8 Student
<i>No new information shared.</i>
Grade K-8 Teacher
<i>No new information shared.</i>

At Clyde Brown School ...

School Parent
Clyde Brown's security is pretty good. Security for extended day is not as strong. Not enough parking, bottlenecked entry/exit points. The drop off location for children is not good. It's not great that anyone be buzzed in without having seen the person. The Extended Day annex is unlocked. Each classroom should have a door that locks. Needed is a door separating the sign-in area from the hallway. There should be a second set of doors after the foyer at main entrance.
District Staff (other than teacher)
There should be a front door lock/video monitor system with key cards for staff.
Grade 9-12 Student
<i>No new information shared.</i>
Grade 9-12 Teacher
<i>No new information shared.</i>
Grade K-8 Student
I feel like the current traffic flow in the afternoons of children being dismissed is a nightmare
Grade K-8 Teacher
Visitors don't always wear visitor badges. Workers don't wear badges to show they belong in the building. Staff could have ID badges.

At Middle School & High School ...

School Parent
Problem with the buzz-in system - you can't enter as a guest in one building and then wander the halls in the other. Need cameras in hallways. Been buzzed in and gone right upstairs to the middle school and middle school office should be located near the entrance. Little to stop an intruder from passing right past the office with little recourse. Tightened security at front entrance - additional door? window? During school hours you shouldn't be able go directly into the school halls but instead a door should be installed in the foyer .
District Staff (other than teacher)
After ringing people in from the main office, it is nearly impossible to make sure they stop in the main office to sign in.
Grade 9-12 Student
<i>No new information shared.</i>
Grade 9-12 Teacher
Offices more closely placed to prevent persons from walking from one end of the building to another.
Grade K-8 Student
If going to the Middle school office - the signing in at the HS office is not enforced.
Grade K-8 Teacher
Doors do not lock between classrooms at the middle school -this could be a security issue. Middle school office being in the back of the building is a safety issue. A concern at the middle school has always been how our classrooms connect. Could have a badge ID system for students and teachers.

Q7 How are Music and Art programming impacted by available space and layout at each school building?

Answer Choices –	Responses –
Clyde Brown	79.59% 78
Millis Middle	56.12% 55
Millis High School	41.84% 41

At Clyde Brown School ...

School Parent
Music and Arts should definitely have their own dedicated, and not small, space at all schools. Band and music are stuffed into hallway to loading dock - need better individual and group practice spaces. Performance space is non-existent. Kindergarten doesn't have music. Lack of performance space. There is insufficient space for both music and art programs within the current layout at Clyde Brown.
District Staff (other than teacher)
Cafeteria stage needs to be used for performances. One classroom for chorus and band to share.
Grade 9-12 Student
<i>No new information shared.</i>
Grade 9-12 Teacher
It would be lovely for the children at CFB to not have music in the cafeteria.
Grade K-8 Student
The music teachers are stuck in a room in the back of the school & that they have to constantly change locations based on the class/grade level.
Grade K-8 Teacher
There is limited space for the band to practice. Music has no true space at the CFB. Performance space that is not part of the cafeteria. The music room is inadequate and the art room should be larger.

At Middle School & High School ...

School Parent
We need better auditorium equipment and space. The band and music programs are stuffed into old wood shop room - need better spaces. The art room doubles as the writing skills room.
District Staff (other than teacher)
<i>No new information shared.</i>
Grade 9-12 Student
Art room is shared with math class.
Grade 9-12 Teacher
<i>No new information shared.</i>
Grade K-8 Student
I have heard that the band room gets very hot in the warmer months. Better ventilation or AC?
Grade K-8 Teacher
The skills teachers would be better off with their own classrooms. Only one art room, shared music staff, shared music space with high school. Middle school students also have to travel through the high school in order to get to these classes. The art teacher currently shares a room with a regular teacher.

Q8 How are Physical Education & Athletics programming impacted by available interior space and layout of the outside grounds?

Answer Choices –	Responses –
Clyde Brown	62.60% 77
Millis Middle	57.72% 71
Millis High School	60.16% 74

At Clyde Brown School ...

School Parent
Nice sized gym. New playground is fantastic. Only the 1 gym space in the CFB facility. Back field is always muddy or the grass is ruined by weekend activities.
District Staff (other than teacher)
Kids use 1/2 the gym so there are 2 classes going at once. Pre-K seldom gets to use the gym space. CFB is not allowed to use the fields outside. The back field is constantly in need of repair and unusable.
Grade 9-12 Student
<i>No new information shared.</i>
Grade 9-12 Teacher
<i>No new information shared.</i>
Grade K-8 Student
<i>No new information shared.</i>
Grade K-8 Teacher
The Physical Education teachers must share the fields with the town. DPW is mowing or watering the grass during class time. Gym is stifling - no fresh air and a strong smell of urethane. Need beginnings of wellness equipment to enhance programming. PE would like to be able to use the back field without restriction. A bigger gym would allow for more space for the children.

At Middle School and High School ...

School Parent
We desperately need a real track and we would benefit from more and better fields. The gym is too small. The bleachers are a hazard. There is not enough gym space. The middle school sports are left with town fields. The fervor over the fields was the tail wagging the dog. A stadium for a town that can't field its' own football team was absurd. Limited facilities and state of disrepair make it difficult for Millis to host athletic events. No showers and lack of adequate locker rooms. Fields are inadequate, there are not enough fields and they are unsafe fields. The Town needs to develop a more fields for soccer & baseball. The weight room should be upfront and accessible to all students, not located in the bowels of the school by the boys' locker room. Fields are taking too long to resolve. It has been years with no progress. The current fields are inadequate and a liability.
District Staff (other than teacher)
The locker rooms are in poor condition for children to shower in after P.E. classes.
Grade 9-12 Student
No new information shared.
Grade 9-12 Teacher
School teams often have to play 'home' games at other schools. The gym space is limited. Sports practices run late because of the lack of availability. It is tough to have kids practice until 9pm.
Grade K-8 Student
No new information shared.
Grade K-8 Teacher
Teams had to cancel practices and/or shorten them tremendously due to lack of field space.

Q9 How has recent increasing enrollment affected student learning and services to students?

Answer Choices –	Responses –
All Schools	50% 57
Clyde Brown	35.96% 41
Millis Middle	26.32% 30
Millis High School	21.05% 24

At All Schools ...

School Parent
Schools should have a cap on size of either 1:20 or 1:22. Teacher aides should be provided where needed. Shared teachers between schools does not work well. We should also be seeking/securing funding through grants, corporate underwriting and sources other than debt exclusions. Small class size is desired. Cramped classrooms, teachers without classrooms and hallways that are jammed due to student enrollment. The lack of space for quiet time or collaborative learning is an issue. All of the schools could use more staffing to alleviate the overcrowding.
District Staff (other than teacher)
Rooms are packed tight.
Grade 9-12 Student
No new information shared.
Grade 9-12 Teacher
No new information shared.
Grade K-8 Student
No new information shared.
Grade K-8 Teacher
No new information shared.

At Clyde Brown School ...

School Parent
Classes in excess of 20 - 24 students is not ideal. Spanish Immersion needs more space for such a large class. Child with clearly-defined special education needs was diverted and denied necessary services because of fewer resources. Class size is growing beyond sustainable levels.
District Staff (other than teacher)
<i>No new information shared.</i>
Grade 9-12 Student
<i>No new information shared.</i>
Grade 9-12 Teacher
<i>No new information shared.</i>
Grade K-8 Student
IEPs & children receiving support outside of the classroom aren't always receiving it because the providers are overbooked. Copy machines used more frequently, but they are sometimes broken or are constantly being used.
Grade K-8 Teacher
Very crowded and no empty space.

At Middle School and High School ...

School Parent
PE class are too big because the other specials are also full. Sometimes slow to respond for learning services , not enough staff available.
District Staff (other than teacher)
Greater student/teacher ratio with classes having as many as 27 students. As many as 10 could be on IEPs.
Grade 9-12 Student
<i>No new information shared.</i>
Grade 9-12 Teacher
Teachers who change classrooms can't make it to class on time. High school students are in MS classrooms due to numbers of students. Small lockers do not allow students to store sports equipment so they wind up in classrooms or on the floor.
Grade K-8 Student
A lack of individual instruction is further limited by the number of children in a classroom. There are too many children "falling through cracks". The quiet ones get left behind. Student/teacher ratios are too high.
Grade K-8 Teacher
Larger classes=less personalization and differentiation. The caseloads for specialists are overburdened. Increased class sizes and demands on technology, resources, and personnel. Teachers on carts moving from classroom to classroom is not ideal and is inefficient.

Q10 In what ways are current school facilities a limiting factor for educational programming?

School Parent
The early serving lunch at 10:30 am is just an example of how the buildings don't fit the population. Classrooms need to be conducive to hands-on learning. Modern technology must be accessible. Shared middle school and high school with only one cafeteria is limiting. Fields are inadequate for the demand. Technology availability is limiting. No offering of basic trades is a disservice to the students. The teachers, faculty and staff are the most important factor and they are great. Space is run-down, inadequate (not enough) or just doesn't fit today's learning environment and technology. The heating system is out of whack, arts and athletic facilities are very limiting, horrible science facilities, and no storage. The Lunchroom is very small.

District Staff (other than teacher)
At least 6 MS teachers travel with carts from room to room disrupting planning, preparation and delivery of quality instruction. Extended Day Program could benefit from using the CFB library, and computers. Too many teachers sharing classrooms.
Grade 9-12 Student
Needed are more areas to provide confidential counseling.
Grade 9-12 Teacher
There is nowhere for students to go to study quietly when classrooms are crowded and the library is being used. Large class sizes are limiting. Inadequate cafeteria space. The offices are too spread out for administration. There is a lack space for teachers (both of academic and extracurricular) to have a place to store materials and plan. Science labs and not of the correct size and arrangement to host classes of the large sizes that are taking place -- thus creating a potentially unsafe environment.
Grade K-8 Student
Lack of adult restrooms. There needs to be greater choice of language classes (at least another option other than Spanish).
Grade K-8 Teacher
Holding programs in the cafeteria at CFB is difficult when lunches are being prepared. The skills teachers should have their own classrooms. There is not enough space available during the school day for small group instruction, therapies, or additional instructional support services. The lack of technology and performance spaces are the most limiting factors. Technology infrastructure planning is huge. 3rd and 4th graders need continued use of the full gym at CFB for safe participation in learning. The PE and field facilities are not in good condition. Many classrooms are small and not conducive to projects, group work or storage of project materials. Space for additional interventions (RTI) to take place are limited.

Q11 What are examples of sharing of spaces, programs and staff between the Millis School buildings?

School Parent
Examples of sharing include: music is shared, Middle/High School cafeteria, share the music and art space, Nurses, Reading specialists. The Physical education staff are shared as well as SPED staff, facilities staff, and technology staff. Teachers are shared between buildings. So are teacher aides. The MS/HS Library is shared. The MS/HS gym is shared. MS/HS cafeteria is shared. The outside athletic fields are shared. Art and music teachers are shared. Computers too. Classrooms are shared among many teachers who travel on carts.
District Staff (other than teacher)
Extended Day Program shares all spaces with the other groups that need it.
Grade 9-12 Student
The art room in the middle school is shared with a math class.
Grade 9-12 Teacher
Teachers share classrooms often. UA staff are shared. The MS/HS library is challenging, as HS is often not allowed in when MS is in. We share gym/athletic fields, leading to poor timing for practices, games and added pressure on maintenance staff. The health teacher is shared. Teachers frequently sharing rooms or offices.
Grade K-8 Student
<i>No new information provided.</i>
Grade K-8 Teacher
Middle school students share the playground with Clyde Brown (and vice versa). MS and HS share counselors. Middle and high school share a faculty room. Middle school, one teacher at each grade level moves from classroom to classroom on a cart. Auditorium shared between middle and high school and community groups. Skills teachers have to share classrooms. The Millis town is always in need of our space for sports teams as well. Occupational Therapist currently shares a room with a special educator. The 6th grade and the writing skills teacher have to travel. In 8th grade, a math teacher has to travel. Some specialists and some support staff work between buildings are shared. Staff bathrooms in the middle school are shared with students with special needs.

Q12 Please feel free to add any additional comments about the Millis Public School facilities and future needs.

School Parent

Community Cable as a means of informing and engaging the electorate (beyond parents) is technically poor. The School Committee should have a 24/7/365 Master Plan that has technology as its centerpiece. School Committee should operate inclusively with the other committees (ZBA, Fields, Conservation, and services/ programs (public safety, WIC, MADD, ESL for immigrants). Use a wider media outreach strategy to engage the entire town. Town employees not allowed to respond to questions via the web is puzzling. Millis is a step ahead of many schools and I love that as technology evolves. It would be great if all students eventually have an iPad or other tablet to study with. Schools need to be expanded and updated to meet all new technology needs. The parking, driveways, and pickup & drop off for both schools are horrible and need to be addressed. The new math program in the middle school does not appear to address the needs of high-achieving students. There needs to be opportunity to expose non Spanish emersion students to other languages. Facilities need to be remodeled to bring them more current, with new heating units. I love Millis and am proud to call this town my home. I love the schools attitude towards advanced learning and I love the staff at each school. More worldly partnerships. More learning via non-traditional methods. The current dismissal procedure is a nightmare. Car drop-off and pick-up line should not be running through a parking lot. The grounds surrounding all the schools and park require updates. The fences need repair. Get a bigger lunch room. The kids are either eating too early or too late. The locker room facilities are in awful condition. Cleanliness and updating are needed at all facilities at all times just like a house. All parking areas are extremely dangerous to students. Computer access is needed in all rooms as well as better music and art facilities. Fields need updating and expansion in order to be more viable in the future. The school need a cosmetic update and an update to today's learning style. I feel like the town has come a long way but our schools have been left behind. Money should be spent to upgrade the restrooms at Clyde Brown. You should think about the church for sale across the street to annex as part of your campus. Fix the Spring Street parking issues. The parking at Clyde Brown is terrible and not big enough.

District Staff (other than teacher)

Some offices could possibly move to Town hall. ie. Superintendent/ Business Mgr; Pupil Services or Curriculum. This would free up space to be available to educators, speciallists, psych, etc. All bathrooms have leaky toilets, some toilets that don't flush correctly, and sinks with broken faucets. Showers and locker rooms are a mess. Let's build a new H.S. in the area across from Roche Bros. Plaza. A future need for the middle and high school would be a renovation of the bathroom facilities

Grade 9-12 Student

No new information provided.

Grade 9-12 Teacher

Would love to see some sort of tutoring spaces created in each building. Bathrooms are in need of repair in the MS and HS. Broken/unused tables, chairs etc. clutter the halls in the HS and are a safety concern. Growing needs for sub-separate classrooms for students with special needs to use for their education in order to have them remain in the public schools.

Grade K-8 Student

Automated sinks/paper towels to cut down on germs. Would love to see some brighter colors in the classrooms & hallways. More women's bathrooms. Science facilities need constant updating.

Grade K-8 Teacher

We need to be more efficient in maintaining and cleaning the schools. No one loves pods, but they were successfully used in Natick High School during their transition period from the old high school to the new. Private counseling and quiet testing space for specialists in the middle/high school would be beneficial. Better heat, ventilation, air conditioning would be beneficial. Space for OT and PT in the middle/high school would be beneficial. Middle/high school building is overcrowded and there are sharing issues with the common spaces. Millis is a great school system, and a wonderful place to work, and I don't want to sound negative because I am really appreciative of what we have! Thank you! Great that there are installed Smart Boards and projectors at CFB, would be nice to have similar setup in the MS and HS. There is clearly not enough space for teachers to be able to teach to their fullest.

Section 4

Facilities Evaluation



Facilities Evaluation

This Facilities Evaluation Report was compiled for use by the Millis Public Schools. It is intended as a planning tool to assess the current condition of the facilities and as an ongoing long range Master Planning document for maintaining and upgrading the facilities in the future. The report format is structured to allow the Owner to review an entire body of work and assign priority rankings to the various work items. The work items are then easily transformed into a construction program statement which can then become the basis of a Maintenance and Capital Construction Plan.

Procedure: The building information presented in this report was obtained through a review of available reports, building drawings, and visual on-site inspections of the buildings by a team of Architects and Engineers. Inspections consisted of interviews with the maintenance staff and a comprehensive visual inspection of the buildings and surrounding grounds. Traffic patterns were also observed at peak congestion times to gain a full understanding of vehicular movement on the site.

Overview: The report is divided into three major sections: Site, Building, and Accessibility. The “Building” section is further subdivided into the following categories: Exterior Envelope, Interiors, Plumbing, Mechanical, and Electrical / Technology.

Each item is numbered and a brief description of the scope of work is included, along with photo references where applicable. The “Useful Life” column indicates estimated remaining useful life of the component. The “Construction Budget (2014)” column indicates probable construction cost in 2014 dollars. Each item is assigned a priority in the “Priority” column, and cost escalation factors are applied in one of the next four columns depending on the assigned priority. The budgets established in the Facilities Evaluation Report are for Construction Costs. Incidental, or “soft” costs for associated work such as surveys, testing, professional design services, construction management services, etc. are not included in these budgets, and would be added on to develop a total project cost for future Capital Projects.

In a number of cases, work items are interrelated. If an area is renovated as part of a more comprehensive item, the smaller more specific items become irrelevant as the issue will be addressed as part of the more comprehensive item.

In a few instances, additional studies or testing is recommended, because an issue is visible but the condition causing the issue is not readily apparent, and further action is required to be able to determine a cost to remedy the condition. In that case, a cost is developed for the further study and/or testing. Information obtained from recommended additional studies will then need to be included in the development of future project scope and cost.

While striving to be accurate and precise, this report also attempts to avoid using complicated explanations and technical jargon so as to be easily readable by non-technically oriented persons. It is our belief that a clear and thorough understanding of this report will lead to informed and insightful decisions. Please feel free to contact us if we could be of any further assistance in achieving that end.

The report does not take into account removal of or encapsulation of any hazardous building materials that may be present in the building unless specifically mentioned. Once individual items are selected for renovation, a hazardous materials report should be completed as part of that review. Estimates for hazardous materials related work would then be added to the project costs. Tetra Tech’s Engineers can assist in formulating a comprehensive hazardous materials report to address hazardous materials.

Photographs that are referenced in the Facilities Evaluation spreadsheet are located together at the end of this section. Diagrammatic Floor Plans of the existing buildings and Conceptual Plans for future Capital Project improvements can be found in Section 5- Master Planning Considerations.

**Millis Public Schools
FACILITIES EVALUATION**

Clyde Brown Elementary School		Useful Life	Construction Budget (2014)	Priority	Priority 1 (0-5 yrs)	Priority 2 (6-10 yrs)	Priority 3 (11-15 yrs)	Priority 4 (16-20 yrs)	Remarks
Site:									
1	Parking Lot / Drives		\$255,000		\$267,911	\$0	\$0	\$0	
	1a <u>General Pavement Conditions</u> - The pavement in the parking lots and drive aisles along the west and south side of the school, along with the bus drop off aisle were paved in 1991 and chip-sealed in 2003. They are in general in fair to poor condition. The costs in this line item include complete replacement of the pavement in these areas. Items below include specific repairs that may be completed prior to a complete replacement.	2	\$200,000	1	\$210,126	\$0	\$0	\$0	
	1b <u>General Pavement Conditions</u> - The pavement in the northeast side of the site was installed in 2005 and is in general in good condition. The costs in this line item include pavement repairs such as crack sealant or chip seal to prolong the life of the pavement in these areas. Items below include specific repairs that may be completed prior to a complete replacement.	2	\$5,000	1	\$5,253	\$0	\$0	\$0	
	1c <u>Traffic Improvements</u> -The response to questions provided included suggested approaches to improve traffic circulation. Without knowing the scope of the improvements it is not possible to provide an exact cost, however the number provided could be allocated towards these improvements.	1	\$40,000	1	\$42,025	\$0	\$0	\$0	
	1d <u>Pavement Repairs</u> - There is one large crack in the parking area south of the school which needs to be cleaned and sealed. During that work, other smaller cracks could be sealed as well.	1	\$2,500	1	\$2,627	\$0	\$0	\$0	
	1e <u>Pavement Repairs</u> -There is one area in the parking area south of the school where there is settling and cracking. This area should be cut out, recompact, and repaved.	1	\$5,000	1	\$5,253	\$0	\$0	\$0	
	1f <u>Pavement Repairs</u> -There is an area of pavement along the access drive west of the building where the pavement is breaking along the edge. This should be saw cut and patched, and the gravel/loam should be spread along the edge to provide some stability.	1	\$2,500	1	\$2,627	\$0	\$0	\$0	
					\$0	\$0	\$0	\$0	
2	Walkways / Drop Areas		\$65,500		\$68,816	\$0	\$0	\$0	
	2a The main entry area exhibits a large area of deteriorated asphalt (Photos 244, 349). Assess the traffic patterns to determine whether this area needs such a large hard surface area. If not, consider more lawn and plantings to improve appearance and sustainability. Utilize more pervious materials for foot traffic areas to create a more welcoming environment and to enhance sustainability.	2	\$5,500	1	\$5,778	\$0	\$0	\$0	
	2b <u>Bituminous Concrete Sidewalk Repair</u> - Small section of bituminous concrete sidewalk and berm are damaged and are in need of repair along the north side of the entrance drive from Spring Street	1	\$3,500	1	\$3,677	\$0	\$0	\$0	
	2c <u>Bituminous Concrete Sidewalk Repair</u> - Small section of bituminous concrete sidewalk/plaza adjacent to drop off aisle near the canopied area is cracking.	3	\$3,500	1	\$3,677	\$0	\$0	\$0	
	2d <u>Erosion Control</u> - A small grass area has eroded along the south side of the entrance drive from Spring Street and requires repair.	2	\$1,500	1	\$1,576	\$0	\$0	\$0	
	2e <u>Erosion Control</u> - There is significant erosion along the sides of the paved access road on the south side of the school which requires stabilization. Plantings or stone should be utilized to stabilize this area and prevent soils from eroding across paved access road.	1	\$3,000	1	\$3,152	\$0	\$0	\$0	

**Millis Public Schools
FACILITIES EVALUATION**

Clyde Brown Elementary School			Useful Life	Construction Budget (2014)	Priority	Priority 1 (0-5 yrs)	Priority 2 (6-10 yrs)	Priority 3 (11-15 yrs)	Priority 4 (16-20 yrs)	Remarks
2f	Erosion Control- There is significant erosion coming from the playground area along the sides of the access road in the cul-de-sac area. Significant soils/mulch runs off from play area and into stormwater infrastructure and may cause flooding in the access road. Plantings or stone should be utilized to stabilize this area and prevent soils from eroding into roadway.	1	\$3,500	1	\$3,677	\$0	\$0	\$0		
2g	Curbing- The curbing along the perimeter of the northern parking lot and along the drop off aisle on the east side of the building appears to be old and deteriorating.	5	\$45,000	1	\$47,278	\$0	\$0	\$0		
					\$0	\$0	\$0	\$0		
3	Playgrounds / Playfields		\$5,000		\$0	\$5,943	\$0	\$0		
3a	The playgrounds at the end of the cul-de-sac and the field to the south of the school appear to be in good condition. The cost for this line item includes miscellaneous maintenance costs which may be required to prolong the life of these amenities.	6	\$5,000	2	\$0	\$5,943	\$0	\$0		
					\$0	\$0	\$0	\$0		
4	Site Lighting		\$50,000		\$52,532	\$0	\$0	\$0		
4a	Light poles and fixtures adjacent to the parking lot on the north side of the school appear to be old and to have been damaged by vehicles.	5	\$50,000	1	\$52,532	\$0	\$0	\$0		
					\$0	\$0	\$0	\$0		
5	Fencing / Signage		\$1,000		\$1,051	\$0	\$0	\$0		
5a	One Way Sign- There is a "One Way-Do Not Enter Sign" shown on the proposed parking lot plans that does not exist where the entrance drive from Spring Street meets the parking area.	1	\$500	1	\$525	\$0	\$0	\$0		
5b	Drop Off Sign- There is an existing drop off sign in the southern parking area which has been hit. The sign is ok but a new pole should be installed.	1	\$500	1	\$525	\$0	\$0	\$0		
					\$0	\$0	\$0	\$0		
6	Drainage		\$11,000		\$11,557	\$0	\$0	\$0		
6a	Redirect downspout which is dumping water on foundation and asphalt (Photo 248).	1	\$1,000	1	\$1,051	\$0	\$0	\$0		
6b	Catch Basin- The two catch basins within the drop off aisle in front of the school (east side) should be cleaned. Gravel and other material appear to be washing into these structures. Pipes leaving these structures should also be flushed.	2	\$5,000	1	\$5,253	\$0	\$0	\$0		
6c	Missing Drain Structures- There are drainage structures shown on existing plans in the field Ares west of the building which could not be found. We recommend locating these structures. If they are buried to provide protection from children than they can remain buried.	5	\$5,000	1	\$5,253	\$0	\$0	\$0		
					\$0	\$0	\$0	\$0		
7	Health and Safety		\$32,500		\$34,145	\$0	\$0	\$0		
7a	There are dumpsters located on the north side of the school. If these are permanent we recommend that they be set on concrete slabs to prevent damage to the pavement and they should be screened.	5	\$25,000	1	\$26,266	\$0	\$0	\$0		
7b	There is electrical equipment that should be better protected from vehicles in the parking lots north of the school.	2	\$7,500	1	\$7,880	\$0	\$0	\$0		
					\$0	\$0	\$0	\$0		

**Millis Public Schools
FACILITIES EVALUATION**

Clyde Brown Elementary School			Useful Life	Construction Budget (2014)	Priority	Priority 1 (0-5 yrs)	Priority 2 (6-10 yrs)	Priority 3 (11-15 yrs)	Priority 4 (16-20 yrs)	Remarks
8	Environmentally Hazardous Materials			\$0		\$0	\$0	\$0	\$0	
	8a	None observed, however Environmental Survey is not in Scope of Work. Survey recommended.				\$0	\$0	\$0	\$0	
						\$0	\$0	\$0	\$0	
Total Site:				\$420,000		\$436,011	\$5,943	\$0	\$0	
Building:										
Exterior Envelope:										
9	Roofing			\$762,900		\$801,526	\$0	\$0	\$0	
	9a	<u>Shingle Roofs:</u> Shingle roofs have been replaced on an ongoing basis. Leaks continue to be an issue, and method of construction, particularly at 1954 portion of building, makes identification of leak source difficult. Replace shingle roofs with full layer of ice and water shield beneath new asphalt shingle roof system. Cost for this work will be reduced if option to rebuild 1954 portion of building is selected.	1	\$234,900	1	\$246,793	\$0	\$0	\$0	
	9c	<u>Membrane Roofs:</u> The Sarnafil (PVC) membrane roof system has been problematic for a number of years. A thorough study was performed in 2006 and at that time, it was recommended that the PVC roofs be replaced within 2-5 years, depending on the area. Since then, leaks have been addressed as they occur (it was indicated that \$20,000 has been spent on repairs in the last 2 years), however, full system replacement has not been done. Main issues are: loss of adherence between membrane and insulation, insulation fasteners protruding through the field of the roof, voids in field seams, holes and abrasions in the membrane, use of EPDM to repair PVC membrane (the materials are incompatible), sporadic adhered flashings, and ponding. The current roof is reported to have 1.5"-2" of rigid insulation, which is less than what current energy codes require. Recommend removal of the PVC roofing system and installation of new insulation, in thickness to comply with code, new EPDM membrane roof system with 20 year warranty, and new metal fascia system.	1	\$522,000	1	\$548,429	\$0	\$0	\$0	
	9d	<u>Wood Trim:</u> Scrape and repaint wood trim (Photos 251, 253). Work is not needed if option to rebuild 1954 portion of building is selected.	2	\$2,500	1	\$2,627	\$0	\$0	\$0	
	9e	<u>Canopy Columns:</u> Finish on canopy columns has deteriorated (Photo 243). Scrape and repaint.	2	\$2,500	1	\$2,627	\$0	\$0	\$0	
	9f	<u>Mechanical Equipment:</u> Properly secure mechanical equipment (Photo 257) and remove abandoned chimney (Photo 344), infill opening with materials to match adjacent areas.	2	\$1,000	1	\$1,051	\$0	\$0	\$0	
						\$0	\$0	\$0	\$0	
10	Exterior Windows			\$372,200		\$210	\$14,264	\$484,160	\$0	
	10a	<u>Metal Sills:</u> Many metal sills are considerably shorter than the masonry opening (Photo 313). Gaps have typically been filled with mortar or sealant, however, the metal should extend to within 1/4" of the masonry opening to prevent moisture penetration due to rain or melting snow.	8	\$12,000	2	\$0	\$14,264	\$0	\$0	
	10b	<u>Sealant:</u> Remove mortar and install sealant where brick meets window opening (Photo 271)	1	\$200	1	\$210	\$0	\$0	\$0	
	10c	<u>Windows:</u> Replace exterior windows which were new in 1990 and will have outlived their useful life during the time span covered by this report.	11	\$360,000	3	\$0	\$0	\$484,160	\$0	
						\$0	\$0	\$0	\$0	

Millis Public Schools
FACILITIES EVALUATION

Clyde Brown Elementary School			Useful Life	Construction Budget (2014)	Priority	Priority 1 (0-5 yrs)	Priority 2 (6-10 yrs)	Priority 3 (11-15 yrs)	Priority 4 (16-20 yrs)	Remarks
11	Exterior Doors			\$1,000		\$1,051	\$0	\$0	\$0	
	11a	Door Thresholds: Replace thresholds which are missing at some exterior doors	1	\$1,000	1	\$1,051	\$0	\$0	\$0	
						\$0	\$0	\$0	\$0	
12	Exterior Walls			\$5,232,515		\$135,111	\$6,066,973	\$0	\$0	
	12a	<u>1954 Building Exterior:</u> The original building consists of numerous components that require a lot of maintenance. T-111 siding has been well maintained, however, the siding has exceeded its' anticipated lifespan. Wood trim at windows, roof edges and eaves require ongoing maintenance. The unconventional design of the roof has contributed to the ongoing roof leak problems. In addition, connections between different building areas are quite complex at the roof, making it difficult to keep the building watertight (024, 267). In the original building, there are likely many areas that contain little or no insulation. It appears that the walls below the windows consist of the concrete foundation wall extended above grade, with no insulation on the interior or exterior of the wall. Flooring in classrooms in the original building contains asbestos, and ceilings are original to the building. Recommendation is to demolish the majority of the 1954 wing and replace with new energy efficient construction.	8	\$5,100,000	2	\$0	\$6,062,319	\$0	\$0	
	12b	<u>Wood Trim:</u> Sink nails, patch, paint at exposed trim between windows (Photo 47)	4	\$1,000	1	\$1,051	\$0	\$0	\$0	
	12c	<u>Damaged Brick:</u> Repair damaged brick near entrance (Photos 249, 025)	1	\$1,200	1	\$1,261	\$0	\$0	\$0	
	12d	<u>Sealant:</u> Replace masonry sealant joints	8	\$3,915	2	\$0	\$4,654	\$0	\$0	
	12e	<u>Concrete Parging:</u> Concrete parging has deteriorated at some areas of the foundation wall, allowing steel reinforcing to become exposed (Photo 330). Scrape, clean and apply new parging to protect concrete and embedded steel ties.	1	\$2,000	1	\$2,101	\$0	\$0	\$0	
	12f	<u>Wood Siding:</u> Paint all wood siding, trim, soffits and canopy structure (last done in 2005)	2	\$104,400	1	\$109,686	\$0	\$0	\$0	
	12h	<u>Exterior Stairs:</u> Exterior concrete stairs from Gym have deteriorated (Photos 321, 322, 323). It appears that moisture has penetrated the concrete through the sleeves for the railings as well as joints where stairs meet the wall and where stair treads meet risers. Cost includes replacing existing stairs with new stairs. Neither exit to the exterior is accessible for the disabled. Add \$10,000 if one stair was to be replaced with a ramp.	3	\$20,000	1	\$21,013	\$0	\$0	\$0	
						\$0	\$0	\$0	\$0	
Sub Total Exterior Envelope:				\$6,368,615		\$937,897	\$6,081,237	\$484,160	\$0	
Interiors:										
13	Interior Floors			\$328,455		\$91,667	\$243,206	\$49,229	\$0	
	13a	<u>VCT at Abated Areas:</u> Provide new vinyl composition tile (VCT) and resilient base in areas where VAT is removed	5	\$78,430	1	\$82,401	\$0	\$0	\$0	
	13b	<u>Damaged VCT:</u> Remove and replace damaged VCT and thresholds at exits (Photos 272, 306)	1	\$2,000	1	\$2,101	\$0	\$0	\$0	
	13c	<u>VCT:</u> Replace areas where VCT was installed in 1990 and has reached the end of its' useful life expectancy. It appears that there has been tile shrinkage; gaps are evident between tiles.	6	\$204,600	2	\$0	\$243,206	\$0	\$0	
	13d	<u>Carpet:</u> Replace carpet in Principal's office area	2	\$6,820	1	\$7,165	\$0	\$0	\$0	

Millis Public Schools
FACILITIES EVALUATION

Clyde Brown Elementary School			Useful Life	Construction Budget (2014)	Priority	Priority 1 (0-5 yrs)	Priority 2 (6-10 yrs)	Priority 3 (11-15 yrs)	Priority 4 (16-20 yrs)	Remarks
	13e	<u>Gym Floor:</u> While gym flooring would benefit from refinishing (it was last sanded to bare wood in 1991), current low VOC finish materials do not have the longevity that older finishes had. Recommendation is to delay refinishing work allowing finish manufacturers to develop better quality finishes while meeting stricter environmental guidelines.	12	\$36,605	3	\$0	\$0	\$49,229	\$0	
						\$0	\$0	\$0	\$0	
	14	Interior Walls		\$202,500		\$70,918	\$80,237	\$90,780	\$0	
	14a	<u>Priority 1 Painting:</u> Prep and paint walls and ceilings which are currently painted. Existing surfaces are generally in good condition, but re-painting will be required over the time period covered by this report.	3	\$67,500	1	\$70,918	\$0	\$0	\$0	
	14a	<u>Priority 2 Painting:</u> Prep and paint walls and ceilings which are currently painted. Existing surfaces are generally in good condition, but re-painting will be required over the time period covered by this report.	8	\$67,500	2	\$0	\$80,237	\$0	\$0	
	14b	<u>Priority 3 Painting:</u> Prep and paint walls and ceilings which are currently painted. Existing surfaces are generally in good condition, but re-painting will be required over the time period covered by this report.	13	\$67,500	3	\$0	\$0	\$90,780	\$0	
						\$0	\$0	\$0	\$0	
	15	Interior Ceilings		\$123,169		\$129,405	\$0	\$0	\$0	
	15a	<u>1954 Ceilings:</u> Ceilings in classrooms in the 1954 portion of the building have outlived their useful life	1	\$123,169	1	\$129,405	\$0	\$0	\$0	
						\$0	\$0	\$0	\$0	
	16	Interior Other (doors, hardware, etc.)		\$67,725		\$40,461	\$10,952	\$26,898	\$0	
	16a	<u>Main Entrance Security:</u> Modify main entry to add security vestibule including new aluminum storefront system, doors and hardware to allow vestibule to be locked and access to building granted by administrative staff.		\$25,000	1	\$26,266	\$0	\$0	\$0	
	16b	<u>Single User Toilets:</u> Add privacy toilet for principal's office area.		\$20,000	3	\$0	\$0	\$26,898	\$0	
	16c	<u>Wood Doors:</u> Wood doors from the original building are worn and damaged; veneer has deteriorated such that underlying substrate is exposed (Photo 278). Replace wood doors from original building. Reuse newer lever set hardware.	1	\$9,214	2	\$0	\$10,952	\$0	\$0	
	16d	<u>Safety Glazing:</u> Glazing in certain areas is required to be tempered or laminated safety glass. Tempered glass is typically etched as such in a visible location. Glazing in display cases did not appear to be safety glass, and did not appear to be identified as tempered. Glazing can be tested to see if it is tempered. If it is not, replace glazing in display cases, door lites, and other areas required by code.	1	\$1,998	1	\$2,099	\$0	\$0	\$0	
	16e	<u>Wire Glass:</u> Wire glass was commonly used to resist fire, however, wire glass is not impact resistant, and is no longer considered a safe type of glass for use in schools. Replace all wire glass with tempered glass, fire rated where required.	1	\$11,514	1	\$12,097	\$0	\$0	\$0	
						\$0	\$0	\$0	\$0	
	17	Specialties (casework, lockers, toilet partitions, etc.)		\$21,660		\$22,757	\$0	\$0	\$0	
	17a	<u>Gym Divider Wall:</u> Remove gym divider wall, replace with curtain	3	\$21,660	1	\$22,757	\$0	\$0	\$0	
						\$0	\$0	\$0	\$0	
	Sub Total Interiors:				\$743,509		\$355,208	\$334,395	\$166,907	\$0

Millis Public Schools
FACILITIES EVALUATION

Clyde Brown Elementary School		Useful Life	Construction Budget (2014)	Priority	Priority 1 (0-5 yrs)	Priority 2 (6-10 yrs)	Priority 3 (11-15 yrs)	Priority 4 (16-20 yrs)	Remarks
Environmentally Hazardous Materials									
18	Environmentally Hazardous Materials		\$0		\$0	\$0	\$0	\$0	
	18a	Vinyl Asbestos Tile (VAT): Abate VAT in classrooms in 1954 portion of building			\$0	\$0	\$0	\$0	
	18b	Paint Testing: Multiple layers of paint were visible on the floor in Storage A32 (Photo 298). Given the vintage of the building, the finish should be tested for lead, and if lead paint is present, it should be abated or encapsulated.			\$0	\$0	\$0	\$0	
	Note: Environmental Survey not in Scope of Work. Survey recommended.				\$0	\$0	\$0	\$0	
Sub Total Environmentally Hazardous Materials:			\$0		\$0	\$0	\$0	\$0	
Structural:									
19	Structural		\$0		\$0	\$0	\$0	\$0	
					\$0	\$0	\$0	\$0	
Sub Total Structural:			\$0		\$0	\$0	\$0	\$0	
Plumbing, Mechanical, Electrical, Technology:									
20	Plumbing		\$185,000		\$194,367	\$0	\$0	\$0	
	20a	Plumbing Fixtures: Existing fixtures are not compliant low flow fixtures, and some are at an inappropriate height for the students to safely and comfortably use. Recommendation is to replace all lavatories, toilets, and urinals, along with faucets and flush valves. Includes miscellaneous incidental general construction work but not refurbishment of bathrooms complete, or accessibility upgrades mentioned elsewhere.	5	\$185,000	1	\$194,367	\$0	\$0	\$0
					\$0	\$0	\$0	\$0	
21	Boilers		\$380,000		\$399,239	\$0	\$0	\$0	
	21a	Boiler Plant: The current boiler plant has energy code minimum efficiency boilers that have evidence of previous leakage and corrosion damage and at 24 years old are at their design life. The recommendation is to replace the boiler plant with new premium efficiency boilers with variable speed pumping, sized for current ventilation loads and an upgraded envelope. Cost shown includes associated removals and incidental electrical work, removal and of placement of atmospheric domestic water heater with DHW integrated with boiler plant, and associated near boiler piping.	5	\$380,000	1	\$399,239	\$0	\$0	\$0
					\$0	\$0	\$0	\$0	
22	HVAC		\$1,525,000		\$1,602,211	\$0	\$0	\$0	
	22a	Central Air Handlers: Air handlers serving the Gymnasium, Cafeteria, and Library are at their design life and are installed in relatively unserviceable locations, making maintenance difficult and / or dangerous. The recommendation is to replace all central air handlers with roof mounted institutional quality air handlers with integral air to air energy recovery and full economizer cooling capability. Recommendation includes all associated structural support, general work, electrical, and roofing, as required for the complete installation. Includes near unit piping as required and duct revisions to match new to old while making use of sound existing ductwork. Existing re-used duct will be cleaned per NADCA standards and get new diffusers.	2	\$510,000	1	\$535,821	\$0	\$0	\$0

**Millis Public Schools
FACILITIES EVALUATION**

Clyde Brown Elementary School			Useful Life	Construction Budget (2014)	Priority	Priority 1 (0-5 yrs)	Priority 2 (6-10 yrs)	Priority 3 (11-15 yrs)	Priority 4 (16-20 yrs)	Remarks
22b	Unit Ventilators: Unit ventilators and classroom relief air system is at it's design life and has heating capacity for less than the current code required ventilation air, contributing to problems heating this building as the ventilation rates have been increased attempting to maintain compliance. In many cases the outside air intakes are too close to the ground and concealed by foundation plantings, leading to excess humidity and associated IAQ problems at certain times of year. The relief air path is not sized for current ventilation requirements. The recommendation is to replace all UVs with UVs sized for current ventilation load, with low outside air intakes reconfigured and elevated to just under the window sill. Includes relief air path upgrade to allow for proper economizer cooling - note it appears that some original 1954 relief ductwork was abandoned in place in the 1990 reconstruction, and should either be cleaned and placed back in service as part of an economizer relief system or replaced. Cost listed includes miscellaneous general construction work for louvers and ceiling work associated with UV replacements, and near unit piping upgrades. Include Dx air conditioning only in those spaces that currently have it.	5	\$845,000	1	\$887,782	\$0	\$0	\$0		
22c	Controls Integration: Current controls are isolated, proprietary, past their design life, and only partially functional. Each of the heating and ventilation recommendations includes new stand alone DDC controls with state of the art controller programming and sequences of operations. This recommendation is to integrate these isolated controls into an integrated system with web enabled secure graphical user interface.	0	\$170,000	1	\$178,607	\$0	\$0	\$0		
						\$0	\$0	\$0	\$0	
23	Electrical Service and Distribution		\$145,000		\$125,025	\$30,906	\$0	\$0		
23a	Provide new feeds to HVAC units as described in line items 22 above, work to include new panels to support added HVAC loads.	5	\$76,000	1	\$79,848	\$0	\$0	\$0		
23b	Replace dimming system in cafetorium.	8	\$26,000	2	\$0	\$30,906	\$0	\$0		
23c	Provide additional electrical panels in each classroom wing with surge suppression to support additional receptacle loads for classrooms		\$43,000	1	\$45,177	\$0	\$0	\$0		
						\$0	\$0	\$0	\$0	
24	Electrical Lighting		\$39,500		\$41,500	\$0	\$0	\$0	#	
24a	Replace existing metal halide and or HPS exterior lighting with new LED lighting to improve quality of light, reduce wattage and virtually eliminate maintenance.	8	\$17,500	1	\$18,386	\$0	\$0	\$0		
24b	Provide occupancy sensors in all offices/classrooms/gym that currently does not have sensors		\$22,000	1	\$23,114	\$0	\$0	\$0		
						\$0	\$0	\$0	\$0	
25	Technology		\$529,000		\$505,353	\$57,057	\$0	\$0		
25a	Upgrade existing computer network switches with new 100/1000 mb switches with 10 gb uplinks to the MDF, and provide new core network switch in MDF to support new IDF switches.	4	\$54,000	1	\$56,734	\$0	\$0	\$0		
25b	Provide a new voice over IP (VoIP) for the building including new IP phones in every classroom.	4	\$140,000	1	\$147,088	\$0	\$0	\$0		
25c	Provide new IP security camera system for both the interior and exteriors of the building with new integrated access control system.	4	\$287,000	1	\$301,531	\$0	\$0	\$0		
25d	Replace existing clock system with a new GPS wireless clock system, new head end to interface with existing PA rack.	8	\$48,000	2	\$0	\$57,057	\$0	\$0		
						\$0	\$0	\$0	\$0	

**Millis Public Schools
FACILITIES EVALUATION**

Clyde Brown Elementary School			Useful Life	Construction Budget (2014)	Priority	Priority 1 (0-5 yrs)	Priority 2 (6-10 yrs)	Priority 3 (11-15 yrs)	Priority 4 (16-20 yrs)	Remarks
26	Fire / Life Safety			\$453,000		\$187,012	\$326,890	\$0	\$0	
	26a	Fire Extinguisher Cabinets: Provide wall mounted cabinets for all loose fire extinguishers		\$3,000	1	\$3,152	\$0	\$0	\$0	
	26b	Replace existing zoned fire alarm system with a new addressable system, all existing devices and wiring to be removed and replaced.	8	\$175,000	1	\$183,860	\$0	\$0	\$0	
	26c	Sprinkler fire suppression system: If substantial renovations or reconstruction is undertaken, a sprinkler system may be required by code. Price assumes no fire pump is needed to boost municipal pressure. Ceiling work not included in price.		\$275,000	2	\$0	\$326,890	\$0	\$0	
						\$0	\$0	\$0	\$0	
Sub Total Plumbing, Mechanical, Electrical, Technology:						\$3,054,707	\$414,853	\$0	\$0	
Total Building:						\$4,347,812	\$6,830,485	\$651,068	\$0	
Accessibility / Code Requirements										
Accessibility										
27	Site Accessibility			\$55,000		\$57,785	\$0	\$0	\$0	
	27a	ADA Compliance- There are two ADA parking stalls in the southwest corner of the parking area south of the school. The slope and striping of these stalls should be surveyed closer for compliance with regulations.	1	\$10,000	1	\$10,506	\$0	\$0	\$0	
	27b	ADA Compliance- It is unclear where the accessible route is from the two parking stalls in the southwest corner of the southern parking lot to the school. That route should be surveyed for slope compliance.	1	\$10,000	1	\$10,506	\$0	\$0	\$0	
	27c	ADA Compliance- There are two ADA parking stalls in the northern portion of the parking area south of the school. The slope of these stalls should be surveyed closer for compliance with regulations.	1	\$10,000	1	\$10,506	\$0	\$0	\$0	
	27d	ADA Compliance- There are ADA stalls in the parking lot south of the building. The slopes on those stalls should be surveyed for compliance.	1	\$10,000	1	\$10,506	\$0	\$0	\$0	
	27e	ADA Compliance- There are bituminous concrete ADA ramps in front of the school along the drop off aisle that do not appear to be compliant with slope requirements.	1	\$15,000	1	\$15,759	\$0	\$0	\$0	
	27f	ADA Compliance- The bituminous concrete walkway along the at the northeast corner of the building should be surveyed for slope compliance.	1	\$0	1	\$0	\$0	\$0	\$0	

Millis Public Schools
FACILITIES EVALUATION

Clyde Brown Elementary School			Useful Life	Construction Budget (2014)	Priority	Priority 1 (0-5 yrs)	Priority 2 (6-10 yrs)	Priority 3 (11-15 yrs)	Priority 4 (16-20 yrs)	Remarks
28	Building Accessibility/Code			\$383,040		\$402,433	\$0	\$0	\$0	
	28a	Provide wheelchair lift or ramp to allow for disabled access to Platform in Cafeteria		\$30,000	1	\$31,519	\$0	\$0	\$0	
	28b	Exterior classroom exits are not accessible (doors 14, 15 and 16) (Photo 337). Provide code compliant slabs and ramps or modify grading to eliminate steps.		\$12,000	1	\$12,608	\$0	\$0	\$0	
	28c	<u>Classroom Casework</u> : Classroom casework is functional but worn. Sinks do not meet ADA requirements (Photo 308). Remove and replace existing classroom casework with new units including ADA compliant sinks.	8	\$131,040	1	\$137,675	\$0	\$0	\$0	
	28d	<u>Single User Toilets</u> : Renovate single user toilet rooms at KG area and kitchen to meet accessibility requirements, provide toilet rooms in Pre-K rooms 29 and 30.		\$210,000	1	\$220,632	\$0	\$0	\$0	
Total Accessibility / Code:				\$438,040		\$460,218	\$0	\$0	\$0	
Construction Total*				\$11,226,664		\$5,244,042	\$6,836,428	\$651,068	\$0	*does not include contingency and incidental costs

**Millis Public Schools
Facilities Evaluation**

Millis Middle/High School			Useful Life	Construction Budget (2014)	Priority	Priority 1 (0-5 yrs)	Priority 2 (6-10 yrs)	Priority 3 (11-15 yrs)	Priority 4 (16-20 yrs)	Remarks
Site:										
1	Parking Lot / Drives			\$918,250		\$964,741	\$0	\$0	\$0	
	1a	<u>General Pavement Conditions</u> - The bituminous concrete pavement around the majority of the site was installed in 2000 and crack-sealed in 2012. In general the pavement appears to be in good to fair condition with very little heaving or settling. The cost of this line item includes complete replacement of the pavement. Items below include specific repairs that may be completed prior to a complete replacement.	5	\$450,000	1	\$472,784	\$0	\$0	\$0	
	1b	<u>Traffic Improvements</u> - Traffic circulation studies have been provided in the past. The cost of implementing potential solutions will vary, however a cost from previous pricing exercises has been included in this item.	5	\$400,000	1	\$420,252	\$0	\$0	\$0	
	1c	<u>Parking</u> - Parking studies have been provided in the past and have recommended additional parking to be constructed at the school. The cost of implementing potential solutions will vary, however a cost from previous pricing exercises has been included in this item.	5	\$50,000	1	\$52,532	\$0	\$0	\$0	
	1d	<u>Bituminous Concrete Berm Repairs</u> - Approximately 30' of bituminous concrete berm damaged along access road exiting to the south of the site.	1	\$2,500	1	\$2,627	\$0	\$0	\$0	
	1e	<u>Concrete Pads</u> -There are temporary dumpsters located on the south side of the building that are set on bituminous concrete. If the dumpsters are going to remain long term, concrete pads would be better to support the weight of the dumpsters and reduce the need for pavement repairs in the future.	5	\$15,000	1	\$15,759	\$0	\$0	\$0	
	1f	<u>Signage</u> - There are two "No Parking" signs along the bus drop-off loop on the west side of the building that are damaged and could use replacement.	1	\$750	1	\$788	\$0	\$0	\$0	
						\$0	\$0	\$0	\$0	
2	Walkways / Drop Areas			\$27,500		\$28,892	\$0	\$0	\$0	
	2a	<u>Erosion</u> -Gravel walkway leading to the crosswalk across the access drive at the northwest corner of the school is eroding onto the ramp and crosswalk. Provide crushed stone for additional slope stability.	1	\$1,500	1	\$1,576	\$0	\$0	\$0	
	2b	<u>Bike Rack</u> - Bike rack at northwest corner of school is old and could use replacing.	5	\$1,000	1	\$1,051	\$0	\$0	\$0	
	2c	<u>Bituminous Concrete Repairs</u> - Sections of bituminous concrete sidewalk are cracking and in need of immediate repairs	0	\$5,000	1	\$5,253	\$0	\$0	\$0	
	2d	<u>Cement Concrete Repairs</u> -Cement concrete at ramp and stairs at the northeast corner of the building is cracked and broken in places and requires repairs.	1	\$10,000	1	\$10,506	\$0	\$0	\$0	
	2e	<u>Paver Repairs</u> - Brick pavers have settled at entryway causing a greater than 1/2" vertical change resulting in non-compliant condition. The brick pavers should be reset.	1	\$10,000	1	\$10,506	\$0	\$0	\$0	
						\$0	\$0	\$0	\$0	
3	Playgrounds / Playfields			\$0		\$0	\$0	\$0	\$0	
	3a	<u>Athletic Facilities</u> -The existing baseball and football fields are in poor condition including the majority of the supporting infrastructure such as bleachers, electrical equipment, light poles, press box, and drainage system. We have not included a cost for this item because we understand the town is undergoing a separate study for new athletic facilities.	0		1	\$0	\$0	\$0	\$0	
	3b	<u>Running Track</u> - The existing running track is not paved and does not meet regulation size requirements. We have not included a cost to pave and reconfigure the track because we understand the town is undergoing a separate study for new athletic facilities.	0		1	\$0	\$0	\$0	\$0	
						\$0	\$0	\$0	\$0	

**Millis Public Schools
Facilities Evaluation**

Millis Middle/High School			Useful Life	Construction Budget (2014)	Priority	Priority 1 (0-5 yrs)	Priority 2 (6-10 yrs)	Priority 3 (11-15 yrs)	Priority 4 (16-20 yrs)	Remarks
4	Site Lighting / Utilities			\$495,000		\$63,038	\$517,080	\$0	\$0	
	4a	Replace existing site lighting with new LED lighting and add some additional lighting in dark areas of the site	5	\$55,000	1	\$57,785	\$0	\$0	\$0	
	4b	Replace existing game field lighting with new lighting with spill and glare control and automated remote monitoring and internet based control of the system.	10	\$435,000	2	\$0	\$517,080	\$0	\$0	
	4c	Hydrant- There is a hydrant on the south side of the building that appears to be very old and may need to be replaced in the near future.	1	\$5,000	1	\$5,253	\$0	\$0	\$0	
						\$0	\$0	\$0	\$0	
5	Fencing			\$18,000		\$18,911	\$0	\$0	\$0	
	5a	The majority of the fencing on-site appears old and rusted and in need of replacement	1	\$18,000	1	\$18,911	\$0	\$0	\$0	
						\$0	\$0	\$0	\$0	
6	Drainage			\$10,000		\$10,506	\$0	\$0	\$0	
	6a	There don't appear to be any drainage issues although the system in general appears old and the infrastructure could use flushing and cleaning depending on the schools operation and maintenance procedures.	1	\$10,000	1	\$10,506	\$0	\$0	\$0	
						\$0	\$0	\$0	\$0	
7	Landscaping			\$10,000		\$10,506	\$0	\$0	\$0	
	7a	Landscaping- Landscaping in general appears to be in good condition. The costs of this item include minor misc. requirements which may be required.	5	\$7,500	1	\$7,880	\$0	\$0	\$0	
	7a	Trimming- Several trees need to be trimmed to reduce overhang on roofs and prevent debris from clogging the roof drainage.	1	\$2,500	1	\$2,627	\$0	\$0	\$0	
						\$0	\$0	\$0	\$0	
8	Environmentally Hazardous Materials			\$0		\$0	\$0	\$0	\$0	
	8a	None observed, however Environmental Survey is not in Scope of Work. Survey recommended.				\$0	\$0	\$0	\$0	
						\$0	\$0	\$0	\$0	
Total Site:				\$1,478,750		\$1,096,595	\$517,080	\$0	\$0	
Building:										
Exterior Envelope:										
9	Roofing			\$1,371,200		\$396,644	\$10,460	\$1,324,542	\$0	
	9a	EPDM Roof Replacement: Replace EPDM roofing at building addition areas. Cost includes full tear off of existing membrane and replacement of insulation (though cost savings can be achieved if existing insulation can be reused). Insulation to be assessed when membrane has been removed. Cost also includes replacement of wood blocking at roof edge with pressure treated material to provide environment less hospitable to insects (Photo 089). In addition, many skylights have failed or have been covered over (Photos 115, 116). Cost includes replacement of skylights where natural light is desirable, or removal of skylight and curb and infilling of opening with metal deck, insulation and roof membrane where natural light is no longer desirable in a given area.	3	\$326,970	1	\$343,524	\$0	\$0	\$0	

**Millis Public Schools
Facilities Evaluation**

Millis Middle/High School			Useful Life	Construction Budget (2014)	Priority	Priority 1 (0-5 yrs)	Priority 2 (6-10 yrs)	Priority 3 (11-15 yrs)	Priority 4 (16-20 yrs)	Remarks
9b	<u>EPDM Roof Replacement:</u> Replace EPDM roof system as described above at areas re-roofed in 2000. Cost includes insulation replacement and addressing skylights as described above. Current roof has a 20 year warranty.	6	\$984,870	3	\$0	\$0	\$1,324,542	\$0		
9c	<u>Wood Blocking:</u> Replace wood blocking at areas not scheduled for Priority 1 reroofing with pressure treated material to provide environment less hospitable to insects. Remove and reinstall membrane and metal roof edge at perimeter.	3	\$34,560	1	\$36,310	\$0	\$0	\$0		
9d	<u>Moisture Penetration at Cafeteria:</u> There is interior deterioration of wall surfaces in the cafeteria. Source of moisture is not evident from exterior wall or roof. Recommend removal of roof edge and possibly membrane as well to determine source of water infiltration.	1	\$5,000	1	\$5,253	\$0	\$0	\$0		
9e	<u>Roof Ladders:</u> Provide additional roof ladders to enhance safety, scrape, repaint existing	3	\$5,000	1	\$5,253	\$0	\$0	\$0		
9f	<u>Misc. Roof Repairs:</u> Replace deteriorated curb, raise 8" + above roof, make sure membrane extends under flashing (Photo 097). Reset equipment on protected supports (Photo 098), replace deteriorated insulation around piping on roof (Photo 156), secure roof patches (100). Replace damaged membrane in vicinity of translucent panels (Photos 122, 123). Secure walkway pads to eliminate tripping hazards (Photo 151).	3	\$3,500	1	\$3,677	\$0	\$0	\$0		
9g	<u>Brick Repointng:</u> Repoint top 6 courses of brick at flue (Photo 137)	3	\$5,000	2	\$0	\$5,943	\$0	\$0		
9h	<u>Raised Roof Area:</u> Reroof at raised area, assess why moisture is getting in at corner, repair (Photo 138)	1	\$2,500	1	\$2,627	\$0	\$0	\$0		
9i	<u>Roof Expansion Joints:</u> Replace roof expansion joints (Photo 099)	3	\$3,800	2	\$0	\$4,517	\$0	\$0		
					\$0	\$0	\$0	\$0		
10	Exterior Windows		\$0		\$0	\$0	\$0	\$0		
10a	See Exterior Wall item 12a below.				\$0	\$0	\$0	\$0		
					\$0	\$0	\$0	\$0		
11	Exterior Doors		\$6,500		\$6,829	\$0	\$0	\$0		
11a	<u>Roof Access Door:</u> Replace exterior access door and frame to roof. Rust is evident and is staining brick and copper below. (Photo 093)	3	\$6,500	1	\$6,829	\$0	\$0	\$0		
					\$0	\$0	\$0	\$0		
12	Exterior Walls		\$202,800		\$213,068	\$0	\$0	\$0		
12a	<u>Determine Cause of Moisture Penetration at Exterior Walls:</u> The moisture / water infiltration issue at the north wall continues to be unresolved. Brick is stained with moisture attempting to escape through the exterior face of the brick (Photo 215). The existing brick is fairly porous, however it was noted that the problem was exacerbated after windows were replaced. Recommend removal of one window unit on the north face of the building to assess condition of flashing, sealants, weep holes and wall cavity. It is possible that during window replacement work, drainage paths were blocked. Cost includes removal, examination of conditions by architect, and reinstallation of unit. As solution is not apparent at this time, cost for correction is not identifiable.	1	\$4,000	1	\$4,203	\$0	\$0	\$0		
12b	<u>North Wall Window Replacement:</u> If solution to moisture penetration issue involves removal of windows on north face of building, assess thermal and other performance qualities of existing windows. It may be cost effective to install new windows with better insulating values instead of reinstalling existing windows. Cost includes removal of existing windows and replacement with new more thermally efficient units.	N/A	\$172,800	1	\$181,549	\$0	\$0	\$0		

**Millis Public Schools
Facilities Evaluation**

Millis Middle/High School			Useful Life	Construction Budget (2014)	Priority	Priority 1 (0-5 yrs)	Priority 2 (6-10 yrs)	Priority 3 (11-15 yrs)	Priority 4 (16-20 yrs)	Remarks
	12c	Clean Brick: After moisture penetration issue is resolved, clean stained masonry.	N/A	\$25,000	1	\$26,266	\$0	\$0	\$0	
	12d	Miscellaneous Mortar Repairs: Replace missing mortar at a number of areas, scrape and repaint lintel (Photo 117) (at window accessible from roof)	3	\$1,000	1	\$1,051	\$0	\$0	\$0	
						\$0	\$0	\$0	\$0	
Sub Total Exterior Envelope:				\$1,580,500		\$616,541	\$10,460	\$1,324,542	\$0	
Interiors:										
13	Interior Floors			\$104,742		\$57,303	\$59,672	\$0	\$0	
	13a	Terrazzo: Repair cracks in terrazzo (Photo 032)	6	\$1,000	2	\$0	\$1,189	\$0	\$0	
	13b	Carpet: Provide new carpet which has outlived useful life at Library (Photo 047) and administration areas with the exception of Superintendent's office which has been replaced recently.	1	\$54,542	1	\$57,303	\$0	\$0	\$0	
	13c	Gym Floor: Strip, sand and refinish gym floor (last done in 2000).	8	\$49,200	2	\$0	\$58,484	\$0	\$0	
						\$0	\$0	\$0	\$0	
14	Interior Walls			\$180,250		\$68,554	\$69,836	\$75,650	\$0	
	14a	Moisture Damage Repairs: Repair areas after addressing exterior wall moisture issue (Photos 027, 034, 060) damages walls, pilasters, plastic laminate window sills. (Refer to item 9d)	N/A	\$9,000	1	\$9,456	\$0	\$0	\$0	
	14b	Priority 1 Painting: Paint walls and ceilings throughout on a scheduled basis such that all rooms are repainted over the anticipated useful life.	3	\$56,250	1	\$59,098	\$0	\$0	\$0	
	14c	Priority 2 Painting: Paint walls and ceilings throughout on a scheduled basis such that all rooms are repainted over the anticipated useful life.	8	\$56,250	2	\$0	\$66,864	\$0	\$0	
	14d	Priority 3 Painting: Paint walls and ceilings throughout on a scheduled basis such that all rooms are repainted over the anticipated useful life.	13	\$56,250	3	\$0	\$0	\$75,650	\$0	
	14f	Wall Finish: Improve wall finish with ceramic tile at second floor elevator lobby to provide greater durability and appearance more similar to glazed block in corridors. (Photo 079)	7	\$2,500	2	\$0	\$2,972	\$0	\$0	
						\$0	\$0	\$0	\$0	

**Millis Public Schools
Facilities Evaluation**

Millis Middle/High School		Useful Life	Construction Budget (2014)	Priority	Priority 1 (0-5 yrs)	Priority 2 (6-10 yrs)	Priority 3 (11-15 yrs)	Priority 4 (16-20 yrs)	Remarks
15	Interior Ceilings		\$20,000		\$0	\$11,887	\$13,449	\$0	
	15a	Priority 2 Acoustic Ceilings: Acoustic ceiling panel replacement: Plan for replacement of 2% of acoustic ceiling panels every 9 years.	\$10,000	8	2	\$0	\$11,887	\$0	\$0
	15b	Priority 4 Acoustic Ceilings: Acoustic ceiling panel replacement: Plan for replacement of 2% of acoustic ceiling panels every 9 years.	\$10,000	18	3	\$0	\$0	\$13,449	\$0
						\$0	\$0	\$0	\$0
16	Interior Other		\$658,000		\$158,645	\$32,095	\$645,547	\$0	
	16a	Locker Rooms: Address various issues at locker rooms including lack of handicap accessibility of the varsity locker room, access to the athletic trainer's office, gym and field access issues, and refurbishment of spaces.	\$125,000	4	1	\$131,329	\$0	\$0	\$0
	16b	Privacy Toilet: Provide privacy toilet for Middle School principal similar to the one in the High School Administration Suite. While desirable, plumbing is not easily accessed from that portion of building so work is inordinately costly.	\$27,000		2	\$0	\$32,095	\$0	\$0
	16c	Main Entrance: Modify entry near High School Office to add security vestibule including new aluminum storefront system, doors and hardware to allow vestibule to be locked and access to building granted by administrative staff. Modify former planter to be usable as a bench.	\$25,000		1	\$26,266	\$0	\$0	\$0
	16d	Corridor Window Sill: Replace sloping non-secure wood sill with plastic laminate or solid surface sill, securely anchored to substrate (Photo 063).	\$1,000	4	1	\$1,051	\$0	\$0	\$0
	16e	Storage Addition: It is reported that more storage is needed for educational, athletic and maintenance use. Recommend construction of a 3,600 sf attached building for Maintenance and seasonal storage on another part of the site. Cost includes alterations to convert former maintenance facilities to educational and athletic storage.	\$480,000		3	\$0	\$0	\$645,547	\$0
						\$0	\$0	\$0	\$0
17	Specialties (casework, lockers, toilet partitions, etc.)		\$23,988		\$25,202	\$0	\$0	\$0	
	17a	Safety Glazing: Glazing in certain areas is required to be tempered or laminated safety glass. Tempered glass is typically etched as such in a visible location. Glazing in display cases did not appear to be safety glass, and did not appear to be identified as tempered. Glazing can be tested to see if it is tempered. If it is not, replace glazing in display cases, door lites, and other areas required by code.	\$3,019	1	1	\$3,172	\$0	\$0	\$0
	17b	Wire Glass: Wire glass was commonly used to resist fire, however, wire glass is not impact resistant, and is no longer considered a safe type of glass for use in schools. Replace all wire glass with tempered glass, fire rated where required.	\$20,969	1	1	\$22,030	\$0	\$0	\$0
						\$0	\$0	\$0	\$0
Sub Total Interiors:			\$986,979			\$309,704	\$173,489	\$734,646	\$0
Environmentally Hazardous Materials									
18	Environmentally Hazardous Materials		\$0			\$0	\$0	\$0	\$0
	18a	None observed, however Environmental Survey is not in Scope of Work. Survey recommended.				\$0	\$0	\$0	\$0
						\$0	\$0	\$0	\$0
Sub Total Environmentally Hazardous Materials:			\$0			\$0	\$0	\$0	\$0

**Millis Public Schools
Facilities Evaluation**

Millis Middle/High School			Useful Life	Construction Budget (2014)	Priority	Priority 1 (0-5 yrs)	Priority 2 (6-10 yrs)	Priority 3 (11-15 yrs)	Priority 4 (16-20 yrs)	Remarks
Structural:										
19	Structural Soundness			\$10,000		\$10,506	\$0	\$0	\$0	
	19a	Crack in brick near Kitchen entrance (Photo 086)	1	\$10,000	1	\$10,506	\$0	\$0	\$0	
						\$0	\$0	\$0	\$0	
Sub Total Structural:				\$10,000		\$10,506	\$0	\$0	\$0	
Plumbing, Mechanical, Electrical, Technology:										
20	Plumbing			\$285,000		\$21,013	\$315,003	\$0	\$0	
	20a	<u>Gas Piping Relocation</u> : move 6" main gas piping from egress corridor to roof. Repipe roof mounted equipment as required and paint all pipe to prevent corrosion.	35	\$55,000	2	\$0	\$65,378	\$0	\$0	
	20b	<u>Plumbing Fixtures</u> : Existing fixtures are not compliant low flow fixtures; many are original and in bad repair. Recommendation is to replace all aged lavatories, toilets, and urinals, along with faucets and flush valves. Includes miscellaneous incidental general construction work but not refurbishment of bathrooms complete, or accessibility upgrades mentioned elsewhere.	5	\$210,000	2	\$0	\$249,625	\$0	\$0	
	20c	<u>Backflow Prevention</u> : Consider adding main building reduced pressure zone backflow preventer to water service at entry.		\$20,000	1	\$21,013	\$0	\$0	\$0	
						\$0	\$0	\$0	\$0	
21	Boilers			\$160,000		\$0	\$190,190	\$0	\$0	
	21a	<u>Hybrid Boiler Plant</u> : While main boiler plant is relatively new (1998) and has many years of service left, the boilers are operating at near code minimum efficiency. Recommendation is to add a premium condensing efficiency boiler to act as lead boiler, handling entire building during shoulder seasons & improving overall boiler plant efficiency. This system could lower heating fuel use by approximately 5%		\$120,000	2	\$0	\$142,643	\$0	\$0	
	21b	<u>Boiler Room Insulation</u> : DHW tank and some boiler room piping is not properly insulated and therefore not operating as efficiently as it should. Consider completing insulation of marginally insulated components.		\$30,000	2	\$0	\$35,661	\$0	\$0	
	21c	<u>Domestic Hot Water Integration</u> : Integrate DHW production with hybrid boiler plant, removing atmospheric combustion water heater from boiler room. This will improve efficiency of DHW production by roughly 15%.		\$10,000	2	\$0	\$11,887	\$0	\$0	
						\$0	\$0	\$0	\$0	
22	HVAC			\$785,000		\$646,137	\$202,077	\$0	\$0	
	22a	<u>Ventilation Upgrades</u> : Several spaces were observed with below standard ventilation including spaces with just finned tube radiation and no mechanical ventilation, the Art Room which had no dedicated exhaust, the Health Office which appeared to have AC with no mechanical ventilation or exhaust, and several interior spaces without AC or ventilation. Provide for ventilation upgrades to bring these spaces up to current code required ventilation rates.	0	\$180,000	1	\$189,113	\$0	\$0	\$0	
	22b	<u>Mechanical Roof Mounted Equipment Supports</u> : Much roof mounted mechanical equipment is on substandard supports that are conducive to roof damage and subsequent leaks. Replace all such equipment supports with proper curbs and flashing / counterflashing.	0	\$165,000	1	\$173,354	\$0	\$0	\$0	
	22c	<u>Louvers, Grilles, Diffusers</u> : Many of the facilities air terminals are damaged and no longer serve as intended. It appears many louvers were not replaced with associated Unit Ventilators. Replacement of all damaged louvers, grilles, and registers is recommended, along with cleaning of associated ductwork while access is open.	5	\$170,000	2	\$0	\$202,077	\$0	\$0	

**Millis Public Schools
Facilities Evaluation**

Millis Middle/High School			Useful Life	Construction Budget (2014)	Priority	Priority 1 (0-5 yrs)	Priority 2 (6-10 yrs)	Priority 3 (11-15 yrs)	Priority 4 (16-20 yrs)	Remarks
	22d	Gymnasium and Auditorium Air Handlers: These three air handlers are original equipment that are at the end of their design life and should be replaced. The current location is difficult to service and an alternate location should be considered, possibly roof mounted air handlers of institutional quality.	5	\$270,000	1	\$283,670	\$0	\$0	\$0	
						\$0	\$0	\$0	\$0	
23	Electrical Service and Distribution			\$240,000		\$0	\$285,286	\$0	\$0	
	23a	Replace existing 1600 amp main distribution panel with a new 2000 amp circuit breaker type main distribution panel with GFI protection. Also remove all of the existing "taps" that have been made to the old MDP and rework existing feeders into the new MDP.	8	\$95,000	2	\$0	\$112,926	\$0	\$0	
	23b	Replace existing Federal Pacific secondary electric panels in the building with new panel boards as Federal Pacific panels have not been manufactured in decades and parts are very hard to obtain. With the panel replacement additional panel/breaker spaces will be provided where possible.	8	\$57,000	2	\$0	\$67,755	\$0	\$0	
	23c	Replace existing Kliegl dimmer rack with new dimmer rack and replace all theatrical lighting and wiring on stage	8	\$88,000	2	\$0	\$104,605	\$0	\$0	
						\$0	\$0	\$0	\$0	
24	Electrical Lighting			\$34,800		\$36,562	\$0	\$0	\$0	
	24a	Replace the remaining T-12 lighting in the building with new T-5 or LED lighting some of the spaces that T-12 lighting remains are A/V Studio, Stage, Boiler Room, and some Toilet and Storage rooms.	2	\$6,800	1	\$7,144	\$0	\$0	\$0	
	24b	Replace existing metal halide and or HPS exterior lighting with new LED lighting to improve quality of light, reduce wattage and virtually eliminate maintenance.	8	\$28,000	1	\$29,418	\$0	\$0	\$0	
						\$0	\$0	\$0	\$0	
25	Technology			\$637,500		\$669,777	\$0	\$0	\$0	
	25a	Replace all of the older nortel (baynetworks) computer network switches with new 100/1000 mb switches with 10 gb uplinks to the MDF.	4	\$67,500	1	\$70,918	\$0	\$0	\$0	
	25b	Provide a new voice over IP (VoIP) for the building including new IP phones in every classroom.	4	\$195,000	1	\$204,873	\$0	\$0	\$0	
	25c	Provide new IP security camera system for both the interior and exteriors of the building with new integrated access control system.	4	\$310,000	1	\$325,695	\$0	\$0	\$0	
	25d	Provide additional interactive white board with projectors to rooms that currently do not have this technology.		\$65,000	1	\$68,291	\$0	\$0	\$0	
						\$0	\$0	\$0	\$0	
26	Fire / Life Safety			\$0		\$0	\$0	\$0	\$0	
						\$0	\$0	\$0	\$0	
	Sub Total Plumbing, Mechanical, Electrical, Technology:				\$2,142,300	\$1,373,489	\$992,556	\$0	\$0	
	Total Building:				\$4,719,779	\$2,310,240	\$1,176,506	\$2,059,188	\$0	
Accessibility / Code Requirements										
Accessibility										
27	Site Accessibility			\$35,000		\$36,772	\$0	\$0	\$0	
	27a	Brick pavers have settled at entryway causing a greater than 1/2" vertical change in ground surface (222). This is a non-compliant condition. Reset brick pavers to raise elevation level with adjacent concrete.	1	\$5,000	1	\$5,253	\$0	\$0	\$0	
	27b	ADA-There are three ADA stalls (2 regular, 1 van) that may not meet code. There is no signage in regular spots and the slope in the van stall is questionable. At a minimum, the signs should be replaced.	1	\$10,000	1	\$10,506	\$0	\$0	\$0	

**Millis Public Schools
Facilities Evaluation**

Millis Middle/High School			Useful Life	Construction Budget (2014)	Priority	Priority 1 (0-5 yrs)	Priority 2 (6-10 yrs)	Priority 3 (11-15 yrs)	Priority 4 (16-20 yrs)	Remarks
	27c	ADA- Two ADA stalls on the east side of the building near the main entrance are not in compliance. They require restriping at a minimum. There are also ADA spaces on the south side of the building that do not appear to be in compliance. There is no signage and the slope may exceed maximum allowed.	1	\$10,000	1	\$10,506	\$0	\$0	\$0	
	27d	ADA-An ADA ramp should be constructed at the crosswalk on the north side of the drop off lane north of building.	1	\$10,000	1	\$10,506	\$0	\$0	\$0	
	27e	ADA-There is no clear connection between the ADA ramps in the bituminous concrete sidewalks where the access drive enters the parking area to the drop off road. The ramps should be surveyed for ADA compliance and some type of route painted on the pavement.				\$0	\$0	\$0	\$0	
						\$0	\$0	\$0	\$0	
28	Building Accessibility			\$35,000		\$36,772	\$0	\$0	\$0	
	28a	Drinking Fountain Protection: Drinking fountains protrude into corridors and should be relocated to a location where they are not subject to damage and user is not subject to injury from passersby. Consider relocating fountains to protected alcoves where they do not protrude into corridors. Includes, plumbing relocation, alcove creation, and electrical hook up of 10 refrigerated drinking fountains.	0	\$35,000	1	\$36,772	\$0	\$0	\$0	
						\$0	\$0	\$0	\$0	
Total Accessibility / Code Requirements:				\$70,000		\$73,544	\$0	\$0	\$0	
Construction Total*				\$6,268,529		\$3,480,379	\$1,693,586	\$2,059,188	\$0	<i>*does not include contingency and incidental costs</i>



Millis Public Schools
FACILITIES EVALUATION - SUMMARY SHEET



School Totals		Priority 1 (0-5 yrs)	Priority 2 (5- 10 yrs)	Priority 3 (11-15 yrs)	Priority 4 (16-20 yrs)	Totals	Remarks
Site:							
	Clyde Brown Elementary School	\$436,011	\$5,943	\$0	\$0	\$441,955	
	Millis Middle School / Millis High School	\$1,096,595	\$517,080	\$0	\$0	\$1,613,675	
Total Site:		\$1,532,607	\$523,024	\$0	\$0	\$2,055,630	
Building:							
Exterior Envelope:							
	Clyde Brown Elementary School	\$937,897	\$6,081,237	\$484,160	\$0	\$7,503,295	
	Millis Middle School / Millis High School	\$616,541	\$10,460	\$1,324,542	\$0	\$1,951,543	
Interiors:							
	Clyde Brown Elementary School	\$355,208	\$334,395	\$166,907	\$0	\$856,510	
	Millis Middle School / Millis High School	\$309,704	\$173,489	\$734,646	\$0	\$1,217,839	
Environmentally Hazardous Materials							
	Clyde Brown Elementary School	\$0	\$0	\$0	\$0	\$0	
	Millis Middle/ High School	\$0	\$0	\$0	\$0	\$0	
Structural:							
	Clyde Brown Elementary School	\$0	\$0	\$0	\$0	\$0	
	Millis Middle/High School	\$10,506	\$0	\$0	\$0	\$10,506	
Plumbing, Mechanical, Electrical, Technology							
	Clyde Brown Elementary School	\$3,054,707	\$414,853	\$0	\$0	\$3,469,560	
	Millis Middle/High School	\$1,373,489	\$992,556	\$0	\$0	\$2,366,045	
Total Building:		\$6,658,052	\$8,006,991	\$2,710,256	\$0	\$17,375,299	
Accessibility / Code							
	Clyde Brown Elementary School	\$460,218	\$0	\$0	\$0	\$460,218	
	Millis Middle/High School	\$73,544	\$0	\$0	\$0	\$73,544	
Total Accessibility / Code:		\$533,762	\$0	\$0	\$0	\$533,762	
Total Construction Budget		\$8,724,421	\$8,530,014	\$2,710,256	\$0	\$19,964,691	
	Incidental Budget (Contingency, Professional Fees, Printing, Legal, etc.)	\$3,489,768	\$3,412,006	\$1,084,102	\$0	\$7,985,876	
Total Project Budget		\$12,214,189	\$11,942,020	\$3,794,358	\$0	\$27,950,567	

Clyde Brown Elementary School – Facilities Evaluation Photos



Millis 024.JPG



Millis 025.JPG



Millis 243.JPG



Millis 244.JPG



Millis 246.JPG



Millis 247.JPG

Clyde Brown Elementary School – Facilities Evaluation Photos



Millis 248.JPG



Millis 249.JPG



Millis 251.JPG



Millis 253.JPG



Millis 257.JPG



Millis 267.JPG

Clyde Brown Elementary School – Facilities Evaluation Photos



Millis 271.JPG



Millis 272.JPG



Millis 278.JPG



Millis 298.JPG



Millis 303.JPG



Millis 306.JPG

Clyde Brown Elementary School – Facilities Evaluation Photos



Millis 308.JPG



Millis 313.JPG



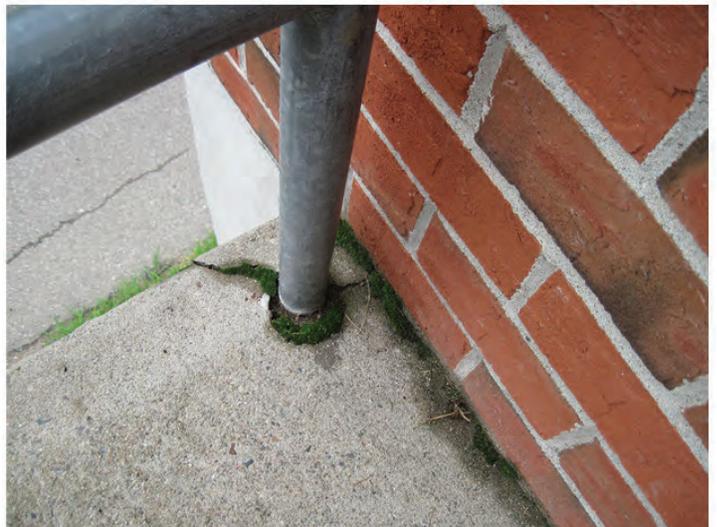
Millis 315.JPG



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Clyde Brown Elementary School – Facilities Evaluation Photos



Millis 330.JPG



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Millis 344.JPG



Millis 349.JPG

Millis Middle/High School – Facilities Evaluation Photos



Millis 027.JPG



Millis 032.JPG



Millis 034.JPG



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Millis Middle/High School – Facilities Evaluation Photos



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Millis 086.JPG



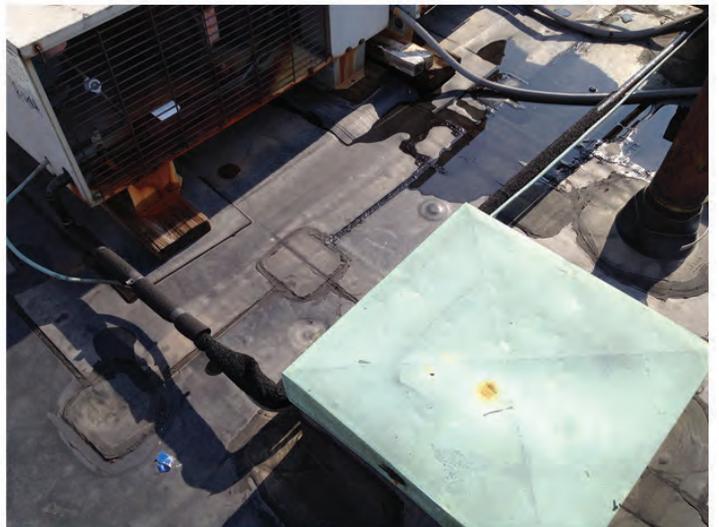
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Millis Middle/High School – Facilities Evaluation Photos



Millis 099.JPG



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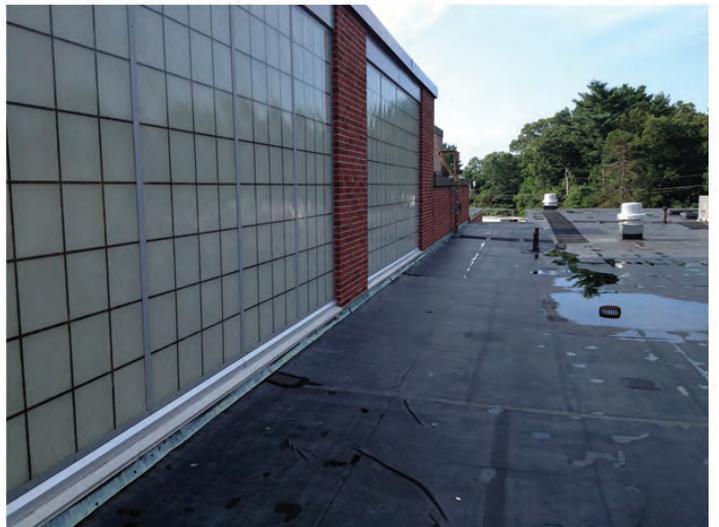
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Millis 117.JPG



Millis 122.JPG

Millis Middle/High School – Facilities Evaluation Photos



Millis 123.JPG



Millis 137.JPG



Millis 138.JPG



Millis 151.JPG



Millis 156.JPG



Millis 215.JPG



Millis 222.JPG

Section 5

Master Planning Considerations



Millis Public Schools
Millis, Massachusetts



TETRA TECH
ARCHITECTS & ENGINEERS



MILLIS PUBLIC SCHOOLS AERIAL PHOTOGRAPH



OVERVIEW

The Clyde Brown Elementary School and the Millis Middle/High School are seriously overcrowded. This situation severely disrupts the educational process at both schools. It impairs effective scheduling and results in oversized classes and limits course offerings.

Several possibilities for alleviating the overcrowded conditions were considered by the Facilities Evaluation team. These options include:

1. Adding classroom space to the Clyde Brown Elementary School
2. Expand the Middle/High School
 - Add temporary "modular" classrooms
 - Add Permanent Classrooms
3. Selective renovations at both schools to best support academic programs

EXPANDING THE CLYDE BROWN ELEMENTARY SCHOOL

Tetra Tech began the Millis Master Planning analysis by consider how to add classroom space at Clyde Brown. The original thinking was that a new classroom wing would allow for the 5th Grade to move back into the Elementary School, thus freeing up classroom space in the Middle/High School. We evaluated the Clyde Brown site and facility to determine the best possible locations for new classrooms to house the 5th Grade. We then met with school staff, teachers, and the School Committee to determine the educational benefits of this approach. We also performed an extensive on-line survey to gather broad input from the community.

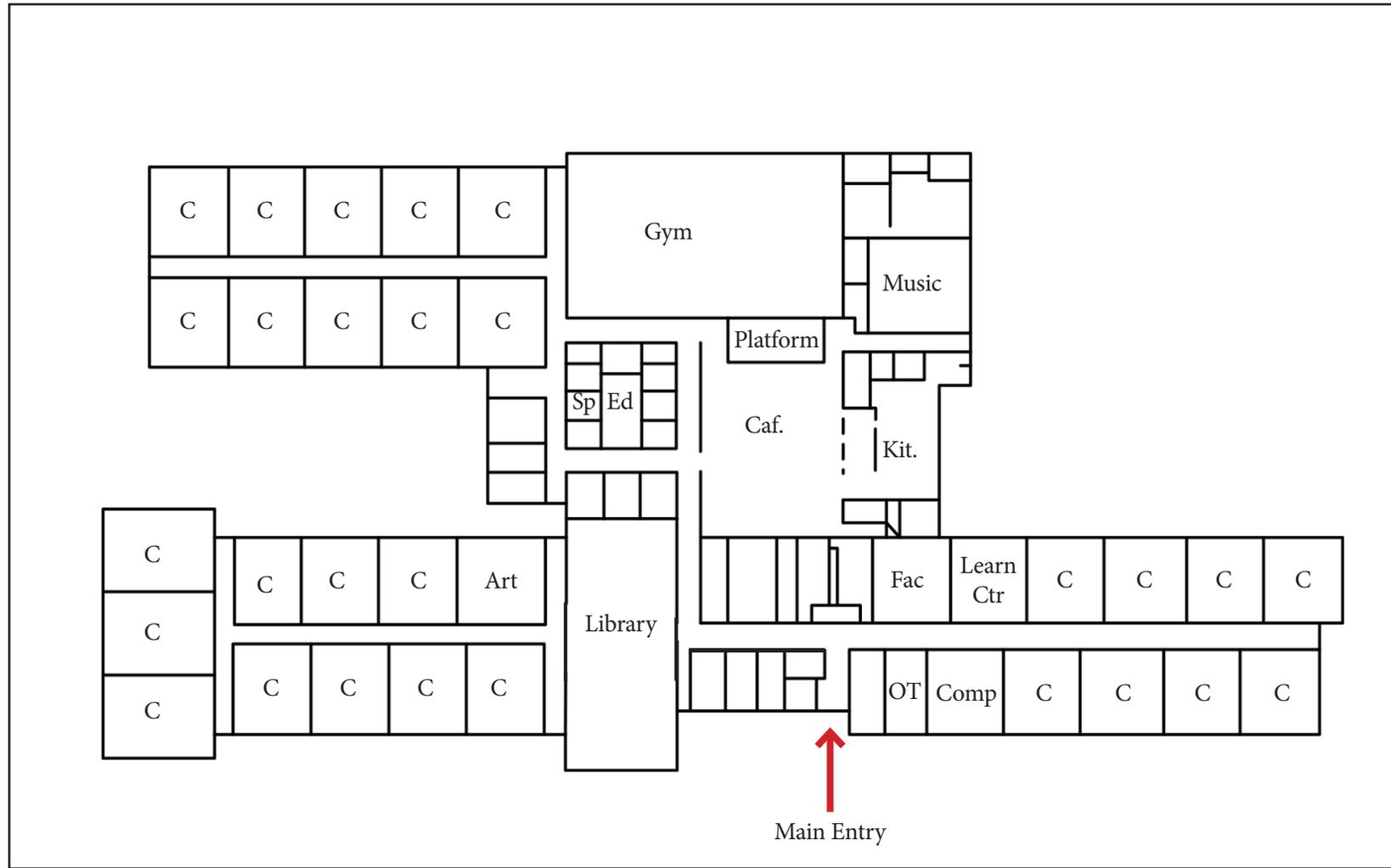
The Clyde Brown site is small and highly constrained. There are many challenges to constructing enough new classrooms to house the 5th Grade in a functional and effective location. We heard from many people that the 5th Grade program has successfully operated in the Middle School for years, and there are a number of curriculum and educational benefits to this grade alignment. After careful consideration of all factors, it is our recommendation that the 5th Grade remain in the Middle School and other options for alleviating the overcrowding be pursued.

Even without moving the 5th Grade, the Clyde Brown School is in need of additional space and selective renovations. These additions and renovations are needed to improve the facility to better serve the Pre-K through 4th Grade educational program. Key elements of the improvements needed at Clyde Brown are:

- Renovate and repurpose the library to better utilize existing space and improve the connection between the classroom wings
- Relocate Special Education office and expand the Cafeteria space
- Construct 2-3 additional full sized classrooms while repurposing other spaces
- Create Special Education classroom space for OT/PT/Reading/Therapy
- Renovate/replace classrooms in the PreK-K wing
- Create a dedicated Music Room

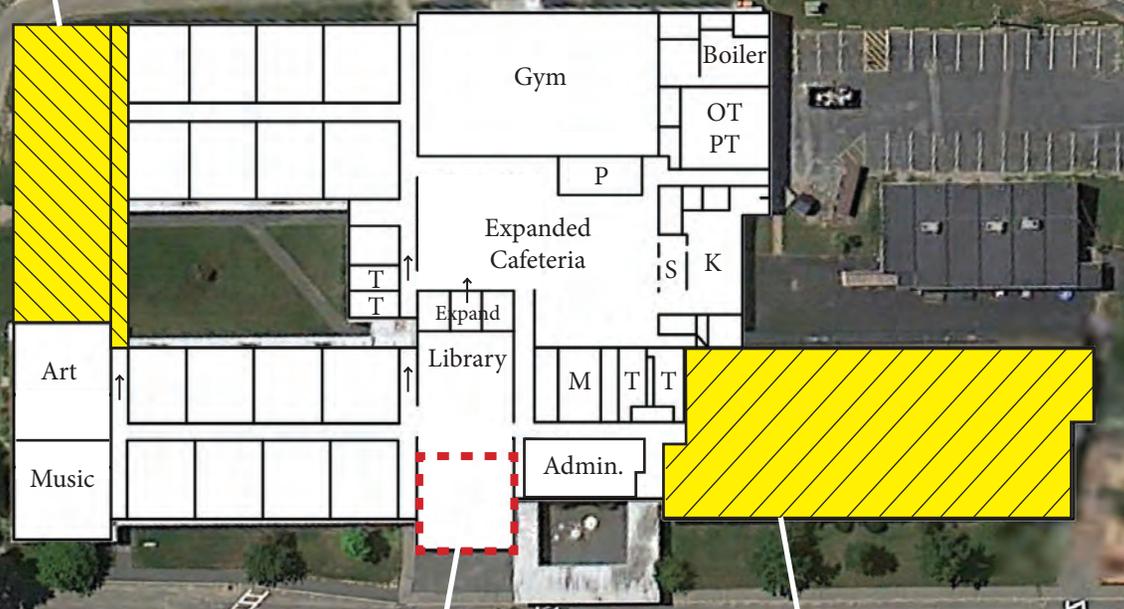


CLYDE BROWN ELEMENTARY SCHOOL



CLYDE BROWN ELEMENTARY SCHOOL

1 Story Classroom Addition



Special Ed. or Classrooms

Rebuild as 1 or 2 Story Classroom Addition

LEGEND

 Additions



EXPANDING THE MIDDLE/HIGH SCHOOL

One way to add space to the Middle/High School would be to construct temporary “modular” classrooms. The area behind the existing locker rooms (between the running track and the school) would be a viable place to build modular classrooms. While this location would make sense from a construction standpoint, the classrooms themselves would be remote and disconnected from the main academic core of the building. From an educational perspective, we believe that modular classrooms are not the best long term solution for expanding the Middle/High School.

We recommend constructing new permanent classrooms directly adjacent to the academic core as the best way to alleviate the overcrowding in the Middle/High School. As is shown in the Master Plan shown below, one location for additional classrooms would be across from the Media Center. Having two or three classrooms there would directly benefit the High School program. It would reduce the need to “borrow” upstairs classroom(s) from the Middle School.

A second Gym is needed in the building to meet the school’s needs. This could be constructed behind the District offices or the locker rooms.

In the short term, there are several smaller projects that could be considered to improve the schools while the planning process for a larger Capital Project is ongoing. These smaller projects include:

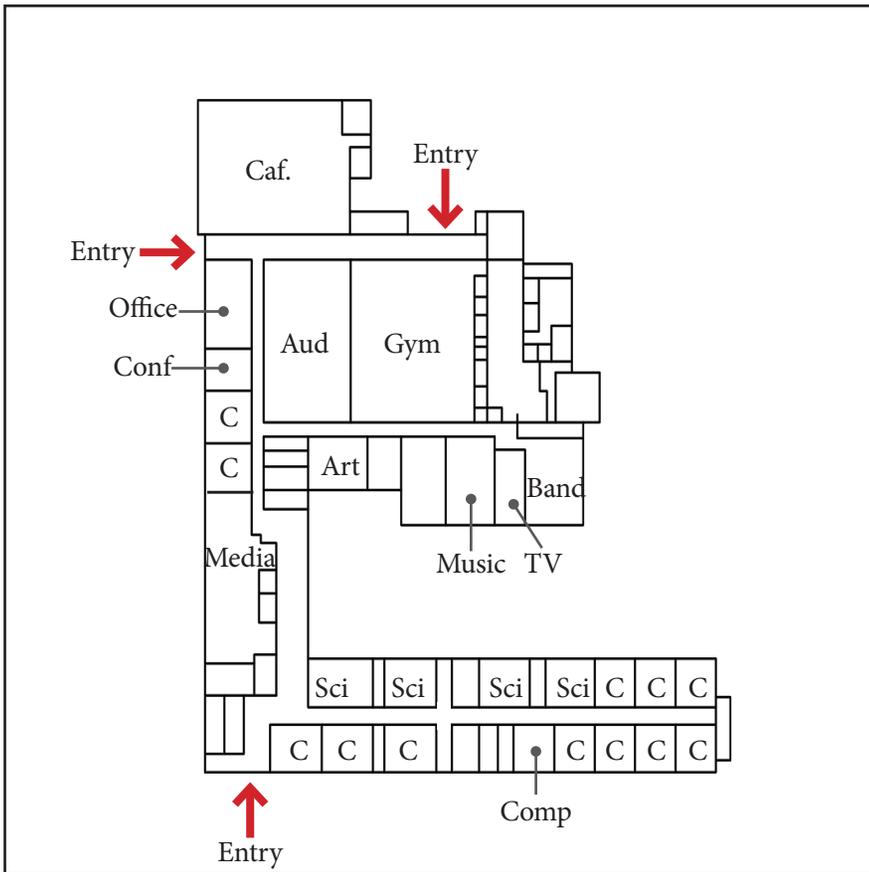
- Secure Entrance Improvements
- Replace the Roof at Clyde Brown (MSBA Accelerated Repair funding)
- Clyde Brown Library (repurpose underutilized space)
- Reconfigure Pre-K/K wing at Clyde Brown to gain an additional classroom



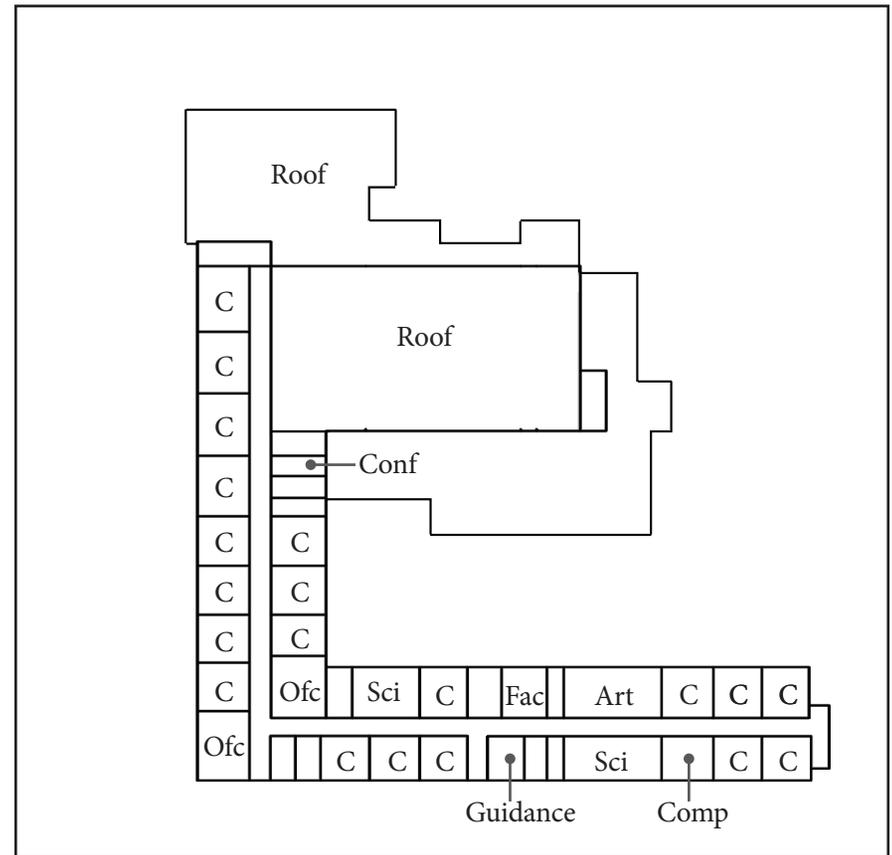


MILLIS MS/HS

1st Floor



2nd Floor



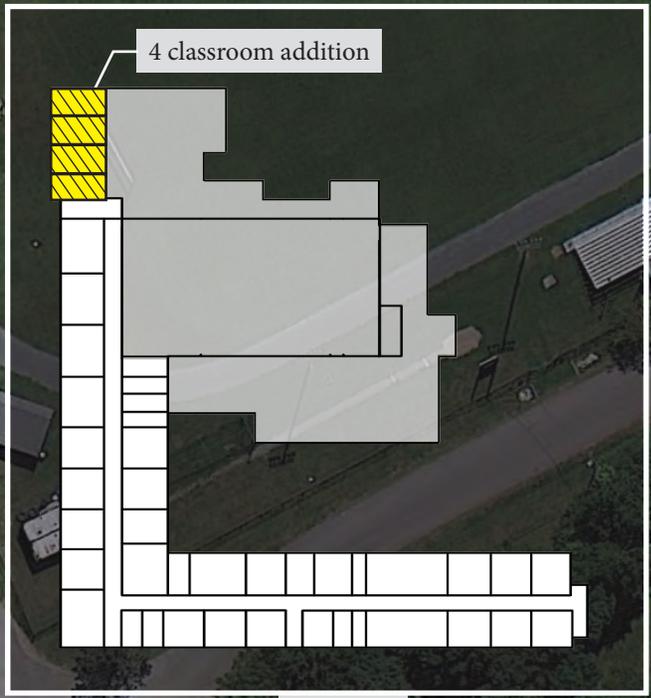
MILLIS MS/HS

4 classroom renovations

Possible District Office or Special Ed Offices with Conference Rooms & Small Group Work Space.



1st Floor



4 classroom addition

2nd Floor

LEGEND

-  Renovations
-  Additions



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