BLUEPRINT FOR CITY OF MERIDEN HIGH SCHOOLS REDESIGN

21st Century Curriculum
&
Viable Options for Facility Upgrades

Report of the City of Meriden
Ad Hoc High School Study Committee

November 2009

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1	Final Report of Meriden Board of Education High School Curriculum Planning Subcommittee (May 2009)
2	City of Meriden – Construction Cost Analysis of Francis T. Maloney High School and Orville H. Platt High School (Fletcher Thompson, October 2009)
3	Meriden Public Schools Enrollment Projections
4	The Connecticut Plan: Academic and Personal Success for Every Middle and High School Student (Connecticut Board of Education, Ad Hoc Committee for Secondary School Redesign, Draft Dec. 2008)
5	City of Meriden – Feasibility Study of Francis T. Maloney High School and Orville H. Platt High School (Fletcher Thompson, April 2007)
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7	Energy Efficiency Study of Connecticut Schools, prepared by the Institute for Sustainable Energy at Eastern Connecticut State University for the Connecticut Green Building Council and the Connecticut Clean Energy Fund
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I. EXECUTIVE SUMMARY

As observed by the United States Supreme Court, "education is perhaps the most important function of state and local governments."[1] The Connecticut Constitution itself confirms every child's right to publicly provided elementary and secondary education.[2]

Francis T. Maloney High School and Orville H. Platt High School collectively serve approximately 2,500 Meriden students annually. This high school educational system, however, now requires the development and implementation of a 21st Century curriculum and stands in serious need of substantial facilities upgrades.

Financially, the City is at risk that its currently applicable State reimbursement rate of 77.14% will be significantly reduced in the State's next biennial budget effective July 1, 2011 or that the State would impose a complete moratorium on reimbursement of school construction projects. To put these risks in perspective, every 1% reduction in the City's reimbursement rate translates into approximately an additional $2.5 million of taxpayer expense to complete these high school projects. Conversely, the current state of the national economy has created an ultra-competitive bidding atmosphere in which the City expects to realize significant savings in comparison to the costs that may otherwise be expected should the City delay these projects any longer.

In recognition of these circumstances, and in further recognition of the relationship between quality public education and the vitality of a community as a whole, the City of Meriden (through its Ad Hoc High School Study Committee) and the Meriden Board of Education cooperatively have undertaken to begin development of a 21st Century high school curriculum and to identify, for further consideration, all viable physical plant upgrade options. This report sets forth that comprehensive blueprint for the redesign of Meriden's high schools.

As to the City's 21st Century high school curriculum, the Meriden Board of Education's High School Curriculum Planning Subcommittee issued its Final Report in May 2009, a copy of which is contained in *Attachment 1*. That report essentially consists of the courses, and their associated equipment and facilities needs, that would be offered under ideal conditions. This course list, however, ultimately will be condensed and modified based upon the particular high school facilities upgrade option selected by the City Council.

As to the high school facilities, the Ad Hoc High School Study Committee was not charged with formally recommending a specific upgrade option, but instead was charged with identifying, and gathering the pertinent information related to, all viable upgrade options. To this end, five viable upgrade options were identified, as follows:

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[1] *Brown v. Board of Education*, 347 U.S. 483, 493 (1954).

[2] *Conn. Const. Art. VIII § 1.*

1. Two new high schools utilizing only the existing sites (Option 1);

2. Two new high schools, with one utilizing a third property (Option 2);

3. A hybrid of new construction and renovation at each existing site (Option 3);

4. Construct a new Maloney High School and upgrade Platt High School (Option 4); and

5. Renovate each site without any new construction (Option 5).

Among the information gathered with respect to these options were professional cost estimates and construction timelines. The Construction Cost Analysis issued by Fletcher Thompson in October 2009 is contained in *Attachment 2*. In light of the relatively limited architectural and engineering details available at this early stage, the cost estimates should not be viewed as proposed budgets, but rather as a tool for roughly determining the relative cost of each option in comparison to the other options. In addition, the cost estimates vary significantly depending upon whether the City maintains in any new high school the same gross square footage as currently exists or whether the City reduces the gross square footage to coincide with lower projected student enrollments thereby maximizing the City's reimbursement rate. Finally, and as discussed in greater detail later in this report, uncertainty does exist as to whether a new Platt High School could be built at the same time as a new Maloney High School or whether a new Platt High School would need to be constructed sequentially with a new Maloney High School. The cost figures, however, are but one factor in the decisionmaking process and must be considered in the context of the various societal pros and cons of each option which do not lend themselves to specific monetary quantification at this time.

The Ad Hoc High School Study Committee notes that it did explore two other options, namely, (i) limited scope improvements, which upgrade project generally involves only window, exterior door, mechanical system, and electrical system replacements, and (ii) constructing a single, combined high school. The limited scope improvements option, however, would not address the widespread building deficiencies currently present in the schools and, in any event, would cost the City anywhere from 40% to 80% more than the above-listed options due to the dramatically lower State reimbursement rates applicable to such projects. *See Attachment 2*. As to the possibility of combining Maloney and Platt High Schools into a single new high school designed to educate approximately 2,500 students, the committee was unable to identify a site of sufficient acreage at which to realistically locate such construction, and this option also would negatively impact the delivery of educational services, the security of the facility, the sports programs and athletic fields, and the associated traffic and parking. Thus, limited scope improvements and a single, combined high school were not considered to be viable options.

Subject to the foregoing, assuming a final submission to the State no later than June 2011, and applying current State reimbursement rates, the City's per school share of each of the viable options, the corresponding length of construction, and the corresponding completion of construction / occupancy date are estimated as follows:

MALONEY HIGH SCHOOL

Option	City's Share	Length of Construction (years)	Completion of Construction / Occupancy
New construction (existing sq. ft.)	$42,644,595	2	September 2015
New construction (reduced sq. ft.)	$36,219,212	2	September 2015
Hybrid of new construction & renovation	$36,424,584	3.25	June 2016
Renovate like new	$32,836,546	4.25	June 2017

PLATT HIGH SCHOOL

Option	City's Share	Length of Construction (years)	Completion of Construction / Occupancy
New construction (sequential, existing sq. ft.)	$42,024,880	2	September 2017
New construction (sequential, reduced sq. ft.)	$38,197,275	2	September 2017
New construction (concurrent, existing sq. ft.)	$39,789,540	2	September 2015
New construction (concurrent, reduced sq. ft.)	$36,187,233	2	September 2015
Hybrid of new construction & renovation	$33,426,866	3.25	June 2016
Renovate like new	$30,386,182	4.25	September 2017

To quantify the above cost figures in terms of property taxes, and assuming an average total City share of $70 million funded with 20-year bonds, the annual debt service translates on average to less than 1.35 mils (that is, less than $1.35 per $1,000 of assessed value, or $0.95 per $1,000 of fair market value) during the bonding period, based on the 2010 grand list. Using the average residential fair market value of $202,000 as an example, the high school projects would translate into approximately $190 per year, or less than $16 per month, of property taxes.

For ease of analysis, this report first summarizes the history of Meriden's high school curriculum and facilities through the present. The various rationales for upgrading Maloney and Platt High Schools, in addition to the current state of the curriculum and facilities, next are discussed. A general description of the contemplated 21st Century high school curriculum and the process for developing facilities specifications then is provided. Finally, against all of that background, this report sets forth in detail the five viable facilities upgrade options identified by the Ad Hoc High School Study Committee, including the corresponding construction timelines and cost/bonding projections.

II. CURRICULUM & FACILITIES HISTORIES

A. Overview

To fully appreciate the importance of upgrading the City's high schools, one must consider the history of their curriculum and physical plant not only standing alone but also in relation to the City's elementary and middle school educational systems. Much of Meriden's educational system is in a state of transition, and the high schools now must become an integrated component of these efforts. This *Section II*, therefore, provides this context, first as to the curriculum and then as to the facilities.

B. Curriculum

Section 10-16b of the Connecticut General Statutes indicates the courses of study that must be offered in Connecticut's public schools. In Meriden the Superintendent of Schools and Associate Superintendent for Instruction are responsible for curriculum that is planned, ongoing and systematic. Curriculum committees are established for all K-12 instructional program areas. These committees provide the primary focus for curriculum revision and play a key role in curriculum review and evaluation. Organized with representation from all appropriate grades and across all schools, each committee has two co-chairpersons consisting of a member of the administrative staff and a member of the teaching staff. The department chairs of English, Science, Social Studies, World Languages, Mathematics, Business, Physical Education, Art, Music, Industrial Technology, Family and Consumer Science, and Instructional Technology are all members of system-wide content area curricula committees. Under Meriden's timetable for curriculum revision, each curriculum committee undertakes a formal comprehensive program review over a five-year cycle. In certain cases, this five-year period has been modified to align with the publication dates of the Connecticut Framework for Instruction, developed by the Connecticut State Department of Education, as well as the CMT and CAPT State assessment revisions.

One of the most significant revisions in high school curriculum over the last fifty years has been the integration of technology into teaching and learning. Years ago, schools had overhead projectors and film strips. Today, technology is integrated into every aspect of curriculum. Our schools have progressed from woodwork shops to video production, website design and photo editing, and from typing to business courses offering accounting online and office/business applications using Excel and Microsoft Word. Online card catalogs have replaced the paper card catalogs in libraries, which allows students not only to search for books in the library, but also to search on websites. The school libraries now subscribe to online periodicals rather than relying solely on bound subscriptions. In mathematics, the simple adding machine has been replaced with graphic calculators which perform statistical analyses, graph charts and trigonometric functions. In English classes, writing has changed from pen and paper to a typed essay to the use of a word processor. In music, the tape recorder has progressed to digital editing. Working in music labs, students can play an instrument, record the music, and combine digital music with their own music and record it. In science, teachers are able to bring in authentic pictures and videos from the internet, rather than holding up a printed picture from a magazine or newspaper. Rather than viewing a printed picture of a virus, students can view the actual digital picture of

the virus, watch cells multiply, and observe the virus attacking organisms. Students are starting to use digital microscopes in the classroom with digital projectors. Last, but not least, students' projects now often include PowerPoint presentations, Excel spreadsheets, websites and videos.

As to our youngest students, a Meriden Blueprint for Young Children was issued in September 2008.[3] That report recommended the formation of an Early Childhood Council which would oversee implementation of various strategies intended to address (i) pre-kindergarten education, transition to and early formal education in kindergarten, and progress in Grades 1 through 3, (ii) family support as it is affected by economic security, family development and education, and (iii) child health and development with respect to physical, mental, dental and behavioral health issues affecting children from birth to age 8. As a general matter, the Meriden Blueprint for Young Children emphasized the overarching need for the families in this City to recognize, and to return to, the fundamentals which derive from the principle that parents are a child's first teacher. The Early Childhood Council continues to meet and implement the blueprint's early childhood strategies in the areas of early care and education, family self-sufficiency and health.

At the middle school level, students have the opportunity to choose the nature of the middle school which they attend. Lincoln Middle School, newly constructed in December 2004, has established a partnership with the Connecticut Commission on Tourism and Culture, making it a Higher Order Thinking (HOT) School with the theme "Arts and Media." The school uses varied techniques to celebrate and validate children's accomplishments including town meetings, an editorial board, performing arts companies, and student government. Respected resident artists join the faculty for periods of time to help incorporate the theme. Thomas Edison Magnet Middle School, newly constructed in August 2001, has a "Science, Mathematics and Technology" theme, which subjects are emphasized and integrated into the study of all disciplines. Finally, Washington Middle School, constructed in 1984, has a theme of "Global Studies" encompassing the four major strands of Environment and Health, Cultures and Societies, Government, Politics and Current Events, and Economics and Interdependence, which areas of study are interwoven into learning at each grade level.

As to Maloney High School and Platt High School themselves, construction of these schools was completed in 1958. Student enrollment for Maloney and Platt High Schools for the 2008-2009 academic year was 1280 and 1182, respectively. Enrollment is expected to remain relatively constant over the next 10 years, with the Meriden public schools enrollment projections contained in *Attachment 3*.

The issue of high school curriculum in particular recently was addressed by the State Board of Education. That Board of Education formed an Ad Hoc Committee for Secondary School Redesign which first convened in June 2007. In December 2008, the committee issued its draft plan for secondary school reform entitled, "The Connecticut Plan: Academic and Personal

[3] The Blueprint Leadership Work Group responsible for that report was convened in early 2008 by Meriden Children First and the Meriden School Readiness Council with support from a grant from the Governor's Early Childhood Cabinet and the Graustein Memorial Funds. The Blueprint Leadership Work Group was chaired by Thomas E. Bruenn (Meriden Board of Education), James Ieronimo (United Way of Meriden and Wallingford), and Marisol Estrada-Soto (Parent Leader/Children First Board). Copies of the Meriden Blueprint for Young Children can be obtained from Meriden Children First, 105 Miller Street, Meriden, Connecticut 06450, 203-630-3566, www.meridenchildrenfirst.org.

Success for Every Middle and High School Student," a copy of which is contained in *Attachment 4*. This plan centered upon three organizing concepts, namely, (i) student engagement in the educational process, (ii) the recognition that 21st Century skills require proficiency in more than the three basic areas of reading, writing and mathematics, and (iii) the development of a rigorous curriculum intended to inspire students to embrace meaningful challenges and to develop a broader and deeper understanding not only of themselves but also of the world around them. Generally speaking, the committee suggested that a successful implementation of the plan for secondary school redesign would reflect itself in students graduating from high school at significantly higher rates than currently, entering the world of higher education without having to take remedial courses in the language arts and mathematics, succeeding in finishing degree programs, and transitioning into a workforce subject to all the demands of a 21st Century global economy. While the State has not yet finalized the draft plan or approved the funding necessary to begin implementation of this curriculum redesign, the issuance of the draft plan itself provides an important roadmap for local high school curriculum redesign.

Overall, the high school curriculum must finish the work started by the curricula of our elementary and middle schools. The City is fortunate that its high school redesign coincides with the issuance of the State's draft plan for secondary school redesign.

C. Facilities

Again starting with our youngest students, the City has begun to meet the need for all-day kindergarten. The City Council approved the construction of eight new classrooms at Hanover Elementary School in July 2007, with the funding for that construction being approved in June 2009. That addition is expected to allow 220 children to attend public all-day kindergarten.

The elementary education system, in turn, is comprised of eight elementary schools. These schools, their respective dates of construction, and the dates of the last major renovations (if any) including code updates, enhancements and/or additions are as follows:

Elementary School	Original Construction	Last Major Renovation
John Barry	1929	1996
Benjamin Franklin	1950	1997
Nathan Hale	1956	1991
Hanover	1934	1993
Thomas Hooker	1963	--
Casimir Pulaski	1972	--

Israel Putnam	1951	1991
Roger Sherman	1929	1991

Looking forward, the upgrade of Thomas Hooker Elementary School most likely would follow the upgrade of the two high schools.

With respect to the City's middle schools, and as noted above, Edison Middle School opened its doors in September 2001, while students began to attend the newly constructed Lincoln Middle School in December 2004. Washington Middle School is the oldest of the three middle schools, constructed in 1984. Re-roofing and main entrance renovations at Washington Middle School were completed in January 2008.

Maloney High School and Platt High School themselves were constructed in 1958, with substantial additions being completed in 1970, including additional science classrooms, a library, an auxiliary gymnasium, and a swimming pool. In May 2006, the roofs at both high schools were replaced due to leakage. No other substantial improvements have been made to the high schools over the last 50 years.

In April 2006, the City retained Fletcher Thompson, Inc. to conduct an assessment of the high school facilities. The primary purpose of Fletcher Thompson's retention was to confirm whether the need to upgrade the high school facilities actually existed. That need very clearly was documented in Fletcher Thompson's April 3, 2007 report entitled, "City of Meriden – Feasibility Study of Francis T. Maloney High School and Orville H. Platt High School," a copy of which report is contained in *Attachment 5*.

Fletcher Thompson's engineering team toured the two high schools several times between the months of September and November 2006 with each building's head custodian. Aerial photographs and existing floor plans of Maloney and Platt High Schools are contained in Fletcher Thompson's report. As set forth in detail in that report, significant deficiencies currently exist with respect to the following:

1. Handicapped accessibility (including door widths, elevators, accessible seating and signage);
2. Education technology compatibility;
3. Auditorium and stage;
4. Boilers;
5. Piping and pumps;

6. Temperature controls;

7. Ventilation;

8. Pool natatorium and equipment room;

9. Kitchen equipment and HVAC;

10. Domestic water service and domestic hot water;

11. Gas and piping;

12. Plumbing fixtures;

13. Fuel oil storage tanks;

14. Electrical systems (including electrical distribution systems, branch circuits, interior lighting, public address systems, program clock systems, fire alarm systems, generators, information technology systems, and security systems); and

15. Windows and exterior doors.

Board of Education staff has confirmed that physical conditions have remained relatively unchanged since Fletcher Thompson's inspections in late 2006. Such conditions also recently were confirmed by representatives of Fletcher Thompson who, along with members of the Ad Hoc High School Study Committee, re-examined both schools on August 3, 2009 in connection with Fletcher Thompson's supplemental financial analyses. Thus, the pressing need to upgrade both high schools has been well-documented.

III. ADDITIONAL RATIONALES FOR HIGH SCHOOLS REDESIGN

A. Overview

The City's ability to offer a first rate high school education to its students provides numerous tangible and intangible benefits not limited simply to the education of our children. Such benefits include, among other things, the furtherance of Meriden's recently approved Plan of Conservation and Development, the use of the high schools for various community activities, the impact upon residential property values, the relationship to the maintenance or expansion of the City's commercial base, the implementation of green technologies, and increased civic pride. This *Section III* first discusses the relationship between physical plant and student/teacher performance, and then touches briefly on the other important societal aspects of redesigning Meriden's high schools.

B. Student and Teacher Performance

The overall purpose of each of the City's high schools is summarized in their respective mission statements, as follows:

> *Maloney High School, comprising faculty, staff, parents, community and business partners is committed to preparing and educating students to become competent, skilled and informed citizens. We develop the unique talents and abilities of each student within a multicultural student body. We teach our students to recognize the inherent dignity and worth of all people so that they will become responsible, caring and contributing members of a changing and diverse society. This is accomplished in a comprehensive and challenging environment that supports life-long learning.*
>
> -- Maloney High School Mission Statement

> *Platt High School, in partnership with parents and community, will provide a safe and productive learning environment for all students to achieve their academic potential, develop technical and artistic competencies, social skills, and physical and emotional well-being, and demonstrate the ability to contribute to and compete in our multi-cultural society.*
>
> -- Platt High School Mission Statement

These mission statements now must be read in the context of the need to prepare our children to be competitive in the 21st Century global marketplace.

In this regard, student and teacher performance relates directly to the quality of the physical plant in which the educational services are delivered. This is not to say that many factors, often difficult to isolate and quantify, influence student success, and one must not give too much

weight to any particular factor. Nevertheless, in the area of quality school facilities and student achievement, a growing body of research exists supporting the instinctive reasoning that a quality facility results in better student and teacher performance.

For example, the National Clearinghouse for Educational Facilities created by the United States Department of Education in 1997 cites over 40 academic research papers on the subject.[4] Studies over the last decade consistently have confirmed a relationship between academic achievement and building quality (including compliance with health and safety regulations).[5] Temperature control, air quality, lighting (including the amount of natural light), and acoustics have been ranked among the most important physical factors in student learning.[6]

Importantly, teachers also are affected by poor quality buildings. Teacher attitudes and behaviors have been found to be related to the quality of school facilities, as were teacher retention/attrition decisions.[7] Teachers who perceived a detrimental effect on their health due to building conditions, or who were stressed by high noise levels, poor acoustics, and/or lack of

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[4] "Modern Public School Facilities: Investing in the Future" (Feb. 2008) --Testimony to the U.S. House of Representatives by Kathleen J. Moore, Director of the School Facilities Planning Division, California Department of Education, http://edlabor.house.gov/testimony/2008-02-13-KathleenMoore.pdf.

[5] Uline, C. and Tschannen-Moran, M., "The Walls Speak: The Interplay of Quality Facilities, School Climate, and Student Achievement," Journal of Educational Administration, Vol. 46 No. 1 pp. 55-73 (2008), http://www.emeraldinsight.com/Insight/ViewContentServlet?Filename=Published/EmeraldFullTextArticle/Articles/0740460104.html and http://edweb.sdsu.edu/schoolhouse/documents/wallsspeak.pdf; Uline, C., Tschannen-Moran, M. and Wolsey, T., "The Walls Still Speak: The Stories Occupants Tell," paper presented at 2007 Annual Meeting of the American Educational Research Association, Chicago, IL (2007), http://edweb.sdsu.edu/schoolhouse/aera/stories.pps and formerly http://www.edweb.sdsu.edu/schoolhouse/C/stories/pdf; Higgins, S., Hall, E., Wall, K., Woolner, P., and McCaughey, C., "The Impact of School Environments: A literature review", The Design Council, London (Feb. 2005), www.designcouncil.org.uk/en/Search-Results/?searchKey=school%2520environments; Buckley, J., Schneider, M., and Shang, Y., "The Effects of School Facility Quality on Teacher Retention in Urban School Districts," National Clearinghouse for Educational Facilities, Washington, DC (2004), www.edfacilities.org/pubs/teacherretention.html; Earthman, G.I., "Prioritization of 31 Criteria for School Building Adequacy," Baltimore, MD, American Civil Liberties Union Foundation of Maryland (2004), www.schoolfundinginfo/policy/facilities/ACLUfacilities_report1-04.pdf; Schneider, M., "Do School Facilities Affect Academic Outcomes?", National Clearinghouse for Educational Facilities (Nov. 2002), www.edfacilities.org/pubs/outcomes.pdf.

[6] Earthman, G.I., "Prioritization of 31 Criteria for School Building Adequacy," Baltimore, MD, American Civil Liberties Union Foundation of Maryland (2004), www.schoolfunding.info/policy/facilities/ACLUfacilities_report1-04.pdf; Heschong Mahone Group, "Windows and Classrooms: A Study of Student Performance and the Indoor Environment" (Oct. 2003), http://www.h-m-g.com/projects/daylighting/projects-PIER.htm; Environmental Protection Agency, "Indoor Air Quality & Student Performance," EPA Report No. EPA 402-K-03-006, Washington, D.C. (2003), http://www.epa.gov/iaq/schools/pdfs/publications/iaq_and_student_performance.pdf; Schneider, M., "Do School Facilities Affect Academic Outcomes?", National Clearinghouse for Educational Facilities (Nov. 2002), www.edfacilities.org/pubs/outcomes.pdf; Plympton, P., Conway, S. and Epstein, K., "Daylighting in Schools: Improving Student Performance and Health at a Price Schools Can Afford," paper presented at the American Solar Energy Society Conference, Madison, Wisconsin (June 2000), www.eric.ed.gov; Heschong Mahone Group, "Daylighting in Schools: An Investigation into the Relationship Between Daylighting and Human Performance" (1999), http://www.h-m-g.com/projects/daylighting/projects-PIER.htm.

[7] Buckley, J., Schneider, M., and Shang, Y., "The Effects of School Facility Quality on Teacher Retention in Urban School Districts," National Clearinghouse for Educational Facilities, Washington, DC (2004), www.edfacilities.org/pubs/teacherretention.html.

thermal controls, were found to be more likely to seek employment elsewhere.[8] Poor working conditions, not surprisingly, also are more likely to result in higher absenteeism, reduced effort, lower effectiveness in the classroom, low morale, and reduced job satisfaction.[9]

A quality school is but one component necessary for successful teaching and learning. Together with rigorous standards, qualified teachers and system accountability, school quality can positively impact educational outcomes.[10] Maloney and Platt High Schools are no exception.

C. Plan of Conservation and Development

In early 2009, the City Council and the Meriden Planning Commission approved a ten-year Plan of Conservation and Development (POCD) as required by State law.[11] The POCD consisted of a comprehensive analysis of the City, including the City's public school system. The relevant pages of the POCD are contained in *Attachment 6*.

As set forth in the POCD, one of the City's continuing goals is to provide "the highest level of educational services to the children of Meriden," with the underlying objective for the high schools being the creation of "a comprehensive and cost-effective renovation program for both Maloney High School and Platt High School that provides a state-of-the-art learning environment for Meriden's students."[12] The POCD's Action Agenda identified this high school objective as a short term priority, that is, one that should be implemented within one to three years.[13]

Importantly, the POCD recognized that no excess school capacity currently exists anywhere in the Meriden school system. Thus, while the Meriden school system is operating at peak enrollment efficiency, any unexpected rise in school enrollment could lead to larger class sizes and overcrowding becoming issues which would need to be addressed quickly. Due to this lack of excess student capacity in the school system, the POCD listed the identification of key properties to be acquired for potential future expansion of school facilities as an additional underlying objective to support the goal of providing the highest level of educational services.[14]

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[8] Schneider, M., "Do School Facilities Affect Academic Outcomes?", National Clearinghouse for Educational Facilities (Nov. 2002), www.edfacilities.org/pubs/outcomes.pdf.

[9] Corcoran, T. B., Walker, L. J., and White, J. L., "Working in Urban Schools," Washington, DC, Institute for Educational Leadership (1988), http://tinyurl.com/cp3dsy.

[10] "Modern Public School Facilities: Investing in the Future" (Feb. 2008) --Testimony to the U.S. House of Representatives by Kathleen J. Moore, Director of the School Facilities Planning Division, California Department of Education, http://edlabor.house.gov/testimony/2008-02-13-KathleenMoore.pdf.

[11] *Conn. Gen. Stat. § 8-23f.*

[12] *POCD p. 104.*

[13] *POCD p. 154.*

[14] *POCD p. 104.*

Just as the City is fortunate that its high schools redesign coincides with the issuance by the State Board of Education of its draft plan for secondary school redesign, the City also is fortunate that its high school redesign coincides with the completion of its current POCD.

D. Community Uses

When upgrading the high schools, the various community uses to which these facilities are put also must be considered. Currently, Maloney and Platt High Schools collectively are utilized for sports teams/leagues/camps (basketball, baseball, football, soccer, swimming, tennis, volleyball, diving, and wrestling), Relay for Life, CIAC, DARE, Kiwanis Kapers, Boy Scouts, Girls Scouts, Martin Luther King, Jr. Memorial Breakfast, Lions Club Palm Sunday Brunch, police and fire department examinations, election voting, district-wide school concerts/musicals, Meriden Federation of Teachers, Meriden Employees' Credit Union, Project Excel, condo association meetings (Blackstone Village, Eastgate Commons and Mattabassett), Chamber of Commerce, Hicks Essay Contest, Breakfast With Santa, Red Cross/Dan Ormsby blood drives, Project Graduation, Tri-Town Special Olympics, Senior Night, Meriden Shriners, SAT testing, card/coin shows, National Honor Society, and Humane Society fundraisers.

Perhaps the most important, but rarely utilized, secondary function the high schools serve is that of emergency shelters. Locally, Meriden must be prepared at a moment's notice to open shelters for area evacuations and sheltering local residents in the event of a severe storm (such as an ice storm or a hurricane resulting in a long term power outage), a hazardous materials release, or a building evacuation due to a fire, flood or police operation. According to the State of Connecticut Department of Emergency Management and Homeland Security, the three primary scenarios triggering the recent review of each municipality's evacuation and sheltering plan are (i) a Category 3 hurricane hitting the Connecticut coast and all of New England, (ii) a Millstone Power Plant release of contamination, and (iii) a large scale terrorist attack in New York City.

The number of people that can be accommodated in a particular shelter is based upon the shelter's non-emergency use. This figure also is affected by the demands created by any particular emergency, that is, whether only a temporary (24 to 48 hours) evacuation from an area is needed or whether longer term post-impact sheltering is required. The ability to accommodate persons with disabilities, in addition to overall capacity, is a key consideration in designating a shelter.

Currently, the Max E. Muravnik Meriden Senior Center can accommodate 350 persons for an evacuation and can shelter 60 cots. That center also has a generator sufficient to run the entire facility. The evacuation and sheltering capacities of the City's four other designated emergency shelters are as follows:

	Evacuation	Shelter
Maloney High School	3,726	1,530
Platt High School	4,765	1,110
Washington Middle School	1,935	820
Lincoln Middle School	3,410	885

These school shelters, however, only have limited generator capacity, and the City must seriously explore installing a fuel cell in either or both of the upgraded high schools so that the entire facility can operate off the electrical grid if necessary. Further, and as noted above, the two high schools also currently have problems with handicapped accessibility. Finally, long span areas (40'+ span) such as gymnasia, auditoria and cafeteria should be avoided if possible during a weather-related emergency such as a hurricane or tornado, thus resulting in a greater reliance in such circumstances on the classrooms and hallways.

It is neither economical nor socially beneficial to consider the high schools only as educational facilities, and Meriden must leverage every dollar spent on these projects to the fullest extent possible.

E. Residential Property Values

It is a well-known fact that one of the first questions asked by families looking to purchase a new home in an unfamiliar community is, "How good are the school systems?" This relationship between the desirability, and thus the value, of residential properties, on the one hand, and the quality of the local public education system, on the other hand, is not simply anecdotal, but is documented in the existing literature.

Numerous studies have determined that factors such as average test scores, student-to-teacher ratios, and expenditures per pupil positively relate to, and in some cases dramatically affect, single-family house prices.[15] Although the school premium cannot easily be disentangled from the value of many other neighborhood characteristics, the premium does exist.

F. Commercial Base

Not unlike the relationship between residential property values and a quality education system is the relationship between the educational system and the desire of commercial and industrial entities, including their employees, to move to the region. Although not much empirical data has

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[15] Crone, T., "Working Paper No. 06-15, Capitalization of the Quality of Local Public Schools: What Do Home Buyers Value?", Federal Reserve Bank of Philadelphia (August 2006), http://www.philadelphiafed.org/research-and-data/publications/working-papers/2006/wp06-15.pdf; Kane, T., Staiger, D. and Riegg, S., "Do Good Schools or Good Neighbors Raise Property Values?", UCLA / Dartmouth College (Apr. 2004), http://www.econ.yale.edu/seminars/labor/lap04/staiger-040506.pdf; Kane, T., Staiger, D. and Samms, G., "School Accountability Ratings and Housing Values," Brookings-Wharton Papers on Urban Affairs (2003), www.dartmouth.edu/~dstaiger/Papers/KaneStaigerSamms2003.pdf; Owusu-Edusei, K. and Espey, M., "School Quality and Property Values in Greenville, South Carolina", Clemson University (Apr. 2003), http://cherokee.agecon.clemson.edu/wp040203.pdf; Brasington, D., "Which Measures of School Quality Does the Housing Market Value?", Journal of Real Estate Research, Vol. 18. No. 3 (1999), http://business.fullerton.edu/Finance/Journal/papers/pdf/past/vol18n03/v18o395.pdf; Crone, T., "House Prices and the Quality of Public Schools: What Are We Buying?", Federal Reserve Bank of Philadelphia Business Review (Sept./Oct. 1998), http://www.phil.frb.org/research-and-data/publications/business-review/1998/september-october/brso98tc.pdf; Hayes, K. and Taylor, L., "Neighborhood School Characteristics: What Signals Quality to Homebuyers?", Federal Reserve Bank of Dallas Economic Review (4th Quarter 1996), http://www.dallasfed.org/research/er/1996/er9604a.pdf.

been collected to date on this issue, the importance of quality of life factors, such as the quality of the local schools, is fairly recognized.[16] Not only do high tech and other knowledge-based industries gravitate to areas with a high quality of life, but also those associated with such businesses tend to reinforce that quality of life by advocating policies designed to improve local educational and cultural programs.

Viewing the City of Meriden in particular, any long-term plan for the betterment of the City must involve the identification and, where possible, the improvement of those quality of life characteristics which can be said to encourage economic development (and, in turn, the influx of higher income families). Without limitation, Meriden's strengths include (i) its central location within the State, (ii) two new middle schools and the expansion of public all-day kindergarten, (iii) the anticipated development of a state-of-the-art transportation center in connection with the State's improvement of the New Haven, Connecticut to Springfield, Massachusetts corridor, (iv) the Westfield Shopping Mall, (v) Midstate Medical Center, (vi) the 875-acre Hubbard Park and the Quinnipiac River Gorge Trail, (vii) the 200-acre Hunter Memorial Golf Course, (viii) various sports venues such as the Falcon Field football/soccer field and BMX track and the Dunn Sports Complex softball fields, (ix) the anticipated downtown green, including a daylighted Harbor Brook, and (x) among the State's best police and fire departments. The addition to this list of two 21st Century high schools would materially improve the marketability of this City in relation to surrounding communities.[17]

G. Green Technologies

The upgrade of the high schools also affords the City the opportunity to implement green technologies designed to reduce long-term operating costs and to be environment friendly. Meriden is committed to implementing the most cost effective, current energy conservation and sustainable design principles in the upgrade of the high schools. Design professionals involved with this project should be charged with recognizing this community commitment and will be required to evaluate the most current energy conservation strategies and alternative energy options in preparing plans for the new facilities.

In its most general sense, the phrase "green technology" encompasses a continuously evolving group of methods and materials, from techniques for generating energy to using non-toxic cleaning products, the five primary goals of which are as follows:

1. Sustainability: Meeting the needs of society in ways that can continue indefinitely into the future without damaging or depleting natural resources. In other words, meeting present needs without compromising the ability of future generations to meet their own needs.

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[16] Salveson, D. and Renski, H., "The Importance of Quality of Life in the Location Decisions of New Economic Firms," Reviews of Economic Development Literature and Practice, No. 15, Economic Development Administration, U.S. Dept. of Commerce (2002), http://www.eda.gov/PDF/UNC_Lit_Rev1.pdf.

[17] The upgrade of the City's two high schools also would complement the anticipated $60 million upgrade by the State of Connecticut of Horace C. Wilcox Technical High School. Again, the upgrade of Maloney and Platt High Schools is well-timed.

2. Cradle to cradle design: Ending the cradle to grave cycle of manufactured products by creating products that can be fully reclaimed or re-used.

3. Source reduction: Reducing waste and pollution by changing patterns of production and consumption.

4. Innovation: Developing alternatives to technologies - whether fossil fuel or chemical intensive agriculture - that have been demonstrated to damage health and the environment.

5. Viability: Creating a center of economic activity around technologies and products that benefit the environment, speeding their implementation and creating new careers that truly protect the planet.

Economically, green technologies present the opportunity for the City to gain control over the future costs of the resources and energy to be consumed in the construction and operation of the high schools. The economic impact of not using energy conservation technology and alternative energy sources results in significant direct and indirect costs to Meriden citizens, including not only the direct costs of power, but also medical costs, lost days at work, and environmental degradation that result from industrial air pollution.

The Institute for Sustainable Energy at Eastern Connecticut State University just recently prepared its Energy Efficiency Study of Connecticut Schools for the Connecticut Green Building Council and the Connecticut Clean Energy Fund. That study documented the statewide energy inefficiencies in Connecticut's schools, with those schools constructed between 1950 and 1978 noted as being particularly inefficient. A copy of that study is contained in *Attachment 7.*

As far as overall green technology standards are concerned, the upgrade of the high schools generally will be required to satisfy two related sets of criteria. First, the State of Connecticut mandates compliance with its Leadership in Energy and Environmental Design (LEED) goals. LEED is a proprietary green building rating system originally created in 1998 by the U.S. Green Building Council (USGBC) to encourage environmental awareness in government agencies, architects, engineers, developers and builders. LEED was developed to provide a streamlined set of building standards which can be achieved in both new construction and renovations, addressing factors such as energy conservation, water efficiency, building materials, and indoor environmental quality. As to school construction in particular, the USGBC recently adopted LEED 2009 for Schools New Construction and Major Renovations Rating System. The introductory pages of that rating system identifying the LEED Steering Committee, the various Technical Advisory Groups, and the schools construction and major renovations Project Checklist with associated LEED points is set forth in *Attachment 8.*

Second, additional criteria are set forth in the Connecticut Building Standards Guidelines Compliance Manual for High Performance Buildings (January 2009) and include the following twelve mandatory requirements: (1) building commissioning; (2) integrated design process; (3) energy performance; (4) Energy Star specification; (5) indoor air quality management plan; (6) water usage; (7) recyclable materials; (8) erosion and sedimentation control; (9) No Smoking

policy; (10) integrated pest management plan; (11) chlorofluorocarbon based refrigerants; and (12) minimum ventilation requirements. By amendments to Section 16a-38k of the Connecticut General Statutes which became effective January 1, 2008, these criteria became applicable to school construction, and the regulations implementing this legislation now are set forth as Regulations of Connecticut State Agencies §§ 16a-38k-1 through 16a-38k-9.

Decisions regarding particular systems or options that might be implemented will depend entirely on opportunities presented by items such as the completed educational program and selected sites for the buildings and should be explored in full during the formal design phase. The following three possibilities of general familiarity, however, are worth noting at this time as such factors may be considered by some to affect the upgrade option selected: (1) building orientation to maximize daylighting and minimize energy use for heating and cooling; (2) fuel cells; and (3) photovoltaic systems (solar panels) both for electricity and domestic hot water.

Daylighting is an approach that has been practiced for centuries and maximizes use of natural light to augment and reduce the need for artificial light. The design would allow sunlight to enter all reaches of the building. Lighting controls are engineered to dim, and possibly turn off, as the natural light increases, with the goal of maintaining a prescribed illumination level, leaving the changes undetectable and reducing electrical usage. Any new high school construction can be oriented geographically for the most economical use of the sun.

The proper selection of the particular fuel cells and fuel cell components requires an analysis of performance specifications and end-use applications. Performance specifications include percent efficiency, working temperature, components and subsystems, and materials of construction. Fuel cell systems can cost millions of dollars depending on the design. Generally, a separate structure will be necessary to house all the equipment, with an outside service retained to operate and maintain the power plant. Fuel cells are beneficial in that they (i) are more reliable than the grid, (ii) will serve as emergency power (including in connection with the operation of the schools as emergency shelters), (iii) qualify for Renewable Energy Credits which can be sold, (iv) may qualify for assisted construction funding at either the State or Federal level, (v) are pollution free, and (vi) can be used as an educational tool. Fuel cells, however, also do have disadvantages, such as (i) their use of natural gas can result in greater cost for the electricity produced than if purchased from the grid, (ii) fuel cell stacks require rebuilding after a certain number of hours of operation, (iii) performance output declines as the fuel cell ages, (iv) the system requires a operation/maintenance contract and will require a back-up generator and heating/cooling plant in the event of a system failure, and (v) the system will not meet 100% of the heating and cooling demands of the schools and therefore will require the operation of additional systems (such as a boiler and a cold water chiller unit). The rate of return on any fuel cell system (that is, the period over which the experienced savings equal the cost of the system itself) can vary greatly and depends on fuel prices and operational costs and efficiencies.

Finally, the use of photovoltaic systems should be considered. These systems convert sunlight into direct current electricity which then is converted into usable alternating current. The most important goal of solar cells (or, in fact, of any alternative energy system) is achieving "grid parity," that is, producing electricity at a cost equal to or less than the cost of purchasing the same amount of electricity from a utility company. Advantages of photovoltaic systems include

the fact that the systems (i) are static (do not have moving parts), (ii) may produce revenue through the sale of excess electricity, (iii) qualify for Renewable Energy Credits which can be sold, (iv) may qualify for assisted construction funding at either the State or Federal level, and (v) may be used as educational tools. The disadvantages include the fact that the systems (i) still require a connection to the local utility supplier, (ii) experience reduced performance output as the photovoltaic panels age, (iii) require an operation/maintenance contract, (iv) require a large installation area for any meaningful electricity production, (v) may not perform as well in Connecticut as they would in other areas of the country due to the number of sunless days and the angle of the sun. Performance of these systems can be increased with tracking and angle adjustment equipment, but such features will increase start-up and maintenance costs. As with fuel cells, the rate of return can vary dependent upon a number of utility cost and efficiency factors.

Overall, the upgrade of the high schools will result in far more energy efficient and environment friendly buildings which will greatly improve the learning process.

H. Civic Pride

Generally related to all of the above is the issue of increased civic pride, both in the quality of the education provided and also in the appearance of the high school facilities. Simply put, every municipality benefits from having an educational system and school facilities of which residents can be proud.

IV. 21st CENTURY HIGH SCHOOL CURRICULUM

Timed with the issuance by the State Board of Education of its draft plan for secondary school redesign, and timed with the formation by the City Council of the Ad Hoc High School Study Committee, the Meriden Board of Education formed its High School Curriculum/Planning Subcommittee in December 2008. A series of meeting were convened beginning in January 2009 and culminated with the publication of the committee's report which was presented to the Board of Education Curriculum Committee in March 2009. The High School Curriculum/Planning Subcommittee was comprised of high school teachers from both Maloney and Platt High Schools and was charged with evaluating the high school programming through the lens of 21st Century skills and the State's report on secondary school redesign. The subcommittee was asked to determine, given either building renovations or new high school construction, what equipment and facilities would be needed to deliver instruction of the various subject areas.

The teachers worked collaboratively at the regular subcommittee meetings, often scheduling additional department meetings to generate reports addressing the direction of instruction within their particular areas and identifying the associated equipment and facility requirements. The individual departmental committee reports were collected and collated into the final report submitted to the Board of Education Curriculum Committee.

The Final Report of the High School Curriculum Planning Subcommittee was issued in May 2009 and is contained in *Attachment 1*. In general terms, the possible revisions to the high school curriculum would be facilitated by the following:

1. Increase in the use of technology in the classroom
   a. SmartBoards for all areas
   b. Specialized computer labs for music, art, math, integrated language arts, world languages, science, social studies, guidance, library/media center, and technology education classes
2. WiFi throughout the buildings
3. Cable TV monitors in all rooms
   a. In school TV studios with local cable access
4. Adequate square footage, including specialized spaces for:
   a. Science labs (preferably the "Clab" type arrangement)
   b. Kitchen
   c. Auto lab
   d. Music practice rooms, band room, and choral room
   e. Auditorium and gymnasium that seat entire student body
   f. Black box theater
   g. Kilns
   h. Weight room, cardio room, and locker rooms
   i. Greenhouse
   j. Student run café
   k. Adaptive tech lab (special education)
   l. Debate room

5. Adequate storage
6. Safety innovations:
    a. Surveillance cameras
    b. Telephones in the classrooms
    c. Electronic key system
    d. Electronic staff and student ID system
    e. Automated calling system
7. Freshman Academy (including an area to provide freshman academic programming in an isolated way)
8. Departmental conference/work areas for data teams, conferencing, meetings and other small group work

The Board of Education will further revise this high school curriculum upon a determination being made by the City Council as to which facilities upgrade option will be implemented. The Board of Education also may implement a revised curriculum as early as the 2009-2010 school year, without waiting for the upgraded facilities to be completed.

V. FACILITIES SPECIFICATIONS

Once the City Council selects a facilities upgrade option, the Board of Education will create a formal, detailed educational specification. In simplest terms, an educational specification is the means by which the educators describe the educational activities and spaces which need to be incorporated in a proposed new or renovated facility. The educational specification serves as a vehicle of communication between the educators and the architect, concerning itself with the persons and activities to be housed and the program requirements rather than architectural solutions. As the most serious waste of funds can occur through the construction of a plant which contains facilities which are not needed or omits those which are necessary, the foundation of a successful school building design is a comprehensive, fully-vetted educational specification.

Generally speaking, the specifications should be prepared by a team under the direction of the Superintendent of Schools. The degree of detail will be determined by both the magnitude of project and also the informational needs of the Board of Education, students, staff, parents, and design professionals. At completion, the specification should be a comprehensive accounting of the educational programs and activities, the physical building requirements and limitations, a description of the desired end product, and the details of the construction process necessary to achieve that end result.

More specifically, comprehensive educational specifications should address, but not be limited to, the following nine areas:

1. Rationale for the Project: Describe the need for the proposed project, including:

    - Local space needs
    - References to the school building survey/report which revealed the need for the project
    - Educational need for the proposed project and its intended use
    - Projected enrollment versus building capacity
    - Programmatic changes within the facility
    - Upgrades due to general age and condition of the building

2. Long Range Educational Plan: State the long-range educational plan for the district as adopted by the Board of Education, including:

    - The goals and objectives of the educational program
    - The organizational pattern for the school system
    - Any plans or possibilities of year-round schooling
    - The relationship of the proposed project to a regional plan for school utilization
    - The relationship of the proposed project to the long range plan
    - The number of years this building will continue to be utilized by the Board of Education

3. Learning/Educational Activities: Present an overview of the general nature and organization of the educational program to be housed within the specific proposed project, including:

    - A summary of physical space requirements
    - References to curriculum and its impact on the project
    - Instructional group sizes
    - Number of instructional groups
    - Number of teaching stations
    - Number of individual learning stations
    - Specialized instruction or subject needs
    - Extracurricular activities

4. Enrollment Data and Proposed Project Capacity: Provide enrollment projections and compare enrollment to building operating capacity, including:

    - Operating capacity prior to construction project
    - Operating capacity at completion of project
    - Planned future expansion, if any

5. Detailed Description (including Specialized Equipment and Support Spaces): Describe the proposed project from a construction perspective, including information about the building before, during, and after construction, as follows:

    - Before – Identify the areas of the existing building by type and size of space. Instructional spaces include general classrooms, pre-kindergartens and kindergarten, library/media center, science labs, gymnasium, swimming pool, music, art, industrial arts, home and family living, special education classrooms, special education resource rooms, computer labs, cafeteria, multi-purpose rooms, and auditoria, while support facilities include school administration, nurse, dental, guidance, food service preparation, custodial services, storage, and building mechanicals.
    - During – Describe the type of construction and its impact on the specified area.
    - After – Provide details on the size and use of the space after construction is complete.
    - Supplemental – Provide information regarding equipment and furnishings – specialized and standard – for each type of space.

6. Building Systems: Outline the impact of the proposed project upon various systems, including:

    - Security
    - Public address
    - Technology (voice/video/data, program intercommunication, distance learning)
    - Phone system

- Clocks
- Heating, ventilating, and air conditioning (HVAC)

7. Interior Building Environment: Outline the impact of the proposed project upon:

    - Acoustics (ceilings/walls)
    - Lighting
    - Heating, ventilation, and air conditioning
    - Plumbing
    - Windows/doors

8. Site Development: Describe site needs and proposed changes to the school site, including changes which will impact the following:

    - Parking
    - Traffic flow
    - Bus access
    - Sidewalks
    - Landscaping
    - Recreational use
    - Playgrounds
    - Outdoor athletic facilities
    - Instructional use of site
    - Equipment
    - Ecological requirements

9. Community Uses: Identify and briefly describe use by the community, including approximate time of activity, as follows:

    - Identify space which is not dedicated to student use during school hours (e.g., offices for the superintendent of schools or PTO, dedicated storage space for the town recreation department, daycare facilities, library space open to the public during school hours, and health clinics open to the public during school hours). Areas not restricted to student use during normal school hours are not eligible for reimbursement.
    - Describe uses of space during non-school hours
    - Describe non-student use of educational space during the standard school day

The Board of Education stands ready to develop an educational specification for each of the high schools once a decision is made as to which upgrade options will be pursued.

VI. VIABLE FACILITIES UPGRADE OPTIONS

A. Overview

Recognizing the magnitude of this project and its educational, social and financial implications, the City Council formed the Ad Hoc High School Study Committee in October 2008 for the purpose of gathering and presenting the information necessary for the City to make an informed decision as to the best manner of upgrading Maloney and Platt High Schools. The committee was not charged with the task of making a formal recommendation as to which specific option should be pursued. That determination ultimately will be made by the full City Council.

The Ad Hoc High School Study Committee was comprised of a cross-section of interested stakeholders, namely, the Mayor (ex officio), the President of the Board of Education (ex officio), three members of the City Council, two members of the Meriden Board of Education, one member of the School Building Committee, one member of the Planning Commission, one representative of the Meriden Federation of Teachers, and one at-large member. The committee was supported in its efforts by City and Board of Education staff, primarily the City's Director of Development and Enforcement, Director of Finance and City Council Clerk and the Board of Education's Assistant Superintendent of Finance and Administration. Other than the expense associated with obtaining a professional cost estimate, the committee itself was a zero-budget committee, with all of its participants acting in a volunteer capacity. The committee members worked continuously from late 2008 through the issuance of this report, regularly meeting as a whole to ensure the orderly and timely fulfillment of their charge.

In addition to the curriculum and educational specifications discussed above, the following issues were generally examined by the Ad Hoc High School Study Committee in its identification of viable options for facility upgrades: (i) educational disruption during construction; (ii) costs; (iii) length of construction; (iv) staging; (v) availability and suitability of other properties for the possible construction of new high schools; (vi) present and future Board of Education and City needs for additional facility capacity; and (vii) the overall quality of the completed project. Unfortunately, the pool of viable upgrade options was complicated by (i) the fact that no suitable properties other than the existing site were identified on the west side of the City for the possible construction of a new Platt High School and (ii) the fact that, for at least the following three reasons, a new Platt High School may be required to be constructed largely within the existing high school footprint.

First, whether a new Platt High School could be constructed closer to the northern site boundary or near the southern site boundary is affected by the presence of the Lincoln wellhead to the north and the Platt wellhead to the south. State law effectively prohibits any construction within

200 feet of either wellhead.[18] An aerial photograph of the Platt site indicating the location of the wellheads and the 200 foot setback radii is contained in *Attachment 9*. Because the operation of this entire wellfield is essential to Meriden's short and long term water needs, and because of the logistical and financial complexities which would be involved in any attempt to relocate the wellheads, undertaking any new construction closer to the northern boundary or near the southern boundary of the Platt site was deemed not to be viable.

Second, the elevation and potential subsurface condition of the entire southern portion of the Platt site also may prohibit the construction of a new school in that area. The track/football field is approximately ten feet lower in elevation than the current Platt High School and does experience periodic flooding. The subsurface soils at this location also may not be capable of physically supporting a new high school building. If the City Council were to preliminarily decide to explore construction of a new Platt High School at the southern end of the current site, these site conditions would need to be thoroughly investigated during the pre-design phase which precedes the City Council's final funding approval and application submission to the State in June 2011, with the understanding that an alternate approach would need to be selected if such new construction were determined to be impracticable.

Third, any new construction in the southern portion of the Platt site would require offsite staging of construction materials, including construction traffic coordination during the school year. The logistics associated with such offsite staging are not insignificant. Possible offsite staging areas include the City's nearby skateboard park, the Lincoln Middle School fields, and/or any other nearby properties which could be purchased by the City. Such new construction also would require the replacement of the existing track.

In light of the above, the viable options identified necessarily addressed both the scenario in which a new Platt High School could be constructed in the area of the current track/football field and the scenario in which a new Platt High School only could be constructed largely within its existing footprint.

After extensive investigation, and as noted above, five viable upgrade options were identified, as follows: (i) constructing two new high schools utilizing only the existing sites (Option 1); (ii) constructing two new high schools utilizing a third property on the east side of Meriden (Option 2); (iii) employing a combination of new construction and renovation at each existing site (Option 3); (iv) constructing a new Maloney High School and upgrading Platt High School (Option 4); and (v) renovating each site without any new construction (Option 5). Each of these options identified by the committee is discussed separately below.

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[18] *Regulations of Connecticut State Agencies §19-13-B51d.* As to the Platt wellhead to the south, because chlorine gas is stored and used at that location for disinfection purposes, a 300 foot setback possibly could apply. *See Regulations of Connecticut State Agencies §19-13-B102(d)(1)(B).* Coincidentally, the floodplain and inland wetlands running along the southeastern boundary of this site would prohibit any new school from being constructed any further south in any event. State permission to deviate from the 200 foot radii of protection also would be extremely unlikely give that the State Department of Public Health recently concluded that the susceptibility ratings for the Lincoln-Platt wellfield were moderate for environmental sensitivity and high for both potential risk factors and source protection needs. See Source Water Assessment Report: Meriden Water Department, Lincoln-Platt Wellfield (May 2003) (*Attachment 10*).

B. Construct Two New High Schools Utilizing Only Existing Sites (Option 1)

New construction has three significant advantages: (i) simultaneous construction and educational activities on the existing sites would be avoided; (ii) project costs would be more accurately calculable; and (iii) construction itself ordinarily can be completed in approximately two years after breaking ground. Two new high schools could be constructed utilizing only the existing sites, although the cost and complexity of the project vary significantly if a new Platt High School must be constructed in its existing footprint.

Assuming new Platt construction is physically feasible in the track/football field area of the site, then a new Maloney High School can be constructed at the north end of its current site, and a new Platt High School simultaneously can be constructed at the south end of its current site.

On the other hand, if a new Platt High School would need to be constructed within its existing footprint, the construction of two new high schools then would require a second approach involving the following: (i) construct a new Maloney High School at the north end of its existing site; (ii) locate one student body in the new Maloney and one student body in the original Maloney for two school years; (iii) demolish and rebuild the vacated Platt High School in its present location; (iv) move the Platt student body back into the new Platt High School; and (v) demolish the original Maloney High School and complete the Maloney site work.[19]

Administratively, the latter approach necessarily would require the City and the Board of Education to address the complications associated with simultaneously operating two high schools on one site, such as possibly staggered school hours, the use of Washington Park for athletic fields and/or auxiliary parking, and increased security. Such an approach also would require that the original Maloney High School building remain operational through the year 2017 as that would be the approximate date the newly constructed Platt High School would be completed. In addition, completion of the Maloney High School site work would be delayed by more than two years. Finally, but without limitation, all of the Platt students would require bussing to the east side of Meriden during the two years of demolition and construction activities at Platt High School.

Financially, three issues arise in connection with any sequential construction of two new high schools. First, two additional years of cost escalation must be factored into the construction of a sequentially-upgraded new Platt High School.[20] Second, the longer the City waits to upgrade Platt High School, the greater the risk that a school construction moratorium is imposed by the State. Third, sequential school construction may jeopardize the City's opportunity to upgrade Platt High School under the City's current 77.14% State reimbursement rate. More particularly,

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[19] As discussed in greater detail in *Section VIII* below, any new construction also will require decisions regarding whether multiple gymnasia, an oversized auditorium and/or a swimming pool should be included given their respective impacts on State reimbursement rates. Under this Option 1 in which a new Platt High School needed to be constructed in its existing footprint, a decision could be made to renovate these already existing amenities at Platt High School and only demolish and reconstruct the administrative offices and classrooms.

[20] The bonding for the construction costs of the two schools also would be staggered by approximately two years, although such staggering would have a negligible effect on the City's debt service.

the State's School Construction Grants Manual requires that a municipality enter into a construction contract no later than two years after State legislative authorization of the project, with any failure to meet that deadline resulting in a lapse of grant authorization. Because general contractors only will enter into a construction contract shortly before construction is scheduled to begin, the construction contract for any sequential upgrade of Platt High School could not be executed by the City within two years of any legislative authorization issued with respect to an application submitted by June 2011 (that is, under the City's current reimbursement rate). The State, however, can permit an extension of this two-year deadline "for extraordinary circumstances," and the City would need to determine, prior to June 2011 if possible, whether a one-year extension to the Platt High School deadline would be granted given the City's need in this regard.

Temporally, even were the sequential construction of two new high schools to proceed unimpeded, the construction of a new Platt High School likely would not be completed until mid-2017, more than six years after final City Council authorization to proceed.

Overall, two new high schools can be constructed utilizing only the existing sites, but the projects become much more complicated if a new Platt High School must be constructed within the existing building footprint.

C. Construct Two New High Schools Utilizing A Third Property (Option 2)

A second upgrade option explored for each high school was the possibility of constructing a new school on a different site. Again, such new construction has three significant advantages: (i) simultaneous construction and educational activities on the existing sites would be avoided; (ii) project costs would be more accurately calculable; and (iii) construction itself ordinarily can be completed in approximately two years after breaking ground. The purchase by the City of any additional property, however, would remove that property from the tax roll.

Ideally, any new high school site should be no less than 25 acres. Assuming a per school population of approximately 1,300 students, a property as large as 33 acres could be purchased at the City's applicable State reimbursement rate (currently 77.14%). Thus, any land acquisition expense would be marginal in comparison to the overall project costs. Any property so selected by the City, however, must be approved by the State Department of Education. That approval process involves consideration of various criteria, with a copy of the State's current Site Analysis Form (ED-053) contained in *Attachment 11*.

To this end, City staff compiled an inventory of all properties in Meriden containing at least 25 acres. A map identifying these properties is contained in *Attachment 12*.[21] The list of properties then was cross-referenced with the properties formally analyzed in late 1997 for school construction feasibility by Antinozzi Associates Architects in connection with the site selection for Thomas Edison Magnet Middle School. A copy of the Antinozzi Site Selection Analysis is contained in *Attachment 13*. That 1997 analysis rated the properties reviewed with respect to 19

[21] Although the Coe Mansion property only consists of approximately five acres, that site was viewed as a possible extension of the existing Platt High School site.

questions organized into the following three categories: (i) economic implication criteria; (ii) physical and functional criteria; and (iii) environmental consideration criteria. The two properties with the highest feasibility score (other than the current location of Thomas Edison) were the Bilger Farm located on Westfield Road and the Kogut Property located on Yale Avenue. The 1997 analysis data appeared to remain valid through the date of this report.

While potential new sites were identified on the east side of Meriden, no potentially viable new site was identified on the west side of Meriden. Thus, a new Platt High School inevitably would need to be constructed on its current site, generally as described above in *Section VI.B.* To the extent a new Platt school needed to be constructed in its existing footprint and to the extent a new Maloney school is constructed on a new site, this Option 2 would differ from Option 1 in that the City and the Board of Education would not need to operate the two high schools on one site during the demolition and new construction of Platt High School. Instead, such a scenario would involve the following series of events: (i) construct a new Maloney High School on a third property; (ii) locate one student body in the new Maloney and one student body in the original Maloney for two school years; (iii) demolish and rebuild the vacated Platt High School in its present location; (iv) move the Platt student body back into the new Platt High School; and (v) determine the best new use of the original Maloney High School building and/or land.

As to the possible new uses of the original Maloney High School site, such uses likely would be associated with Board of Education activities (consistent with the POCD's objective of acquiring properties for potential future expansion of school facilities) and/or additional City offices. Any such re-use of Maloney High School necessarily would involve an upgrade of the building, in part or in whole, at that time to suit the intended programs. The site also could be sold for economic development (which could offset the loss of tax revenue resulting from the City's purchase of a third site).

Simply put, this Option 2 provides another means of constructing two new high schools.

D. Combination Of New Construction & Renovation At Each Existing Site (Option 3)

A third option determined to be a viable upgrade alternative involves a combination of new construction and partial renovation. Under this Option 3, the following upgrades would occur: (i) a new wing consisting of all of the classrooms and possibly the administrative offices would be constructed immediately adjacent to the existing structures (in the approximate current location of the tennis courts at each site); (ii) the core of the existing structures consisting of the gymnasia, cafeteria, auditorium, shop and possibly administrative offices would be renovated like new during the summer months when school was not in session; (iii) the newly constructed classroom wing would be connected to the renovated core; and (iv) the original classroom structures then would be demolished. This upgrade alternative generally accounts for both the reduced reimbursement rates that might apply to the amenities within each school's core and also the limited acreage available outside the existing building footprints for new construction (especially at Platt High School).

The four primary advantages of this Option 3 are as follows: (i) the upgrade of both high schools would be simultaneously completed within the next seven years; (ii) construction and

educational activities would not occur at the same time within the same structure; (iii) the cost and construction timeline should be more predictable than that of a total renovation like new; and (iv) the possibility would exist for waivers of reimbursement reduction with respect to the core amenities. The two principal disadvantages of this option, however, are as follows: (i) substantial technical issues would be involved in connecting and integrating all of the operational systems of the new construction and the renovated core; and (ii) some athletic fields (primarily the existing tennis courts) would need to be relocated in connection with the construction of the new academic wing.

This Option 3 provides a legitimate alternative to either new construction or complete renovation like new.

E. Construct A New Maloney High School & Upgrade Platt High School (Option 4)

The fourth viable upgrade option identified by the Ad Hoc High School Study Committee involves the construction of a new Maloney High School at the north end of its existing site and a combination of new construction and partial renovation of Platt High School as described in Option 3.

As to Maloney High School, and in contrast to Option 3 involving a combination of new construction and partial renovation, the following three issues should be noted: (i) this Option 4 would result in a greatly improved site layout, including with respect to site traffic and security; (ii) the technical issues involved in connecting the new construction to the renovated core would be avoided; and (iii) decisions would need to be made as to whether the new Maloney High School would include multiple gymnasia, an oversized auditorium and a swimming pool given the reduced reimbursement rates which would apply to such amenities.

As to Platt High School, and leaving aside the cost differential among options, this Option 4 would (i) avoid having the Platt student body attend school on the east side for two years if sequential construction of any new Platt High School were required, (ii) avoid the uncertainties of whether construction of a new building in the southern portion of the site even was physically possible, and (iii) avoid the off-site staging issues, as well as the need to replace the existing track, which would be associated with any new construction in the southern portion of the site.

Under this Option 4, neither final product at either high school would be better than the other, although the facilities would be different in some respects. The Meriden Board of Education generally agrees that the two high schools do not need to remain physically identical and that different building structures also would contribute to the positive evolution of separate identities for each school. Whatever may have been the past politics of maintaining Maloney and Platt High Schools as virtually identical structures, the Ad Hoc High School Study Committee firmly believes that the City should do what is best for each high school even should that result in physical differences.

F. Renovate Both High Schools Like New (Option 5)

The final viable option identified was the total renovation like new of each high school. To even qualify for reimbursement, the City first would need to demonstrate to the State that such renovation is cost-effective as compared to new construction.

As to possible advantages, the only material advantage was the possibility of waivers for reimbursement reduction with respect to the existing amenities within each school's core. This same advantage, however, could be recognized under Option 3 involving a combination of new construction and partial renovation.

The disadvantages associated with this option, on the other hand, were numerous. Such issues include the following: (i) a significant educational disruption due to construction and school activities occurring simultaneously in the same structure; (ii) a not insignificant uncertainty associated with the cost and extended construction timeline, including due to the facts that certain construction activities (such as asbestos removal) only could occur when school was not in session and that unforeseen construction developments would be more likely to occur; and (iii) the fact that the upgraded high schools largely would be limited to the existing floor plans. In short, the potential negative consequences of the disruption to the educational system under this Option 5 cannot be understated and, in fact, very likely could lead to families either deciding not to move into Meriden or deciding to leave Meriden. The benefits of avoiding total renovation like new if financially feasible also generally were recognized in Fletcher Thompson's April 3, 2007 report contained in *Attachment 5*.

The estimated timelines and costs of each of the five above-described upgrade options are set forth in the following sections of this report.

VII. TIMELINE

Under any upgrade option, and assuming an application submission date of June 2011 (which the Ad Hoc High School Study Committee deems to be imperative), the pre-construction tasks which must be undertaken by the City Council and the Board of Education over the next three years are largely the same. All of the specific tasks and their associated timetables are set forth in the Fletcher Thompson Detailed Work Program and Schedule sheets contained in *Attachment 2* and generally are as follows:

First, the City Council must give the Board of Education a preliminary indication of which upgrade option the City wishes to pursue no later than February 2010. The Board of Education then must complete its education specifications by October 2010 so that the interview and bidding process for the architectural and engineering (A/E) firm can be completed by January 2011.

Beginning in January 2011, the selected A/E firm will undertake pre-design phase tasks intended to finally confirm the viability of, and to more specifically calculate the cost of, the option preliminarily selected by the City Council. Such tasks will include (i) site topography and boundary surveys, (ii) wetlands, geo-technical and subsurface investigations, (iii) utility studies, (iv) programming and education specifications verifications, (v) preliminary designs, (vi) cost estimates, and (vii) the preparation of the City's application to the State. These tasks must be completed by June 2011.

No later than June 2011, the City Council will make a final upgrade option selection, will provide final funding authorization, and will submit its application to the State. The City's reimbursement rate is locked in once the City's application is accepted by the State.

State legislative authorization for these projects, however, would not be received until July 2012, after both the State legislature and the Governor have processed and approved the application. In order to complete school projects as soon as possible (and thus as inexpensively as possible), municipalities often will undertake both the schematic design phase and the design development phase pending final State legislative authorization, pre-funding these activities with the expectation of applicable reimbursement when final State authorization is received. The City of Meriden currently anticipates proceeding in this manner. The schematic design and design development phases would run from approximately July 2011 to May 2012.

After receipt of the final State authorization to proceed, the construction documents themselves would be prepared, with the general contractor bidding and award process expected to be completed no later than March 2013. Construction of the selected upgrade would begin immediately thereafter.

Any new school construction (Options 1 and 2) would be completed in approximately two years, allowing for student occupation in September 2015. If new Maloney and Platt High Schools were to be constructed sequentially, students would be able to occupy the new Platt High School beginning in September 2017. Any combination of new classroom construction and core renovation (Option 3) would take slightly more than three years to complete, with an estimated

completion date of June 2016. Under Option 4, the new Maloney High School would be occupied beginning in September 2015, and the hybrid new classroom construction and core renovation at Platt High School would be completed the following year in June 2016. Finally, if the renovate like new option (Option 5) were selected, such an upgrade would take over four years to complete, with an estimated completion date of June 2017. Under this renovate like new option, approximately 300 students per school will spend their entire high school career in a school under construction, and over 2,000 students per school will spend at least one year of their high school career in a school under construction. These schedules generally are summarized in the following table:

Option	**Length of Construction (years)**	**Completion of Construction / Occupancy**
New construction (Maloney & Platt concurrent)	2	September 2015
New construction (Platt sequential)	2	September 2017
Hybrid of new construction & renovation	3.25	June 2016
Renovate like new	4.25	June 2017

VIII. COST & BONDING PROJECTIONS

A. Overview

In order for the Ad Hoc High School Study Committee to determine which upgrade options were viable, Fletcher Thompson was re-engaged to provide professional cost estimates of (i) demolition and new construction, (ii) a combination of new construction and partial renovation, (iii) total renovation like new, and (iv) limited scope improvements. In light of the inherent margins of error involved in estimating, at this stage, the cost of these projects (due to, among other things, the lack of formal educational specifications and architectural drawings as well as the length of time until the formal bidding processes are expected to begin), any estimate set forth herein should not be viewed as a proposed budget for any particular upgrade option. Instead, the value of these financial analyses lies in providing some means of roughly determining the estimated cost of each option relative to the other options, that is, in providing some means of determining which options reasonably can be expected to cost significantly more or less than other options.

B. Cost Estimates

The relative costs of the viable upgrade options are set forth above in the Executive Summary (*Section I*) and are set forth in the following tables:

MALONEY HIGH SCHOOL

Option	City's Share
New construction (existing sq. ft.)	$42,644,595
New construction (reduced sq. ft.)	$36,219,212
Hybrid of new construction & renovation	$36,424,584
Renovate like new	$32,836,546

PLATT HIGH SCHOOL

Option	City's Share
New construction (sequential, existing sq. ft.)	$42,024,880
New construction (sequential, reduced sq. ft.)	$38,197,275
New construction (concurrent, existing sq. ft.)	$39,789,540
New construction (concurrent, reduced sq. ft.)	$36,187,233
Hybrid of new construction & renovation	$33,426,866
Renovate like new	$30,386,182

The main reason for the differences in cost between the two high schools is that Maloney High School currently is approximately 5,000 square feet larger than Platt High School. Accordingly, the cost of constructing a new Maloney High School at the existing square footage or renovating all of the existing square footage will be more expensive than the cost of the same options applied to Platt High School.

All of the detailed, line item calculations underlying these estimates are set forth in Fletcher Thompson's Master Control Budgets contained in *Attachment 2*. Those Master Control Budgets set forth the various hard (construction) costs, soft costs, contingencies, and calculated City share.[22] By contrast, only the projected hard costs, and the City's share of those hard costs, were calculated in Fletcher Thompson's April 2007 feasibility study contained in *Attachment 5*. To further put Fletcher Thompson's current cost estimates in context, four considerations are worth noting.

First, the uncertainties associated with Fletcher Thompson's analyses (deriving primarily from the lack of formal educational specifications and architectural drawings) generally are factored into the various contingency line items. For example, student enrollment projections can greatly affect the square footage that can be upgraded without compromising the City's maximum State reimbursement rate. While a reasonable uniform estimate of 1,280 students per school was employed at this time, a school specific analysis will be formally conducted at the time the applications are submitted. Similarly, the cost calculations have applied the City's current State reimbursement rate, even to a sequentially-constructed Platt High School (assuming either that a one-year extension will be granted for the City to execute a construction contract or that the City's reimbursement rate will not decline in the State's next biennial budget). Finally, and without limitation, Fletcher Thompson notes that the swimming pools will be eligible only for

[22] Master Control Budgets also were included for the originally contemplated limited scope improvements option, estimating City share expenses of $60,870,996 and $59,690,804 for Maloney and Platt High Schools, respectively.

partial reimbursement. The exact amount of reimbursement, however, involves complicated calculations beyond the scope of the instant analyses.

Second, the Board of Education currently operates a maintenance facility and repair garage collectively totaling approximately 25,000 square feet at Maloney High School. These spaces are the main storage and staging areas for all of Meriden's schools and also contain the secure tradesman's shops such as plumbing, carpentry, electrical, small engine repair, grounds equipment, welding, and locksmith. Additionally, all off-season power equipment for the district is stored at this facility (that is, snow blowers in the summer and lawn mowers in the winter). These areas also house the main freezer, refrigeration and dry goods storage for the district's food service program. All of the district's tractors and snow plows are stored in this facility, as well as all of the district's emergency response equipment and supplies. Any upgrade of Maloney High School likely will require removing these facilities from the school site. The ultimate upgrade of such space only qualifies for one-half of the City's normal reimbursement rate, and, therefore, the City and the Board of Education will need to compare the cost of building a new maintenance facility with an approximately 39% reimbursement rate (possibly at the City's Michael Drive property) with the cost of a long-term lease or the purchase of an existing facility (although the purchase of an existing facility also may qualify for reduced State reimbursement).

Third, and as noted above, the cost of any new construction can be significantly reduced if the City limits the square footage of any new high school to that which maximizes the City's State reimbursement rate. Such a task, however, may not be as simple as it first appears. Previously inapplicable laws (such as the Americans with Disabilities Act), updated building codes and special education curricula, for example, now require wider hallways, thicker insulated walls and larger learning spaces, among other things. As a rule of thumb, one can apply a factor of 1.4 to the net square footage requested in the educational specifications to calculate the gross square footage of the entire high school structure. In other words, only about 70% of the total square footage of a new high school will be available to satisfy the educational specification demands.

Finally, the City will need to determine whether to include permit fees within these high school projects. The State does not reimburse any portion of such expenses. Currently, approximately $2 million of permit fees per high school are factored into the cost estimates, with slightly higher permit fees applicable to new construction and slightly lower permit fees applicable to the hybrid and renovate like new options. Although these permit fees represent sums that the City will be paying to itself, such fees historically have been bonded by the City in similar construction projects, with these amounts being used to pay a significant portion of the overall debt service in the early years of repayment. A comparison of Fletcher Thompson's cost estimates with and without the permit fees expense is as follows:

MALONEY HIGH SCHOOL

Option	City's Share With Permit Fees	City's Share Without Permit Fees
New construction (existing sq. ft.)	$42,644,595	$40,296,621
New construction (reduced sq. ft.)	$36,219,212	$33,967,783
Hybrid of new construction & renovation	$36,424,584	$34,378,744
Renovate like new	$32,836,546	$30,966,232

PLATT HIGH SCHOOL

Option	City's Share With Permit Fees	City's Share Without Permit Fees
New construction (sequential, existing sq. ft.)	$42,024,880	$39,575,309
New construction (sequential, reduced sq. ft.)	$38,197,275	$35,805,128
New construction (concurrent, existing sq. ft.)	$39,789,540	$37,486,459
New construction (concurrent, reduced sq. ft.)	$36,187,233	$33,938,142
Hybrid of new construction & renovation	$33,426,866	$31,443,686
Renovate like new	$30,386,182	$28,553,624

Overall, from a purely financial perspective, the cost of constructing a new Maloney High School at a reduced square footage is the same as undertaking a hybrid of new construction and renovation on the existing structure. Both of those options, in turn, are approximately only $3 million more in City share expense than the renovate like new option. As to Platt High School, the difference in estimated cost between new construction at a reduced square footage and the hybrid of new construction and renovation is approximately $3 million assuming concurrent construction with Maloney High School ($5 million if sequential construction is required), while the hybrid of new construction and renovation, in turn, is approximately $3 million more than the renovate like new option. Given the relative proximity of all of these figures, estimated cost should not be the sole determinative factor in the upgrade option selection process.

C. Bonding Projections

The last category of information collected and analyzed by the Ad Hoc High School Committee was the debt service which would be associated with the high school projects, both standing alone and in relation to the City's overall projected debt service. For the purposes of this report, the average City share expense of the high school projects was assumed to be $70 million (bonded $20 million in 2011, $30 million in 2012 and $20 million in 2013), with an assumed interest rate of 5% and with level principal payments over the life of the bonds. The possibility of issuing 30-year bonds as opposed to 20-year bonds also was explored.

The graphs illustrating the debt service expenses associated with 20-year and 30-year bonding, the annual and cumulative cost difference between 20-year and 30-year bonds, and an approximate conversion of the bonding expenses to a mil rate are contained in *Attachment 14*. Under either 20-year or 30-year bonding, by Fiscal Year 2016 the City's total debt service will have returned to approximately the same level as it is in this Fiscal Year 2010, with the City's total debt service being below this fiscal year's total debt service thereafter. The annual difference in debt service between 20-year and 30-year bonds is relatively small, averaging approximately $500,000 per year more for the 20-year bonds during their shorter life. Issuing 30-year bonds, on the other hand, results in a cumulative cost difference of more than $19 million of excess payments over the longer life of the 30-year bonds. Finally, and as noted in the Executive Summary (*Section I*), the annual debt service of the 20-year bonds translates on average to less than 1.35 mils during the bonding period, based on the 2010 grand list. The annual debt service of the 30-year bonds translates on average to less than 1.10 mils during the bonding period, again based on the 2010 grand list.[23]

Overall, while the figures associated with the high school projects appear large on their face, the City's past fiscal policies make these projects financially manageable.

[23] Elimination of the permit fees would reduce the annual debt service on the 20-year bonds by an average of approximately $300,000, while it would reduce the annual debt service on the 30-year bonds by an average of approximately $240,000.

IX. CONCLUSION

The upgrades of Maloney High School and Platt High School no longer are optional projects. These upgrades must be undertaken at this time due to the physical condition of the buildings, the City's financial exposure should the State reduce reimbursement rates and/or should the construction industry rebound, and the need to institute a 21st Century curriculum. Education is perhaps the most important service municipalities provide to their residents, and the City of Meriden must fulfill its obligations in this regard.

Overall, the upgrade of Maloney High School and Platt High School should not be viewed as a current expense, but rather as an important investment in Meriden's future.