Manchester Essex Regional School District

Essex Elementary

and

Memorial Elementary Schools Facilities Needs Assessment

December 1, 2013

1308.00

H&A HABEEB & ASSOCIATES ARCHITECTS

Planning
Architecture
Interiors

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MISSION

Educating all students, instilling a passion for life-long learning, and encouraging both local and global citizenship!

The Manchester-Essex Regional School District (MERSD), having completed the construction of a new Middle/High School in 2009, is now working to address the needs of their two Pre-Kindergarten through Grade 5 Elementary Schools. The Memorial Elementary School, located in Manchester in close proximity to the new Middle/High School, serves the elementary aged children of Manchester. The Essex Elementary School, located in Essex approximately 5 miles from the Memorial School, serves the elementary aged children of Essex. Following the completion of a preliminary internal assessment of the existing conditions of the two elementary schools, the MERSD recognized that the two school buildings would require significant improvements and moved to commission a professional School Facilities Needs Assessment.

Following the review of serveral qualified architectural firms, Habeeb & Associates Architects was selected to conduct the School Facilities Needs Assessment for the two elementary schools. This study includes a Physical Conditions Assessment of the schools to determine the overall condition of the buildings and sites, along with a Space Needs Analysis that takes into account the projected future enrollments through the year 2025 as provided by the MERSD. This study also includes an update to previous studies which evaluated potential building sites for a new facility should that be the determined solution. Finally, utilizing all data gathered in the prior assessments, options for rectifying the determined physical condition and space needs problems were evaluated. The most promising improvement options that aligned the existing conditions with identified needs, and were sound from a financial and feasibility standpoint, were then developed with broad budgetary requirements.

PHYSICAL CONDITIONS ASSESSMENT

In developing a comprehensive facilities needs assessment of the schools, the Habeeb & Associates team began by conducting a Physical Conditions Assessment to determine the overall existing conditions of the facilities, as well as the costs that would be associated to bring the facilities up to date.

H&A's on-site team conducted an inspection that examined five (5) major assessment categories - site, envelope, interiors, mechanical and electrical. Over a period of several days, the assessment occurred by way of field observations and photographs, existing data collection, and discussions with administration. The assessment criteria used in the review included the remaining useful life; an examination of energy efficiency; life cycle costs; technology advances; maintenance planning; handicap accessibility; aesthetics; environmental and health concerns; as well as local and state code regulation requirements.

Memorial Elementary School	Priority 1 critical	Priority 2 1-5 years	Priority 3 6-10 years	Priority 4 grandfathered	Total
1. Site	0	4,860	361,800	270,000	636,660
2. Building Envelope	0	4,345,048	149,623	67,500	4,562,171
3. Building Interior	0	0	375,030	393,525	768,555
4. Mechanical	0	949,247	160,007	183,600	1,292,855
5. Electrical	0	0	319,374	0	319,374
Total	**0**	**5,299,155**	**1,365,834**	**914,625**	**7,579,614**
Total Inflated @ 3% Compounded Annually	**0**	**5,621,874**	**1,583,002**	**1,228,890**	**8,433,765**

Essex Elementary School					
1. Site	0	30,000	144,990	69,660	244,650
2. Building Envelope	0	686,964	1,300,973	0	1,987,937
3. Building Interior	0	78,263	118,125	366,930	563,318
4. Mechanical	0	310,800	488,430	549,990	1,349,220
5. Electrical	0	0	152,415	71,415	223,830
Total	**0**	**1,106,027**	**2,204,933**	**1,057,995**	**4,368,955**
Total Inflated @ 3% Compounded Annually	**0**	**1,173,384**	**2,555,518**	**1,421,522**	**5,150,423**

Physical Condition Assessment Overview: *This information was used in the overall analysis and in determining the cost-effectiveness of the potential options for rectifying the problems which is shown at the end of this study.*

Following an in-depth, in-house review of all data collected, Memorial School was determined be in greater physical need than Essex School. However, both schools were deemed to have significant major issues that must be addressed beginning in the next 1-5 years. Using a priority system, along with industry standards as baselines for space and programmatic needs, we developed a square foot based budgetary cost estimate to bring the schools into compliance with current codes and repair standards.

COST STANDARDS

The costs in this study are based on square footage of existing buildings, additions or new structures. The costs are intended to indicate, as best as can be projected, the total project costs including soft costs.

To assist us in arriving at these square foot costs we obtained cost data from the MSBA records for recent school construction projects.

The new building projects in the MSBA database included 17 elementary schools with construction occurring, or scheduled to occur, between January 2010 and October 2012. The average project budget was $387 per square foot with the lowest being $316 and the highest being $391 per square foot. We have used a cost of $380 per square foot which is slightly lower than the average, but high enough above the lowest, to provide what we believe to be an adequate amount of funds to obtain an acceptable quality of construction.

The costs of the Facility Upgrades noted in the Cost Summary are taken directly from the Physical Conditions Assessment prepared as part of this study. The Interior Alteration costs in the Cost Summary are based on the cost of $225 per square foot of that area which is anticipated to require interior alterations. Interior Alterations include the removal or addition of interior partitions to reconfigure or create spaces within the existing buildings. Those alterations will impact finish surfaces such as floors, walls and ceilings as well as the environmental systems such as heating and ventilation; electrical distribution and lighting; plumbing; fire suppression; and communications systems. We are also anticipating that certain existing building systems and finishes, which may not be included in the Physical Conditions Assessment, will be replaced as part of a comprehensive building renovation project so that the building will comply with the longevity requirements of the MSBA and will present a “like new” appearance which is desired with a comprehensive renovation. Also included is the cost to temporarily house some of the students while alterations

are occurring to their portion of the building. Based on the space alterations and the appropriate work of a comprehensive renovation we are anticipating 25% of the existing building area will require some form of interior alterations in addition to the items noted in the Physical Conditions Assessment.

SPACE NEEDS ANALYSIS

In discussions with the MERSD it was determined that a set of space criteria would be established to provide for consistency and parity between the elementary schools and properly serve this school population. It was determined that each elementary school building should include appropriate support spaces including an art room; a music room; a library with room for computer instruction; full day Special Education rooms of approximately 950 square feet in area (in quantities appropriate for special education enrollment); resource rooms of approximately 500 square feet in area; and an appropriate number of specialist rooms of approximately 200 square feet in area. The MERSD determined that the standards to be used for class sizes would be based on a maximum of 19 students per Pre-Kindergarten and Kindergarten class, 20 students per class for grades one and two, and a maximum of 22 students per class for grades three through five. We utilized the Massachusetts School Building Assistance (MSBA) Space Standard Guidelines to establish the size of all newly constructed educational and support spaces. The quantity of educational spaces were determined on both the projected student enrollments, and the specific requirements for special education, resource, and specialist requirements as determined by the MERSD.

The projected enrollment for the Pre-Kindergarten and Kindergarten student population through the year 2025 is 171. The current (2012-2013) Pre-K and K enrollment is 132. The projected enrollment for grades one through five in the year 2025 is 784. The current (2012-2013) grade one through five enrollment is 605.

SPACE PLANNING CRITERIA

The Manchester-Essex Regional School District has established the following criteria to be used in the development of this Elementary School Study:

Projected Pre-K and Kindergarten Enrollment:	171
Projected Grade 1 and 2 Enrollment:	291
Projected Grade 3 through 5 Enrollment:	493
Maximum Pre-K and Kindergarten Class Size:	19
Maximum Grade 1 and 2 Class Size:	20
Maximum Grade 3 through 5 Class Size:	22
Pre-K and Kindergarten room size:	1200 SF
Grade 1 through 5 room size:	950 SF
Classrooms needed PreK-K	10 @ 1,200 SF
Classrooms needed Gr 1-5	39 @ 950 SF
Full Time Sped Classrooms:	950 SF
Resource Rooms:	500 SF
Specialist Rooms:	200 SF
Media Center/Computer:	2000 SF
Art Room:	1000 SF
Music Room:	1200 SF
Gymnasium:	
Cafeteria:	

In conducting our review of existing space utilization, the principals of each of the elementary schools provided documentation on the use of each specific room and space within their building. We noted a significant amount of overcrowding as evidenced by the use of store rooms and similar spaces for specialists, resource rooms and special education.

THE OPTIONS

This study explores three options which have been determined by the MERSD to be the most logical solutions moving forward:

Option A This option would consist of renovations and additions (if needed) to each of the two schools while maintaining the current grade configuration and serving the residents of each respective town.

Option B This option would combine the students of each town and consist of renovations and additions (if needed) to each of the two schools while creating an early education center housing Pre-K, K, 1 and 2 at one of the schools and grades 3 through 5 at the other.

Option C This option would combine the students in one new facility appropriately located on a new site that would serve both towns.

Based on the projected enrollment of this student population we have explored the three options noted above. The projected cost of the options range from approximately 40 to 47 million dollars.

Each of the three options in this report is detailed at the end of this report and includes existing educational spaces, required educational spaces, operating capacities, size of additions and projected costs for upgrades, additions and new structures. The benefits and challenges of each option are also explored.

MEMORIAL ELEMENTARY SCHOOL

43 Lincoln Street

Manchester, MA 01944

ESSEX ELEMENTARY SCHOOL

12 Story Street

Essex, MA 01929

SUMMARY

Habeeb & Associates Architects, Inc. was retained to prepare a Physical Conditions Assessment for the Memorial Elementary School and Essex Elementary School as part of a space needs and facilities study. The purpose of the assessment is to develop a budget for current and future repairs and upgrades. This work will improve the overall physical condition of the buildings and sites and should result in the extension of their useful life. This report is not intended to identify work which is routinely performed as maintenance. Some work items, however, though inexpensive on their own can be combined with similar work items within the same building or in other buildings to make for a more substantial project. It should also be noted that although we have attempted to be thorough in our descriptions and estimated construction costs we have not designed or engineered the work described in this report. Many of the work items described will require subsequent architectural and engineering services to thoroughly design the work in preparation for bidding by contractors.

Habeeb & Associates conducted on-site field visits in May and June 2013. Field visits were visual in nature and did not include destructive or intrusive testing.

We also reviewed construction documents where available and discussed building conditions with appropriate staff and maintenance personnel.

PHYSICAL CONDITIONS ASSESSMENT: SUMMARY

The Physical Conditions Assessment is broken down into five work categories and the most common specific evaluation areas of each are as follows:

1. Site
   - Storm Drainage
   - Drives and Walks
   - Landscaping
   - Site improvements
   - Play Areas
   - Sanitary System
   - Accessible Parking and Entrance Approach

2. Building Envelope
   - Roofs
   - Exterior Walls
   - Windows
   - Exterior Entrances and Doors
   - Thermal Insulation
   - Accessible Egress and Ingress

3. Building Interiors
   - Floor Finishes
   - Wall Finishes
   - Ceiling Finishes
   - Interior Doors and Exitways
   - Code Compliance Issues
   - Accessibility for the Disabled
   - Hazardous Material Remediation

4. Mechanical
   - Domestic Hot Water Generation
   - Cold Water Services
   - Gas Services
   - Piping for Plumbing Systems
   - Plumbing Fixtures
   - Heat Generation
   - Cooling System
   - Piping for HVAC Systems
   - Temperature Controls
   - Ventilation
   - Accessible Plumbing Fixtures

5. Electrical
   - Main Services and Distribution
   - Emergency Power and Lighting
   - Fire Alarm Systems
   - Lighting Systems
   - Convenience Power
   - Communications Systems
   - Computer Network
   - Site Lighting
   - Electrical Features for the Disabled

Floor Plans and Building Data

These sheets provides basic information about the existing building and grounds and also provides floor plans of each building to assist the reader in understanding the scale and layout of the building. The plans were reproduced from various documents provided to us by the Owner and may not reflect in all cases the current layout or space allocation in each building.

Executive Summary

The Executive Summary recaps the Total Inflated row from the bottom of the Building Summaries sheet. These costs are then totaled at the bottom to indicate a combined proposed capital expenditure for all buildings of the assessment, separated for each priority. This is intended to make it easier for the reader to review and compare the overall costs for each of the priorities together for all buildings of the assessment.

The Executive Summary is directly linked to the Building Summaries. Any changes made to the cost figures in the body of the report will automatically be reflected on this page.

Building Summaries

The Building Summaries recap the Summary sheets for each building. This is intended to make it easier for the reader to review and compare the overall costs for each of the categories and priorities together with the other buildings.

The Building Summaries is directly linked to the Summary. Any changes made to the cost figures in the body of the report will automatically be reflected on this page.

Summary

The Summary recaps the Total row from the bottom of each category for the subject building, separated into priorities. This is intended to make it easier for the reader to review and compare the overall costs for each of the categories together with the priorities for the subject building.

The Summary is directly linked to the total row for each work category. Any changes made to the cost figures in the body of the report will automatically be reflected on this page.

PHYSICAL CONDITIONS ASSESSMENT: SUMMARY

The following is a list and brief description of the column and row headings of the Physical Conditions Assessment.

Description
The Descriptions are the work items identified during our inspection. They usually consist of the building component and its deficiencies; and a recommendation for correcting the deficiency with a statement justifying the benefit of the improvement.

Quantity
The number of items: (For example, if the work item is for ”unit ventilators replacement” the building in question may have a Quantity of 60 unit ventilators to be replaced).

Unit
The Units are identified by a two-letter code. The unit codes are as follows SF – Square Foot, SY – Square Yard, LF – Linear Foot, LS – Lump Sum, EA – Each, and NA – No Action.

Unit Cost
The Unit Cost is the cost of one Quantity of a work item. Unit costs are preliminary construction cost estimates only and are generally based on the following references: Means Square Foot Cost Data; Means Construction Costs Data; in house cost data; professional experience; and information provided by various contractors and suppliers.

Total
The Total column is determined by the following equation: QUANTITY x UNIT = TOTAL

Total w/Soft Costs
This assessment provides estimated construction costs associated with Soft Costs. Soft Costs generally include a contingency, (typically 10% to 15%) for unforeseen conditions; indirect administrative expenses such as legal costs, printing and advertising (typically 5% to 10%); and architectural and engineering costs (typically 10% to 15%) for a total soft cost estimate. We used a Soft Cost of 35% of the total cost in this assessment. The Total w/ Soft Costs is determined by the following equation: TOTAL x 1.35 = TOTAL W/ SOFT COST. Some projects may require higher or lower Soft Costs depending on the type and extent of project selected. Work items listed are provided as a guide to develop repair and renovation projects with estimated construction costs. The actual scope of a project could include a combination of work items, i.e. new ceilings with new lighting. Some other projects may require finishes, such as painting, which may not necessarily be broken out for that project.

This assessment identifies projects with a recommended Priority. Descriptions of each priority are as follows:

Priority 1 – Currently Critical (Immediate)

- Correct a cited safety hazard
- Stop accelerated deterioration
- Return facility to operation

Priority 2 – Necessary/Not Yet Critical (years 1-5)

- Predictable deterioration
- Potential downtime
- Associated damage or higher costs if deferred further

Priority 3 – Recommended (years 6-10)

- Sensible improvements to existing conditions that are not required for the basic function of the facility
- Overall usability improvement
- Long term maintenance cost reduction

Priority 4 – Does Not Meet Current Codes for new construction but "Grandfathered"

- No action required at this time – however, if a substantial renovation and a substantial building addition is performed in the future, building codes may require this corrective work in addition to the work planned

Totals

The Totals column is the sum of the Priorities columns 1, 2, 3, and 4 for each work item. The Totals column also shares the sum of the Total row and Total Inflated rows at the lower right corner.

Totals

The Total row is the sum of the Priorities columns 1, 2, 3, and 4 for each category. The Total row and Total Inflated rows are totaled at the lower right corner.

Total Inflated

The Total Inflated row is the sum of the Priorities columns 1, 2, 3, and 4 for each category multiplied by a coefficient to determine the inflated cost at a rate of 3% and compounded annually. Priority 1 is shown with an inflation factor for work to be performed within a one year period. Priority 2 is shown with an inflation factor for work to be performed within a two year period. Priority 3 is shown with an inflation factor for work to be performed within a two-to-five year period. Priority 4 is shown with an inflation factor for work to be performed within a ten year period. The Total row and Total Inflated rows are totaled at the lower right corner.

Accessibility

We want to bring to your attention that there may be projects with a scope of work of a certain estimated construction costs that may trigger additional accessible renovations. Typically all new work must meet accessibility regulations. In addition any work over $500,000 either done alone or in combination with other projects within a three year period will also require renovations for an accessible entrance, drinking fountain, and toilet facilities and any work that exceeds 30% of the full and fair cash value of the building will require complete building renovations for accessibility. We have included an excerpt of the Massachusetts Architectural Access Board regulations below.

521 CMR Massachusetts Architectural Access Board.

3.3 Existing Buildings

All additions to, reconstruction, remodeling, and alterations or repairs of existing public buildings or facilities, which require a building permit or which are so defined by a state or local inspector, shall be governed by all applicable subsections in 521 CMR 3.00: JURISDICTION.

3.3.1 If the work being performed amounts to less than 30% of the full and fair cash value of the building and

a. if the work costs less than $100,000, then only the work being performed is required to comply with 521 CMR or
b. if the work costs $100,000 or more, then the work being performed is required to comply with 521 CMR. In addition, an accessible public entrance and an accessible toilet room, telephone, drinking fountain (if toilets, telephones and drinking fountains are provided) shall also be provided in compliance with 521 CMR.

Exception: Whether performed alone or in combination with each other, the following types of alterations are not subject to 521 CMR 3.3.1, unless the cost of the work exceeds $500,000 or unless work is being performed on the entrance or toilet. (When performing exempted work, a memo stating the exempted work and its costs must be filed with the permit application or a separate building permit must be obtained.) . . .

b. Alteration work which is limited solely to electrical mechanical, or plumbing systems; to abatement of hazardous materials; or retrofit of automatic sprinklers and does not involve the alteration of any elements or spaces required to be accessible under 521 CMR. Where electrical outlets & controls are altered, they must comply with 521 CMR.
c. Roof repair or replacement, window repair or replacement, repointing and masonry repair work.

3.3.2 If the work performed, including the exempted work, amounts to 30% or more of the full and fair cash value (see 521 CMR 5.00) of the building the entire building is required to comply with 521 CMR.

a. Where the cost of constructing an addition to a building amounts to 30% or more of the full and fair cash value of the existing building, both the addition and the existing building must be fully accessible.

3.3.4 No alteration shall be undertaken which decreases or has the effect of decreasing accessibility or usability of a building or facility below the requirements for new construction.

3.5 WORK PERFORMED OVER TIME

When the work performed on a building is divided into separate phases or projects or is under separate building permits, the total cost of such work in any 36 month period shall be added together in applying 521 CMR 3.3, Existing Buildings.

PHYSICAL CONDITIONS ASSESSMENT: SUMMARY

BUILDING SUMMARY TOTALS

Building	Priority 1	Priority 2	Priority 3	Priority 4	Priority 5	Total
Executive Summary						
Memorial Elementary School	0	5,299,155	1,365,834	914,625		7,579,614
Essex Elementary School	0	1,106,027	2,204,933	1,057,995		4,368,955
Total	0	6,405,182	3,570,768	1,972,620		11,948,569
Total Inflated @ 3% Compounded Annually	0	6,795,257	4,138,520	2,650,412		13,584,189

BUILDING SUMMARY - by Category

Memorial Elementary School	Priority 1 critical	Priority 2 1-5 years	Priority 3 6-10 years	Priority 4 grandfathered		Total
1. Site	0	4,860	361,800	270,000		636,660
2. Building Envelope	0	4,345,048	149,623	67,500		4,562,171
3. Building Interior	0	0	375,030	393,525		768,555
4. Mechanical	0	949,247	160,007	183,600		1,292,855
5. Electrical	0	0	319,374	0		319,374
Total	**0**	**5,299,155**	**1,365,834**	**914,625**		**7,579,614**
Total Inflated @ 3% Compounded Annually	**0**	**5,621,874**	**1,583,002**	**1,228,890**		**8,433,765**

Essex Elementary School						
1. Site	0	30,000	144,990	69,660		244,650
2. Building Envelope	0	686,964	1,300,973	0		1,987,937
3. Building Interior	0	78,263	118,125	366,930		563,318
4. Mechanical	0	310,800	488,430	549,990		1,349,220
5. Electrical	0	0	152,415	71,415		223,830
Total	**0**	**1,106,027**	**2,204,933**	**1,057,995**		**4,368,955**
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MEMORIAL ELEMENTARY SCHOOL

43 Lincoln Street

Manchester, MA 01944

PHYSICAL CONDITIONS ASSESSMENT: MEMORIAL

BUILDING DATA

CODE CLASSIFICATION:

Occupancy: E - Educational for Classrooms
A-1 - Assembly for Auditorium
A-3 - Assembly for Gymnasium and Cafeteria

Construction Types: 3B for original building with fire suppression system
2B for Side C, two Additions

BUILDING HISTORY:

Original Building: 1951

Building Additions: 1954 - Side C, South end and Connecting Corridor
1965 - Side C, North end with Park/Rec. basement

SITE / BUILDING AREA:

Site Area: Unknown

Floor Area:	Ground Floor:	First Floor:	Subtotals:
Original 1951 Building:	1,760 sf	45,682 sf	47,442 sf
1954, Side C Addition:		9,260 sf	9,260 sf
1965, Side C Addition:	1,830 sf	8,041 sf	9,871 sf
Total Building Area:			66,573 sf

SITE COMPONENTS:

Parking / Driveways: Bituminous paving

Walkways: Bituminous paving; concrete pavement at front entrance to school and building exits with steps

Lighting: Pole mounted along driveways and parking; wall mounted at building perimeter

Storm Drainage: Internal roof drains for flat roofs tied to storm drain systems, piped to headwall outlets at lower site areas.
A retention pond south of building and stream to north provide primary drainage outlets off property

Sanitary System: Town Sewer: Sanitary piping exits north from Kitchen and west from 1954 Side C addition, and directed to sewer manhole and piped off west side of property

ARCHITECTURAL COMPONENTS:

Foundation: Reinforced concrete

Super Structure: Structural steel with wood roof decking for original building
Structural steel and bar joist roof framing for Additions
Reinforced concrete framed floor slabs above basements & crawl spaces

Floor Structure: Concrete Slab-On-Grade and reinforced framed slab above crawl spaces

Roof Structure: Wood deck on steel framing for flat and sloped roofs of original building
Metal deck on steel framing for building additions

Exterior Walls: Brick & block masonry for original building & brick veneer on block for addition

Roofing: EPDM roof membrane w/ rigid insulation for flat & low sloped roofs

Window Systems: Wood framed w/ original single pane glazing and steel operable vent sash
Wood windowalls retrofit with second pane or insulated glazing units

Exterior Doors: Replacement aluminum storefront glazed doors & frames at main entrance
Aluminum clad insulated panel and glazed replacement doors and frames installed into painted wood windowalls

Interior Doors: Mostly wood doors w/ hollow metal frames

Wall Finishes: Mostly painted concrete block in the original building and additions
Glazed blocks in Toilets and dados in some corridors, ceramic in some toilets

Floor Finishes: Mostly vinyl composition tile (VCT) in corridors, classrooms & cafeteria
Wood flooring in Gym
Ceramic tile in toilets, quarry tile in Lobby, terrazzo in Side C corridors & toilets
Carpet in various Staff areas, Auditorium, Pre-K and some classrooms

Ceiling Finishes: Exposed Tectum panel deck in Gym and curvalinear wood ceiling in Auditorium
2x2 acoustic tile ceilings in Corridors, and Lobby and Cafeteria
1x1 acoustic tile ceilings in most Staff areas and Side C Classrooms
1x1 acoustic tile ceilings on sloped roof decks in Side A & B classrooms

MECHANICAL / ELECTRICAL COMPONENTS:

Water Service: Town Water: Underground Domestic Water Service from Lincoln St.

Fire Suppression: Fire Service from Lincoln St to Boiler Room
Fire Suppression System throughout building, except for Side C additions

Gas Service: Underground Gas Service from Lincoln St to Boiler Room

Heating Systems: 2 gas boilers that distribute hot water to unit ventilators and other radiation
1 gas-fired domestic hot water boiler

Electrical: Underground Electric Service from Lincoln St to pad mount transformer and then underground into building near Boiler Room area
Fire alarm and emergency light systems recently upgraded

Category	Priority 1	Priority 2	Priority 3	Priority 4		Total
Summary						
1.0 Site	0	4,860	361,800	270,000		636,660
2.0 Building Envelope	0	4,345,048	149,623	67,500		4,562,171
3.0 Building Interiors	0	0	375,030	393,525		768,555
4.0 Mechanical	0	949,247	160,007	183,600		1,292,855
5.0 Electrical	0	0	319,374	0		319,374
Total:	0	5,299,155	1,365,834	914,625		7,579,614
Total Inflated @ 3% Compounded Annually	0	5,621,874	1,583,002	1,228,890		8,433,765

PHYSICAL CONDITIONS ASSESSMENT: MEMORIAL

SITE

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
1.0 Site										
1.1 All bituminous parking areas, access drives, play area between classroom wings, and walkway pavements are approximately 20 to 30 years old and in fair to moderate condition. Average useful life is 20 years. We noted some minor cracking and dips in parking areas and access drives, deteriorated walkways west of Side 'C' 1965 addition, and exceed slope maximums for accessibility at connection to the Site Access Ramp and Ramp to Footbridge over Lincoln Street. Recommend regrading, repavement and addition of drainage structures.. Walks at entrances to exterior-access toilets on west of Side 'C' 1965 Addition are uneven and need repaving. Recommend repaving and restriping parking etc. Repavement will also allow for regrading to aid in stormwater surface fun-off management.	9,800	SY	20	196,000	264,600			264,600		264,600
1.2 Some Landscape Areas along walkways and under trees have no grass. Recommend hydro-seeding with a shade tolerant grass or shade loving ground cover under trees.	1	LS	3,000	3,000	4,050			4,050		4,050
1.3 Limbs of trees along east of Side 'A' are in contact with EPDM roofing and should be pruned back. Also, water splash and shade from trees has allowed green fungus growth on brick masonry at north corner of Side 'A' at School Offices causing isolated deterioration of mortar and face brick. Recommend cut back and pruning and thinning of trees before roof replacement. Also thiiining of trees will allow sunlight to dry masonry surfaces prevent green fungus.	1	LS	3,600	3,600	4,860		4,860			4,860
1.4 Painted Steel Handrails at Stairs and Areaways at north of Side 'D' are in moderate condition. Some Handrails are bent and rusted from plow damage and one Areaway Guardrail section is missing a safety chain. Recommend replacement of all exterior Railings.	100	LF	300	30,000	40,500			40,500		40,500

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
1.0 Site										
1.5 Miscellaneous chain link and steel fencing around Pre-K Play Area and at northeast site access ramp is vinyl covered chain link with vinyl covered posts, rails and accessories. The fencing is in overall good condition. Average useful life of fencing is 40 years. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
1.6 Paved site areas have minimal storm drainage systems with mostly direct runoff to adjacent low site areas. East wall of Side 'A' has area drains originally designed for roof runoff collection from removed gutters and downspouts. This minimaly slope site area has been percolating runoff with some ponding occurring along building walls. Recommend regrading and reseeding of front lawn areas to slope finish grades away from building out towards the driveways.	1	LS	5,000	5,000	6,750			6,750		6,750
1.7 A low site area outside the Park & Recretaion doors at north end of Side 'C' shows ponding and surface drainage runoff issues at paved areas and across the sidewalk at the bottom of the Site Access Ramp. Recommend installation of a storm water drainage system including catch basins with piping around base of ramp to an adjacent runoff area and re-grading and paving of this area. this should be performed with repaving project.	1	LS	12,000	12,000	16,200			16,200		16,200

PHYSICAL CONDITIONS ASSESSMENT: MEMORIAL

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
1.0 Site										
1.8 In 2012 a new piped Drainage System with catch basins and crushed stone drainage beds including subgrade wall waterproofing was installed along entire east wall of Side 'B' to collect roof runoff and higher ground runoff from mound around the oak tree. New piping was connected into an existing catch basin at the south end of Side 'B' that has an outfall into an existing retention pond south of the Side 'B' access driveway. Work appears to correct water penetration problems on Side 'B' Corridor wall. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
1.9 Concrete pavement at Main Entrance Plaza under the covered entry area is spalled at corroding steel reinforcing in the slab. Recommend rebar repair and concrete patching at spalled areas, and complete resurfacing of concrete plaza with slip-resistant waterproof coating.	1	LS	22,000	22,000	29,700			29,700		29,700
1.10 Bituminous Sidewalks or Play Area Pavement outside of the west Side 'A', Side 'B' and Side 'D' exterior Classrooms and both sides of the Connecting Corridor do not provide HP accessible egress from or access to exit doors of the building. HP egress is not code required for the present building at this moment, but if the building is substantially renovated, all building exits will need to upgraded to present accessibility code requirements. Recommend regrading and repaving of Play Area and sidewalks to provide exit landings at floor level and max. 1:20 sloped pavement down to and connecting with grades of adjacent existing sidewalks, with seeded lawn areas sloped 1:4 between new walks and adjacent existing lawn grades. this project is best to be performed with repaving project.	1	LS	75,000	75,000	101,250				101,250	101,250

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
1.0 Site										
1.11 Concrete Pavement Platforms with risers up to floor and down to sidewalks or play area pavement, outside of Side 'C' south Addition exterior Classroom doors, egress doors and exterior-access Toilet Room doors north of Door 31, do not provide HP accessible egress to or from the building. HP egress is not code required for the present building, but if the building is substantially renovated, all building exits will need to upgraded to present accessibility code requirements. Recommend regrading and repaving of east Play Area to provide exit landings at floor level and max. 1:20 sloped pavement down to adjacent existing pavement, and regrading and paving of sidewalks on south and west sides to provide exit landings at floor level and maximum 1:20 sloped sidewalks down to and connecting with grades of adjacent existing sidewalks, with seeded lawn areas sloped 1:4 between new walks and adjacent existing lawn grades.	1	LS	45,000	45,000	60,750				60,750	60,750
1.12 Concrete Pavement Platform with risers from floor down to grade at east exterior Door 34 of Side 'C' north Addition Corridor egress door, does not have a sidewalk or provide HP accessible egress from building. Recommend regrading and paving to provide new exit landing at floor level and max. 1:20 sloped sidewalk down to adjacent existing pavement of north Parking Area, with seeded lawn areas 1:4 sloped between new sidewalk and adjacent existing lawn grades.	1	LS	15,000	15,000	20,250				20,250	20,250

PHYSICAL CONDITIONS ASSESSMENT: MEMORIAL

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
1.0 Site										
1.13 Three (3) Concrete Exterior Platforms with Stairs of varied heights and one (1) Concrete Ramp at the Gymnasium Storage Room, from floor and down to north Parking Area pavement, outside of Side 'D' north exterior egress doors, do not provide HP accessible egress from or access to the building. Recommend construction of two (2) new concrete HP Accessible Ramps connecting to existing platforms, one (1) each from exits at Doors 38-40 and at Doors 41&42. Ramps could be constructed parallel with existing window areaway for Basement and converge at one grade landing opposite OT-PT/Band division wall line. Include new HP handrails for new ramps and stairs, existing platforms, Kitchen Stair and Areaway, with regrading and repaving at max. 1:20 slope to existing Parking Area grade.	1	LS	65,000	65,000	87,750				87,750	87,750
1.14 Grass Play Areas appear in good condition. West side Playground Structure appears to be relatively new and designed for accessibility. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
1.15 Post mounted signage to identify handicap parking is in good condition. Average useful life is 10 years. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
1.16 Site Access Ramp and Ramp to Footbridge over Lincoln Street should was found to be accessible.	0	NA	0	0	0					0
1.17 Areaways below gratings at Crawl Space Vents and Window Areaways are in good condition but should be cleared of debris and vegetation. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
Total						0	4,860	361,800	270,000	636,660
Total Inflated @ 3% Compounded Annually						0	5,156	419,326	362,772	787,254

[1]Total includes Soft Costs (35%): Contingency, Administration and A/E Fees.

BUILDING ENVELOPE

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
2.0 Building Envelope										
2.1 Shingle Roofing over the old Library (Pre-K) building is in good condition. Year of replacement is unknown. Average useful life of shingle roofing is 20 years. Recommend continued maintenance and plan roof replacement in 5-10 years.	2,052	SF	16	32,832	44,323			44,323		44,323
2.2 EPDM single-ply fully adhered membrane and rigid insulation on sloped roofs at Side 'B' and Side 'C' are in need of maintenance and some repairs. Roofs are approximately 25 years old and have exceeded their 20 year useful life. Recommend continued maintenance and plan immediate roof replacement.	30,199	SF	18	543,582	733,836		733,836			733,836
2.3 EPDM single-ply fully adhered membrane with rigid insulation on flat roof areas of the building are in need of maintenance and repair, including re-sealing of previous patches and some seam repairs. Roofs are approximately 25 years old and have exceeded their 20 year useful life. Some north Side 'D' roof membrane areas were replaced 5 years ago, along with repair work around roof drains. Some areas of ponding were observed on Side 'D' roof above PT/OT north of Gymnasium and Tech. Lab west of Stage. Metal clad hatch covers at abandoned vent curbs should be refinished or removed and roof openings infilled. Recommend continued maintenance and plan immediate roof replacement.	37,929	SF	18	682,722	921,675		921,675			921,675
2.4 Lead coated copper cap flashings at all brick wall-to-roof transitions are in need of significant repair or replacement. Sealants along top of flashings need to be removed to unblock masonry wall weeps. Also flahsing heights are low and new insulation heights will be above flashings with the roof rplacement recommendation. We recommend raising throughwall flashings to meet minimum flashing height requirements with roof replacement.	130	LF	120	15,600	21,060		21,060			21,060

PHYSICAL CONDITIONS ASSESSMENT: MEMORIAL

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
2.0 Building Envelope										
2.5 Incorrectly shaped metal drip edge flashing at bottom edge of sloped EPDM membrane roof at south end of east Side B eave has alowed water to rot wood fascia board. Recommend replacement of wood fascia board to prevent entry of birds. Recommend replacement of wood fascia on east Side B eave with roof replacement.	65	LF	10	650	878		878			878
2.6 Canopy Roof Structure previously removed over walkway connection between door at south end of Side 'A' Corridor out to Pre-K building. Some existing steel columns support a wood fence screen on north side of the walkway. Recommend installation of enclosed (unheated or heated) structure, including roof and sidewalls, windows with a new interior accessible ramped concrete floor from Side 'A' Corridor floor up to Pre-K building floor (approx. 12 inch rise), for weather protected accessible access between buildings.	250	SF	200	50,000	67,500				67,500	67,500
2.7 EPDM flashings at all vertical-to-roof transitions and expansion joints have exceeded their useful life. Tops of flashings onto walls should be raised to accommodate new roof insulation R-Value requirements and should be done in conjunction with roof replacement and siding replacement at Gymnasium.	400	LF	80	32,000	43,200		43,200			43,200
2.8 All painted Batten-board Vertical Wood Siding on high walls of Auditorium and Gymnasium has peeling paint and wood boards have open splits. Existing paint is reported to contain lead and will require abatement. Average useful life of paint coating is 5 years. Recommend abatement of lead paint, removal of batten and deteriorated wood substrate and replacement with an aluminum insualted siding panel system. replacement should be done with roof replacement to mainitan flashings requirements of new roof system.	4,560	SF	15	68,400	92,340		92,340			92,340

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
2.0 Building Envelope										
2.9 All painted wood fascias at roof perimeters appear to be in good condition, although many areas exhibit mold formation and paint is peeling. Existing paint is reported to contain lead and will require abatement. Average useful life of paint coating is 5 years. Recommend abatment of lead paint, minor wood patching, and cladding fascia in metal with the roof replacement project.	3,400	SF	6	20,400	27,540		27,540			27,540
2.10 All painted wood soffits and frieze board at building perimeters appear to be in good condition, although many areas exhibit mold formation, some missing soffit boards, and paint is peeling. Existing paint is reported to contain lead and will require abatement. Average useful life of paint coating is 5 years. Recommend abatment of lead paint, minor wood replacement and patching, and cladding soffits and frieze boards in metal with the window replacement project.	11,000	SF	6	66,000	89,100		89,100			89,100
2.11 Cement plaster ceiling/soffit under main entrance canopy is in very good condition. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
2.12 Painted wood-framed clerestory window wall on south side of Auditorium are single glazed and in poor condition, with peeling paint and some rot. Glass has been painted to block entry of daylight. Recommend window wall replacement with pre-finished aluminum thermally-glazed impact-resisitant window wall system and installation of interior light-blocking window shading system.	442	SF	100	44,200	59,670		59,670			59,670

PHYSICAL CONDITIONS ASSESSMENT: MEMORIAL

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
2.0 Building Envelope										
2.13 Prefinished aluminum replacement Clerestory Windows with mechanically-operable awning sash on north side of Gymnasium are in very good condition. *H&A did not see need for Capital Improvement at this time.*	755	NA	0	0	0					0
2.14 Painted wood-framed Window Walls on the majority of the building are single glazed and in fair to poor condition with peeling paint and some rot. Existing paint contains lead and will require abatement, if wood frames are refinished or replaced. Original building window systems are 65 years old, while the Side 'C' additions are 48 and 59 years old. Painted steel-framed single glazed operable vent sash are installed within the wood-framed window walls, with some inoperable. Various modifications throughout the building to provide thermal glazing in Office, Lobby and Classroom Areas has resulted in a mixed array of glazed conditions. Most of these fixed openings have replacement insulated glass. Others have insulated glass installed behind original single glazing which has caused condensation problems. Single glazing remains at steel operable sash. Screens at each operable sash are a mixed array of stapled-on screening or screwed-on oversize framed screens. Note: Replacement aluminum doors have been recently installed within wood window wall systems at classroooms and within entrance storefront systems. We recommend replacement of doors, frames, and hardware with window system replacement. Windows and doors will be pre-finished aluminum thermally-glazed impact-resistant window wall and entrance door systems.	17,300	SF	100	1,730,000	2,335,500		2,335,500			2,335,500

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
2.0 Building Envelope										
2.15 Replacement aluminum doors have been recently installed within wood framed entrances. The condition of the wood frames is fair where could be viewed and unknown in oter areas as they are covered with a steel angle. We recommend replacement of doors, frames, and hardware. Doors and frames will be pre-finished aluminum thermally-glazed impact-resistant entrance door systems.	7	EA	10,000	70,000	94,500			94,500		94,500
2.16 Masonry exterior walls are face brick interlocked with concrete block back-up. Side C classroom additions have limestone window sills. There is some minor face brick veneer cracking at a few locations that are insignificant to the integrity of the building. All masonry and mortar appears in very good condition, except for some algae-covered damp walls at tree-shaded roof runoff areas where some mortar and brick spalling has occurred at north end of Side A corridor exterior pier. Average useful life of masonry is 50 years. Original building is 62 years old and additions are 48 and 59 years old. It was reported that walls at grade on east of Side B corridor had leaks, but leaks stopped after 2012 exterior drainage work was completed and interior wall and floor repairs were performed. Some exposed steel lintels over the Side C lower level (Park & Rec) windows, Side C exterior-access toilet doors, and Side A south corridor exit door have some rusting. Recommend refinishing of painted steel lintels over openings, and cleaning of algae and performing minor mortar and face brick repairs with the window system replacement project.	1	LS	15,000	15,000	20,250		20,250			20,250

PHYSICAL CONDITIONS ASSESSMENT: MEMORIAL

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
2.0 Building Envelope										
2.17 Bluestone cap stones on brick chimney for Side D boilers are loose and some are out-of-place. Recommend removal of bluestone caps and installation of zinc-coated copper hipped-roof cover with mesh bird screen sides and cap flashing base over top of face brick and back-up masonry. Flue openings not to be covered with flashing.	1	LS	8,000	8,000	10,800			10,800		10,800
Total						0	4,345,048	149,623	67,500	4,562,171
Total Inflated @ 3% Compounded Annually						0	4,609,661	173,413	90,693	4,873,768

[1]Total includes Soft Costs (35%): Contingency, Administration and A/E Fees.

BUILDING INTERIORS

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
3.0 Building Interiors										
3.1 Side 'A' Classroom Wing of building is not HP accessible from Main Entrance Lobby due to an existing 3 riser (18"+/- rise) stair at north end of Corridor. It would be difficult to modify the existing corridor to provide a ramped access because of existing doorways into Nurse's Office and Toilets. Recommend an electro-mechanical wheelchair lift be provided in the Lobby/School Office area with lift access provided through the existing east Staff Toilet (removed) at the Corridor-to-Lobby corner. Optional HP access could be provided via a new ramp constructed from the Lobby floor within part of the Conference Room, with access to Corridor through the west (removed) Staff Toilet.	1	LS	85,000	85,000	114,750				114,750	114,750
3.2 The Pre-K Classroom Wing is not HP accessible from the Main Building Side A Corridor due to an existing platform step and step at door (2 risers = 14"+/- rise) at the west entry Door #4. See Building Envelope Item **2.6** for description of recommended work and cost.	0	NA	0	0	0					0
3.3 Two existing wall-mounted wood display cases located on the south wall of the ramp from the Lobby towards the Stage Level floor, project off the wall more than the maximum allowable of 4 inches when an object is more than 27 inches above the floor per MAAB 20.6.1. The display case and wall brackets also hinder the 18 inch required clearance above the ramp handrails per MAAB 24.5.8. Recommend relocation of display cases to other available wall space with bottom of cases installed less than 27 inches above the floor or provide an enclosure under cases down to floor. Paint walls at removed cases.	1	LS	3,000	3,000	4,050			4,050		4,050

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
3.0 Building Interiors										
3.4 The Pre-K Toilet is a single room with 2 'curtained' toilet stalls, one for each sex, that may not meet all accessibility or plumbing codes. H&A did not see need for Capital Improvement at this time , unless a subtantial renovation or addition triggers compliance.	1	LS	40,000	40,000	54,000				54,000	54,000
3.5 Toilet Rooms for Staff, Nurse and the Pre-K Classroom area do not meet HP accessibility codes. One Boys and one Girls Toilet in separate Classroom wings were renovated to provide HP accessible toilet facilities in the building. If the school building is substantially renovated, all toilet facilities will need to upgraded to present accessibility code requirements. H&A did not see need for Capital Improvement at this time , unless a subtantial renovation or addition triggers compliance. Plumbing fixtures estimated in Item **4.17**.	1	LS	100,000	100,000	135,000				135,000	135,000
3.6 Acoustical Ceiling 2'x2' Tiles in main entrance Lobby are in poor condition as most are bowed with some stained. ACT ceiling 2'x2' tiles in Corridors to classroom wings and in Side C Classrooms are in fair condition with some bowed and stained, and others missing in some areas. Recommend replacement of all bowed or damaged 2'x2' ceiling tile panels using new concealed hold-down clips onto existing metal grid suspension system.	5,000	SF	3	15,000	20,250			20,250		20,250
3.7 Splined 1'x1' acoustical ceiling in Girl's Toilet adjacent to Classroom 1 in Side A has water damaged area from prior roof leak(s) with some missing tiles. Balance of ceiling tiles are in fair condition. Recommend replacing all missing and water-stained 1'x1' spline ceiling tiles.	1	LS	1,000	1,000	1,350			1,350		1,350

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
3.0 Building Interiors										
3.8 Splined 1'x1' acoustical ceilings with suspension grid in Cafeteria and other Corridors have areas of previous repairs or some missing tiles, removed for maintenance access or from leak damage. Balance of ceiling tiles are in good condition. Recommend to install all missing and replace all water-stained 1'x1' spline ceiling tiles.	1	LS	3,000	3,000	4,050			4,050		4,050
3.9 1'x1' acoustical ceilings direct-applied on sloped ceiling deck in Classrooms of Sides A & B are in good condition. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
3.10 Exposed acoustical ceiling/roof deck in Gymnasium and wood paneled acoustical ceiling in Auditorium are in good condition. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
3.11 Painted plaster ceiling finishes in Kitchen, Band, OT/PT and other ancillary spaces are in good condition. Recommend repainting of plaster ceilings in 6 to 10 years.	6,000	SF	2	12,000	16,200			16,200		16,200
3.12 Quarry tile flooring in Lobby and Ceramic Tile flooring in most Toilets appear in good condition. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
3.13 Vinyl composition tile (VCT) in classrooms and corridors throughout building appear in good condition. H&A did not see need for Capital Improvement at this time.	0	NA	0	0	0					0
3.14 Painted wall surfaces, i.e. predominantly concrete block throughout building appear in good condition. Recommend repainting concrete block walls in 6 to 10 years.	90,000	SF	1	90,000	121,500			121,500		121,500

PHYSICAL CONDITIONS ASSESSMENT: MEMORIAL

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
3.0 Building Interiors										
3.15 Vinyl composition tile (VCT) in Side B Corridor has water damaged tiles with slight upturned edges. Water damage from infiltration through exterior wall. Exterior drainage work corrected problems. Recommend all water damaged VCT tiles be replaced.	300	SF	6	1,800	2,430			2,430		2,430
3.16 Terrazzo flooring in Connecting Corridor to Side C, and Side C corridors and toilets appear in good condition. Some expansion cracks were observed in Connecting Corridor just east of entry doors into Side C. No immediate repairs are necessary. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
3.17 Carpeted floor finishes in various Staff areas, Library/Media, Pre-K and Classrooms are approximately 8-12 years old and in good condition. Wood Flooring in Gym is in good condition. Metal nosing for carpet edge at Library door from Corridor has Non-HP Compliant vertical riser that should be replaced. H&A did not see need for Capital Improvement at this time, unless substantial renovation or building addition triggwers compliance.	1	LS	1,500	1,500	2,025				2,025	2,025
3.18 Glazed block and ceramic tile dado wall finishes in Toilets throughout building appear in good condition. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
3.19 Kitchen equipment, (gas and electric) is reported to be in good condition and well maintained. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
3.0 Building Interiors										
3.20 Ramped corridor areas servicing the Stage level of the Auditorium (and Side B) with handrails, appear to meet accessibility and life safety codes. See Item 3.3 for handrail obstruction remediation. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
3.21 Lockers are used for student storage. Lockers are metal, located in corridors of the classroom wings and most are in good condition. Some lockers are damaged beyond normal repair. It appears there is no provision for HP-accessible lockers. Recommend continued maintantence, replacement of damged lockers, and addition of accessible lockers as needed.	1	LS	2,000	2,000	2,700			2,700		2,700
3.22 Signage to identify rooms, for the most part, does not appear to meet accessibility codes. Signage types are not consistent and many do not have Room Names, Numbers or Braille. The HP accessible student toilets do have accessible signage. If the school building is substantially renovated, all signage will need to upgraded to present accessibility code requirements. H&A did not see need for Capital Improvement at this time, unless subtntial renovation or building addition triggers compliance.	1	LS	10,000	10,000	13,500				13,500	13,500
3.23 Window shades in the Cafeteria and where in Classrooms or other spaces of the building, appear in good condition. Clerestory windows in Classrooms below sloped roofs of Side A and B need shading for effective use of overhead AV projectors to wall projection screens. Daylight hinders viewing of screens. Recommend window shading systems be provided at all Clerestory windows and other critical viewing area locations, including new replacement window systems in the Auditorium, if work is incorporated into project scope.	15,000	SF	5	75,000	101,250			101,250		101,250

PHYSICAL CONDITIONS ASSESSMENT: MEMORIAL

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
3.0 Building Interiors										
3.24 Interior doors, except student toilet and by-pass corridor doors that are push-pull or use exit devices and are held open with magnetic hold open devices, predominantly use knobset hardware. Doors are wood in painted metal frames. Doors and hardware appear in good condition. If the school building is substantially renovated, all door hardware will need to upgraded to present egress and accessibility code requirements, including provision of lever handle hardware on all latch/lock doors.	150	EA	500	75,000	101,250			101,250		101,250
3.25 Many doors within the building do not have the required HP Accessibility Approach to the doors or door operating hardware. Most Classroom doors have physical obstructions on the latch side, i.e. perpendicular sidewalls at corridor lockers or classroom furnishings, that block approach for both egress and ingress. If the school building is substantially renovated, all obstructed approaches to doors will need to be reconstructed to present accessibility code requirements.	1	LS	140,000	140,000	189,000				189,000	189,000
3.26 Fire extinguishers are located in corridors and appear in good condition. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
Total						0	0	375,030	393,525	768,555
Total Inflated @ 3% Compounded Annually						0	0	434,660	528,740	963,400

[1]Total includes Soft Costs (35%): Contingency, Administration and A/E Fees.

MECHANICAL

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
4.0 Mechanical										
4.1 Boilers: There are two (2) Boilers. The Heating System was converted to hot water from steam and is located in Basement Mechanical Room below the Kitchen. The original Oil Burners were removed and sthe system was converted to Gas-Fired. It was reported that Heating System has experienced some operational problems with the pneumatic controls. The Boilers are approximately 25 years old and appear in good condition. Average useful life of boilers is approximately 20 years. We recommend replacement in the near future.	2	EA	65,000	130,000	175,500		175,500			175,500
4.2 Controls are combination of pneumatic withsome DDC and are approximately 25 years old. *Recommend a replacement DDC control system with boilers or unit ventilator replacement.*	66,573	SF	2	133,146	179,747		179,747			179,747
4.3 At the time of system conversion to hot water, the original piping systems were abandoned in most crawl spaces and new circulating pipe systems with pipe wrap insulation were run exposed within room spaces. All piping and insulation appear in good condition. Some vertical piping to unit ventilators create minor obstructions in corridors. Recommend piping be rerouted and enclosed if heating systems are modified.	1	LS	10,000	10,000	13,500		13,500			13,500
4.4 Surface mounted hot water unit ventilators were installed adjacent to original unit locations in Classrooms, Cafeteria and Lobby at the time of system conversion to hot water for required ventilation and heating. Converted radiators exist in some spaces. Units are approximately 20 years old and appear in good condition, but are at end of life expectancy. Recomend replacement in near future.	34	EA	8,000	272,000	367,200		367,200			367,200

PHYSICAL CONDITIONS ASSESSMENT: MEMORIAL

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
4.0 Mechanical										
4.5 Four (4) horizontal HVAC units for the Auditorium and Gym were replaced in a crawl space mechanical room area at time of system conversion. Units have newer electrical distribution panels and pneumatic controls and were reconnected tothe existing ductwork. Units are approximately 20 years old and appear to be in good condition, but are end of life expectancy.	4	EA	22,000	88,000	118,800		118,800			118,800
4.6 Cabinet Unit Heaters (CUH) in Corridors near exterior doors are either ceiling or wall mounted (vs. original recessed units). Ceiling mounted CUH's are installed in the Band and OT/PT Rooms (formerly Locker Rooms). Some ceiling units comprimise clear ceiling heights. CUH's are approximately 20 years old and appear in good condition, but are at end of life expectancy. Recommend replacement and relocation if system modifications are performed.	8	EA	5,000	40,000	54,000		54,000			54,000
4.7 Supplemental Air Conditioning is provided in Administration Offices with window units. The Library/Media Center has a packaged split system with an exterior ground mount condensing unit. Window AC units are 10-15 years old and the Library unit is approximately 10 years old and both systems appear in good condition . *Recommend new packaged split systems for Administrative and other staff areas.*	1	LS	35,000	35,000	47,250			47,250		47,250
4.8 Exhaust air for Toilets Rooms is ducted to rooftop exhaust fans. The Kitchen hood exhausts to a separate updraft exhaust fan unit also on the roof. Exhaust fans are approximately 20 years old. Recommend replacement of fans in 5-10 years.	10	EA	3,000	30,000	40,500		40,500			40,500

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
4.0 Mechanical										
4.9 Sanitary Service to the municipal system is approximately 62 years old and assumed to be in good condition. The Sanitary Service enters the building into the Basement Boiler Room. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
4.10 The majority of the building is equipped with an Automatic Fire Protection System, i.e. Sprinklers with the exception of the Side 'C' Additions. The system is approximately 62 years old and in reasonably good condition. The Fire Protection Service enters the basement Boiler Room at the front corner of Side D with siamese connection and system alarms outside the Kitchen. Fire Service gate and check valve assemblies and flow alarms have been replaced at an unknown date. Side 'C' Additions were not sprinklered because of Building Construction Type code allowances at that time. *H&A did not see need for Capital Imp. unless there is a substantial renovation or addition to trigger entire building to be sprinklered.*	19,131	SF	4	76,524	103,307			103,307		103,307
4.11 Gas Service is approximately 25 year old with exposed meter and service piping in good condition. The Gas Service location is located at Kitchen front wall and enters the Basement Boiler Room. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
4.12 Domestic water service from municipal system is assumed to be original 62 year old system and in reasonably good condition. Service enter building into basement Boiler Room. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0

PHYSICAL CONDITIONS ASSESSMENT: MEMORIAL

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
4.0 Mechanical										
4.13 Recessed Wall Hydrants are provided on exterior walls around the building. Wall Hydrants are approximately 62 years old and in good condition. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
4.14 Domestic Hot Water boiler in the basement Boiler Room is gas fired, and along with an updated hot water storage tank, is approximately 20 years old and in good condition, but at the end of its life expectancy. *Recommend the replacement of the hot water boiler in near future.*	1	LS	7,000	7,000	9,450			9,450		9,450
4.15 Drinking Fountains are recessed flush units and do not meet State accessibility codes. Some Drinking Fountains have been replaced with Electric Water Cooling Units that are approximately 15 years old and in good condition. HP accessibility to drinking water has been adaptively provided by means of a recessed 'paper-cup' water dispenser adjacent to a standard drinking fountain. *Recommend updating all drinking fountains to accessible types if future building modifications are considered.*	8	EA	2,000	16,000	21,600				21,600	21,600
4.16 Kitchen Grease Trap System and an exterior underground Grease Collection Tank are original at 62 years old and appear in good condition. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
4.0 Mechanical										
4.17 Plumbing Fixtures. Sinks and faucets in work counters of Classrooms do not meet accessibility codes for height and clear floor space. Toilets, Stalls, Urinals and Sinks are not accessible in most common Student Toilets. One Boy's and one Girl's common Toilet Room in the building was renovated to provide Toilet HP accessibility for the building with one HP Toilet, Stall and HP Sink provided. HP Plumbing Fixtures and faucets are approximately 15 years old and in good condition while other fixtures are original with some replacements. Staff single-use Toilet Rooms near the Administration Offices have been renovated but are not HP accessible. H&A did not see need for Capital Improvement at this time, unless there is a substantial renovation or addition to trigger full accessibility. work to be performed with Item **3.5**.	1	LS	120,000	120,000	162,000				162,000	162,000
Total						0	949,247	160,007	183,600	1,292,855
Total Inflated @ 3% Compounded Annually						0	1,007,056	185,449	246,685	1,439,190

[1]Total includes Soft Costs (35%): Contingency, Administration and A/E Fees.

PHYSICAL CONDITIONS ASSESSMENT: MEMORIAL

ELECTRICAL

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
5.0 Electrical										
5.1 Site Lighting for front parking areas and driveways are pole mounted with overhead wiring to street service and are in good condition. *H&A did not see need for Capital Improvement at this time.*	1	LS	35,000	35,000	47,250			47,250		47,250
5.2 Balance of building perimeter Site Lighting is wall mounted high-efficiency flood lighting in good condition. Average useful life 20 years. *H&A did not see need for Capital Improvement at this time.*	1	LS	15,000	15,000	20,250			20,250		20,250
5.3 Electric Service: 600 Amp 120/208 volt 3 phase Main Panel and Disconnect Switch. The Building Electric Service is fed underground from a pole at the street to a ground mounted transformer located north of the staff parking driveway opposite the Boiler Room chimney. Transformer size and age information was not available but the unit is approximately 20 years old and appears in good condition. The Electric Service enters the Basement of the Building underground near the Kitchen Loading Area. Main Service and Disconnect Panel and Distribution Wireways are original 62 year old equipment. A 250 Amp Distribution Panel was added within the Electric Room space to accommodate HW circulating pump, and Auditorium and Gymnasium HVAC System replacements, with sub-panels added at equipment areas. Building electric usage is at its maximum for the present system and some overloading has occurred resulting in some sub-panel shutdowns. New air-conditioning, AV Projection and Fire Alarm System Equipment has significantly added to service loads. A new *electric service and building distribution upgrades are strongly recommended.*	1	LS	120,000	120,000	162,000			162,000		162,000

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
5.0 Electrical										
5.4 Power wiring system is approximately 62 years old. Electrical outlet and switch devices have been replaced and appear in good condition. We saw need for additional power i.e. power cords grouped together competting for same outlets. Building electric usage is at its maximum for the present system and some overloading has occurred resulting in some sub-panel shutdowns. Electrical wiring and sub-distribution system upgrades are strongly recommended and work should occur with new electric service.	66,573	SF	1	66,573	89,874			89,874		89,874
5.5 Light Fixtures throughout building were upgraded approximately 10 years ago and are in good condition. Light Fixtures consist mostly of fluorescent T8 surface or pendent mounted strip fixtures in Classrooms, and surface mounted multiple or single strip fluorescent T8 fixtures in Corridors. High-efficiency pendent fixtures are used in the Gymnasium. A number of specialty fixtures are used in the Auditorium and Stage. There are no energy-saving motion or daylighting controls on fixture systems in building. *H&A did not see need for Capital Improvement of lighting at this time.*	0	NA	0	0	0					0
5.6 Emergency Lighting was recently installed in conjunction with the new Fire Alarm system. Emergency Lighting consists of wall mounted units with remote battery packs which are only 1 year old and in excellent condition. Emergency Lighting is located in all Corridors, Lobby, Gymnasium, Auditorium, all Toilet Rooms and primary Common Areas. Note the building does not have an Emergency Power Generation System. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0

PHYSICAL CONDITIONS ASSESSMENT: MEMORIAL

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
5.0 Electrical										
5.7 Phone Service (by Verizon) and Intercom System age was not determined but appears in good condition. Note that Public Address speakers are only in Classroom/Student spaces and none are located in the Corridors. Also, the Phone System interface panel in the Basement Electric Room is uncovered and is original panel. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
5.8 Central AV Projection System: Ceiling mounted projectors and data wiring, and wall mounted projection screens are relatively new and in good condition. It was noted to H&A that portable cameras are part of the system. The location of system servers and other equipment was not made available to H&A. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
5.9 The entire building received a complete new Addressable Fire Alarm System in 2012. Modernized equipmenet includes Horn/Strobe Alarms, Pull Stations at all exit locations, select locations with Smoke and Heat Detectors, Central Fire Alarm Control Panel and Remote Annuciator Panels. Emergency Lighting System was installed in conjunction with new Fire Alarm System. The new Fire Alarm System meets accessibility and life safety code requirements. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
Total						0	0	319,374	0	319,374
Total Inflated @ 3% Compounded Annually						0	0	370,154	0	370,154

[1]Total includes Soft Costs (35%): Contingency, Administration and A/E Fees.

ESSEX ELEMENTARY SCHOOL

12 Story Street

Essex, MA 01929

BUILDING DATA

CODE CLASSIFICATION:

Occupancy:	E - Educational for Classrooms
	A-3 - Assembly for Media Center, Gym & Cafetorium
Construction Type:	2B for entire building

BUILDING HISTORY:

Original Building:	1957
Building Addition:	1975 Media Center, Gym & Locker Rms

SITE / BUILDING AREA:

Site Area:	Unknown
Total Building Area:	52,900 sf
Gym & Media Ctr Addition:	12,500 sf
Original Building, First Fl.:	33,200 sf
Original Building, Ground Fl.:	7,200 sf

SITE COMPONENTS:

Parking / Driveways:	Bituminous paving
Walkways:	Bituminous paving; concrete pavement at front entrance to school and building exits with steps
Lighting:	Pole mounted along driveways and parking; wall mounted at building perimeter
Storm Drainage:	Internal roof drains and Courtyard catch basin, tied into storm drainage systems, directed towards either a retention pond southeast of building or to headwall outlet into a stream east of building
Sanitary System:	Town sewer: School sanitary piping is run to an ejector pump system in Boiler Room and directed to Story Street

ARCHITECTURAL COMPONENTS:

Foundation:	Reinforced concrete
Super Structure:	Reinforced concrete for original building
	Structural steel and bar joist framing for Addition
Floor Structure:	Concrete Slab-On-Grade and Rib-Pan framed slab above Ground Floor
Roof Structure:	Concrete Rib-Pan framed slab on original building
	Steel Deck on building addition
Exterior Walls:	Brick and block masonry for original building & brick veneer on block for addition
Roofing:	EPDM roof membrane w/ rigid insulation for flat & low sloped roofs
Window Systems:	Wood framed w/ original single pane glazing and steel operable vent sash
	Wood windowalls retrofit with second pane or insulated glazing units
	Aluminum storefront frames and insulated glazing for addition
Exterior Doors:	Aluminum clad insulated panel and glazed replacement doors and frames
	Entrance/exit windowalls are either painted wood or hollow metal
Interior Doors:	Mostly wood doors w/ hollow metal frames
Wall Finishes:	Mostly painted concrete block in the original building and addition
	Glazed block and ceramic tile dado walls in Toilets
Floor Finishes:	Mostly vinyl composition tile (VCT) in corridors and classrooms
	Ceramic tile in toilets, wood flooring in Gym & Cafetorium
	Carpet in various Staff areas, Media Center, Pre-K and some classrooms
	Epoxy painted concrete on ramps and in Locker/Toilet Rooms in addition
Ceiling Finishes:	Exposed metal deck in gym, exposed concrete in mechanical and storage
	2x4 acoustic tile ceiling in Corridors of classroom wings and in Cafetorium
	2x4 acoustic tile ceilings throughout addition, except Gym
	1x1 acoustic tile ceilings in Staff areas, Lobby, Main Corridor and Classrooms

MECHANICAL / ELECTRICAL COMPONENTS:

Water Service:	Town Water: Underground Domestic Water Service from Story St.
Fire Suppression:	No Fire Service or Fire Suppression System for building
Gas Service:	Underground Gas Service from Story St
Heating Systems:	2 gas boilers that distribute steam to unit ventilators and other radiation
	1 gas-fired domestic hot water boiler
Electrical:	Underground Electric Service from onsite pole, and service pole at Story St
	Emergency generator onsite, provides back-up power

Category	Priority 1	Priority 2	Priority 3	Priority 4		Total
Summary						
1.0 Site	0	0	144,990	69,660		214,650
2.0 Building Envelope	0	656,964	1,300,973	0		1,957,937
3.0 Building Interiors	0	48,263	118,125	366,930		533,318
4.0 Mechanical	0	280,800	488,430	597,240		1,366,470
5.0 Electrical	0	0	152,415	71,415		223,830
Total:	0	986,027	2,204,933	1,105,245		4,296,205
Total Inflated @ 3% Compounded Annually	0	1,046,076	2,555,518	1,485,007		5,086,601

PHYSICAL CONDITIONS ASSESSMENT: ESSEX

SITE

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
1.0 Site										
1.1 All bituminous parking areas, access drives, rear play area behind Gymnasium, and walkway pavements are approximately 20 to 30 years old and in good-to-moderate condition. Average useful life is 20 years. We noted some minor cracking and dips in east side service drives and some broken loose bituminous berm to one side of the main entrance walkway. Safety area and parking space painted lines are worn. Recommend paving and berm repairs, as well as sealing of cracks and seal-coating parking, drives, and rear and west side hard-play areas. Include restriping of painted safety zones and parking space lines.	4,900	SY	20	98,000	132,300			132,300		132,300
1.2 Some landscape areas along walkways and under trees have no grass. Recommend hydro-seeding with a shade tolerant grass or shade loving ground cover.	1	LS	2,000	2,000	2,700			2,700		2,700
1.3 Limbs of trees along east service drive from Boiler Room out to Western Ave. overhang roadway. Recommend cut back and pruning of trees.	1	LS	3,000	3,000	4,050			4,050		4,050
1.4 Painted steel handrails for steps and ramps are in moderate condition. There is an abandoned handrail (for steps) that should be removed from right wall at top of ramp for exit at Door 12. There are not handrails for various exterior steps around the building: on left side wall for exit at Door 12; both sides of exterior platform and steps outside of Door 3; right side wall for exit at Door 3; and both side walls for exit at Door 7. Recommend installation of painted steel handrails missing at exit steps and repainting of all steel railings at exit areaway at Door 6 and on ramp at Door 12.	1	LS	4,400	4,400	5,940			5,940		5,940

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
1.0 Site										
1.5 Miscellaneous chain link fencing at large swing gates for rear play area and along top of stone retaining wall at sidewalks from exit Door 3 are in good condition. Wooden 3 rail and post fencing with applied garden wire fencing that separates the south retention pond from the paved rear play area and playground is also in good condition. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
1.6 Paved site areas have minimal storm drainage systems, mostly direct runoff to adjacent lower lawn areas or out to street from main driveways. Roof areas with drains of original building have interior rain leader piping connected to a drain manhole on east side of building with piping to headwall outlet and runoff into the stream adjacent to the east service roadway. Roof areas of the 1975 addition have rain leader piping that appears to run out the rear of building near the Library to a drain manhole in the rear play area, and then to the retention pond southeast of the building. Note the north end of the retention pond has an overflow wire with piping under the Western Ave access drive and north to the same headwall outlet with runoff to stream adjacent to east service roadway. The paved service area at the Emergency Generator has minimal slope runoff with some minor ponding occurring at times. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
1.0 Site										
1.7 Parking for the handicapped is across the main driveway from the front accessible entrance into the building, with a painted crosswalk accessible route from the parking spaces. The existing handicap spaces and vehicle discharge areas may have grades too steep for compliance with current accessibility codes. Recommend locating HP parking spaces closer to main entrance and on school side of driveway with grading and paving of parking and access area to code requirements, or regrade and repave HP parking spaces to required 2% max. slopes.	1	LS	15,000	15,000	20,250				20,250	20,250
1.8 Post mounted signage to identify handicap parking is in good condition. Average useful life is 10 years. Recommend relocation of signage with Item 1.7.	1	LS	1,600	1,600	2,160				2,160	2,160
1.9 Concrete platforms with steps down to grade from exits at Doors 2, 3 and 7 do not allow HP accessible egress from or access into building. Wood ramps have been constructed outside of concrete platforms from exits at Doors 11 and 12 that do provide HP accessible egress and access at these locations. HP egress is not code required for the present building, but if the building is substantially renovated, all building exits will need to upgraded to present accessibility code requirements. Recommend minor repairs and sealing of all P.T. wood components on ramps, steps and platforms outside of Doors 11 and 12, and platform and steps outside of Door 10 at Modular addition.	1	LS	27,500	27,500	37,125				37,125	37,125

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
1.0 Site										
1.10 Bituminous play area pavement outside of the south exit from the Library at Door 8 has a step down and does not provide HP accessible egress from or access to this exit door. HP egress is not code required for the present building, but if the building is substantially renovated, building exits will need to upgraded to present accessibility code requirements. Recommend regrading and repaving of play area to provide an exit landing at floor level and max. 1:20 sloped pavement down to and connecting with grades of adjacent existing play area pavement.	1	LS	7,500	7,500	10,125				10,125	10,125
1.11 Grass play areas appear in good condition, including the east ball field. The south side wooden playground structure seems to be in good condition, but appears not to be designed for accessibility. Although dry during our visit, it has been reported that the grass fields retain excessive moisture following rain events. We recommend a soil analysis and a civil engineering drainage study to determine an appropriate solution.	1	LS	30,000	30,000	30,000		30,000			30,000
1.12 Areaways below gratings at 2 Crawl Space Vents in Courtyard and at 3 Boiler Room louvers are in good condition, but should be cleaned of debris and vegetation. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
Total						0	30,000	144,990	69,660	244,650
Total Inflated @ 3% Compounded Annually						0	31,827	168,043	93,595	293,466

[1]Total includes Soft Costs (35%): Contingency, Administration and A/E Fees.

PHYSICAL CONDITIONS ASSESSMENT: ESSEX

BUILDING ENVELOPE

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
2.0 Building Envelope										
2.1 EPDM single-ply fully adhered membrane and rigid insulation on all roofs are in good condition and have been regularly repaired and maintained. We were informed that roofs on the original building (Sides A, B & D) were replaced and are approximately 11 years old (2002 membrane). Note that it was observed from date stamping on membrane, that parts of the Side B roof membrane are dated as 1995 membrane. Roofing on the 1975 Side C addition has been replaced, but no information was available on date of replacement. It appears the Side C roofing was replaced at the same time as the other parts of he building. EPDM roofing systems have an average 20 year useful life. Recommend continued maintenance and plan roof replacement in 10 years.	48,138	SF	18	866,484	1,169,753			1,169,753		1,169,753
2.2 Lead coated copper cap flashings at all brick wall-to-roof transitions are in need of significant repair or replacement. Sealants along top of flashings need to be removed to unblock masonry wall weeps. Also flahsing heights are low and new insulation heights will be above flashings with the roof rplacement recommendation. We recommend raising throughwall flashings to meet minimum flashing height requirements with roof replacement.	160	LF	120	19,200	25,920			25,920		25,920

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
2.0 Building Envelope										
2.3 Cantilevered concrete roof slab exterior soffit areas and vertical fascia edges on building perimeter and courtyard side of Side 'B' and 'D' Classroom Wings are exposed. Original concrete surfaces were not finished or weather-protected. Roof edge metal covers most of the vertical fascia edges, but moisture penetration into exposed concrete has caused various levels of spalled concrete at the bottom drip edges. Most of the significant spalling has occurred in the courtyard on east and south-facing sides in areas shaded by trees. Spalling has occurred at numerous small locations on all roof edges, with some areas previously patched. Recommend removal of all loose concrete, reinforcement de-rusting and epoxy-coating, and concrete repair/patching with epoxy-based cement products within 1 year.	50	SF	100	5,000	6,750		6,750			6,750
2.4 Cement plaster exterior ceilings under main entrance (Door 1) and side exit (Doors 7 & 12) canopies are in very good condition. Painted concrete exterior ceiling under side exit (Door 3) recessed entry is in good condition. Exterior ceiling could be cement plastered to match other canopy ceilings. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
2.0 Building Envelope										
2.5 Painted wood fascias, soffit boards and window head frieze trim at perimeter of Cafetorium roof appear to be in good condition, although south fascia has peeling paint. Wood frieze trim at window head beams and entrance soffit enclosures around perimeter of original building and courtyard are in good condition, although some unmaintained areas exhibit peeling paint and some decay. Existing base layers of paint may be lead-containing and would require abatement, minor wood repairs are also necessary. Average useful life of paint coating is 5 years. Recommend minor wood patching and/or replacement, and refinishing.	1,600	SF	2	3,200	4,320		4,320			4,320
2.6 Painted wood trim and T1-11 plywood siding on the Modular addition, west of the Gym, is in good condition. It appears trim and siding areas have been reconditioned within the last 5 - 6 years. Average useful life of paint coating is 5 years. Recommend sealing and refinishing of all trim and siding, and painting of exterior doors and frame, within one year.	700	SF	2	1,400	1,890		1,890			1,890

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
2.0 Building Envelope										
2.7 Painted wood trim and T1-11 'replacement' plywood siding at side panels, column panels and spandrel panels around windowall areas between face brick wall panels, are in moderate condition. Most trim and siding areas have been reconditioned, while some unmaintained areas exhibit peeling paint, some decay, failed caulking and warped-out areas of siding, especially in the Courtyard on south and west facing walls. Existing base layers of trim paint may be lead-containing and would require abatement, if wood repairs are necessary. Average useful life of paint coating is 5 years. Recommend minor wood trim and siding patching and/or replacement, and sealing and refinishing of all exterior windowall trim and siding within one year.	2,000	SF	3	6,000	8,100		8,100			8,100
2.8 Masonry exterior walls are face brick interlocked with concrete block back-up. There is some minor face brick veneer cracking at a few locations that are insignificant to the integrity of the building. All masonry and mortar appears in very good condition. Average useful life of masonry is 50 years. Original building is approximately 56 years old and the addition is 38 years old. It was observed in the Gym that the east and north higher wall areas, that are adjacent to first floor roofs, exhibit signs of water infiltration staining at interior concrete block mortar joints. Staining and mortar efflorescence may have occurred from roof edge leaks prior to the Gym roof was replaced or from thermal condensation of uninsulated wall cavity. Recommend performing thermal imaging tests on these Gym walls to investigate if brick and block wall assembly has excessive moisture content, to determine if remediation is necessary, such as replacement of thru wall flashings other such roof repairs.	1	LS	4,000	4,000	5,400		5,400			5,400

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
2.0 Building Envelope										
2.9 Exterior composite-clad insulated panel and glazed replacement exit doors and hardware at doors for the 1975 addition are approximately 10-12 years old and in good condition, and are installed into original frames. *H&A did not see need for Capital Improvement at this time, but expect future deterioration and need for replacement in 10 years.*	4	EA	10,000	40,000	54,000			54,000		54,000
2.10 Prefinished aluminum frames for clerestory windows (4 openings) on south side of Gymnasium are in very good condition. Two large insulated glazing units exhibit glass-seal failures, with one unit previously replaced. It was observed that the interior side of all 12 top larger glazing units are painted to block sunlight and that may have attributed to the insulated glass-seal failures. Recommend all insulated glass units (24) be replaced with translucent insulated (Kalwall) panels to limit sunlight entry and potential glass-seal failures.	268	SF	80	21,440	28,944		28,944			28,944
2.11 Prefinished aluminum windows with operable hopper sash on the south, east (Library) and north (Ramp) sides of 1975 addition are in very good condition. Insulated glazing units and vent sash units in lower openings of north (Ramp) windowall openings have glass-seal failures with condensation between panes. Recommend replacement of failed insulating glass in fixed and operable vent sash units.	432	SF	80	34,560	46,656		46,656			46,656

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
2.0 Building Envelope										
2.12 Prefinished aluminum sill cap flashing over face brick at aluminum windowalls on the south, east (Library) and north (Ramp) sides of 1975 addition, and presumed at 4 clerestory openings in Gymnasium, do not slope away from sill frames for proper drainage. Ponded water spots were prevalent on sills and additional sealants provided to prevent water leakage into walls below windows. Recommend repairs to provide proper slope at sills, i.e.: removal of aluminum sill caps and one brick course below sills, and provide new P.T. blocking/shims with formed aluminum sills and sealants.	120	LF	100	12,000	16,200		16,200			16,200
2.13 Painted wood-framed high windowall on north side of Cafetorium is single glazed with frames in good condition, with some peeling paint and some minor rot. This windowall has been maintained much better than balance of building. Note that 2 glass panes near roof ridge have 'splicing' channels to hold edges of separate glass pieces, due to height limits on glass size when the building was built. Recommend windowall replacement with pre-finished aluminum thermally-glazed windowall system and installation of interior window shading system.	580	SF	80	46,400	62,640		62,640			62,640

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
2.0 Building Envelope										
2.14 Painted wood-framed windowalls on the building are single glazed and in good to fair condition with some peeling paint and some rot. Existing paint appears to be lead-containing and will require abatement if wood frames are refinished. Original building wood window systems are approximately 56 years old. Painted steel-framed single glazed operable vent sash are installed within the wood-framed windowalls, with some replacement vinyl vent sash. Various modifications throughout the building to provide thermal glazing in office and classroom areas has resulted in a mixed array of glazed conditions. Most of these fixed openings have replacement insulated glass. Others have insulated glass installed behind original single glazing. Top glazed openings of all wood windowalls facing onto the Courtyard have painted plywood panels behind the single glazing for blocking of sunlight, with vent holes provided in plywood panels. Single glazing remains at steel operable vent sash. Screens at operable sash are a mixed array of screwed-on oversize framed screens. Recommend replacement of all wood windowalls with pre-finished aluminum thermally-glazed windowall systems.	4,242	SF	80	339,360	458,136		458,136			458,136
2.15 Some window openings around building, at Side B & D student toilets and Modular addition are single-unit operable vent sash with single glazing. Other window openings, such as the Kitchen are ganged clerestory-type operable vent sash with single glazing. Some operable vent sash have been replaced with new vinyl operable vent sash units with insulating glass. Recommend replacement of all wood window units with pre-finished aluminum thermally-glazed operable vent sash window systems.	166	SF	80	13,280	17,928		17,928			17,928

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
2.0 Building Envelope										
2.16 Exterior composite-clad insulated panel and glazed replacement exit/entrance doors and sidelight panels with retrofit frames and hardware on doors of the original building are approximately 8 years old and in very good condition, but frames are installed into painted wood windowall frames. We recommend replacement of doors, frames, and hardware. Doors and frames will be pre-finished aluminum thermally-glazed impact-resistant entrance door systems.	3	EA	10,000	30,000	40,500			40,500		40,500
2.17 Cap stones on brick chimney for Side A basement boilers are non-existent and some brick piers for cap support are missing. Recommend removal of bluestone caps and installation of zinc-coated copper hipped-roof cover with mesh bird screen sides and cap flashing base over top of face brick and back-up masonry. Flue openings not to be covered with flashing.	1	LS	8,000	8,000	10,800			10,800		10,800
Total						0	656,964	1,300,973	0	1,957,937
Total Inflated @ 3% Compounded Annually						0	696,973	1,507,828	0	2,204,801

[1]Total includes Soft Costs (35%): Contingency, Administration and A/E Fees.

PHYSICAL CONDITIONS ASSESSMENT: ESSEX

BUILDING INTERIORS

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
3.0 Building Interiors										
3.1 The main entrance lobby areas and corridors in the original building and 1975 addition are HP accessible for students and staff. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
3.2 The higher floor level of the Stage at the Cafetorium is HP accessible via an electro-mechanical lift located off the main corridor. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
3.3 Single-use toilets for Staff and Nurse in the original building are not HP accessible. One Boy's and one Girl's Common Toilets in Side D Classroom wing were renovated to provide HP accessible toilet facilities for students in the building. If the school building is substantially renovated, all toilet facilities will need to upgraded to present Plumbing and Accessibility Code requirements.	3	EA	30,000	90,000	121,500				121,500	121,500
3.4 A single-use HP toilet for 'Employees', located off the Library and Locker Room passageway in the 1975 addition, was created by renovations into the Girl's Locker/Toilet Room. Two sinks and two toilet stalls of the original Girl's toilet area were renovated to provide a countertop sink with vanity cabinet and one HP stall that do not meet all accessibility codes. If the school building is substantially renovated, all toilet, shower and locker facilities will need to upgraded to present Plumbing and HP Accessibility Code requirements.	1	LS	30,000	30,000	40,500				40,500	40,500

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
3.0 Building Interiors										
3.5 The remaining Girl's toilet area with shower stalls were converted to provide functional facilities, but no HP provisions were done. No modifications were made to the locker area. If the school building is substantially renovated, all toilet, shower and locker facilities will need to upgraded to present Plumbing and HP Accessibility code requirements.	1	LS	30,000	30,000	40,500				40,500	40,500
3.6 The toilet and shower areas within the Boy's Locker Room were converted to provide one HP toilet stall, one HP sink and one HP urinal. The shower and locker areas were renovated to provide full accessibility and HP devices. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
3.7 1'x1' acoustical ceilings direct-applied on concrete infill-rib roof deck in Administrative Offices, Staff areas, Classrooms and Common Student Toilets are in good condition. Some small water stained areas were observed, but could be replaced. Recommend replacement of stained ceiling tiles.	1	LS	800	800	1,080		1,080			1,080
3.8 1'x1' acoustical ceilings direct-applied on concrete flat slab roof deck in Lobby and main Corridor of original building are in good condition. Some water stained areas were observed on main Corridor ceiling near the Cafetorium, while other staining was small throughout these areas. Ceiling tiles could be replaced. *Recommend replacement of stained ceiling tiles.*	1	LS	1,600	1,600	2,160		2,160			2,160

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
3.0 Building Interiors										
3.9 2'x4' Acoustical Tile Ceiling is suspended, with open perimeter, below bar-joisted roof structure in the Cafetorium. Ceiling is relatively new and in good condition with 2'x4' recessed fluorescent lighting. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
3.10 2'x4' Ceiling system in Kitchen is vinyl-coated acoustical panels suspended below adhered tiles on concrete infill-rib roof deck. Ceiling is in relatively good condition. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
3.11 2'x4' Acoustical Tile Ceilings in classroom Corridors of Side B & D and Passageway in Side B basement are suspended below concrete flat slab roof structure. Ceilings are in good condition. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
3.12 2'x4' Acoustical Tile Ceilings in the 1975 addition, except not in Gym, are suspended from bar-joisted roof structure. Some ceiling tiles in Boy's Locker/Toilet Room and other rooms are cracked/broken. Ceilings are in relatively good condition. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
3.13 Ceilings in various workrooms and storage spaces of original building are painted concrete infill-rib roof deck, and are in fair condition. *Recommend repainting in 5 to 10 years.*	1	LS	5,000	5,000	6,750			6,750		6,750
3.14 Exposed painted bar joists and roof deck in Gymnasium are in good condition. *Recommend repainting in 10 years.*	1	LS	8,500	8,500	11,475			11,475		11,475

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
3.0 Building Interiors										
3.15 Ceramic Tile flooring in Toilets appear in good condition. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0			0		0
3.16 Vinyl composition tile (VCT) in classrooms, lobby and corridors throughout the building appear in good condition. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0			0		0
3.17 Epoxy painted concrete flooring in Boy's and Girl's Locker/Toilet areas, and on Ramps and floor landings appear in good condition. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0			0		0
3.18 Carpeted floor finishes in various Staff areas, Library/Media, Pre-K and some Classrooms are approximately 8-12 years old, well maintained and in good condition. Recommend replacement in 10 years.	1	LS	16,000	16,000	21,600			21,600		21,600
3.19 Wood Flooring in Cafetorium and Gymnasium are in good condition. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
3.20 Painted wall surfaces, i.e. predominantly concrete block throughout building appear in good condition. Recommend repainting concrete block walls in 6 to 10 years.	58,000	SF	1	58,000	78,300			78,300		78,300
3.21 Glazed block and ceramic tile dado wall finishes in Toilets throughout building appear in good condition. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
3.22 Kitchen equipment, (gas and electric) is reported to be in good condition and well maintained. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
3.0 Building Interiors										
3.23 Ramped corridor areas servicing the Library-Gym level and the basement Side B Art-OT/PT area, with HP handrails, appear to meet accessibility and life safety codes. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
3.24 Lockers for student storage are metal and are located on one side only of Corridor in Side D classroom wing. Most lockers are in good condition. It appears there is no provision for HP-accessible lockers. *H&A did not see need for Capital Improvement at this time, unless substantial renovation or building addition triggers compliance for accessible lockers.*	1	LS	3,800	3,800	5,130				5,130	5,130
3.25 Signage to identify rooms, for the most part, does not appear to meet HP Accessibility Codes. Signage types are not consistent and many do not have Room Names, Numbers or Braille. The HP accessible student common toilets do have accessible signage. It should be noted that the Girl's Locker/Toilet Room has HP signage at both doors, but the room is not HP accessible. If the school building is substantially renovated, all signage will need to upgraded to present HP Accessibility Code requirements. *H&A did not see need for Capital Improvement at this time.*	1	LS	8,000	8,000	10,800				10,800	10,800
3.26 Window shades and blinds in the Cafetorium and where located in Classrooms or other spaces of the building, appear in good condition. Classrooms need effective shading for proper viewing of wall projection screens from overhead AV projectors. Recommend new window shading systems be provided at all new replacement window systems.	6,670	SF	5	33,350	45,023		45,023			45,023

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
3.0 Building Interiors										
3.27 Fire extinguishers in recessed cabinets are located in corridors and appear in good condition. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
3.28 Doors at the building exterior appear to meet life safety codes for egress requirements by use of exit devices. The Main Entrance and exterior doors with ramps to exterior doors provide HP accessibility. Interior doors, except student toilet and by-pass corridor doors that are push-pull or use exit devices, predominantly have knobset hardware. Most interior doors are wood in painted metal frames. Doors and hardware appear in good condition. If the school building is substantially renovated, all doors and hardware will need to be upgraded to present Egress and HP Accessibility Code requirements, including provision of lever handle hardware on all latch/lock doors.	120	EA	500	60,000	81,000				81,000	81,000
3.29 Some doors within the building do not have the required HP Accessibility Approach to the doors or door operating hardware. Some Classroom doors have physical obstructions on the latch side that block door approach for egress. If the school building is substantially renovated, all obstructed approaches to doors will need to be reconstructed to present accessibility code requirements.	1	LS	50,000	50,000	67,500				67,500	67,500
Total						0	48,263	118,125	366,930	533,318
Total Inflated @ 3% Compounded Annually						0	51,202	136,907	493,007	681,116

[1]Total includes Soft Costs (35%): Contingency, Administration and A/E Fees.

PHYSICAL CONDITIONS ASSESSMENT: ESSEX

MECHANICAL

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
4.0 Mechanical										
4.1 Boilers: There are 2 steam boilers located in the basement Mechanical Room at the northeast corner of Side A. Boilers have been converted to gas-fired. One Boiler was replaced at the time of the Library-Gym addition and is approximately 38 years old and in fair condition. The other boiler was replaced around 2008 and appears in excellent condition. Average useful life of boilers is 20 years. The AHERA report indicates that exposed asbestos insulation on HW circulating piping in the boiler room was removed prior to a 2007 inspection. Recommend replacement of older boiler and controls, including breeching system to chimney.	1	EA	85,000	85,000	114,750			114,750		114,750
4.2 Pneumatic control systems are approximately 38 years old. It was reported that the heating system has experienced some operational problems with the pneumatic control panel. Recommend replacement of controls and compressor with replacement of older boiler.	52,900	SF	2	105,800	142,830			142,830		142,830
4.3 Piping for the steam heat system runs in crawl space corridors and east Side B basement spaces. All piping and insulation throughout the building appear in good condition. The AHERA report indicates that exposed asbestos insulation on HW circulating piping in the crawl spaces was removed prior to a 2007 inspection. Asbestos remains on piping in concealed first floor pipe chases up to ceiling mounted Unit Ventilators throughout the building. Recommend inspection of piping systems to determine usability with any replacement heating equipment.	400	LF	150	60,000	81,000			81,000		81,000

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
4.0 Mechanical										
4.4 Surface mounted ceiling-hung steam unit ventilators are installed in Classrooms adjacent to corridor walls near vertical pipe chases. Intake and exhaust air to units are by ducts to rooftop dome hoods. Units appear to be original equipment and are approximately 56 years old. Unit ventilators in the Side C addition and ceiling-hung fan-coil units with intake air wall louvers in Gymnasium and a unit for Locker Rooms are approximately 38 years old and appear in good condition. Recommend replacement of all unit ventilators and fan-coil units, including thermostatic controls throughout the building.	26	EA	8,000	208,000	280,800		280,800			280,800
4.5 Radiation in Corridors near exterior doors of original building are recessed and 56 years old. Cabinet unit heaters in Corridors of Side C addition are wall mount units and 38 years old and appear in good condition. Cafetorium radiation is concealed in wooden venting grilles above storage closets. Radiation in baseboard cabinets exist in office areas and toilets. H&A did not see need for Capital Improvement at this time, but expect future deterioration and need for replacement in 10 years.	5	EA	9,000	45,000	60,750			60,750		60,750
4.6 Supplemental air conditioning is provided: in Teachers Lounge by 2 high thru-window units; in Librarian Workroom, Room 17 and Nurse's Office by window units; in Library and Modular Addition by thru-wall units; in Principal's Office and basement Art Room area by packaged split systems with exterior ground mount condensing units. Window AC units are 10-15 years old and in fair condition. Split system units are approximately 10 years old. Recommend replacement of thru-wall window units with a ductless split system.	1	LS	36,000	36,000	48,600			48,600		48,600

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
4.0 Mechanical										
4.7 All student toilets, Gymnasium and Kitchen are ventilated by ducted rooftop dome fans with fresh air from ducted intake dome hoods. The Boiler Room and Cafetorium area are ventilated by separate updraft exhaust fan units on the roof with separate fresh air intake wall louvers. All exhaust fans appear approximately 20-25 years old. Recommend replacement of all fans in 5 years.	6	EA	3,000	18,000	24,300			24,300		24,300
4.8 This building is not equipped with an automatic fire protection system, i.e. sprinklers. H&A did not see need for Capital Improvement at this time unless a substantial renovation or building addition triggers compliance.	52,900	SF	6	317,400	428,490				428,490	428,490
4.9 Sanitary service to municipal system is approximately 56 years old and assumed to be in good condition. The sanitary service enters the building into the basement Boiler Room. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
4.10 Gas service is approximately 10 years old with exposed meter and service piping in good condition. Gas service location is at Room 17 east wall and enters the basement Boiler Room. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
4.11 Domestic water service from municipal system is assumed to be 56 years old and in reasonably good condition. Service enters building into basement Boiler Room. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
4.0 Mechanical										
4.12 Domestic Hot Water boiler in the basement Boiler Room is gas fired, and along with an updated hot water storage tank, is approximately 8 years old and in excellent condition. H&A did not see need for Capital Improvement at this time, but expect future deterioration and need for replacement in 5-10 years.	1	LS	12,000	12,000	16,200			16,200		16,200
4.13 Drinking fountains are recessed units, flush with walls, and do not meet HP Accessibility Codes. HP accessibility to drinking water has been adaptively provided by means of recessed 'paper-cup' water dispensers placed adjacent to standard drinking fountains. Recommend updating all drinking fountains to accessible types, if building modifications are considered.	5	EA	7,000	35,000	47,250				47,250	47,250
4.14 Sinks and faucets in work counters of Classrooms do not meet accessibility codes for height and clear floor space. Toilets, stalls, urinals and sinks are not HP accessible in some common Student Toilets. One Boy's and one Girl's common toilet in the building was renovated to provide toilet HP accessibility for the building, with HP stall toilets and HP sinks provided. HP plumbing fixtures and faucets are approximately 20 years old and in good condition, while other fixtures are original with some replacements. Single-user toilets within Administrative areas are not HP accessible. A single-use 'Employee' (*HP) toilet near the Locker Rooms is *not completely HP Accessible. See Item 3.4 for description of Locker/Toilet Room accessibility. H&A did not see need for Capital Improvement at this time, unless substantial renovation or building addition triggers *compliance.*	1	LS	90,000	90,000	121,500				121,500	121,500

PHYSICAL CONDITIONS ASSESSMENT: ESSEX

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
4.0 Mechanical										
4.15 Recessed wall hydrants are provided on exterior walls around the building. Wall hydrants are approximately 56 years old and in fair condition. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
4.16 Kitchen grease trap system and exterior underground grease collection tank are original at 56 years old, and are assumed to be in good condition. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
Total						0	280,800	488,430	597,240	1,366,470
Total Inflated @ 3% Compounded Annually						0	297,901	566,090	802,452	1,666,443

[1]Total includes Soft Costs (35%): Contingency, Administration and A/E Fees.

ELECTRICAL

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
5.0 Electrical										
5.1 Site lighting for front parking areas and driveways are pole mounted with overhead wiring to street service and are in good condition. H&A did not see need for Capital Improvement at this time, but expect future deterioration and need for replacement in 10 years.	1	LS	40,000	40,000	54,000			54,000		54,000
5.2 Balance of building perimeter site lighting is wall mounted high-efficiency flood lighting of varying age, but in good condition. Average useful life is 20 years. H&A did not see need for Capital Improvement at this time, but expect future deterioration and need for replacement in 10 years.	1	LS	20,000	20,000	27,000			27,000		27,000
5.3 Electric Service: 800 amp 120/208 volt 3 phase. The service is underground from a pole located on east side of the exit driveway, northeast of the building. Size and age information of overhead wires from street pole transformer was not available, but appears to be 30+ years old and is in good condition. The underground service enters the basement Electric Room near where the Emergency Generator is located. Main service and disconnect panel, and distribution wireways appear to be original 56 year old equipment. Sub-panels were added to accommodate the Library-Gym addition. Building electric usage is near maximum for the present system, but no overloading has occurred. New AV projection and local air conditioning units has added to service loading. Electric service and building distribution upgrades are strongly recommended if building modifications are considered. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
5.0 Electrical										
5.4 Power wiring systems are original at 56 years old. Most electrical outlet and switch devices have been replaced and appear in good condition. Electrical wiring and sub-distribution system upgrades are strongly recommended if building modifications are considered.	52,900	SF	1	52,900	71,415			71,415		71,415
5.5 Light fixtures throughout building were upgraded approximately 10 years ago and are in good condition. Light fixtures consist mostly of 1'x4' fluorescent T8 surface mounted strip fixtures in Classrooms, either single fixtures or ganged strips. 2'x4' recessed fluorescent fixtures are in most areas of 1975 addition, Side B & D Corridors and the Cafetorium. High-efficiency 1'x4' pendent fixtures are used in the Gym. 2'x2' surface mounted fixtures are used in the front Main Corridor and Lobby. There are no energy-saving motion or daylighting controls on fixture systems in building. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
5.6 Emergency Lighting consists of wall mounted units, age of which are unknown, connected to the emergency power panel in the building. Emergency lighting is located in all Corridors, Library, Gym, Cafetorium, all common toilets and primary common areas. The building has a 1997 diesel emergency power generator installed at building exterior at the east service drive area, replacing an interior generator removed from the building. Generator was relocated from the old M-E high school. Transfer switch and system equipment are approximately 3 years old. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0

Description	Quantity	Unit	Unit Cost	Total	[1]Total w/ Soft Costs	Priority 1	Priority 2	Priority 3	Priority 4	Totals
5.0 Electrical										
5.7 Phone (Service from Verizon) and intercom system age was not determined, but appears in good condition. Phone system interface panel in basement electric room is original panel. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
5.8 Central AV Projection System: Ceiling mounted projectors and surface mounted wireways for data wiring, and wall mounted projection screens are relatively new and in good condition. It was noted to H&A that portable cameras are part of the system. The location of system servers and other equipment was not made available to H&A. *H&A did not see need for Capital Improvement at this time.*	0	NA	0	0	0					0
5.9 Fire alarm system consists mainly of heat detectors with some smoke detectors, and pull stations at all exit locations. The location of a central fire alarm control panel was not determined. Fire alarm system is connected to the emergency power generation system. The present fire alarm system does not meet all Accessibility and Life Safety Code requirements i.e. lack of strobe alarms and pull station locations. H&A did not see need for Capital Improvement at this time unless a substantial renovation or building addition triggers compliance.	52,900	SF	1	52,900	71,415				71,415	71,415
Total						0	0	152,415	71,415	223,830
Total Inflated @ 3% Compounded Annually						0	0	176,649	95,953	272,602

[1]Total includes Soft Costs (35%): Contingency, Administration and A/E Fees.

MEMORIAL ELEMENTARY SCHOOL

43 Lincoln Street

Manchester, MA 01944

ESSEX ELEMENTARY SCHOOL

12 Story Street

Essex, MA 01929

THE OPTIONS: SUMMARY

All three options are designed to accommodate the current and projected enrollments through 2025 for Pre-Kindergarten through grade Five. A summary is below and a description of each with the positive attributes and potential negatives follows.

		Recommended Operating Capacity	Facility Upgrades[1] as Per Physical Conditions Assessment		Interior Alterations[2]		New Construction[3]		Site Acquisition[4]	30 Years Operational Expenses[5]	Total Project Cost
		Grades Pre-K to 5 (2025 Projected)	Square Feet	Cost	Square Feet	Cost	Square Feet	Cost	Cost	Cost	
Option A	**Renovate and Add Space to Each of the Two Schools to Serve Each Town**	955	119,473	$13,520,366	29,900	$6,727,500	38,750	$14,725,000	$0	$4,980,000	**$39,952,866**
Option B	**Renovate and Add Space to Each of the Two Schools with Essex to Serve Pre-k, K, Grades 1 & 2 and Memorial to Serve Grades 3, 4 & 5**	955	119,473	$13,520,366	29,900	$6,727,500	37,001	$14,060,380	$0	$4,980,000	**$39,288,246**
Option C	**Construct a New School to House All Students Pre-K Through Grade 5 and Serve Both Communities**	955	0	$0	0	$0	112,772	$42,857,160	$6,000,000	$0	**$48,857,160**

1 - Facility Upgrades: cost to bring buildings up to date with no structural design changes
2 - Interior Alterations: cost to redesign existing structure to align with current programmatic needs
3 - New Construction: cost to add space to address programmatic needs and projected enrollment growth
4 - Site Acquisition: rough cost of most promising sites from 2005 site selection study.
5 - 30 Years Operational Expenses: present value opportunity cost of forgoing annual operational savings (e.g. utilities, custodial) associated with single unified site

OPTION A

Option A consists of the renovation and addition of space shortages to each of the two existing buildings. Each school would continue to serve the Pre-K to grade five students in their respective towns.

Positive benefits of this option are:

- This option proposes the least amount of changes to the current grade organization and system to which the residents of Manchester and Essex are most accustomed.

- The option is less costly than constructing a new building to house all of the students.

Potential negatives of this solution are:

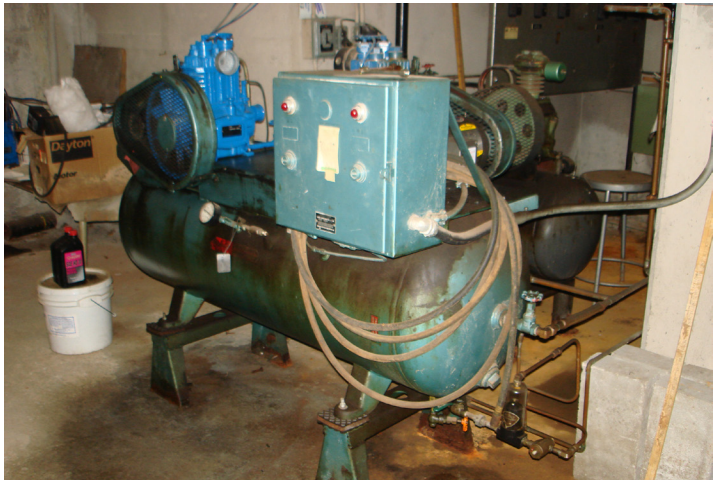
- Construction of an addition and renovations in an occupied building has the potential to adversely impact the educational program due to noise and disruption of the construction activities. This can be mitigated to some extent but it is unlikely it can be eliminated altogether. Mitigation can occur with the proper planning of an addition with adequate classroom space such that an ample area of the existing building can be vacated to allow for renovations to occur with a reasonable amount of efficiency.

- Construction of an addition and renovations to an occupied building can pose the potential for safety risks. These risks can certainly be controlled with proper precautions and typically the risks are minor in nature involving nuisance risks such as excessive dust and less than desirable air qualities during construction.

- This solution will require one project to be completed prior to the start of the second project given the grant requirements which only allow one building project at a time. This will create a condition where there is no longer parity between the two schools. This condition may exist for some period of time and most likely several years at a minimum.

- The addition to these buildings will reduce the amount of open space on the sites and may impact the extent of play and outdoor activity areas given the relatively small site sizes of these two schools.

- This option will require two MSBA approvals.



OPTION A PROPOSED SPACE SUMMARY: MANCHESTER MEMORIAL ELEMENTARY SCHOOL

	PROPOSED								
Manchester-Memorial Elementary School	Existing to Remain/Renovated			New			Total		
ROOM TYPE	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals
CORE ACADEMIC SPACES			**22,500**			**7,200**			**29,700**
(List classrooms of different sizes separately)									
Pre-Kindergarten w/ toilet		0		1,200	2	2,400	1,200	2	2,400
Kindergarten w/ toilet	1,500	1	1,500	1,200	4	4,800	1,200	5	6,300
General Classrooms - Grade 1-5	840	25	21,000		0		840	25	21,000
SPECIAL EDUCATION			**0**			**5,510**			**5,510**
(List rooms of different sizes separately)									
Self-Contained SPED		0		950	1	950	950	1	950
Self-Contained SPED - toilet		0		60	1	60	60	1	60
Resource Room		0		500	3	1,500	500	3	1,500
Small Group Room / Reading		0		200	15	3,000	200	15	3,000
ART & MUSIC			**0**			**2,500**			**2,500**
Art Classroom - 25 seats		0		1,000	1	1,000	1,000	1	1,000
Art Workroom w/ Storage & kiln		0		150	1	150	150	1	150
Music Classroom / Large Group - 25-50 seats		0		1,200	1	1,200	1,200	1	1,200
Music Practice / Ensemble		0		75	2	150	75	2	150
HEALTH & PHYSICAL EDUCATION			**5,368**			**200**			**5,568**
Gymnasium	5,200	1	5,200		0		5,200	1	5,200
Gym Storeroom	168	1	168		0		168	1	168
Health Instructor's Office w/ Shower & Toilet		0		200	1	200	200	1	200
MEDIA CENTER			**2,240**			**2,370**			**4,610**
Media Center / Reading Room	1,000	1	1,000	2,370	1	2,370	3,370	1	3,370
Computer room	1,240	1	1,240		0		1,240	1	1,240
DINING & FOOD SERVICE			**4,230**			**2,670**			**6,900**
Cafeteria / Dining	2,280	1	2,280	1,120	1	1,120	3,400	1	3,400
Stage	1,000	1	1,000		0		1,000	1	1,000
Chair / Table / Equipment Storage		0		300	1	300	300	1	300
Kitchen	950	1	950	950	1	950	1,900	1	1,900
Staff Lunch Room		0		300	1	300	300	1	300
MEDICAL			**400**			**0**			**400**
Medical Suite Toilet	60	1	60		0		60	1	60
Nurses' Office / Waiting Room	220	1	220		0		220	1	220
Examination Room / Resting	60	2	120		0		60	2	120
ADMINISTRATION & GUIDANCE			**825**			**1,490**			**2,315**
General Office / Waiting Room / Toilet	450	1	450		0		450	1	450
Teachers' Mail and Time Room		0		100	1	100	100	1	100
Duplicating Room		0		150	1	150	150	1	150
Records Room		0		110	1	110	110	1	110
Principal's Office w/ Conference Area	375	1	375		0		375	1	375
Principal's Secretary / Waiting		0		125	1	125	125	1	125
Assistant Principal's Office		0			0			0	0
Supervisory / Spare Office		0		120	1	120	120	1	120
Conference Room		0		250	1	250	250	1	250
Guidance Office		0		200	1	200	200	1	200
Guidance Storeroom		0		35	1	35	35	1	35
Teachers' Work Room		0		200	2	400	200	2	400
CUSTODIAL & MAINTENANCE			**2,200**			**0**			**2,200**
Custodian's Office	150	1	150		0		150	1	150
Custodian's Workshop	375	1	375		0		375	1	375
Custodian's Storage	375	1	375		0		375	1	375
Recycling Room / Trash	400	1	400		0		400	1	400
Receiving and General Supply	300	1	300		0		300	1	300
Storeroom	400	1	400		0		400	1	400
Network / Telecom Room	200	1	200		0		200	1	200
OTHER			**0**			**0**			**0**
Miscellaneous storage and support									
Total Building Net Floor Area (NFA)			**37,763**			**21,940**			**59,703**
Proposed Student Capacity / Enrollment						606			606
Total Building Gross Floor Area (GFA)[2]			66,573			27,425			93,998

THE OPTIONS

Classrooms Required By Grade: Memorial Elementary	1,200 sq ft 19 Students per Classroom		950 sq ft 20 Students per Classroom		950 sq ft 22 Students per Classroom		
	Pre-K	**K**	**1**	**2**	**3**	**4**	**5**
Memorial Elementary (2025 Projected Population= 606)	33	87	82	85	112	104	103
Classrooms Needed (25 @ 950 sq ft, 7 @ 1,200 sq ft)	2	5	4 or 5	4 or 5	5	5	5
Classrooms Existing	1	3	3	3	4	3	3
Shortage	1	2	1 or 2	1 or 2	1	2	2

Memorial: Special Education and Other Support Spaces	Full Size 950 sq ft.	Half Size 500 sq ft.	Small Group & Conf. @ 200 sq ft.
Special Education Tutorial Rooms (For 6 Students)			3
Special Education Tutorial Rooms (For 4 Students)			3
OT/PT Room	1		
Student Testing			2
Department Chair Person			1
Conference Room			1
Psycologist Office			1
Psycologist Meeting			1
Adjustment Counselor Office			1
Adjustment Counselor Conference			1
English Language Learners Tutorial Room			1
Reading/Language		2	
Social and Academic Learning		1	
Total Rooms	**1**	**3**	**15**

OPTION A PROPOSED SPACE SUMMARY: ESSEX ELEMENTARY SCHOOL

Essex Elementary School	PROPOSED								
	Existing to Remain/Renovated			New			Total		
ROOM TYPE	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals
CORE ACADEMIC SPACES			**13,600**			**3,600**			**17,200**
(List classrooms of different sizes separately)									
Pre-Kindergarten w/ toilet		0			0			0	
Kindergarten w/ toilet		0		1,200	3	3,600	1,200	3	3,600
General Classrooms - Grade 1-5	850	16	13,600		0		850	16	13,600
SPECIAL EDUCATION			**1,872**			**3,710**			**5,580**
(List rooms of different sizes separately)									
Self-Contained SPED	936	2	1,872	950	1	950	940	3	2,820
Self-Contained SPED - toilet		0		60	1	60	60	1	60
Resource Room		0		500	1	500	500	1	500
Small Group Room / Reading		0		200	11	2,200	200	11	2,200
ART & MUSIC			**1,420**			**1,350**			**2,770**
Art Classroom - 25 seats	1,300	1	1,300		0	0	1,300	1	1,300
Art Workroom w/ Storage & kiln	120	1	120		0	0	120	1	120
Music Classroom / Large Group - 25-50 seats		0		1,200	1	1,200	1,200	1	1,200
Music Practice / Ensemble		0		75	2	150	75	2	150
HEALTH & PHYSICAL EDUCATION			**5,620**			**0**			**5,620**
Gymnasium	5,120	1	5,120		0		5,120	1	5,120
Gym Storeroom	420	1	420		0		420	1	420
Health Instructor's Office w/ Shower & Toilet	80	1	80		0		80	1	80
MEDIA CENTER			**2,160**			**0**			**2,160**
Media Center / Reading Room	2,160	1	2,160		0		2,160	1	2,160
DINING & FOOD SERVICE			**5,286**			**400**			**5,686**
Cafeteria / Dining	3,070	1	3,070		0		3,070	1	3,070
Stage	864	1	864		0		864	1	864
Chair / Table / Equipment Storage		0		200	1	200	200	1	200
Kitchen	1,352	1	1,352		0		1,352	1	1,352
Staff Lunch Room		0		200	1	200	200	1	200
MEDICAL			**360**			**0**			**380**
Medical Suite Toilet	40	1	40		0		60	1	60
Nurses' Office / Waiting Room	120	1	120		0		120	1	120
Examination Room / Resting	100	2	200		0		100	2	200
ADMINISTRATION & GUIDANCE			**2,025**			**0**			**2,025**
General Office / Waiting Room / Toilet	230	1	230		0		230	1	230
Teachers' Mail and Time Room	100	1	100		0		100	1	100
Duplicating Room	150	1	150		0		150	1	150
Records Room	110	1	110		0		110	1	110
Principal's Office w/ Conference Area	375	1	375		0		375	1	375
Principal's Secretary / Waiting	125	1	125		0		125	1	125
Assistant Principal's Office		0			0			0	0
Supervisory / Spare Office	120	1	120		0		120	1	120
Conference Room	250	1	250		0		250	1	250
Guidance Office	200	1	200		0		200	1	200
Guidance Storeroom	35	1	35		0		35	1	35
Teachers' Work Room	330	1	330		0		330	1	330
CUSTODIAL & MAINTENANCE			**1,950**			**0**			**1,950**
Custodian's Office	150	1	150		0		150	1	150
Custodian's Workshop	375	1	375		0		375	1	375
Custodian's Storage	375	1	375		0		375	1	375
Recycling Room / Trash	400	1	400		0		400	1	400
Receiving and General Supply	200	1	200		0		200	1	200
Storeroom	250	1	250		0		250	1	250
Network / Telecom Room	200	1	200		0		200	1	200
OTHER			**0**			**0**			**0**
Miscellaneous storage and support					0				
Total Building Net Floor Area (NFA)			**34,293**			**9,060**			**43,371**
Proposed Student Capacity / Enrollment						350			350
Total Building Gross Floor Area (GFA)[2]			52,900			11,325			64,225

THE OPTIONS

Classrooms Required By Grade: Essex Elementary	1,200 sq ft 19 Students per Classroom		950 sq ft 20 Students per Classroom		950 sq ft 22 Students per Classroom		
	Pre-K	**K**	**1**	**2**	**3**	**4**	**5**
Essex Elementary (2025 Projected Population = 349)	0	51	58	66	55	59	60
Classrooms Needed (16 @ 950 sq ft, 3 @ 1,200 sq ft)	0	3	3	3 or 4	3	3	3
Classrooms Existing	0	2	2	2	3	2	2
Shortage	0	1	1	1 or 2	0	1	1

Essex: Special Education and Other Support Spaces	Full Size 950 sq ft.	Half Size 500 sq ft.	Small Group & Conf. @ 200 sq ft.
Special Education Tutorial Rooms			4
English Language Learners Tutorial Rooms			1
Swing Rooms	2		
Testing			1
Sensory Break		1	
OT/PT	1		
Special Education Office			1
Special Education Conference			1
School Physcologist			1
Physcologist Conference			1
Adjustment Counselor			1
Total Rooms	**3**	**1**	**11**

OPTION B

Option B consists of the renovation and addition of space shortages to each of the two existing buildings with one building serving the Pre-Kindergarten, Kindergarten, First and Second grades and the other serving grades Three, Four and Five. Based on the size and current configuration of the buildings we have proposed that the Essex Elementary School house the early childhood education center while the Memorial School would house the upper grades.

Positive benefits of this option are:

- This option creates an early childhood education center which has the benefit of grouping teachers and specialists for this age group together where educational collaboration can occur more easily.
- The option is less costly than constructing a new building to house all of the students.

Potential negatives of this solution are:

- This option creates a new grade organization for the system and may meet resistance from the communities.
- Construction of an addition and renovations in an occupied building has the potential to adversely impact the educational program due to noise and disruption of the construction activities. This can be mitigated to some extent but it is unlikely it can be eliminated altogether. Mitigation can occur with the proper planning of an addition with adequate classroom space such that an ample area of the existing building can be vacated to allow for renovations to occur with a reasonable amount of efficiency.

- Construction of an addition and renovations to an occupied building can pose the potential for safety risks. These risks can certainly be controlled with proper precautions and typically the risks are minor in nature involving nuisance risks such as excessive dust and less than desirable air qualities during construction.

- This solution will require one project to be completed prior to the start of the second project given the grant requirements which only allow one building project at a time. This will create a condition where there is no longer parity between the two schools. This condition may exist for some period of time and most likely several years at a minimum.

- The addition to these buildings will reduce the amount of open space on the sites and may impact the extent of play and outdoor activity areas given the relatively small site sizes of these two schools.

- This option will require two MSBA approvals.

OPTION B PROPOSED SPACE SUMMARY: MEMORIAL ELEMENTARY SCHOOL AS GRADE 3, 4, AND 5

	PROPOSED								
Manchester-Memorial Elementary School	Existing to Remain/Renovated			New			Total		
ROOM TYPE	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals
CORE ACADEMIC SPACES			**21,000**			**0**			**19,320**
(List classrooms of different sizes separately)									
Pre-Kindergarten w/ toilet		0			0			0	
Kindergarten w/ toilet		0			0			0	
General Classrooms - Grade 1-5	840	25	21,000		0		840	23	19,320
SPECIAL EDUCATION			**701**			**3,860**			**5,510**
(List rooms of different sizes separately)									
Self-Contained SPED	840	0	1		0		950	1	950
Self-Contained SPED - toilet		0		60	1	60	60	1	60
Resource Room	500	1	500	500	2	1,000	500	3	1,500
Small Group Room / Reading	200	1	200	200	14	2,800	200	15	3,000
ART & MUSIC			**0**			**2,500**			**2,500**
Art Classroom - 25 seats		0		1,000	1	1,000	1,000	1	1,000
Art Workroom w/ Storage & kiln		0		150	1	150	150	1	150
Music Classroom / Large Group - 25-50 seats		0		1,200	1	1,200	1,200	1	1,200
Music Practice / Ensemble		0		75	2	150	75	2	150
HEALTH & PHYSICAL EDUCATION			**5,368**			**200**			**5,568**
Gymnasium	5,200	1	5,200		0		5,200	1	5,200
Gym Storeroom	168	1	168		0		168	1	168
Health Instructor's Office w/ Shower & Toilet		0		200	1	200	200	1	200
MEDIA CENTER			**2,240**			**2,370**			**4,610**
Media Center / Reading Room	1,000	1	1,000	2,370	1	2,370	3,370	1	3,370
Computer room	1,240	1	1,240		0		1,240	1	1,240
DINING & FOOD SERVICE			**4,230**			**2,670**			**6,900**
Cafeteria / Dining	2,280	1	2,280	1,120	1	1,120	3,400	1	3,400
Stage	1,000	1	1,000		0		1,000	1	1,000
Chair / Table / Equipment Storage		0		300	1	300	300	1	300
Kitchen	950	1	950	950	1	950	1,900	1	1,900
Staff Lunch Room		0		300	1	300	300	1	300
MEDICAL			**400**			**0**			**400**
Medical Suite Toilet	60	1	60		0		60	1	60
Nurses' Office / Waiting Room	220	1	220		0		220	1	220
Examination Room / Resting	60	2	120		0		60	2	120
ADMINISTRATION & GUIDANCE			**825**			**1,490**			**2,315**
General Office / Waiting Room / Toilet	450	1	450		0		450	1	450
Teachers' Mail and Time Room		0		100	1	100	100	1	100
Duplicating Room		0		150	1	150	150	1	150
Records Room		0		110	1	110	110	1	110
Principal's Office w/ Conference Area	375	1	375		0		375	1	375
Principal's Secretary / Waiting		0		125	1	125	125	1	125
Assistant Principal's Office		0			0			0	0
Supervisory / Spare Office		0		120	1	120	120	1	120
Conference Room		0		250	1	250	250	1	250
Guidance Office		0		200	1	200	200	1	200
Guidance Storeroom		0		35	1	35	35	1	35
Teachers' Work Room		0		200	2	400	200	2	400
CUSTODIAL & MAINTENANCE			**2,200**			**0**			**2,200**
Custodian's Office	150	1	150		0		150	1	150
Custodian's Workshop	375	1	375		0		375	1	375
Custodian's Storage	375	1	375		0		375	1	375
Recycling Room / Trash	400	1	400		0		400	1	400
Receiving and General Supply	300	1	300		0		300	1	300
Storeroom	400	1	400		0		400	1	400
Network / Telecom Room	200	1	200		0		200	1	200
OTHER			**0**			**0**			**0**
Miscellaneous storage and support									
Total Building Net Floor Area (NFA)			**36,964**			**13,090**			**49,323**
Proposed Student Capacity / Enrollment						606			606
Total Building Gross Floor Area (GFA)[2]			66,573			16,363			82,936

THE OPTIONS

Classrooms Required By Grade: Memorial Elementary = Grades 3, 4 & 5	1,200 sq ft 19 Students per Classroom		950 sq ft 20 Students per Classroom		950 sq ft 22 Students per Classroom		
	Pre-K	K	1	2	3	4	5
Memorial Elementary (2025 Projected Population= 493)	0	0	0	0	167	163	163
Classrooms Needed (24 @ 950 sq ft, 0 @ 1,200 sq ft)	0	0	0	0	8	8	8
Classrooms Existing	1	3	3	3	4	3	3
Shortage / Excess	+1	+3	+3	+3	-4	-5	-5
Total Shortage / Excess = Short by 4 Classrooms	+10				-14		

Memorial as Grade 3, 4 & 5: Special Education and Other Support Spaces	Full Size 950 sq ft.	Half Size 500 sq ft.	Small Group & Conf. @ 200 sq ft.
Special Education Tutorial Rooms (For 6 Students)			3
Swing Room	1		
OT/PT Room	1		
Student Testing			1
Department Chair Person			1
Conference Room			1
Psycologist Office			1
Psycologist Meeting			1
Adjustment Counselor Office			1
Adjustment Counselor Conference			1
English Language Learners Tutorial Room			1
Reading/Language		2	
Social and Academic Learning		1	
Total Rooms	**2**	**3**	**11**

OPTION B PROPOSED SPACE SUMMARY: ESSEX ELEMENTARY SCHOOL AS AN EARLY CHILDHOOD ECUATION CENTER

Essex Elementary School	PROPOSED								
	Existing to Remain/Renovated			New			Total		
ROOM TYPE	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals
CORE ACADEMIC SPACES			**13,600**			**12,000**			**24,750**
(List classrooms of different sizes separately)									
Pre-Kindergarten w/ toilet		0		1,200	2	2,400	1,200	2	2,400
Kindergarten w/ toilet		0		1,200	8	9,600	1,200	8	9,600
General Classrooms - Grade 1-5	850	15	13,600		0		850	15	12,750
SPECIAL EDUCATION			**850**			**2,760**			**3,610**
(List rooms of different sizes separately)									
Self-Contained SPED	850	1	850		0		850	1	850
Self-Contained SPED - toilet		0		60	1	60	60	1	60
Resource Room		0		500	1	500	500	1	500
Small Group Room / Reading		0		200	11	2,200	200	11	2,200
ART & MUSIC			**1,420**			**1,350**			**2,770**
Art Classroom - 25 seats	1,300	1	1,300		0	0	1,300	1	1,300
Art Workroom w/ Storage & kiln	120	1	120		0	0	120	1	120
Music Classroom / Large Group - 25-50 seats		0		1,200	1	1,200	1,200	1	1,200
Music Practice / Ensemble		0		75	2	150	75	2	150
HEALTH & PHYSICAL EDUCATION			**5,620**			**0**			**5,620**
Gymnasium	5,120	1	5,120		0		5,120	1	5,120
Gym Storeroom	420	1	420		0		420	1	420
Health Instructor's Office w/ Shower & Toilet	80	1	80		0		80	1	80
MEDIA CENTER			**2,160**			**0**			**2,160**
Media Center / Reading Room	2,160	1	2,160		0		2,160	1	2,160
DINING & FOOD SERVICE			**5,286**			**400**			**5,686**
Cafeteria / Dining	3,070	1	3,070		0		3,070	1	3,070
Stage	864	1	864		0		864	1	864
Chair / Table / Equipment Storage		0		200	1	200	200	1	200
Kitchen	1,352	1	1,352		0		1,352	1	1,352
Staff Lunch Room		0		200	1	200	200	1	200
MEDICAL			**360**			**0**			**380**
Medical Suite Toilet	40	1	40		0		60	1	60
Nurses' Office / Waiting Room	120	1	120		0		120	1	120
Examination Room / Resting	100	2	200		0		100	2	200
ADMINISTRATION & GUIDANCE			**2,025**			**0**			**2,025**
General Office / Waiting Room / Toilet	230	1	230		0		230	1	230
Teachers' Mail and Time Room	100	1	100		0		100	1	100
Duplicating Room	150	1	150		0		150	1	150
Records Room	110	1	110		0		110	1	110
Principal's Office w/ Conference Area	375	1	375		0		375	1	375
Principal's Secretary / Waiting	125	1	125		0		125	1	125
Assistant Principal's Office		0			0			0	0
Supervisory / Spare Office	120	1	120		0		120	1	120
Conference Room	250	1	250		0		250	1	250
Guidance Office	200	1	200		0		200	1	200
Guidance Storeroom	35	1	35		0		35	1	35
Teachers' Work Room	330	1	330		0		330	1	330
CUSTODIAL & MAINTENANCE			**1,950**			**0**			**1,950**
Custodian's Office	150	1	150		0		150	1	150
Custodian's Workshop	375	1	375		0		375	1	375
Custodian's Storage	375	1	375		0		375	1	375
Recycling Room / Trash	400	1	400		0		400	1	400
Receiving and General Supply	200	1	200		0		200	1	200
Storeroom	250	1	250		0		250	1	250
Network / Telecom Room	200	1	200		0		200	1	200
OTHER			**0**			**0**			**0**
Miscellaneous storage and support									
Total Building Net Floor Area (NFA)			**33,271**			**16,510**			**48,951**
Proposed Student Capacity / Enrollment						350			350
Total Building Gross Floor Area (GFA)[2]			52,900			20,638			73,538

THE OPTIONS

Classrooms Required By Grade: Essex Elementary = Pre-K, K, 1 & 2	1,200 sq ft 19 Students per Classroom		950 sq ft 20 Students per Classroom		950 sq ft 22 Students per Classroom		
	Pre-K	K	1	2	3	4	5
Essex Elementary (2025 Projected Population = 462)	33	138	140	151	0	0	0
Classrooms Needed (15 @ 950 sq ft, 10 @ 1,200 sq ft)	2	8	7	8	0	0	0
Classrooms Existing	0	2	2	2	3	2	2
Shortage / Excess	-2	-6	-5	-6	+3	+2	+2
Total Shortage / Excess = Short by 12 Classrooms	-19				+7		

Essex: Pre-K, K, 1 & 2: Special Education and Other Support Spaces	Full Size 950 sq ft.	Half Size 500 sq ft.	Small Group & Conf. @ 200 sq ft.
Special Education Tutorial Rooms			3
English Language Learners Tutorial Rooms			1
Swing Rooms	1		
Testing			1
Sensory Break			1
OT/PT		1	
Special Education Office			1
Special Education Conference			1
School Physcologist			1
Physcologist Conference			1
Adjustment Counselor			1
Total Rooms	**1**	**1**	**11**

OPTION C

Option C consists of the construction of a new school to house all of the students on a new site yet to be determined. The design of the new building would be such that the lower grades can be organized and operated as a separate school from the upper grades while sharing core facilities, specialists and resources.

Positive benefits of this option are:

- This option results in the least possible impact on the educational program as the construction would be remotely located from the two existing buildings.
- This option would bring together the student population of both towns and can create a greater sense of community for the school system.
- This option will create parity in the educational facilities for all students.
- This option has the benefit of grouping teachers and specialists for this age group together where educational collaboration can occur more easily.
- This option can be completed more rapidly than either option A or B.
- This option requires only one MSBA approval.
- This option may result in lower operational costs. (bussing excluded)
- This option will result in the existing school sites becoming available for athletic fields.

Potential negatives of this solution are:

- This option is more costly than options A or B.
- This option will require a greater amount of student bussing.
- This option will require locating a suitable site which can serve both towns.

(A review of potential sites follows this section)

OPTION C PROPOSED SPACE SUMMARY: COMBINED MANCHESTER-ESSEX ELEMENTARY SCHOOL

	PROPOSED								
Combined Manchester-Essex	Existing to Remain/Renovated			New			Total		
ROOM TYPE	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals
CORE ACADEMIC SPACES			**0**			**49,050**			**49,050**
(List classrooms of different sizes separately)									
Pre-Kindergarten w/ toilet		0		1,200	2	2,400	1,200	2	2,400
Kindergarten w/ toilet		0		1,200	8	9,600	1,200	8	9,600
General Classrooms - Grade 1-5		0		950	39	37,050	950	39	37,050
SPECIAL EDUCATION			**0**			**9,170**			**9,170**
(List rooms of different sizes separately)									
Self-Contained SPED		0		950	3	2,850	950	3	2,850
Self-Contained SPED - toilet		0		60	2	120	60	2	120
Resource Room		0		500	4	2,000	500	4	2,000
Small Group Room / Reading		0		200	21	4,200	200	21	4,200
ART & MUSIC			**0**			**2,500**			**2,500**
Art Classroom - 25 seats		0		1,000	1	1,000	1,000	1	1,000
Art Workroom w/ Storage & kiln		0		150	1	150	150	1	150
Music Classroom / Large Group - 25-50 seats		0		1,200	1	1,200	1,200	1	1,200
Music Practice / Ensemble		0		75	2	150	75	2	150
HEALTH & PHYSICAL EDUCATION			**0**			**6,300**			**6,300**
Gymnasium		0		6,000	1	6,000	6,000	1	6,000
Gym Storeroom		0		150	1	150	150	1	150
Health Instructor's Office w/ Shower & Toilet		0		150	1	150	150	1	150
MEDIA CENTER			**0**			**4,000**			**4,000**
Media Center / Reading Room		0		4,000	1	4,000	4,000	1	4,000
DINING & FOOD SERVICE			**0**			**9,260**			**9,260**
Cafeteria / Dining		0		5,250	1	5,250	5,250	1	5,250
Stage		0		1,000	1	1,000	1,000	1	1,000
Chair / Table / Equipment Storage		0		380	1	380	380	1	380
Kitchen		0		2,250	1	2,250	2,250	1	2,250
Staff Lunch Room		0		380	1	380	380	1	380
MEDICAL			**0**			**610**			**610**
Medical Suite Toilet		0		60	1	60	60	1	60
Nurses' Office / Waiting Room		0		250	1	250	250	1	250
Examination Room / Resting		0		100	3	300	100	3	300
ADMINISTRATION & GUIDANCE			**0**			**3,285**			**3,285**
General Office / Waiting Room / Toilet		0		950	1	950	950	1	950
Teachers' Mail and Time Room		0		100	1	100	100	1	100
Duplicating Room		0		150	1	150	150	1	150
Records Room		0		110	1	110	110	1	110
Principal's Office w/ Conference Area		0		375	1	375	375	1	375
Principal's Secretary / Waiting		0		125	1	125	125	1	125
Assistant Principal's Office		0		120	1	120	120	1	120
Supervisory / Spare Office		0		120	1	120	120	1	120
Conference Room		0		250	1	250	250	1	250
Guidance Office		0		350	1	350	350	1	350
Guidance Storeroom		0		35	1	35	35	1	35
Teachers' Work Room		0		300	2	600	300	2	600
CUSTODIAL & MAINTENANCE			**0**			**2,580**			**2,580**
Custodian's Office		0		150	1	150	150	1	150
Custodian's Workshop		0		375	1	375	375	1	375
Custodian's Storage		0		375	1	375	375	1	375
Recycling Room / Trash		0		400	1	400	400	1	400
Receiving and General Supply		0		450	1	450	450	1	450
Storeroom		0		630	1	630	630	1	630
Network / Telecom Room		0		200	1	200	200	1	200
OTHER			**0**			**0**			**0**
Other *(specify)*									
Total Building Net Floor Area (NFA)		0%	**0**			**86,755**			**86,755**
Proposed Student Capacity / Enrollment									955
Total Building Gross Floor Area (GFA)[2]									**112,782**
Grossing factor (GFA/NFA)									**1.30**

THE OPTIONS

Classrooms Required By Grade: Combined New Mancheser-Essex	1,200 sq ft 19 Students per Classroom		950 sq ft 20 Students per Classroom		950 sq ft 22 Students per Classroom		
	Pre-K	**K**	**1**	**2**	**3**	**4**	**5**
Combined Manchester - Essex (2025 Projected Pop. = 955)	33	138	140	151	167	163	163
Classrooms Needed (39 @ 950 sq ft, 10 @ 1,200 sq ft)	2	8	7	8	8	8	8

Combined Manchester-Essex Current Enrollment: Pre-K, K, 1 and 2 = 356 Students
Grades 3, 4, 5 = 381 Students
737 Total Students

Combined Manchester-Essex 2025 Anticipated Enrollment: Pre-K, K, 1 and 2 = 462 Students
Grades 3, 4, 5 = 493 Students
955 Total Students

Combined New School: Special Education and Other Support Spaces	Full Size 950 sq ft.	Half Size 500 sq ft.	Small Group & Conf. @ 200 sq ft.
Special Education Tutorial Rooms (For 6 Students)			7
Special Education Tutorial Rooms (For 4 Students)			4
OT/PT Room	1		
Swing Rooms	2		
Student Testing			3
Special Education Department Chair			1
Special Education Conference Room			1
Psychologist Office			1
Psychologist Conference			1
Sensory Break		1	
Adjustment Counselor Office			1
Adjustment Counselor Conference			1
English Language Learners Tutorial Room			1
Reading/Language		2	
Social and Academic Learning		1	
Total Rooms	**3**	**4**	**21**

ADDITIONAL POTENTIAL OPTIONS

Although the Manchester Essex Regional School Department specifically requested that the scope of this study should consist of the analysis of the three options noted above, this office has identified two additional options which the district may want to consider.

Option D would construct a new early childhood educational center on a new site, and add to and renovate the existing Essex Elementary School for grades Three, Four and Five. Memorial School would then be razed and replaced with additional fields for the High School.

Option E would construct a new Upper Elementary School for grades Three, Four and Five on a new site, and add to and renovate the existing Essex Elementary School for an early childhood educational center. Memorial School would then be razed and replaced with additional fields for the High School.

EVALUATION OF POTENTIAL SITES FOR A NEW BUILDING

As directed in the scope of services for this report, Habeeb & Associates reviewed the existing site evaluations prepared during the process of site selection for the recently completed MERSD Middle-High School. The specific report and evaluation reviewed is titled “Planning for the New Middle School / High School Site Selection and Feasibility Study Summary” prepared by Design Technique, Inc. dated November 10, 2005. That report includes a site evaluation matrix which identifies a total of 20 potential sites each evaluated based on six major criteria, with sub-categories listed as follows:

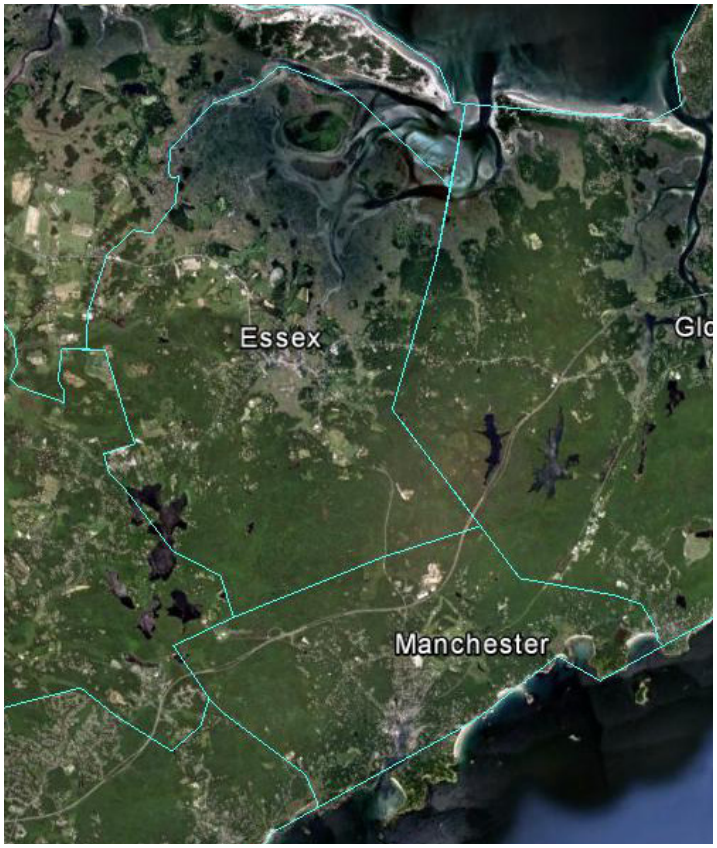
- Step One: Site Adequacy which notes the total acreage of the site as well as the usable acreage and then notes whether the site meets the size requirements which for that project was based on a minimum of 30 acres of usable land.

- Step Two: Availability, Access & Utilities notes whether the site is town owned or privately owned, whether or not there is vehicular and pedestrian access from a paved street in a public right of way and the distance to sewer and water.

- Step Three: Environmental Considerations notes whether or not the site is in a watershed protection zone, if it is a wildlife habitat, the environmental permits required & if natural hazards/site limitations exist.

- Step Four: Cost and Time considerations note the likely time frame to acquire and complete the site development and the anticipated site development costs based on the extent of earthwork, ledge removal, utility locations and roadway access.

- Step Five: Conformance with Local and State development guidelines and regulations including Town Master Plans; Mass Area Planning Council; adequate road traffic capacity & neighborhood impacts.



- Step Six: Aesthetics & Perception which assessed general aesthetics and public perception on; safe & secure; convenient location; and regional identification.

- The last, un-numbered step, noted whether in the opinion of the evaluator, the site was usable or conditionally usable.

The study reviewed did not have precise locations or site plans or maps so we called upon the assistance of the MERSD in the form of an individual who was on the original committee to provide additional input on the locations and the discussions that had occurred during the initial evaluation conducted in 2005.

It should also be noted that for the purposes of this study the minimum usable acreage for the new building should be 19 acres for a combined Pre-K to Grade 5 school and 15 acres for a three or four grade school.

Of the 20 sites noted in the 2005 report, three were immediately eliminated as they included sites associated with the Middle-High School or the Memorial Elementary School. An additional twelve sites were eliminated due to one or more of the following:

- excessive site development costs
- inadequate site size
- lack of adequate access from a suitable road
- inappropriate location

The remaining five sites are identified in the 2005 report as follows:

2. Athletic Club Site (Donovan) – M
9. Beal Property – E
10. Owners Unknown – M

E. Southern Avenue One – E

F. Southern Avenue Two – E

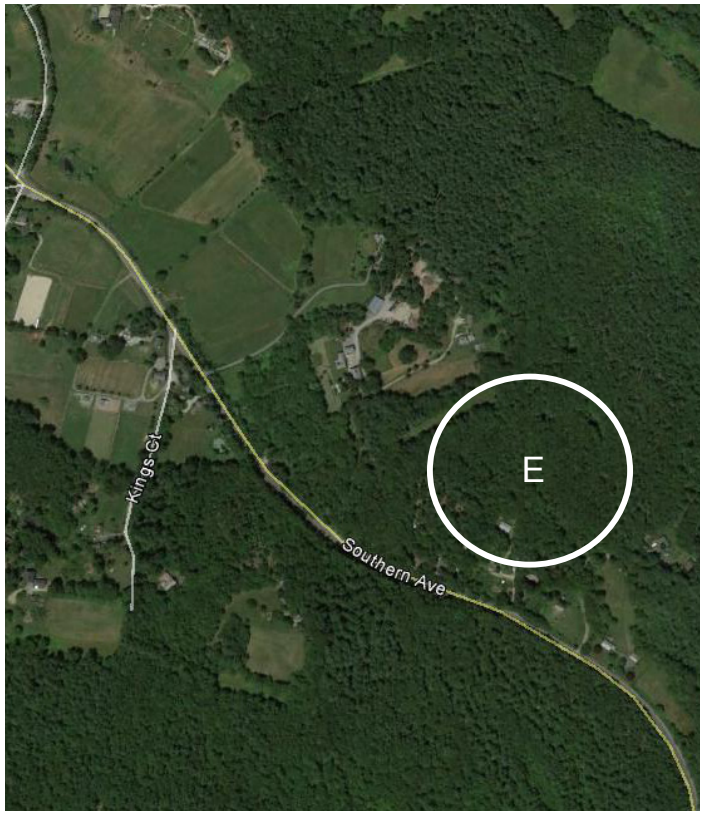
SITE ANALYSIS

Of the five sites listed, this office believes that the two Southern Avenue sites hold the most promise for a new school building. Southern Avenue, being the main route between the two towns, offers a very convenient location for a new school which would serve both towns. These two sites show positive results on all of the criteria listed in the 2005 reports with the exception of their location in a watershed protection area and site F did not receive a positive grade for the Safe & Secure (public perception) category. It should be noted that 16 of the 20 sites evaluated are in a watershed protection area including the Middle-High School and the Memorial School. Site F is believed to have failed the Safe and Secure category, which is primarily a public perception issue, due to its proximity to route 128.

The site development cost for these two sites, in 2005 dollars, are 5.4 million for E and 6.9 million for F. In 2013 dollars we feel those costs would be closer to 6.08 million and 7.77 million respectively. This is based on inflation of 3% for years 2006 and 2007; 0% for years 2008, 2009 and 2010; and 2% for years 2011, 2012 and 2013. (net 12.6%). Site E has the lowest site development cost of the five remaining sites. The only site with a cost lower than site F is number 9, the Beal Property, at 6.0 million (2005) and 6.76 million (2013 dollars).

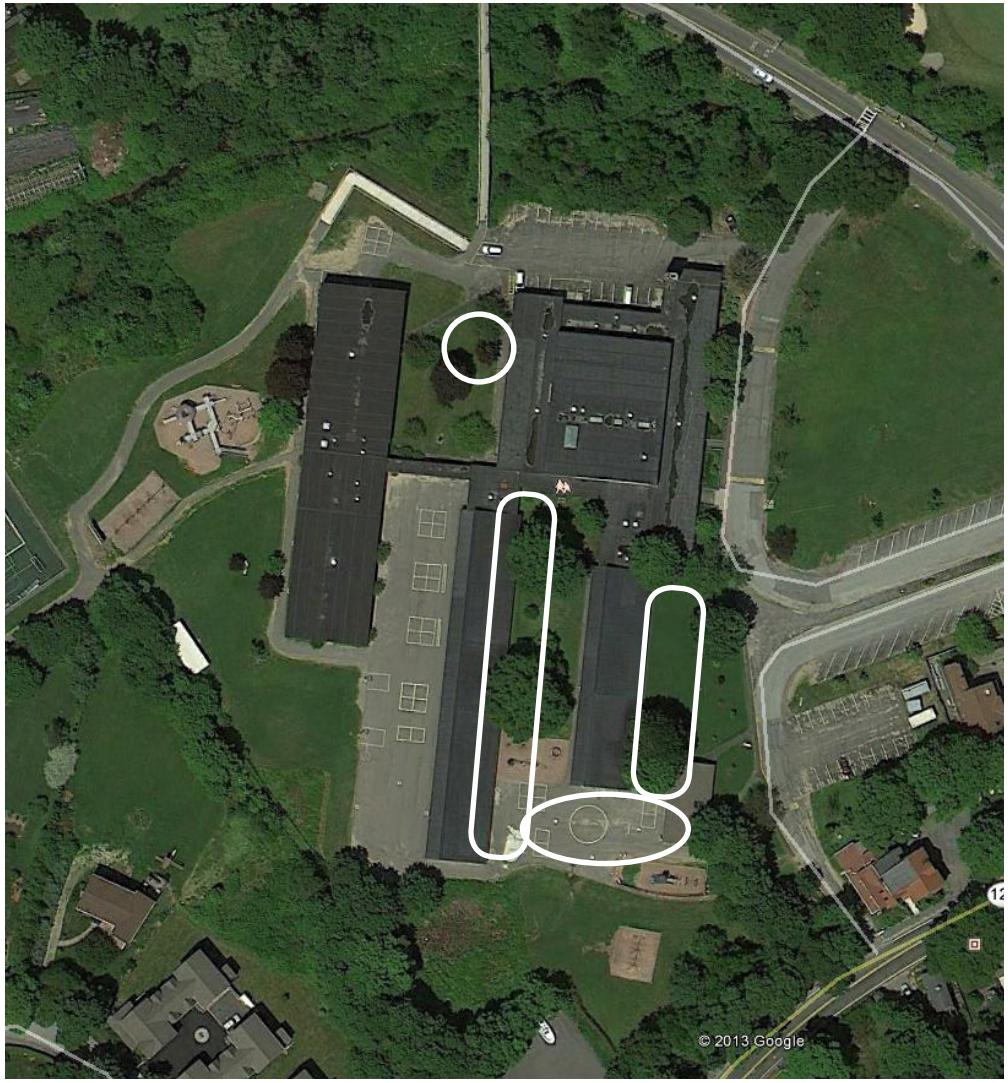
Of all of the sites reviewed it is the opinion of this office that Site E should be considered a first choice due to its location, site development cost and positive review results as indicated in the 2005 study.

Site F and site 9 should be considered as alternates but it should be noted that site 9, Beal Property, is a Wildlife Habitat.



ADDITION PLACEMENT DIAGRAMS

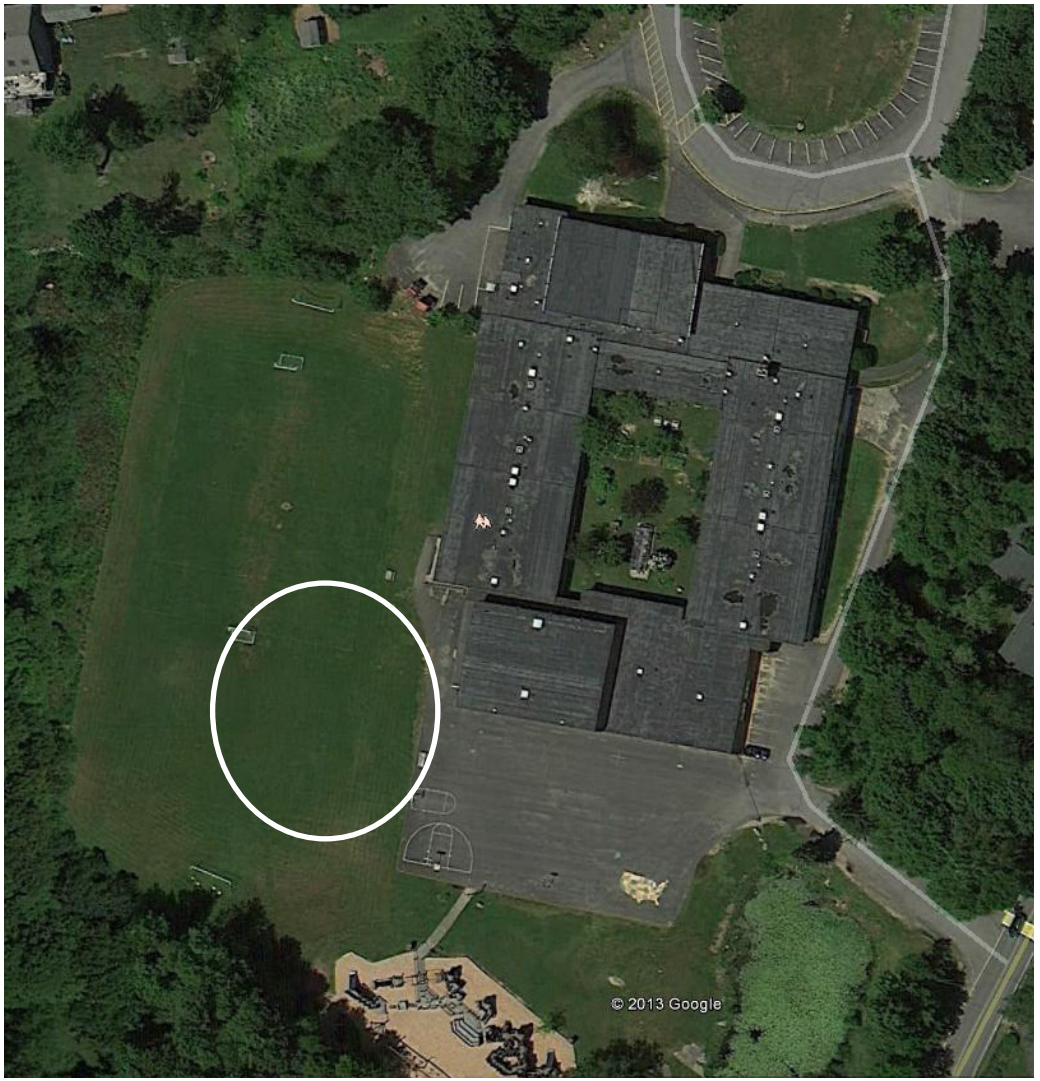
Each of the school buildings and sites was examined for the potential placement of additions to accommodate the projected increase in Kindergarten through Grade Five enrollments. The diagrams which follow indicate possible expansion areas at each of the two existing elementary schools. These diagrams are not intended to indicate designs; or to indicate the only possible addition locations; or to propose that additions are the most appropriate solutions. They are intended to show that additions are possible should the District determine that additions are to be incorporated in the selected solution.



MEMORIAL

ADDITION PLACEMENT DIAGRAMS

ESSEX

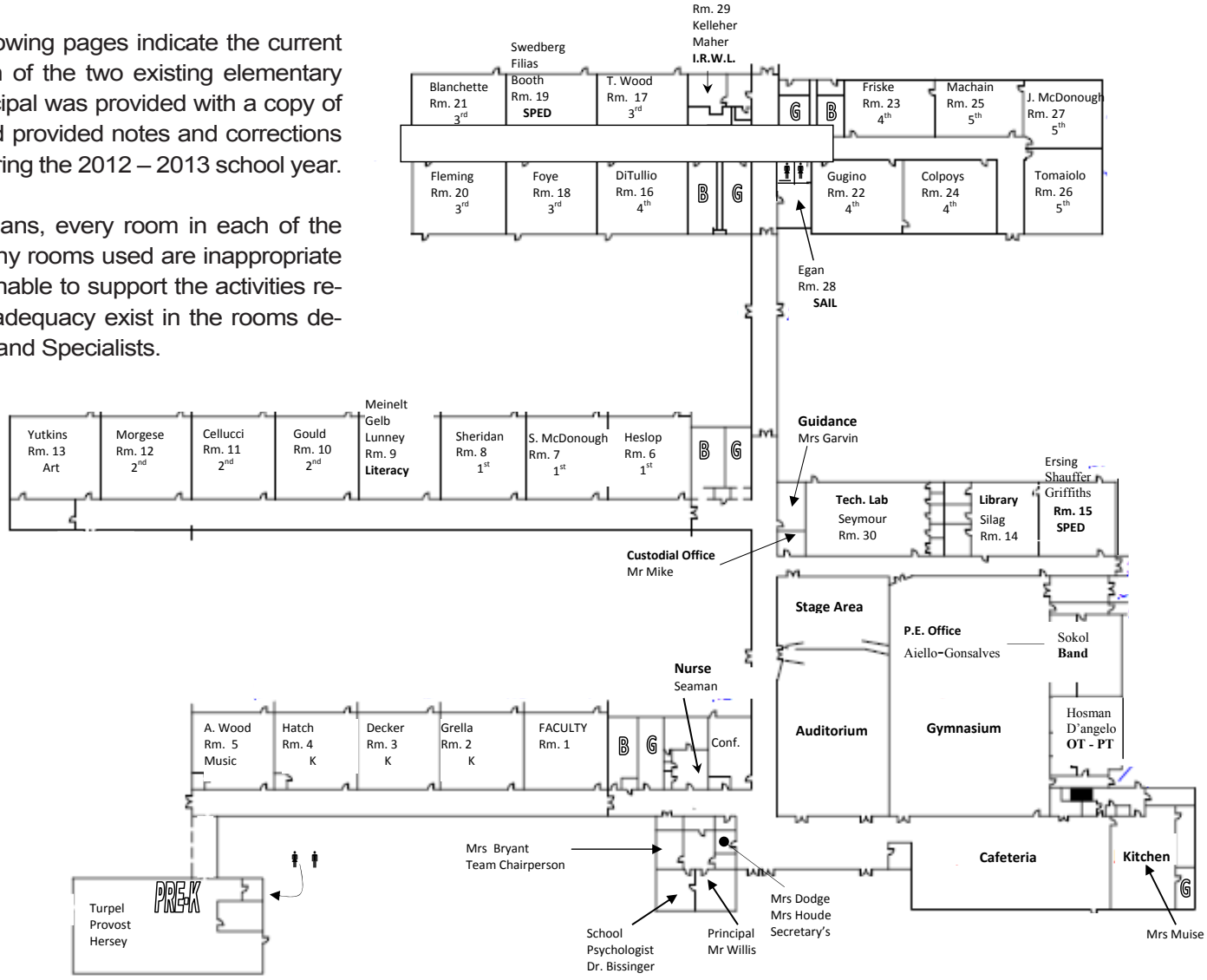


EXISTING SCHOOL FLOOR PLANS

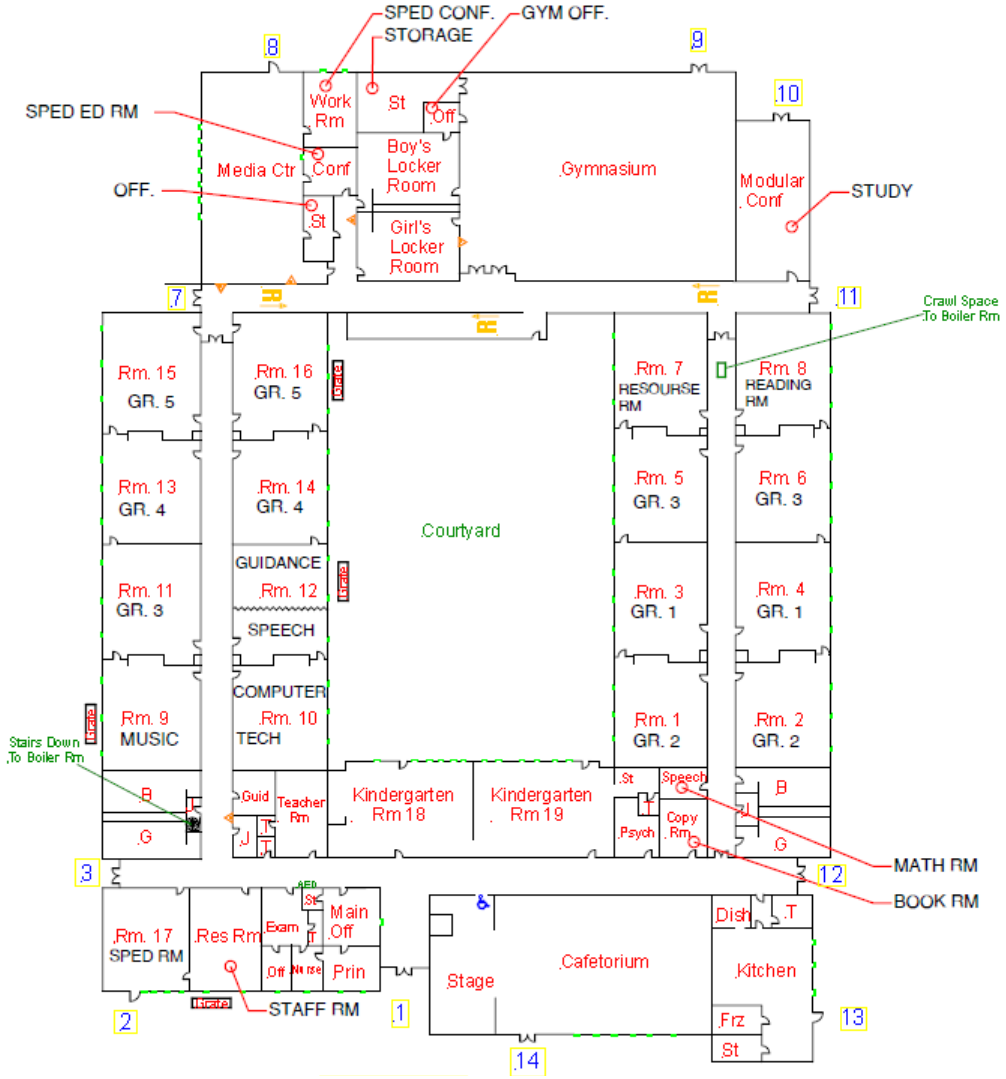
The floor plans on the following pages indicate the current use of each room in each of the two existing elementary schools. Each school principal was provided with a copy of the existing floor plans and provided notes and corrections to show the current use during the 2012 – 2013 school year.

As can be seen on the plans, every room in each of the buildings is in use and many rooms used are inappropriate for their current use and unable to support the activities required. Major areas of inadequacy exist in the rooms devoted to SPED, Resource and Specialists.

MEMORIAL



ESSEX


SPED CONF.
STORAGE
GYM OFF.
SPED ED RM
OFF.
STUDY
Crawl Space To Boiler Rm
Work Rm
St
Off
Media Ctr
Conf
Boy's Locker Room
Gymnasium
Modular Conf
St
Girl's Locker Room
Rm. 15 GR. 5
Rm. 16 GR. 5
Rm. 7 RESOURSE RM
Rm. 8 READING RM
Rm. 13 GR. 4
Rm. 14 GR. 4
Courtyard
Rm. 5 GR. 3
Rm. 6 GR. 3
GUIDANCE
Rm. 11 GR. 3
Rm. 12
Rm. 3 GR. 1
Rm. 4 GR. 1
SPEECH
COMPUTER
Rm. 9 MUSIC
Rm. 10 TECH
Rm. 1 GR. 2
Rm. 2 GR. 2
Stairs Down To Boiler Rm
Guid
Teacher Rm
Kindergarten Rm 18
Kindergarten Rm 19
St
Speech
Psych
Copy Rm
MATH RM
BOOK RM
Rm. 17 SPED RM
Res Rm
Exam
Main Off
Off
Nurse
Prin
STAFF RM
Stage
Cafetorium
Dish
Kitchen
Frz
St

APPENDIX A: MANCHESTER-ESSEX ENROLLMENT PROJECTIONS

					Actual	Estimate											
	FY-09	FY-10	FY-11	FY-12	FY-13	FY-14	FY-15	FY-16	FY-17	FY-18	FY-19	FY-20	FY-21	FY-22	FY-23	FY-24	FY-25
Memorial	445	411	428	441	465	479	489	496	503	528	550	566	577	586	595	601	607
Essex	309	260	279	286	272	277	282	286	290	305	317	326	333	338	343	346	350
MS/HS	628	786	811	824	826	838	851	864	877	890	908	930	958	977	992	1007	1017
Total	**1,382**	**1,457**	**1,518**	**1,551**	**1,563**	**1,595**	**1,621**	**1,645**	**1,670**	**1,723**	**1,774**	**1,823**	**1,868**	**1,901**	**1,930**	**1,954**	**1,974**
Growth Rate																	
Memorial	-7.6%	4.1%	3.0%	5.4%	3.0%	2.0%	1.5%	1.5%	5.0%	4.0%	3.0%	2.0%	1.5%	1.5%	1.0%	1.0%	
Essex	-15.9%	7.3%	2.5%	-4.9%	2.0%	1.5%	1.5%	1.5%	5.0%	4.0%	3.0%	2.0%	1.5%	1.5%	1.0%	1.0%	
MS/HS	25.2%	3.2%	1.6%	0.2%	1.5%	1.5%	1.5%	1.5%	1.5%	2.0%	2.5%	3.0%	2.0%	1.5%	1.5%	1.0%	
Total	**5.4%**	**4.2%**	**2.2%**	**0.8%**	**2.0%**	**1.7%**	**1.5%**	**1.5%**	**3.2%**	**3.0%**	**2.7%**	**2.5%**	**1.8%**	**1.5%**	**1.3%**	**1.0%**	

Assumptions

1 Near Term steady rate is 1.5% (excluding Memorial which is growing above avg.)
2 5% increase upon building of new facilities (in line with prior experience from MS/HS)
3 Long Term steady rate of 1%

Notes:

Sixth Grade moved to MS/HS in FY-10

PreK moved to Memorial from Essex in FY-13

Assumes new elementary schools built by FY-18

FY-10 Gr. 6 Change		
	FY-9	FY-10
Mem K-5	373	411
EES K-5	268	260
Gr 7/8	213	225
Gr6 Res.	106	106
Gr6 SC	7	16
HS	415	439
Total	**1382**	**1457**
	Mem K-5	10.2%
	EES K-5	-3.0%
	Gr 7/8	5.6%
	Gr6 Res.	0.0%
	Gr6 SC	128.6%
	HS	5.8%
	Total	**5.4%**

FY13 PreK Change		
	FY-12	FY-13
Memor	422	440
Essex	270	272
	Memorial	4.3%
	Essex	0.7%

APPENDIX B: MANCHESTER-ESSEX SITE SELECTION AND FEASIBILITY STUDY SUMMARY

SITE SELECTION AND FEASIBILITY STUDY SUMMARY

PREPARED FOR THE MANCHESTER-ESSEX REGIONAL SCHOOL DISTRICT BY:

DESIGN TECHNIQUE
44 MERRIMAC STREET
NEWBURYPORT, MA 01950

Site Evaluation: Proposed Manchester/Essex High & Middle School

10/01/05

SITES (A)	CRITERIA (B)									
	STEP ONE: Site Adequacy				**STEP TWO: Availability, Access & Utilities**					
	Adequacy (1) Mandatory (2)									
	Size (acres)		Adequate		Availability (4) Mandatory (2)		Access (5)		Utility & Public Services Feet (6)	
	Total	Usable (3)	Yes	No	Town	Private	Yes	No	Sewer Distance	Water Distance
1. Lincoln Street (HS/MS) - M	7.1	7.1		X	X		X		500	500
1A. Lincoln Street Fields (Beal) - E	47.22	45	X			X	X		---	---
2. Athletic Club Site (Donovan) - M	72	60	X			X	X		4200	1700
3. Compost Site - M	7.26	5.5		X	X		X		2600	1700
4. Brown Site - M	23.7	20		X		X	X		3300	2300
5. Manchester Essex Conservation - E	30.4	30	X		X			X	7900	5300
6. Drinkwater Site (Laurel Lane) - E	51.85	45	X			X	X		7400	5800
7. Febiger/Pennoyer/Henderson - E	62	54	X			X		X	2600	4600
8. Manchester Transfer Station - M	27	10		X	X			X	4500	200
9. Beal Property - E	47.22	44	X			X	X		5300	2700
10. Owners Unknown - M	62.2-115.54	36	X		3.33 Ac.	X	X		5000	4000
11. HS/MS and Memorial School Site	36	30	X		X		X		500	500
A. Pond Street – 1 - E	40	36	X			X		X	11,000	11,000
B. Pond Street – 2 - E	47	42	X			X		X	12,000	12,000
C. Essex Park Road - E	38	33	X			X		X	7,000	7,000
D. Haskell Ct. - E	52	47	X			X		X	1,500	1,500
E. Southern Avenue One - E	145.74	33	X			X	X		6,000	3,500
F. Southern Avenue Two - E	35	32	X			X	X		12,000	10,000
G. Pine Street One- M	68.45	36	X			X	X		3,500	700
H. Pine Street Two - M	47.72	36	X		3.33 Ac.	39.27 Ac.	X		4000	3000

Notes:

(A). **Sites.** Potential sites in Manchester are marked M and those in Essex, E. Sites selected for consideration resulted from a review of the site selection data from the previous process in 2001. Additional sites beyond those listed are expected to be evaluated as the site selection process continues. Not all land owners may have been informed that their land is being evaluated. Should the initial analysis indicate that the development of a specific site is potentially feasible, the Owner or Owners of the property will be contacted by the Building Committee.

(B). **Criteria.** These are those quantitative and qualitative criteria approved by the Manchester/Essex Building Committee 12/15/04 following lengthy discussions and with input from the Public Forum. Criteria may be deleted, added or modified to respond to issues raised by the Committee or as a result of questions at a Public Forum.

(1). **Adequacy.** Based on a typical site plan containing all the **program elements** (building, parking, athletic fields, drives, building setbacks and other site improvements) a minimum of 30 acres of buildable land is required. The adequacy of a site to accommodate the program elements was evaluated by this standard. Conditions which might influence the potential use of the site are discussed in the Summary.

(2). **Mandatory.** Relative to the criteria of Adequacy, size and access are mandatory requirements as well as the Availability of the property for the proposed school.

(3). **Usable.** The total acres of the site are reduced by deducting non-buildable land such as wetlands and 100' buffer zones, riverfront area (adjacent to perennial streams) and steepness. (The land deducted due to steepness assumed the site could be graded to meet the elevations at the setback lines. (Ledge while not a technical factor in this analysis, appears as a cost consideration in the evaluation process.)

(4). **Availability.** The availability of the site for the proposed school is a question of ownership. Town owned land may require a vote of Town Meeting to allow the land to be used for the proposed school. Privately owned land (owners currently known and unknown) would require acquisition. The cost of acquisition, non-reimbursable by the Commonwealth of Massachusetts to the School District, is evaluated under Costs.

(5) **Access.** Vehicular and pedestrian access is required from a paved street in a public right-of-way. The pedestrian access has to meet the requirements of the Massachusetts Architectural Access Board. The vehicular driveway standard used is a maximum of 10% and a width of 24 feet. The question of Access to a site is based on the parcel or parcels being adjacent to the paved public road.

Site Evaluation: Proposed Manchester/Essex High & Middle School

(6). **Utilities.** Both the Towns of Manchester and Essex have sewer and water systems with treatment plants with the capacities to accommodate the proposed school. The costs of connecting a school site to the sewer and water is evaluated under Costs. While both Towns have police and fire departments with full time and volunteer forces, potential added costs to provide services for the school at the proposed site is not considered under costs.

SITES (A)	CRITERIA (B)													
	STEP THREE: Environmental Considerations													
	Watershed Protection Area		Wildlife Habitat		Environmental Permits (7)								Nat. Hazards & Site Limitations (8)	
					NOI		Site Plan		Curb Cut		Variance			
	In	Out	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
1. Lincoln Street (HS/MS) - M	X			X	X		X			X		X		X
1A Lincoln Street Fields (Beal) - E	X		X		X		X		X			X		X
2. Athletic Club Site (Donovan) - M	X			X	X		X			X		X	X	
3. Compost Site - M	X		X		X		X		X			X	X	
4. Brown Site - M	X			X	X		X		X			X	X	
5. Manchester Essex Conservation - E	X		X		X		X			X		X		X
6. Drinkwater Site (Laurel Lane) - E	X			X	X		X			X		X		X
7. Febiger/Pennoyer/Henderson - E	X			X	X		X		X			X	X	
8. Manchester Transfer Station - M		X	X		X		X		X			X		X
9. Beal Property - E	X		X		X		X		X			X		X
10. Owners Unknown - M		X		X	X		X		X	X		X		X
11. HS/MS and Memorial School Site	X			X	X		X			X		X		X
A. Pond Street – 1 - E	X		X		X		X			X		X		X
B. Pond Street – 2 - E	X		X		X		X			X		X		X
C. Essex Park Road - E	X			X	X		X			X		X		X
D. Haskell Ct. - E		X		X	X		X		X			X		X
E. Southern Avenue One - E	X			X	X		X		X			X		X
F. Southern Avenue Two - E	X			X	X		X		X			X		X
G. Pine Street One - M	X		X		X		X		X			X		X
H. Pine Street Two - M		X		X	X		X		X			X		X

Notes:

(7). **Environmental Permits.** Required environmental permits generally add restrictions on the planning and construction of a project. These restrictions rarely unreasonably negate the feasibility of developing a site for a school. These permits include: NOI (Notice of Intent) from Local Conservation Commission and State Department of Environmental Protection (DEP) for proposed construction in the wetland buffer zone and riverfront area, Site Plan Approval by Local Town (Although not legally required.), Curb-cut Access on State Roads from Commonwealth of Massachusetts and Zoning Bylaw variance as required by the Town. The following filings and permits which may apply, have the same impact on all sites: USEPA (United Stated Environmental Protection Agency) for National Storm Water Pollution Prevention Plan and Blasting or Soil Removal Permit as required by the Town. An ENF (Environmental Notification Form) will likely be required which could potentially lead to a more detailed permit process under the Massachusetts Environmental Protection Agency (MEPA). See Step Four for estimates of time required for permit application and approval.

(8) **Natural Hazards.** Such hazards that might limit the safe use of the site or influence the site and building design, would be steep cliffs noise pollution and solar orientation. Other development limitations would include adjacency to unsafe uses such as a highway (Route 128), commercial or manufacturing site or hazardous materials. Generally such hazards and limitations can be overcome, for example with fencing for cliffs and noise attenuation in the building materials design. Such remediation methods are reflected in the Cost analysis for each site.

Site Evaluation: Proposed Manchester/Essex High & Middle School

10/01/05

SITES (A)	CRITERIA (B)										
	STEP FOUR: Cost (millions) & Time (months) (9) & (10)								STEP FIVE: Comm. Considerations		
	Site Development Time			Site Development Costs (11)					Conformance – Yes/No (12)		
	Acquire	Site	Final	Earthwork	Ledge	Utilities	Street	TOTAL	Town Master Plans	MAPC	SBAB
1. Lincoln Street (HS/MS) - M	0	1	30	.2	.1	.1	.4	1.88	Yes	Yes	Yes
1A. Lincoln Street Fields (Beal) - E	12	3	30	.4	2.6	.5	.6	4.1	Yes	Yes	Yes
2. Athletic Club Site (Donovan) - M	6	15	51	3.5	15	.23	.9	19.6	Yes	Yes	Yes
3. Compost Site - M	0	-	-	-	-	-	-	-	-	-	-
4. Brown Site - M	6	6.4	42.4	1.6	6.4	.28	.5	8.78	Yes	Yes	Yes
5. Manchester Essex Conservation - E	12	-	-	-	-	-	-	-	-	-	-
6. Drinkwater Site (Laurel Lane) - E	12	11.2	53.2	1.1	11.5	.5	.4	13.5	Yes	Yes	Yes
7. Febiger/Pennoyer/Henderson - E	6	9	45	3	9	.36	.1	12.46	Yes	Yes	Yes
8. Manchester Transfer Station - M	0	-	-	-	-	-	-	-	-	-	-
9. Beal Property - E	12	4.2	46.2	.6	4.2	.4	.7	6.0	Yes	Yes	Yes
10. Owners Unknown - M	24	4.5	58.5	.3	11	.5	1.3	13.1	Yes	Yes	Yes
11. HS/MS and Memorial School Site	0	1	31	.4	.1	.1	.4	3.08	Yes	Yes	Yes
A. Pond Street – 1 - E	6	4.2	40.2	.9	4.2	1.1	2.45	8.65	Yes	Yes	Yes
B. Pond Street – 2 - E	6	5	41	1.0	5.0	1.3	2.8	10.1	Yes	Yes	Yes
C. Essex Park Road - E	6	4.7	40.7	1.0	4.7	.7	.52	6.92	Yes	Yes	Yes
D. Haskell Ct. - E	6	3	39	.8	3.0	.15	.35	4.3	Yes	Yes	Yes
E. Southern Avenue One - E	12	4	46	.3	4	.5	.6	5.4	Yes	Yes	Yes
F. Southern Avenue Two - E	6	3.3	39.3	1.3	3.3	1.1	1.2	6.9	Yes	Yes	Yes
G. Pine Street One - M	12	1	43	.7	.9	.2	.4	2.2	Yes	Yes	Yes
H. Pine Street Two - M	12	22	64	.9	22.1	.4	.8	24.2	Yes	Yes	Yes

Notes: (9). **Time & Costs.** The primary factors relative to site Costs are potential acquisition and development of the site. While there are other costs related to the location of the site to be considered such as costs in busing and student travel, given the distribution of the student population, parent drop off and pickup preferences, number of student drivers and car pools, estimates for this "operating costs" are not feasible especially since over time as these and other factors are subject to significant changes. Costs for phased construction and the costs for special professional services such as geotechnical engineering and off-site water and sewer engineering, while minor relative to the four major site development costs will be factored in as the site evaluation process proceeds. Costs for asbestos abatement and building demolition is ADDED as follows: 1 building demolition $.58M, asbestos abatement $.5 = $1.08M. 11 building demolition MS/HS $.5M, asbestos abatement $.58M. Memorial School building demolition $.5M, asbestos abatement $.25M = $1.83M. Costs for pedestrian bridge between the MEMH and Memorial School of $.25M to be added to 11. All costs are presented in millions of dollars.

(10). **Land Acquisition & Costs.** Certainly land acquisition costs will be required to obtain a site from private owners, known or unknown, and the process will require time as well. Land acquisition may be needed not only for the entire project, but as additional land for access or the separate development of athletic fields or adjacent land to Town-owned property. The time to acquire is estimated at 6 months for a willing seller, 1 year for eminent domain taking and 2 years for owners unknown. Time will also be required for the approval of funds by the Towns. The costs of land acquisition is not reimbursable by the State and therefore totally borne by the Towns in the District. Certainly the actual cost and time will vary greatly depending on the circumstances. Acquisition time is to be used in the evaluation process for comparison and discussion.

(11). **Site Development Costs and Time.** Certain costs for site development will be approximately the same for all sites. The work for these costs includes layout, demolition, clearing, stripping of loam, landscape, paving and site improvements. **Earthwork, ledge removal, utilities** and **Town Streets including driveways** are the four major site development costs which are measured to compare the sites. Implementation costs for professional services and operation of the schools during construction are expected to be consistent with all sites. The methodology used in estimating development costs is attached. While the time for the **building construction is estimated at 24 months,** the time for site development varies with the topography and geology of the site. Relative to permitting, given that all sites considered to date will require Notices of Intent, Environmental Notification Forms and local Site Plan approvals, **6 months is allotted as the time period for permitting** although legal and political factors can lengthen the time to a year or more. Therefore 30 months (building and permitting) is carried in the Final costs. Time for ledge blasting and removal and/or crushing is estimated at one month for 25,000 cubic yards.

Site Evaluation: Proposed Manchester/Essex High & Middle School

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(12). Conformance. Each site will be checked to determine if it is in accordance with local and state development guidelines and regulations. MAPC refers to the Massachusetts Area Planning Council, a State Agency which establishes population projections and development guidelines for communities, SBAB is the former State School Building Assistance Board which sets requirements for school sites in regulation 603 CMR 38.04. Smart Growth initiatives are recognized guidelines and objectives to achieve school buildings and sites which are sustainable and energy efficient.

SITES (A)	CRITERIA (B)									
	STEP FIVE: Comm. Considerations				**STEP SIX: Aesthetics & Perceptions (15)**					**Site Usable**
	Traffic Capacity (13)		Neigh. Impacts (14)		General Aesthetics		Public Perceptions (yes/no)			**Yes**
							Safe &	Convenient	Regional	**No**
	Yes	No	Minor	Major	Positive	Negative	Secure	Location	Identification	**Conditional**
1. Lincoln Street (HS/MS) - M	X			X	X		Yes	No	No	No
1.A. Lincoln Street Fields (Beal) - E	X		X		X		Yes	Yes	Yes	
2. Athletic Club Site (Donovan) - M	X		X		X		No	Yes	Yes	No
3. Compost Site - M	-	-	-	-	-	-	-	-	-	No
4. Brown Site - M	-	-	-	-	-	-	-	-	-	No
5. Manchester Essex Conservation - E		X		X	X		Yes	Yes	Yes	Conditional
6. Drinkwater Site (Laurel Lane) - E	X		X		X		Yes	Yes	Yes	No
7. Febiger/Pennoyer/Henderson - E		X		X	X		Yes	No	No	Yes
8. Manchester Transfer Station - M	-	-	-	-	-	-	-	-	-	No
9. Beal Property - E	X		X		X		Yes	Yes	Yes	Yes
10. Owners Unknown - M	X		X		X		Yes	Yes	Yes	Conditional
11. HS/MS and Memorial School Site	X			X	X		Yes	No	No	Conditional
A. Pond Street – 1 - E		X		X	X			No	No	Conditional
B. Pond Street – 2 - E		X		X	X			No	No	Conditional
C. Essex Park Road - E		X		X	X			No	No	Conditional
D. Haskell Ct. - E		X		X	X			No	No	Conditional
E. Southern Avenue One - E	X		X		X		Yes	Yes	Yes	
F. Southern Avenue Two- E	X		X		X			Yes	Yes	
G. Pine Street One - M	X		X		X		Yes	Yes	Yes	Conditional
H. Pine Street Two - M	X		X		X		Yes	Yes	Yes	

Notes:

(13). **Traffic Capacity.** At each site there will be traffic generated by buses and vehicles for staff, students parent drop off and pick up and service. While the volume of total traffic generated will be approximately the same for each site evaluated, the question is the capacity of the public street system to handle the traffic volume.

(14). **Neighborhood Impact.** Should the site be adjacent to commercial uses and/or on a major road such as Southern Avenue in Essex or School Street in Manchester or adjacent to undeveloped land, the impact on existing neighbors will be minor. However should be site be in an existing residential area with adjacent homes and the school traffic would enter and exit on to a residential street, then the impact would be major.

(15). **Aesthetic and Public Perceptions.** These issues are relatively minor as compared to the adequacy and availability of the site and the costs of development; however they are important to the quality of life at the school and the public's perception, factors which can weigh in the site selection process.

A. The Lincoln Street site's 7.1 acres includes the present HS/MS School. Part of the existing building, parking and tennis courts currently occupy part of the Manchester Water Department land of 12.25 acres. The usable acres are reduced by the Riverfront Area, Floodplain, Wetlands and Water Department Buildings, storage and parking. The site is too small to accommodate the program.

B. The Athletic Club Site major ledge removal costs and a long access road. Noise from the Route 128 traffic is a negative factor requiring the costs of noise attenuation in the building and interruption of outdoor activities.

C. The Composts site is too small having only 5.5 acres of buildable land and is further reduced in usefulness as a school site by the presence of a certified vernal pool, wetlands and steep Slopes.

D. The Brown Site is too small having only 23 acres of buildable land. Sewer and water would have to be extended from Manchester under Route 128 to this site.

E. While the Manchester Essex Conservation parcel is adequate in size, it is presently conservation land with well developed trails. The access to the parcel is from Manchester Road, an unimproved road, a road that may not be a public right-of-way. The nearest public sewer is about 1 ½ miles away and the water system, about one mile. A possible condition which might make this parcel available for school use is its replacement with other properties in the area having similar conservation interests.

F. The so called "Drinkwater Site" consists of a group of adjacent parcels with 6 or so owners. It has approximately 45 buildable acres. The elevational change is significant from Southern Avenue to the top of the site, about 30 feet. Currently Laurel Lane is a wide dirt path adjacent to wetlands owned by the Town of Essex. The exact configuration of parcels to make up the site for the proposed school is flexible.

G. Of the 62 acres made up of parcels owned by Febiger/Pennoyer/Henderson, about 54 are buildable. Access is from Grove Street and water and sewer are accessible from this site. The Ebben Creek and its riverfront status will impact the site use.

H. There are about 10 acres of buildable land at the Manchester Transfer Station on Pine Road, far too few acres for the school project. Also Pine Street is an unimproved road from Route 128. The site might be considered for use as athletic fields.

I. There are approximately 44 acres of buildable land on the Beal Property on Southern Avenue. Should this parcel be selected for further investigation, contact should be made immediately with the Owner.

J. The Owners unknown land in Manchester near the interchange of Pine Street with Route 128 contains a number of parcels adding up to over 100 acres of buildable land. The issue to be resolved is vehicular access. Determination of the acquisition process is being researched by the Attorneys to the District.

K. One option for using the present High/Middle Schools site on Lincoln Street is in combination with the Memorial Elementary School site. The use of this full site combined would require a new elementary school building with a more compact design than the present allowing space for the joint use by the two schools. There are obvious economic benefits to sharing facilities, like parking, an auditorium and playfields. The total site would include 7.1 acres from the School, 12.25 acres from the Water Department and 16.21 acres at the Memorial School for a total acreage of 35.36 acres of which 30 acres is considered buildable. The development would also be influenced by the perennial stream and floodplain through the site as well as accommodating the needs of the Manchester Water Department. Also to be taken into consideration are the program requirements for the elementary school which generally range 10-15 acres, since there is less parking and fewer athletic facilities.

A second option to utilize the existing District Middle/High for the proposed new school is to construct the building, parking and multi-purpose synthetic turf field on the site and acquire a new site, probably in Essex (see 1A above) for the balance of the athletic fields and parking. A site with 20 – 22 acres of buildable land would accommodate the fields, parking for 100 – 150 spaces. A small restroom/concessions/storage building is recommended at this site.

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