Pre-Feasibility Study

Fuller Middle School and Farley Building

Framingham Public Schools

Framingham, Massachusetts

February 27, 2013

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Framingham Public Schools and Town of Framingham

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INTRODUCTION AND BACKGROUND

Fuller Middle School ("Fuller") is located on a 27 acre site in South Framingham on Flagg Drive. It was constructed as Framingham High School in 1958 (later, Framingham South High School) and is a single story, 196,000 SF cast-in-place concrete building founded on concrete piles and spread footings with a brick masonry and glass exterior facade.

Since 1991, Fuller has served as a middle school with approximately 500 students, occupying 160,000 SF. The building also houses, in the remaining 36,000 SF, the Framingham Public School District's ("District") Building & Grounds Department, Framingham Public Access Cable TV, an English Language Learners adult education program, ACCEPT school transportation offices and Framingham Vision Center (partnership with the New England Eye Institute).

Farley Middle School ("Farley") was constructed in 1973 on an adjacent 15 acre site and served as a middle school until 1991. It is a four-level (2-floor, split-level), 112,000 SF structural steel building founded on spread footings with a masonry veneer. It is currently leased by the Town to Massachusetts Bay Community College ("MassBay") until August 2013. A possible short-term (2 to 3-year) lease extension is under consideration.

As part of its ongoing facility master capital plan and its evaluation of needs at Fuller, the District submitted a Statement of Interest ("SOI") to the Massachusetts School Building Authority ("MSBA") in 2012 to replace the aging Fuller roof. The estimated cost of the work was $4,000,000. In early December 2012, the Town of Framingham ("Town") received a letter from MSBA notifying it that the Fuller Roof Repair Project would not be invited into the MSBA Accelerated Repair Program or the MSBA's Eligibility Period for such projects. Framingham may elect to resubmit the Fuller Roof SOI to MSBA, or submit a more comprehensive SOI for an upgrade to the Fuller/Farley campus.

This Pre-Feasibility Study ("Study") was undertaken by the District and the Town to help determine a long-term solution for the Fuller and Farley sites that would accommodate students and other user-groups that currently occupy the buildings or might occupy them in the future. The information in the Study may be used to support an SOI to the MSBA to evaluate, design and construct a comprehensive repair, reconstruction or new construction of existing or new school facilities on the 42 acre Fuller/Farley site in South Framingham.

Pre-Feasibility Study

The goals of the Pre-Feasibility Study are:

1. Assess the physical condition of Fuller and the Farley to identify short-term and long-term capital improvements, with associated costs, necessary to maintain and upgrade the facilities. This information will help inform the decision as to whether or not to continue to make repairs to Fuller and/or Farley, or to construct a new facility or facilities.

2. Identify options for reuse, renovation, or new construction, taking into consideration programming needs, space allocation, and schedule factors.
    a. Full or partial demolition of the existing structure of Fuller or Farley might be incorporated; and
    b. Reuse of Farley by the District is tied to its lease by MassBay, which may be extended by the Town, and is an important planning consideration.

The Study does not incorporate detailed educational goals of the District, nor does it consider specific programs for the buildings. It does consider the existing space allocation of the Fuller Middle School, along with MSBA's template for determining standard program requirements.

A separate study by the New England School Development Council (NESDEC) has been commissioned by the District and will provide guidance related to educational goals of the District and identify programming needs and opportunities. A review of enrollment projections (also conducted by NESDEC) has been used to aid in identifying a baseline for the population that is to be accommodated for the foreseeable future at the Fuller and Farley sites.

MSBA Process

The MSBA provides grant funding to school construction projects. The funding reimbursement rate is established by the Massachusetts Legislature. Framingham's reimbursement rate is currently 57.69%. The reimbursement rate is applied to project scope that is deemed by MSBA to be eligible for reimbursement, which is generally about 85% of the total project cost. Correspondingly, the anticipated actual MSBA reimbursement rate is approximately 49% (85% Of 57.69%). An understanding of the full requirements of MSBA and its process is very important and should be well understood by all project participants. While the Town of Framingham could proceed with school construction projects outside the MSBA process, it is assumed that the attractive reimbursement available makes following the MSBA process the primary option to the Town.

The MSBA process and criteria are lengthy and complicated and beyond the scope of this document. They are well documented on the MSBA website: http://www.massschoolbuildings.org/, and all project participants are encouraged to familiarize themselves with them. Some key MSBA requirements are summarized below:

- The MSBA Educational Program Space Standards and Guidelines provide an itemized list of educational spaces and square footages that comprise a model program for each school grade and incorporate level of enrollment. A school project must be based on an approved program for a specified number of students for a typical academic week. Some provisions for community programs are allowed. Supporting documentation for enrollment is required.

- Some components are excluded from funding. These include temporary facilities, abatement of asbestos-containing floor tiles, and site work in excess of 8% of the construction cost, all costs associated with utilities, and any costs in excess of the Total Facilities Grant.

- An evaluation of the proposed program will compare it to other Town of Framingham middle schools.

- The Feasibility Study phase requires consideration of at least three alternate scenarios (such as full renovation, partial renovation/partial replacement, and full replacement) as well as alternate school sites.

- There is some allowance if renovating an inefficient building is considered. This involves an additional one to two percentage points added to the funding rate.

The Total Facilities Grant is based on a grant percentage formula. Some other factors (such as the community income factor) allow for incentive points, with a maximum of 18 percentage points possible. Other factors that can trigger incentive points:

Overlay Zoning District

Energy Efficiency / Green School Program

Routine and Capital Maintenance Rating

School Facility Maintenance Trust

Model School Program

Construction Management at Risk

Newly Formed Regional School District

Renovation or Reuse of an Existing Building

Framingham applied and was approved for a grant for Stapleton in FY2011. That project was a Green Repair Project with a budget of $954,075. It received a reimbursement rate of 57.69%. Framingham submitted an SOI for Fuller Middle School roof replacement in FY2012. That project is among a group of projects that has not been approved.

STUDY OVERVIEW

The initial step of the Pre-Feasibility Study ("Study") was to make a detailed conditions-assessment of Fuller and Farley. The conditions assessments, which are summarized in subsequent sections of the Study, provide a basis for an initial consideration of how the buildings might be repaired, renovated, or demolished and rebuilt. Also incorporated into the initial consideration of building options are District demographic changes and educational program issues. The primary assumptions used for purposes of this Study are as follows:

Demographics

- Overall District enrollment will change somewhat over the next 10 years. While changing District enrollment was not the impetus for planning a project (the condition of Fuller and consideration of replacing it was the starting point), as the enrollment projections have been adjusted, it has become clear that elementary school and middle school enrollment projections should inform the size and use of the building(s) to be constructed or renovated.

- In determining building capacities, the overall desire is to plan for the anticipated population plus a 10% cushion.

- Due to capacity restrictions consolidating the middle school population into the Cameron and Walsh Middle Schools is not an option.

Schedule

- The schedule is dictated by the MSBA review and process, starting with an SOI and then going through a review period, acceptance, and Feasibility Study prior to the design and construction phases.

- Massachusetts Bay Community College (MBCC) anticipates occupying the Farley Building until the summer of 2017, at which time it anticipates moving to another location.

Program

- The existing Fuller Building is 196,000 SF, of which approximately 160,000 SF is used for middle school functions. The remaining 36,000 SF is used for non-middle school purposes. The 196,000 SF building was designed for 1,200 students, so the current middle school use is larger than supported by the current 500 student population.

- The MSBA template for school area results in an 82,000-gross-square-foot building for 500 middle school students (or 98,500 square feet for 675 students).

- MSBA areas are used as a baseline for analysis purposes only. Somewhat larger areas for each student population may be allowed by MSBA, but will require educational program justification and may impact what proportion of the project is eligible for reimbursement by MSBA.

Space category	Existing Fuller	New Building for 500 students using MSBA standards	New Building for 675 students using MSBA standards	MSBA standards
Core Academic Spaces	45,768	21,632	27,710	850-950 SF/room
Special Education	Incl. above	6,040	8,050	8% of population
Art & Music	5,812	3,050	3,250	50% 2x / week
Vocations & Technology	4,617	3,200	3,400	25% 5X / week
Health & Physical Education	20,759	8,400	8,400	6000 SF gym
Media Center	3,900	3,250	3,974	
Dining & Food Service	11,716	7,575	9,288	Assumes two seatings
Medical	1,555	510	610	

Example MSBA Projects – New Middle Schools					
District	**Fall River**	**Hingham**	**Hudson**	**Shrewsbury**	**Wakefield**
Enrollment	625	618	715	900	1,070
GSF	130,600	176,385	118,846	129,378	187,773
Total Construction Cost	$42,458,029	$50,432,439	$34,820,243	$37,025,358	$59,756,584
Cost / SF	$325	$286	$293	$286	$318
Total Project Budget	$53,263,029	$60,910,920	$44,103,362	$47,266,777	$73,960,310
Basis for Total Facilities Grant	$47,814,757	$59,059,904	$41,416,977	$44,981,652	$63,452,673
Reimbursement Rate	80.00%	43.87%	58.11%	53.16%	54.67%
Maximum Facilities Grant	$38,251,806	$25,909,580	$24,067,405	$23,912,246	$34,689,576

The expectation is that once this Study has been reviewed, appropriate meetings have been held, and approvals have been obtained from the School Committee and other groups, the Town will prepare and submit an SOI in early 2013.

The conditions assessment and recommendations have been organized by building and by system category.

Priority categories

Immediate: **Repairs to or replacement of this item are critical to addressing current leaks or other major damage, or are required in the near term regardless of the future of the building.**

Intermediate: **Some repair / replacement is likely to be required prior to any renovation or demolition in 2016 or soon thereafter.**

Long-Range: **Item can remain and be repaired as part of major renovation in 2016 or later.**

A summary of the conditions assessment and recommendations and the priority matrix are included on the following pages.

The recommended scope identified as requiring replacement is extensive. Some of the reasons for this are as follows:

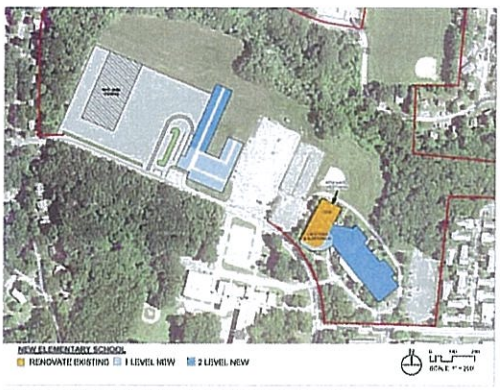
- Most components of the Fuller building are over 50 years old. Some materials have simply reached the end of their useful life and require replacement.
- If the cost of the required work exceeds 30% of the value of the building, the full building must be made fully accessible.

The condition of Fuller Building is such that it can be considered to have outlived its useful life. The Fuller Building is structurally unsound. Ongoing roof leaks potentially jeopardize the health and safety of students.

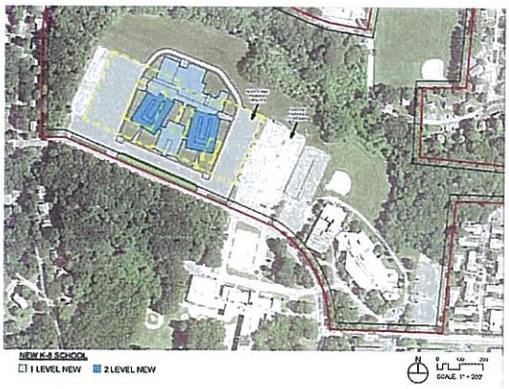
Farley is in reasonably sound condition, (except for the pool area). Building issues relate to the building's layout, room geometry and accessibility.

Farley Building

Scope	Priority Rating			
	Immediate	Intermediate	Long-Range	*Immediate: Work should be planned for the near future, regardless of the long-term future of the building.* *Intermediate: Some repair / replacement is likely to be required prior to any renovation or demolition in 2016 or after.* *Long-Range: Item can remain and be repaired as part of major renovation in 2016 or later.*
Exterior				
• Main roof area was replaced in 2005 but pool wing roof is in poor condition.	X			
• Brick is generally in good condition except at pool area. Wood panels and copper roofing is deteriorated.			X	
• Windows are generally in good condition and require only routine maintenance.		X		
Interior				
• Concrete block walls are in good condition.			X	
• Carpeted floors and other finishes are in good condition.			X	
• Accessibility upgrades are required at bathrooms and guardrails; elevator is too small.			X	
Systems				
• HVAC and plumbing equipment were replaced in 2008; those systems are in good condition.			X	
• Electrical system is in good condition; lighting updated in 2008.			X	
• The building has no fire sprinkler system; this will be required of any renovated building.			X	



Option 7: Fuller Elementary School



Option 8: Fuller K-8 School

Estimated Costs

The following cost summary identifies relative costs for each option.

Construction Cost Estimate Summary			
	Renovation	Hybrid	New
Fuller Middle School 120,000 SF	$35,300,000 (Option 1)	$37,500,000 (Option 2)	$42,700,000 (Option 3)
Farley Middle School 120,000 SF	$17,200,000 (Option 4)	$36,600,000 (Option 5)	$36,700,000 (Option 6)
Fuller Elementary School 85,000 SF	n/a	n/a	$34,600,000 (Option 7)
Fuller K-8 School 195,000 SF	n/a	n/a	$65,600,000 (Option 8)

If an Option is selected that requires temporary housing for students, a more minimal renovation scenario might be feasible for Farley that would allow for the use of the building without performing many upgrades. The intent of this would be for short-term use only, with a more major project or demolition of Farley planned for the near future. Construction costs related to minor modifications to Farley could be in the range of $4,000,000.

Additionally, there will be short-term costs associated with each building, separate from a major project. These include costs for repairs that will be needed to maintain the building is usable condition until the major project is done. A separate list has been compiled of work that will be required in each building if a major renovation or demolition is not performed and the building is expected to remain in use for the long term. In that case, repairs would be more extensive. Scope components and line item costs associated with this scenario are located in Section G of this Study.

B

FULLER CONDITIONS AND ASSESSMENT

METHODOLOGY

Research

Bargmann Hendrie + Archetype, Inc. (bh+a) reviewed existing building documentation, including dates of alterations and major capital projects at the Fuller Building. The documents reviewed included District in-house electronic images and printed copies of drawings of the original construction as well as documents associated with capital improvements to the building.

Survey and Investigations

On-site survey and investigation work included a walk-thorough of the building interior, crawl space, and exterior of Fuller with on-site maintenance staff. Inspection of the exterior of the building was performed from the ground and from flat roof areas accessible via roof hatches.

The survey included an infrared scan of the roof, performed by InfraRed Analyzers Inc., in order to confirm locations of moisture infiltration below the roof surface. The results of the scan were reviewed and test cuts of the roof were done by TREMCO, the installer of the existing roofing material, to verify the infra-red scan results. The results are fully described in the roofing section of this report. Additional investigation is recommended as part of the Feasibility Study and design phases, in the event the project moves forward according to a scheme that anticipates reusing any portions of the roof support system.

GENERAL INFORMATION

The Fuller Middle School is a 196,000-square-foot, single-story, brick-veneered building. The building was constructed in 1958 and renovations have been limited to repairing damaged roof panels, infilling skylights, rebuilding exterior brick veneers, and general maintenance. The school was originally constructed as a high school and with a design capacity of approximately 1,200 students. Current enrollment is approximately 500 students. The Study describes the general conditions of the existing building and building systems, as well as code, energy, accessibility, and structural guidelines in accordance with the 8th Edition of the Massachusetts State Building Code that would be followed during a building renovation.

This Study considers the condition of the building for three distinct areas:

1. Classroom Wing – classrooms, Buildings & Grounds Department, ACCEPT Transportation, ESL, and other non-school programs
2. Core Area – library, administrative offices, classrooms, and auditorium
3. Gymnasium / cafeteria

A10 FOUNDATIONS:

Description

- 65-ton, tapered, cast-in-place concrete piles with steel casing
- Concrete pile caps and grade beams
- Concrete structural slab at first floor (typical layout: 3½" concrete slab supported by concrete girders along column lines with 8 concrete joists @ 24" on center between girders).

Observations

The foundation walls and concrete first floor slab show signs of significant deterioration and require work beyond standard maintenance and repairs. The high moisture levels in the crawl space below the first floor have caused the main concrete reinforcing steel to rust and spall the concrete cover from the bottom of many beams. The reinforcing steel rust appears to be superficial, but, without the concrete cover, the strength of the beams is reduced and continued deterioration will be accelerated. Concrete beam deterioration occurs over 1/3 of the structural slab.

equipment to be treated as exterior. It may be more cost-effective to introduce perimeter insulation with fans and supplemental heat, in which case a vapor barrier with concrete slab or stone above the dirt floor of the crawl space would be required.

A40 SLAB ON GRADE

Description

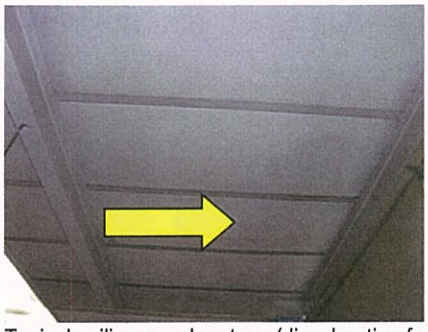
- Crawl space (6' +/-) with a dirt floor under most of building except cafeteria, auditorium, and gymnasium
- Concrete slab on grade at the auditorium (4" and 6" slabs)
- Concrete slab on grade at the gymnasium and cafeteria (4" slabs)

B10 SUPERSTRUCTURE

Description

- Steel columns, typically 6"-wide flange shapes with 8"- and 10"-wide flange shapes at longer span areas. 5"-round steel columns at the cafeteria
- Structural steel framing at roofs, including beams and girders. Beams were typically bolted to the tops of girders to allow steel bulb tees to easily be installed on the tops of roof beams
- Gypsum roof comprised of steel bulb tees with 1" form board below 2" poured gypsum concrete
- 1½" steel roof deck at replaced gypsum roof locations and skylight in-fills (cellular deck at exposed areas and standard roof deck at concealed spaces)
- Unreinforced concrete masonry interior partitions
- Brick veneer backed-up by unreinforced concrete masonry walls

Typical steel framing at classroom



Typical ceiling panel on tees (discoloration from moisture)

Gym ceiling (discoloration from moisture)

Impact damage in corridor ceiling

Under a substantial structural renovation, new walls or bracing systems would need to be installed to adequately brace Code-mandated loads. It should be noted that with the current crawl space, the lateral loads would need to be transferred from the first-floor level to the soil level, which will be difficult at interior spaces where the first floor is approximately 6' above grade.

B2010 EXTERIOR WALLS

Description

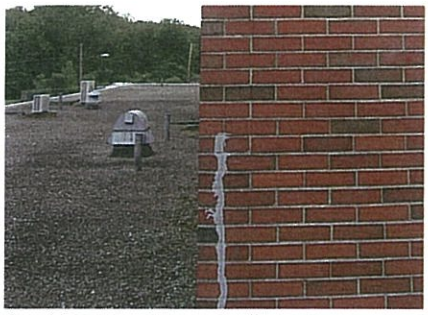
In general, the exterior walls of the building are either 4" brick veneer backed up by un-reinforced concrete masonry unit (CMU) or insulated metal panel system. The exterior walls bear on continuous concrete grade beams and concrete piles.

Observations

The exterior brick walls show signs of deterioration (minor thermal cracking of the brick and failing caulked joints) due to the age of the building, but are generally in good condition. The concrete grade beams at exterior walls show signs of deterioration, including spalling concrete exposing steel reinforcing and failing construction joints. The exterior foundation walls are in average condition and require regular maintenance.

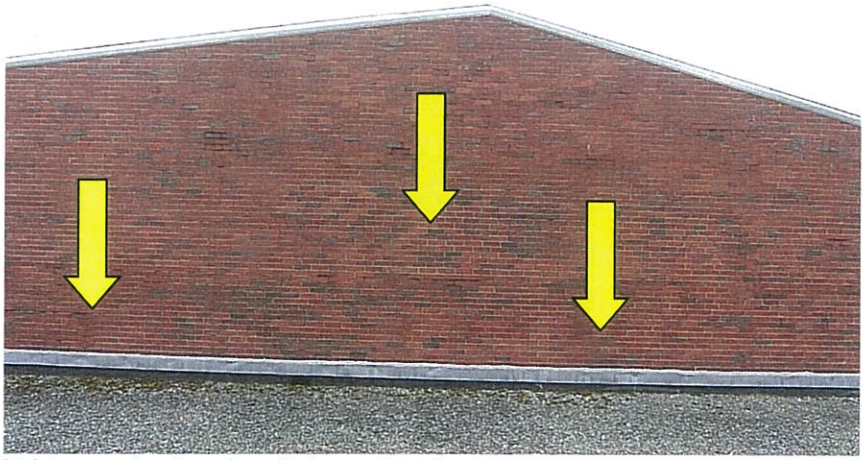
The brick veneer at several locations has been taken down and rebuilt due to water infiltration problems. Caulked expansion joints in the brick veneer are aging and will need to be repaired as part of regular maintenance.

The upper gymnasium walls have no control joints; stepped cracking from thermal movement was observed at the corners.



Cracking at upper gym walls

Stepped cracking at top of gym wall



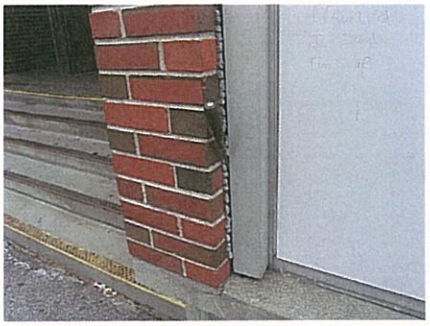
Moisture passing through auditorium north wall

The newer core storefront is in serviceable condition but is also non-compliant with current energy codes.

The glass block framing appears to be aluminum with ferrous metal fasteners. The fasteners are rusted and corrosion is staining the block and adjacent walls. Numerous units have been broken and replaced and a few units are cracked. The mortar between the blocks requires repointing or replacement.

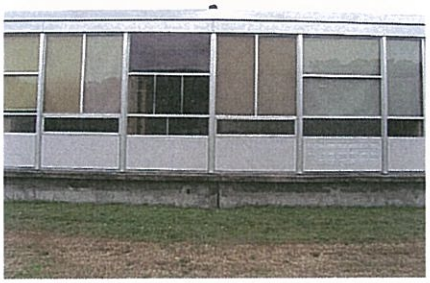
Typical storefront

Storefront at core wing – south elevation



Storefront – original

Typical AC installation



Typical storefront on north elevation

Clerestory windows on east elevation
(Lower window is a later renovation)

View from interior (cafeteria/gym wing)

Storefront at main entry

B2050 EXTERIOR DOORS

Description

The exterior doors combine insulated aluminum solid panel doors with a few hollow metal doors located on the north side of the building. The doors were retrofitted into the existing aluminum or hollow metal frames. Pivot hinges are used on the storefront, and conventional butt hinges are used on the metal frames. Doors are typically equipped with surface-mounted rod type panic hardware. Rime devices are used on single doors. Pull side hardware typically comprises pulls with a thumb latch or lever design. Exterior surface-mounted sweeps have been installed on most doors.

Observations

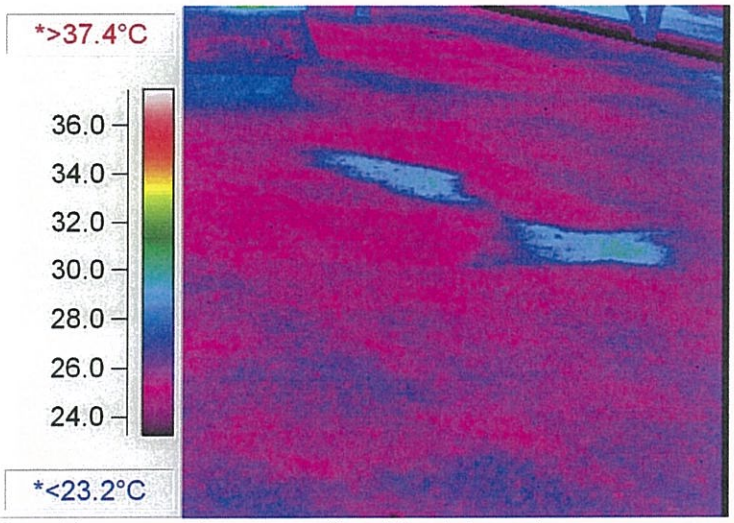
The doors are operational and in serviceable conditions. The surfaces of many doors show distortion or impact damage. Some doors need final adjustment.

Typical entry doors

Service doors at east elevation

Exit doors at gymnasium

Typical exit doors at north elevation



Infra-red thermogram shows areas with moisture below surface

The base flashing where the roof meets the vertical masonry walls of the gymnasium and auditorium is counter-flashed with through-wall masonry flashing. The joint above the flashing has been covered with sealant. The sealant can and may be trapping water within the wall assembly.

The majority of base flashing around roof fans and ventilators is in poor condition.

Some of the unit skylights have been repaired by applying membrane flashing over the joint between the skylight and the frame. In other locations, the joint has been covered with sealant and the sealant has failed or is missing. Water damage to the ceiling below was observed.

The mastic in one of the pitch pockets is drying and cracked and requires repair.

Piping insulation on condensing units has deteriorated and missing. The insulation is closed cell foam; exposed roof insulation should be fiberglass with a weather-proof PVC jacket.


Repair areas along south side of building


Open joint in coping, southeast corner

Roofing material should be evaluated in conjunction with the roof structure (see section B 10 Superstructure).

Sealant above base flashing

Drain at gym roof

Discoloration shows slow to poor drainage

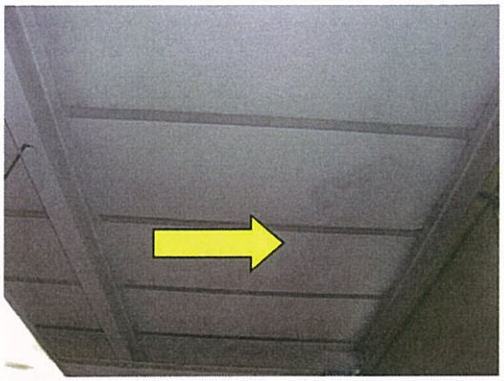
Hood flashing repaired with mastic

Failing pitch pocket/missing insulation at piping

Discoloration from ponding water

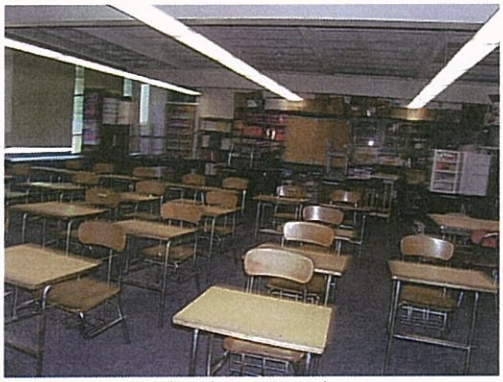
Pitch pocket/loose electrical connections

- The gymnasium floor is solid, appears to have good rebound, and receives reasonable maintenance. The floor appears structurally sound but needs refinishing.



Typical ceiling/roof panels with staining

Internal classroom at classroom wing



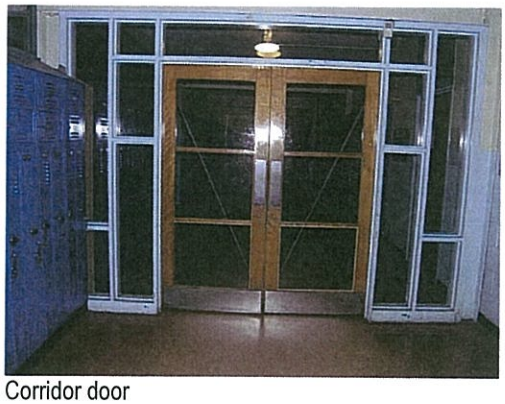
Classroom along interior courtyard

Science classroom / lab

Typical boys' bathroom

Typical corridor

Typical classroom door


Corridor door

C1030 FITTINGS

LOCKERS

Description:

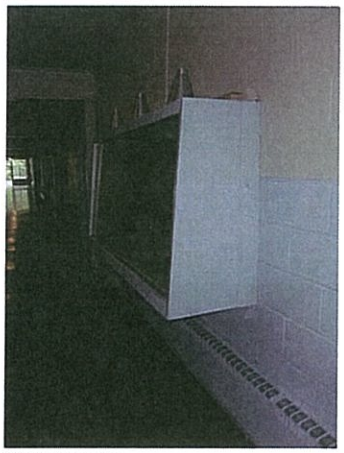
- Knockdown, painted, vented units approximately 12" by 12". The lockers have two 6" by 5" lower vertical units and two 12" by 10" +/- units above.
- Lockers are elevated on a 4" base and have sloped tops.
- Lower vertical lockers have combination locks; upper horizontal units are keyed.

Observations:

Lockers are in serviceable condition.

VISUAL DISPLAY BOARDS

A number of the existing display cases project more than 4" into the egress path and do not meet the requirements of the Massachusetts Architectural Access Board (MAAB) or ADA. Cases would need to be replaced or provisions to protect the projection would be needed as part of a major renovation.


Display case

D30 HVAC

Observations

The building is heated by a forced hot water system, with unit ventilators, hot water baseboard, and convectors. The heating plant consists of three gas-fired boilers located in the central boiler room. The boilers were manufactured in 2003 and appear to be in good repair. The primary circulator pumps appear to have been replaced at the same time. There are two sets of secondary pumps located in the crawl space. These pumps appear to be original with the exception of the motors. The pumps are repaired on an as-needed basis.

Ventilation for the building is provided through air handlers with hot water coils (H&V units) and through the unit ventilators. The majority of the classrooms have a unit ventilator and hot water baseboard. It is not known if the outdoor air dampers on the ventilators are present or if they function properly. The ventilators and baseboard all appear to be original to the building.

The H&V units serve common spaces such as the gymnasium, locker rooms, cafeteria and auditorium. They also serve classrooms where ventilation can't be brought in through the unit ventilator. Many of the H&V units are located in the crawl space and appear to be original to the building. Several are rusted or rotted but appear to be functional. The units for the gymnasium are located in the mechanical rooms on the roof. The units for the auditorium are located in an adjacent mechanical space. The gymnasium and auditorium units all appear original, but are in better condition that the units in the crawl space.

There are a few spaces in the building that are air-conditioned. The main office and guidance area have through-the-wall units that are ducted to interior spaces. The library has several through-the-wall air conditioners. There are four split system condensing units on the north roof of the easternmost wing of the building. The units range from ¾ to 2 tons of cooling. There are additional small split systems located on the roof adjacent to the large courtyard and on the roof above the auditorium.

The Building & Grounds area at the west end of the building is served by a packaged rooftop air-conditioning unit with gas heat. The unit is fairly new and appears to be in good condition.

The kitchen has two hoods above the cooking equipment. Each hood is served by a rooftop fan that is not per current code. The café area also has an exhaust hood, but it has been abandoned and boarded up. Make-up air for the kitchen is provided by an H&V unit in the crawl space.

There are many exhaust fans located in the crawl space and on the roof. The crawl space exhaust fans are primarily for classroom ventilation. The fans exhaust air from the classrooms to balance out the fresh air introduced from the unit ventilators. The fans appear original to the building but several were running and the others appear to be functional. The crawl space's fans discharge through ducts to the roof. The rooftop exhaust fans provide general exhaust for spaces such as toilet rooms and locker rooms. There are many fans that are probably not used any more but once served labs and other spaces in use when the building was a high school.

The building is served by a Johnson DDC control system. Some of the original pneumatic control valve and dampers have been replaced with electronic. There is an air compressor in the boiler room that appears to be functional.

Recommendations

- The heating and ventilation systems and equipment, with the exception of the boilers and primary circulating pumps, are well beyond their expected life. The systems appear to be functioning properly, but we expect that the equipment requires an inordinate amount of maintenance and repairs to keep it functioning. The new boiler system is essentially new and has 20+ years of useful life left. If the building is abandoned, the boilers should be salvaged for use elsewhere.
- The secondary pumps in the crawl space are past their useful life and will be an ongoing maintenance issue. The piping, unit ventilators, and baseboard are at or near the end of their expected life, but can be repaired as needed to keep the building functional. The H&V units and exhaust fans are at the end of their useful life, but can also be repaired as needed and kept functional.
- The majority of the heating and ventilation systems appear to be code-compliant. If the outdoor air intakes are functioning properly, the ventilation systems provide adequate outdoor air to meet the current code requirements. There are few

Recommendations

The electrical system is adequate as a temporary solution. As the system ages further, nuisance tripping and minor outages may become common. Replacement parts may no longer be supported, causing increased maintenance cost and ultimately complete replacement of equipment. For these reasons, it is not recommended to use the equipment as a long-term solution. If the building is to be renovated, new equipment should be installed that will provide many years of reliable and maintenance free service.

The lighting system is adequate as a temporary solution. If the building is to be renovated, the lighting system should be replaced with higher efficiency fixtures and occupancy sensors should be added. The payback for an updated system would take only 2-5 years.

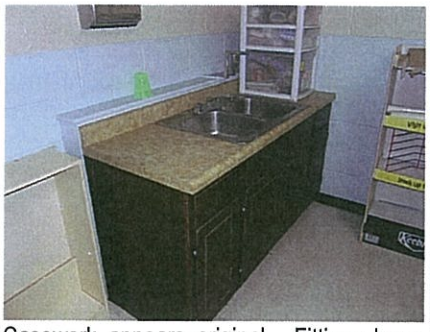
The fire alarm system is adequate as a temporary solution. If the building is to be renovated, the fire alarm system would need to be replaced. The most recent building codes require educational facilities to have an emergency voice/alarm communication to broadcast voice messages (via speaker) upon activation of the fire alarm system. The system should also be addressable, as this type of system provides fewer nuisance alarms, faster detection, and the exact location of where a fire has started or which pull station was activated.

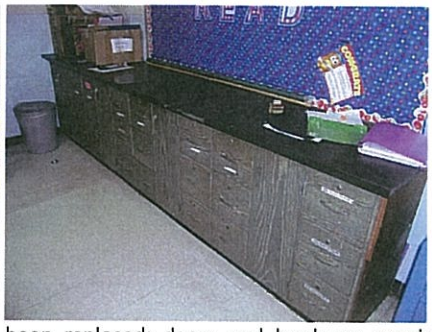
E20 FURNISHINGS

FIXED CASEWORK

Casework is located throughout the building and its conditions vary.

Classroom Wing: Casework has been replaced with non-commercial grade cabinets with post-formed plastic laminate tops. Other casework in this area appears to be refinished/repaired existing casework. Casework is not accessible.





Science Classrooms: Casework appears original. Fittings have been replaced; doors and hardware repaired. Casework does not provide accessible stations.

Cooking Classroom: Casework appears original. New elements have been introduced; appliances are replacement units. There are no accessible cooking positions in the classroom.

F10 SPECIAL CONSTRUCTION

C

FARLEY CONDITIONS AND ASSESSMENT

METHODOLOGY

Research

Bargmann Hendrie + Archetype, Inc. (bh+a) reviewed existing building documentation to identify the existing construction dates of alterations and major capital projects at Farley.

Survey and Investigations

On-site survey and investigation work included a walk-thorough of the building interior and exterior with Massachusetts Bay Community College Facility Farley maintenance staff and inspection of the exterior of the building from the ground and from flat roof areas accessible via roof hatches.

GENERAL INFORMATION

Farley is a 112,000-square-foot, brick-veneered building that is being investigated for renovation, both to address the aging condition of the building and to determine its potential for re-use as a middle school. The building was constructed in 1973 as a middle school and is currently occupied by Massachusetts Bay Community College (MBCC). The school was part of a three-school construction program in the early 1970s to build three similar schools sharing nearly identical footprints. The other schools are the Cameron Middle School and the Barbieri Middle School. This report will describe the general conditions of the existing Farley structure and will also establish code, energy, accessibility, and structural guidelines in accordance with the 8th Edition of the Massachusetts State Building Code that must be followed during a building renovation.

Farley is a two-story building with four different floor levels that features a compact core building with classrooms, offices, and multi-use spaces, as well as a structurally isolated gymnasium and pool building (please see Figure 1 for general building layout). The core building is laid out with angular rooms, corridors, and open spaces; there are very few perpendicular walls within the building. A total of four interior stairs and four exterior stairwells provide access to the four different floor levels. The exterior walls are typically concrete masonry units (CMU) backing up brick veneer or wood panels. Except in the pool area, regular maintenance has included re-roofing the building, patching roof leaks, and general maintenance. The pool area of the building was abandoned in the 1980s and has not been maintained other than continuously pumping water from the deep end of the pool, which appears to be 6-8 feet below the water table. The interior and exterior of the occupied building are in generally good condition, with normal wear and aging.

The Study refers to three distinct sections of the building:

1. Main Building – Classrooms, Offices, Open Spaces
2. Gymnasium
3. Swimming Pool

A10 FOUNDATIONS:

Description

- Reinforced concrete foundation walls and spread footings
- Interior spread footings
- 4" concrete slabs on grade

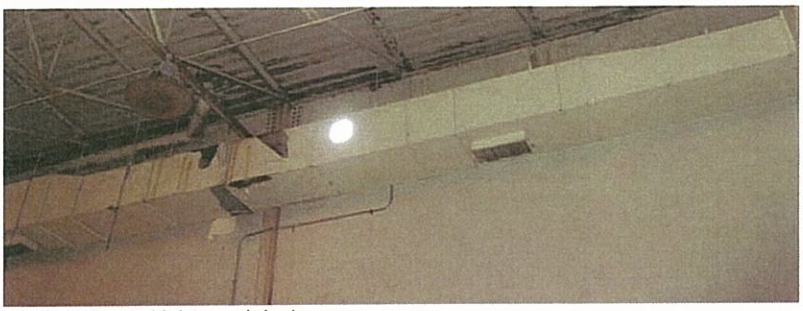
Observations

Building foundations are in generally good condition, with no signs of settlement or cracking. Condition and failure of the swimming pool is discussed later in the report.

The pool is empty except for a continuous spout of water pouring in from a hole at the deep end due to hydrostatic pressure. This water is being continuously pumped out of the building. Steel beams, joists, columns, and deck are rusting and appear to be structurally compromised above the pool area.

Recommendations

Similar to the main building, the design snow loads for the school are noted to be 40 pounds per square foot on the original construction drawings. Current flat roof snow loads for a new school in Framingham would be 42 pounds per square foot, which is marginally above the original design load. If the roof is renovated and the roof structure altered, the existing members in the areas of the alteration will need to be reviewed with modified current snow loads, including drifting snow, to verify their adequacy. Based on the site visit, it is expected that the existing pool roof framing would be fully inspected and likely require replacement of the deck and possibly roof framing if the joists are determined to be deteriorated and deficient.



Rusting at metal joists and deck

Similar to the main building, the lateral loads (wind and seismic) are resisted by partially reinforced masonry walls. The architectural drawings show the walls being connected to the steel columns and beams at the floor and roof levels of the building with standard masonry anchors. The walls would not meet the current building code seismic detailing requirements for new construction, but may remain unchanged as long as the building does not undergo substantial structural renovation.

B2010 EXTERIOR WALLS

Description

In general, the exterior walls of the building are 4" brick veneer backed up by partially reinforced concrete masonry units (CMU). At the top of many exterior walls, the brick is replaced with a wood panel system. The exterior walls bear on continuous concrete frost walls.
Space inserted
Observations
The exterior brick walls show some signs of minor deterioration (minor thermal cracking) due to the age of the building, but are generally in good condition.

Caulked expansion joints are no longer pliable or have failed, and should be repaired as part of general maintenance.

The wood panel siding is rotting, does not appear to have been painted or maintained in a number of years, and should be replaced as part of any renovation.

The exterior walls of the pool building are stained with efflorescence, indicating moisture is leeching outward through the brick. The moisture could be caused by water entering the wall cavity at the roof level or being pulled out of the abandoned pool building.

Corner of pool building deterioration

Pool water pumped and daylighted at grade

B2020 EXTERIOR WINDOWS

Description

The perimeter windows are the original non-thermally broken, single-glazed units (some areas have double-glazing). The units are arranged in various configurations; most are fixed. Operable awning units are located in limited areas.

Slope glazing provides clerestory lighting in the lower classroom spaces on the north side of the building.

Observations

The windows are well maintained and in good working order. Some glass units have deteriorated surfaces; no active leaks were reported.

Windows at cafeteria

Sloped glazing at first-floor classrooms

Recommendations

Glass units with deteriorated surfaces should be replaced.

General condition of roofing

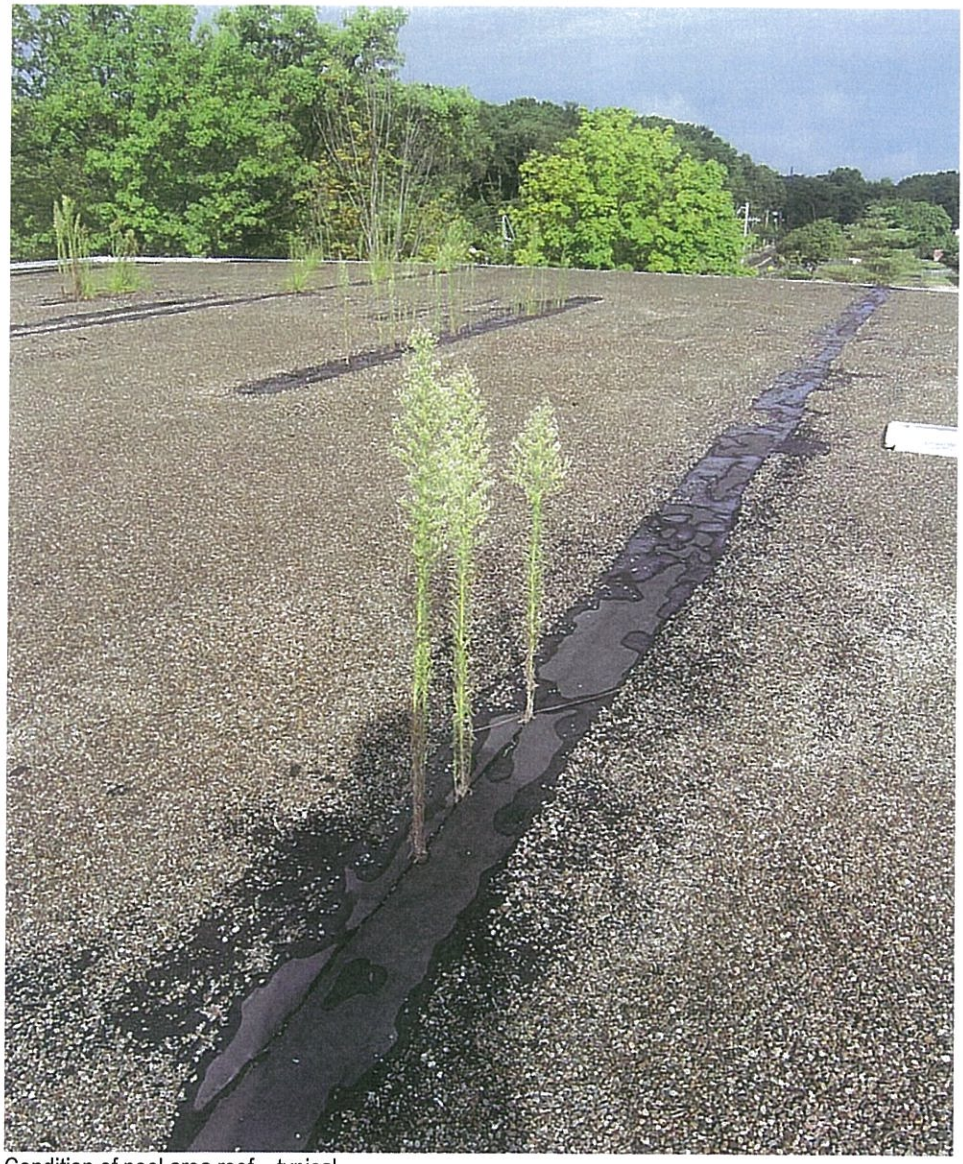
Flashing in good condition; fall protection in place at roof edge.

Equipment properly flashed and
gas piping properly secured

Flashing repairs supported and identified

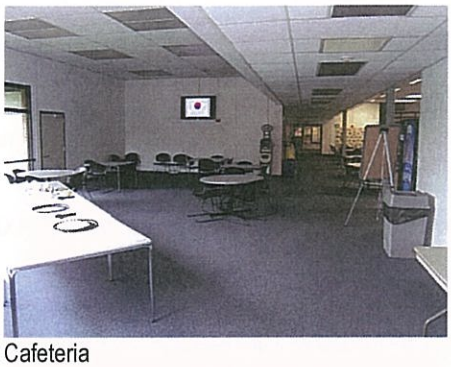
Lower roof areas in good condition

Standing water on flat copper roofing

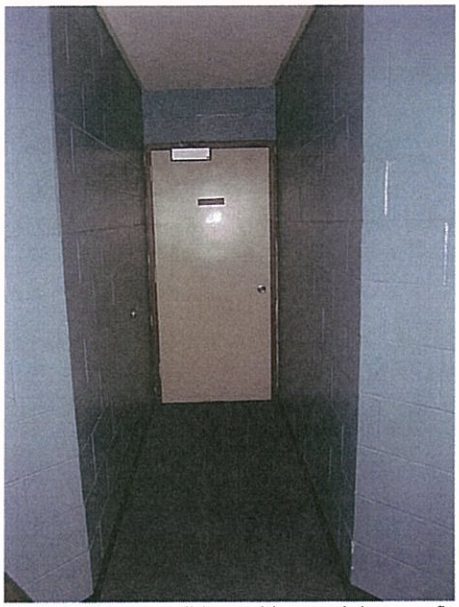


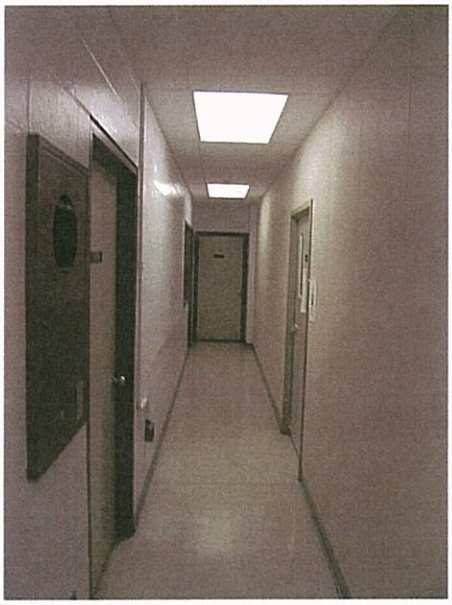
Condition of pool area roof – typical

Library space



Cafeteria





Typical non-accessible corridors and door configurations

Typical stair finishes

Stairs to upper level

D20 PLUMBING

Observations

The existing plumbing fixtures seem to have been well maintained and seem to be in good working order. The toilet rooms and water fountains are not ADA-compliant.

The domestic hot water heating system consists of a single A.O Smith high-efficiency, gas-fired water heater. The water heater was manufactured in 2011.

The building sanitary drainage is pumped from a sewage ejector located in the mechanical space. The age of the unit could not be determined, but seems to be in good working order.

Recommendations

The existing building plumbing systems appear to be adequate to serve the building if it is to be returned to its use as a school.

The toilet rooms and water fountains may require modifications to comply with current ADA regulations.

The domestic water heating system is new and will provide many years of use. The piping systems appear to be operating properly. The condition of the sewage ejector system is unknown but with proper maintenance, would be expected to have lots of useful life remaining.

The piping and pressure regulator under the dishwasher show signs of oxidation and corrosion. The booster heater appears to be original, old, and likely in need of replacement in the near future.

Another recommendation would be to test the water at the drinking fountains for lead and add filters if needed.

D30 HVAC

Observations

The building is heated and cooled by twelve gas/electric packaged rooftop units. The current units replaced the old units, in 2008. Several of the systems are zoned by the use of zone dampers, which were added to the system recently. Electric reheat coils are also provided throughout the building and are assumed to be original.

Ventilation for the building is provided through the rooftop units. The amount of ventilation air that is introduced is currently unknown, but can be measured and adjusted if required. The rooftop units have adequate capacity to provide the required amount of ventilation.

The HVAC system is connected to a building management system that can be accessed through the internet.

The swimming pool area was served by a rooftop unit that is no longer functional. It is not evident that the space is currently heated.

The kitchen has a small exhaust hood that seems to be served by a non-code compliant exhaust fan. The dishwasher is also served by an exhaust fan.

Exhaust for other areas of the building is provided by rooftop exhaust fans. Most of the fans seem to be original to the building and are in various states of repair. Some are excessively noisy.

There are two split systems that are currently unused because they are not needed. It is not known if they are functional.

Recommendations

The existing electrical system is in good working order and should provide many years of useful life. Many of the electrical rooms contained exhaust fans but did not appear to be ducted to the outside. The rooms containing transformers felt warm, and it is recommended that the exhaust fans be ducted outside and thermostat controls provided.

If the building is to be heavily renovated and used long-term as an educational facility, it may need to be brought up to the latest codes, requiring the following:

1. Relocation of equipment or extension of the electrical rooms s required to maintain the proper working clearances.
2. Replacement of the existing addressable audible FACP with a new addressable voice system that would provide emergency voice/alarm communication to broadcast voice messages upon activation of the fire alarm system. Replacement of the existing audible horn/strobes with speaker/strobes is also recommended.

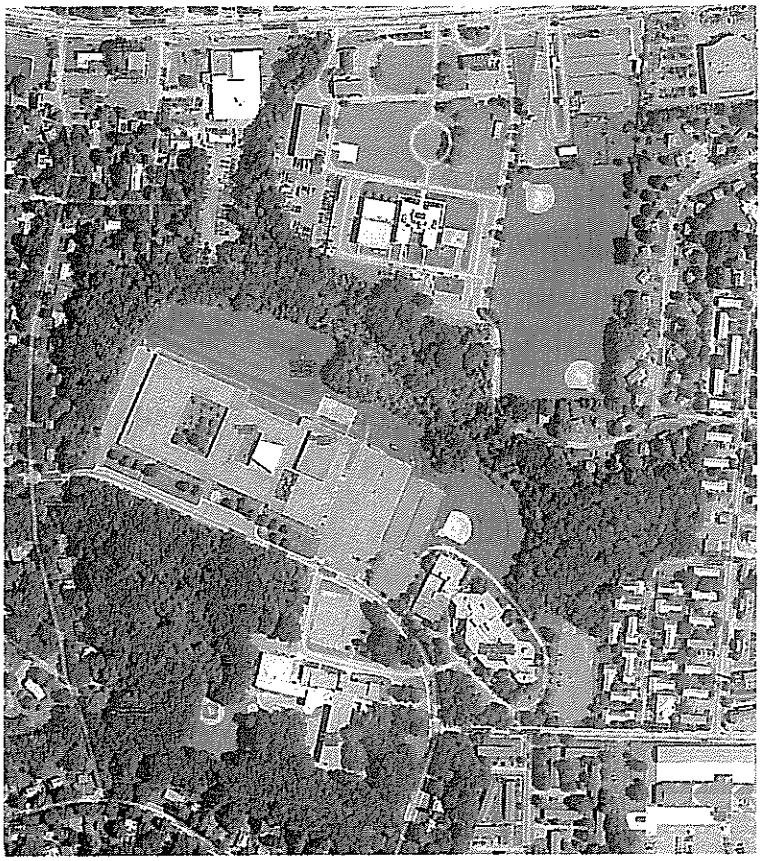
In addition, preventive maintenance (PM) should be performed on the switchboard, transformers, generator, and distribution panels. The PM should consist of infra-red scans of all connections and torque terminations to manufacturer's recommendations, resistance and time testing of all circuit breakers, and megohm test insulation resistance of transformers and generator. Equipment should immediately be replaced upon unsatisfactory test results.

F20 HAZARDOUS COMPONENTS ABATEMENT

A preliminary inspection of the building indicates the presence of materials likely to contain asbestos, PCBs, mercury, and lead. Specific items of note include pipe insulation, roof drains, floor tiles and mastic, window and door caulk and glazing, and lead paint. While these materials do not pose a problem as long as they are undisturbed, they will need to be identified and disposed of properly as part of a renovation project. See Appendix VI for Hazardous Materials Report.

D

Site Conditions and Assessment



Aerial view of sites along Flagg Drive

The Fuller and Farley Schools are located in a primarily residential area of south Framingham on a fairly level site that is bordered by trees on the north, east, and west, and by Flagg Drive on the south. Southerly across Flagg Drive is the McCarthy Elementary School. To the north of Farley, across Guadalcanal Road, are playing fields that are also owned by the Town of Framingham and under the jurisdiction of the School Department.

Property records from the Town of Framingham Assessor's Database Website identify Fuller School as located at 31 Flagg Drive and having a total area of 27.35 acres. Farley Building is located at 19 Flagg Drive, with an area of 15.11 acres. Maps showing the boundaries that these areas represent are not included on the website. Assessor's maps provided by the Framingham Public Schools include plot plans of Fuller and Farley, and a combined plot plan that includes Muster Field. This combined plot plan depicts the boundaries of what the Town of Framingham owns to the north of Flagg Drive and represents the buildable area. .

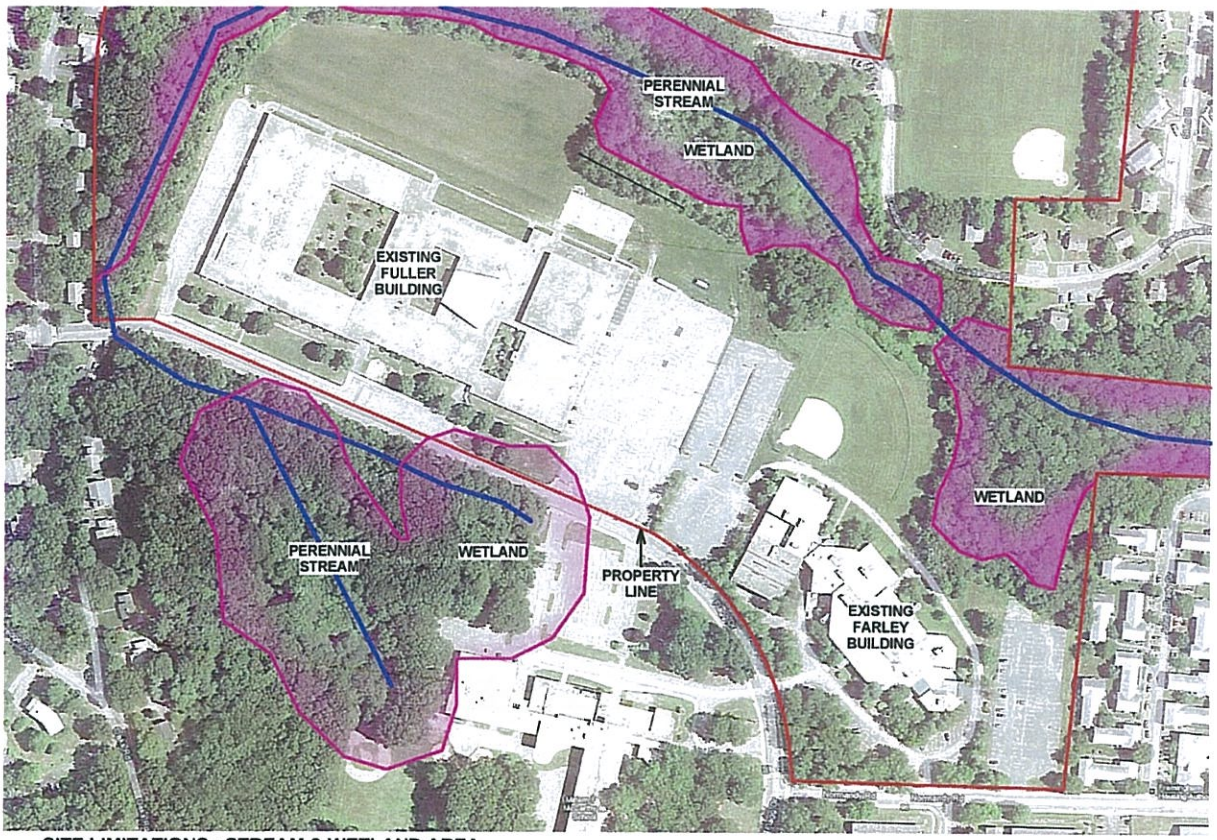
Based on this initial information, and to identify more precisely the limitations, some preliminary on-site review and assessment was conducted by a wetlands scientist. This included a review of the property areas available for possible use. A base map was prepared using existing online GIS sources. The full report and wetland analysis plan is included in Appendix II. In summary, the findings indicate the following:

- Resource features include a stream to the north and west of Fuller, with an associated 200' riverfront setback (MA DEP) and a bordering wetland that is subject to the Town of Framingham's Wetland Regulations' 125' buffer zone and 30' No Alteration Zone. Under certain conditions work is allowed within the 125' buffer zone.

- The south side of Flagg Drive contains a drainage channel, an intermittent stream, and a bordering wetland resource that is subject to the 125' buffer zone.

- Some of these resource areas are categorized as "previously degraded." Redevelopment, such as building or pavement, could possibly be allowed.

- The initial map depicts a flood zone at the parking area between Fuller and Farley. The report's conclusion is that there is no 100-year flood zone within the study area.



SITE LIMITATIONS : STREAM & WETLAND AREA

Off-street parking regulations require 1 parking space per 4 occupants, plus 1 per 2 employees for a school building. A footnote states that "Any such facility intended primarily for children under driving age may provide only one-half the specified requirement."

It should be noted that when a project progresses into design, the required parking space number will need to include other uses, such as the Vision Center, that are unrelated to the school. The Planning Board will determine specific requirements if they are not made clear in the Zoning By-Laws. The By-Laws do provide for a reduction in the required number. Also, as this zoning district has a front-lot setback, the requirement is that "no unenclosed parking area shall be allowed within ten feet of a front lot line except on a residential driveway."

Parking is a significant issue with respect to this site. The existing parking includes accommodation at Fuller for staff, related functions that use the building such as the ACCEPT transportation program, the Vision Center, etc. Initial review indicates that existing parking is adequate for these functions. It includes the following:

West lot

3 dedicated spaces for Vision Center
2 dedicated spaces for Central Offices Parking
15 dedicated spaces for Buildings and Grounds
5 unmarked spaces along the building
35 unmarked spaces at the west side
Area of van parking at grass for ACCEPT vehicles

Flagg Drive at Main Entry

1 dedicated van space
3 dedicated handicapped spaces
3 dedicated visitor spaces
An area of non-striped, unmarked spaces
Bus lane along north side of Flagg Drive allows for bus parking that does not interfere with other parking

East lot

3 dedicated handicapped spaces
4 dedicated custodial spaces
10 dedicated FPAC-TV spaces
1 handicapped space related to FPAC-TV
73 spaces at two west rows
5 spaces along Flagg Drive
(158 spaces at four west rows, used by MASSBAY)

Space required for bus and driver parking, shown relative to existing Fuller building footprint

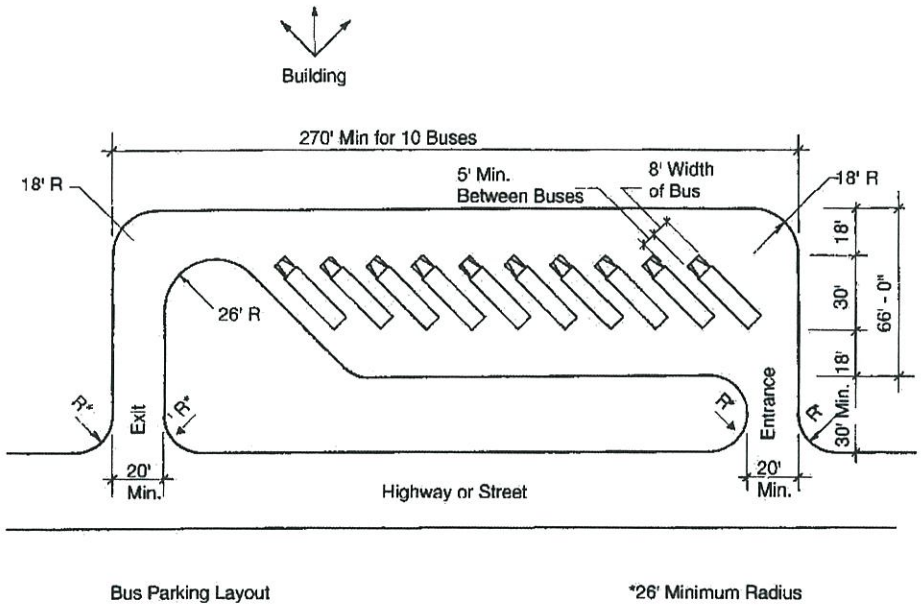


Diagram showing criteria for bus parking

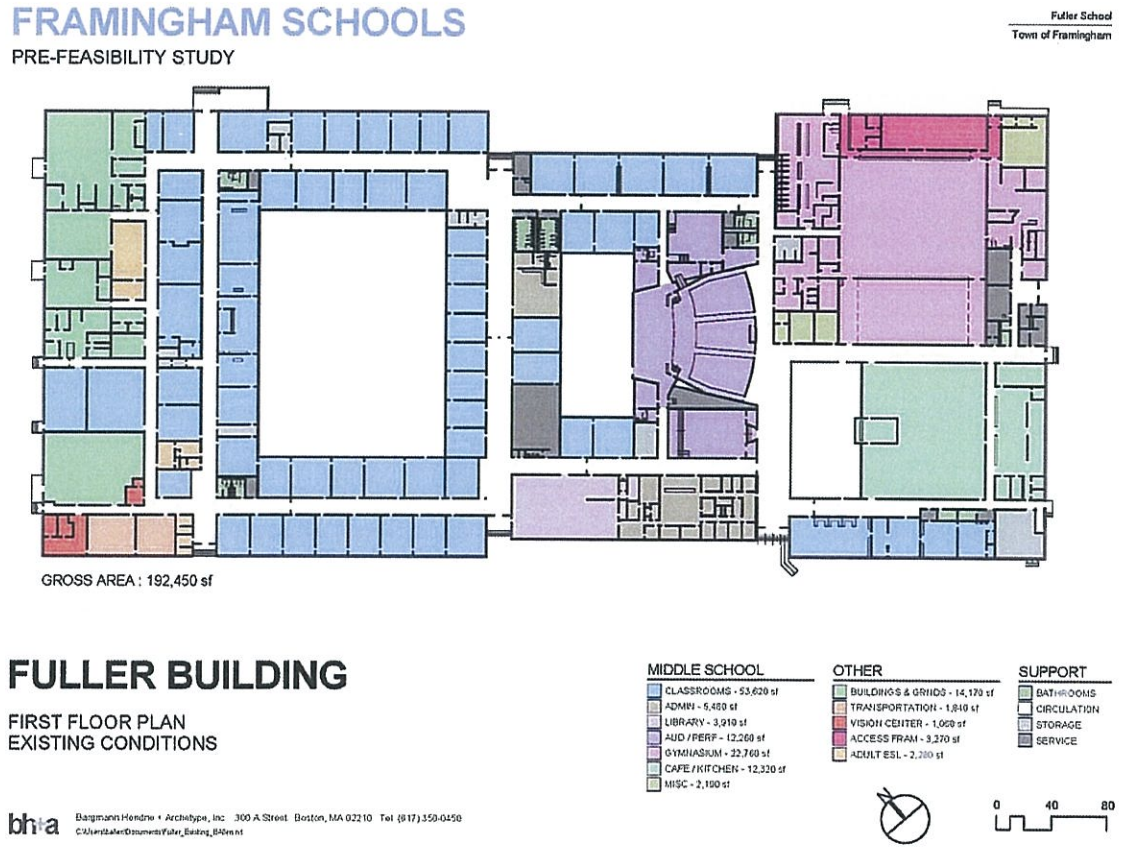
E

Program Issues / Educational Specifications

In conjunction with this pre-feasibility study the District has contracted the New England School Development Council (NESDEC) to conduct the following:

- School Facilities Study – Capacity Analysis
- Updated Enrollment Projections (and sub populations)

An inspectional walk-through of the Fuller Building and meetings with staff assisted in the creation of a District building use plan. This plan identifies program categories and usage that are not part of the Fuller Middle School.



Plan showing existing uses at Fuller Middle School

Allowances are also made for the realities of a particular school's needs. A school that can show it has a proportion of SPED students that is higher than the state average may have additional space for this need approved as part of the funded program.

Fuller was designed as a 1,200 student high school. Even though approximately 36,000 SF of the 196,000 SF building is being used for non-middle school purposes, the remaining 160,000 SF is significantly larger than is needed to accommodate Fuller's 500 student population. A review of school functions, space utilization and use intensity indicate the following needs that support a more complex program and more space than might otherwise be evident:

- The ELL program uses 10 classrooms – seven ELL classrooms and three ESL classrooms.
- SPED has five full-time classrooms. Currently there are no dedicated bathrooms as part of these spaces, but that is definitely a need.
- There are two gym spaces, including one large one that can be divided with a partition, and one wellness center. At least two of these spaces are in use at any given time.
- Fuller has both a cafeteria and auditorium as do the other two middle schools in the District.
- The cafeteria serves breakfast for 125 students and serves three daily lunch shifts.
- Resource room for each team
- Three literacy labs
- Six science classes (one is lab)
- The art room is adequate and is used continually
- Gifted and talented class (used half-time)
- Three computer labs used constantly
- The library is an appropriate size for the current needs
- The adult ESL program has 500-600 students each night. While that is not specifically a middle school use, it makes sense to utilize classrooms. The related ESL offices thus make sense as part of this building. This program is likely to expand.

Identifying spaces in the existing building that are inefficient and don't meet user needs will be incorporated in the decision-making process regarding the replacement or renovation of Fuller.

<u>Farley Building</u>:

- The auditorium is undersized for the capacity of the building
- General odd layout – classroom shapes
- Cafeteria space is small. As used by MBCC, this is not a full dining facility. Barbieri, the similar building renovated for use as an elementary school, has six lunch periods in order to fit students into the space. This is considered a serious problem and not something that should be considered at Farley.
- Lack of security at the media/library center is an issue due to this space being open to the hallways, with only light railings separating the space from public areas.

Considering some program spaces as they relate to the other middle schools is also useful. This is particularly true in considering making a case to the MSBA, as the MSBA will sometimes agree to a program element in a particular school if it will create parity with other town schools serving the same age:

- The MSBA template does not consider an auditorium as an integral part of a middle school program. The 3 middle schools and high school in the District all have auditoriums. As an issue of parity, the Fuller School should continue to have an auditorium in any renovation or reconstruction project.

F

PLANNING CONCEPTS AND OPTIONS

In the event that Town of Framingham is invited by the MSBA to participate in its school construction program, the District would conduct a Feasibility Study of the Fuller/Farley buildings that would identify and evaluate options available to the District.

Options identified in this study are as follows:

Fuller Middle School
- Renovation/Addition
- New Construction

Farley Middle School
- Renovation/Addition
- New Construction

Fuller Elementary School
- New Construction

Fuller K-8 School
- New Construction

The existing Fuller and Farley building plans are included below.

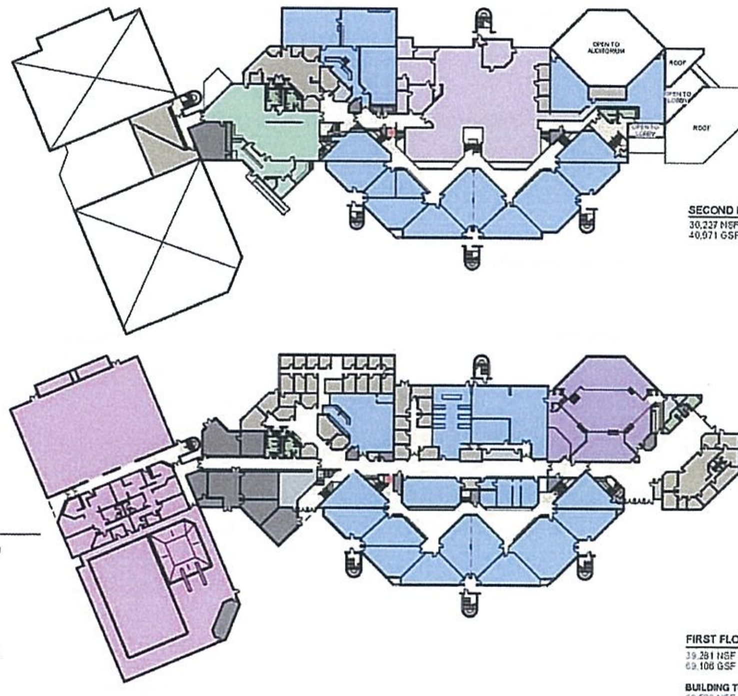
FRAMINGHAM SCHOOLS

PRE-FEASIBILITY STUDY - FARLEY BLDG. RELOCATION SCHEME - Existing Program Both Floors

Farley School
Town of Framingham

FARLEY BUILDING

EXISTING PROGRAM



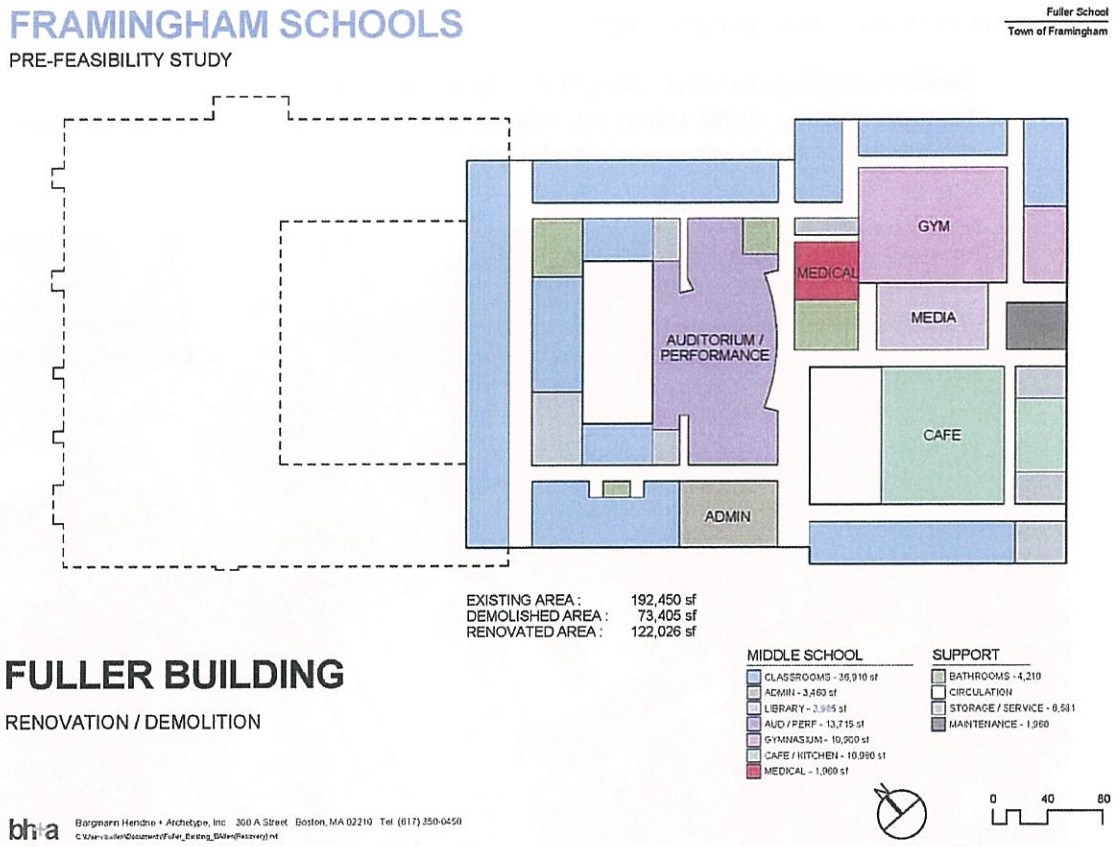
SECOND FLOOR
30,227 NSF
40,971 GSF

FIRST FLOOR
39,281 NSF
69,106 GSF

BUILDING TOTALS
69,508 NSF
110,077 GSF

MBCC SPACES	SUPPORT
CLASSROOMS - 26,052 GSF	CIRCULATION
ADMINISTRATION - 9,939 GSF	STAIRS
LIBRARY - 8,343 GSF	ELEVATOR
AUDITORIUM - 4,896 GSF	STORAGE
GYMNASIUM - 10,435 GSF	SERVICE
CAFE / KITCHEN - 3,843 GSF	BATHROOMS

bh+a Borgmann Hendrie + Archetype, Inc 300 A Street Boston, MA 02210 Tel (617) 350-0450



Plan above depicts a possible reallocation of spaces that approximates the 120,000 square feet needed for middle school use. Auditorium, cafeteria and main gymnasium spaces would remain and be renovated.

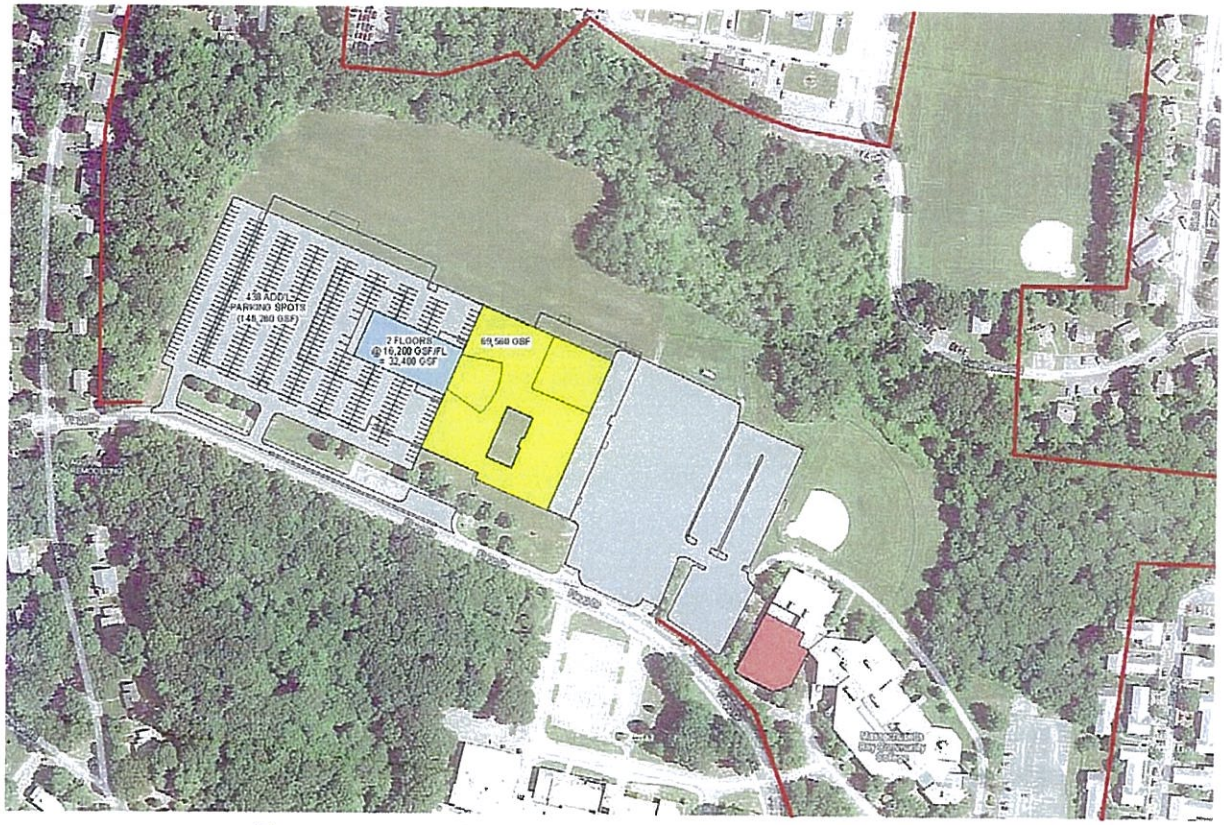
The scope for renovation to the existing Fuller Building includes:

- Backfill and earthwork to fill approximately 6'-deep former crawl space at demo area
- Construction of new foundation wall along short length of building
- First floor concrete joists: All areas except cafeteria, auditorium, and gymnasium
    - Remove loose concrete from 1/3 of area
    - Splice new rebar
    - Bonding agent for concrete repair
- Formwork to joists
- Pump overhead patching material, 3/8" aggregate; 4,000 psi mix
- Construction of new exterior wall along short length of building
- Remove existing roofing form remaining 120,000 square feet
- Remove and replace 1/3 of gypsum plaster roof deck at remaining 120,000 square feet (not including auditorium)
- New roofing on 120,000 square feet
- Add roof drains on existing flat roofs (double number of existing)
- Minimum 3" of polyurethane foam insulation to underside of concrete joists
- Cut 20 (24" by 24" inch) into existing foundation wall to expose crawl space
- Provide new louvers with insect screens at ventilation openings
- Demolish existing curtainwall and windows (exterior and courtyards)

OPTION 2

FULLER MIDDLE SCHOOL – RENOVATION/ADDITION

Demolish 126,000 square feet of existing 196,000-square-foot building.
Renovate remaining 70,000 square feet, including relocating partitions to move program spaces. Existing gym, cafeteria, and auditorium spaces remain in existing location.

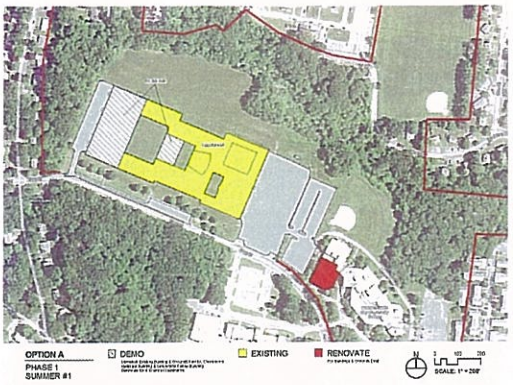


OPTION A
PHASE 3
SUMMER #3

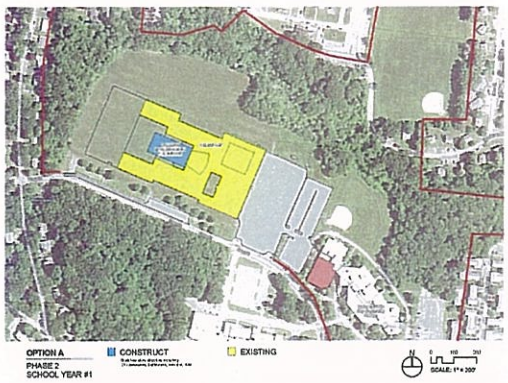
EXISTING NEW BUILDING

N 0 100 200
SCALE: 1" = 200'

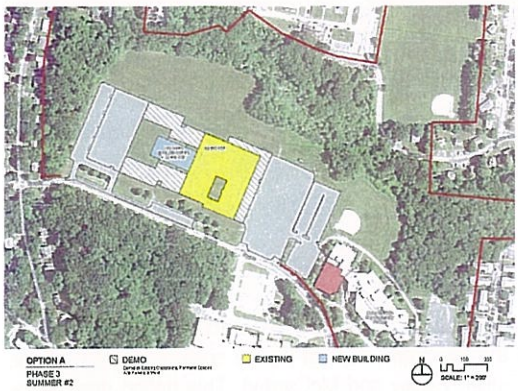
The west portion of the site where the building will be demolished will be paved over for additional parking. Retaining a portion of this wing and using it to house Buildings & Grounds and other non-middle school uses currently at Fuller is a possibility. Another possibility, shown on this plan though not necessarily tied to this option, is to move Buildings & Grounds to Farley at the currently unoccupied pool area.



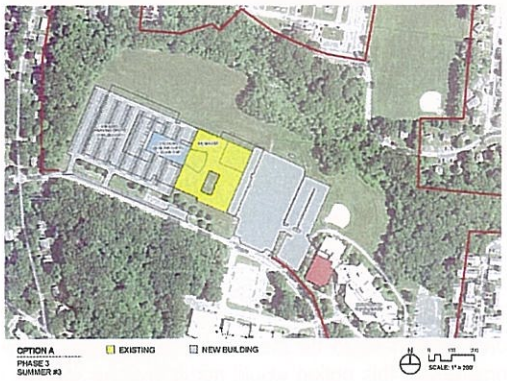
1 – Demolish west wing and center



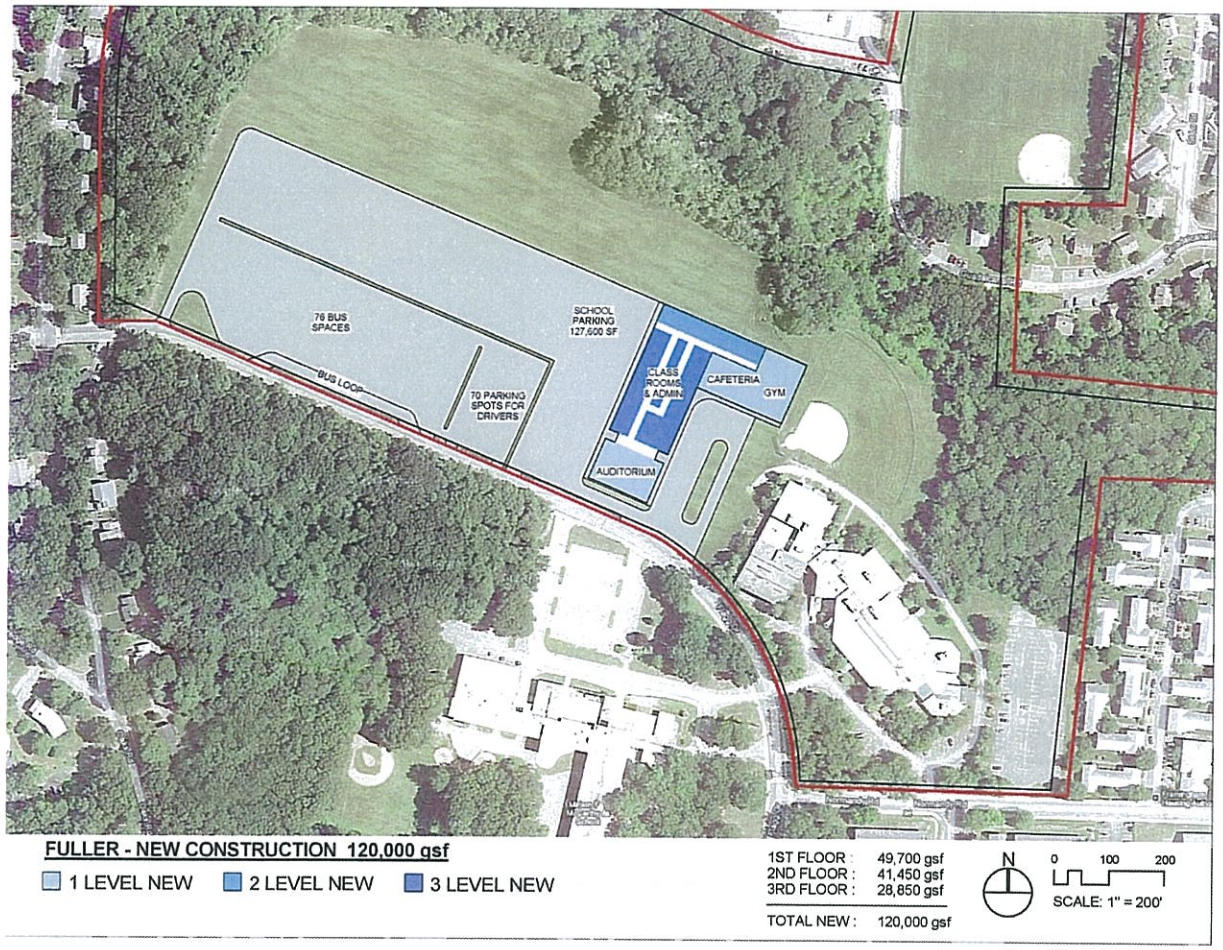
2 – Build classroom wing in courtyard



3 – Demolish north and south wings, east edge

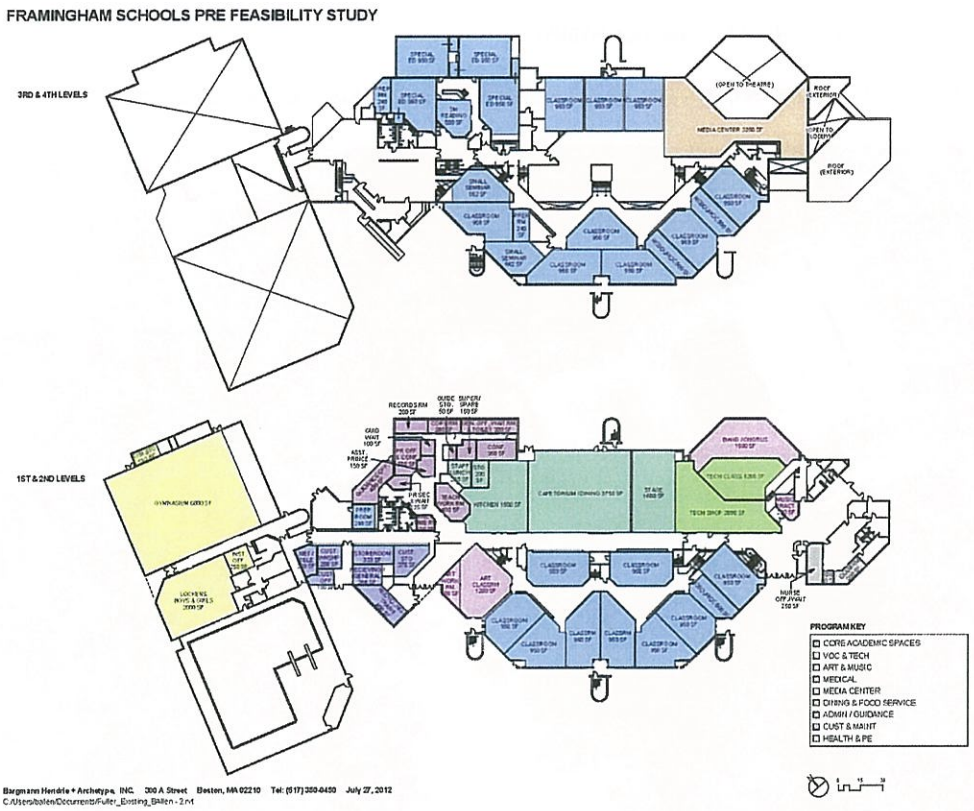


4 – Pave parking lot



The layout of this building would be somewhat restricted by the existing building and the conservation setback. Another consideration could be the lack of parking during construction, although the lot to the east of Farley could be used. Once constructed, this option would result in three schools on the overall site (Fuller, Farley and McCarthy). This option does show how bus parking could also be accommodated on this site.

The option to locate a new middle school on the field to the north was eliminated from consideration since associated traffic would traverse or cross the residential Guadalcanal Road. It is likely that reviewing other available sites will be required during the MSBA Feasibility Study phase.



The scope for renovation to the existing Farley building:

Pool Space

Roof

- Remove existing roofing material from pool roof
- Remove existing metal deck from gym area
- Assume repairs to existing joist girders (splices, reinforcing, field welds) to 40%
- New connections to perimeter walls
- Abrasive blast joist girders; prime and paint
- New metal deck
- New roofing

Walls

- Repoint 50% of wall surfaces
- New interior insulation; metal studs with batt insulation or board on zee channels
- GWB finish, painted

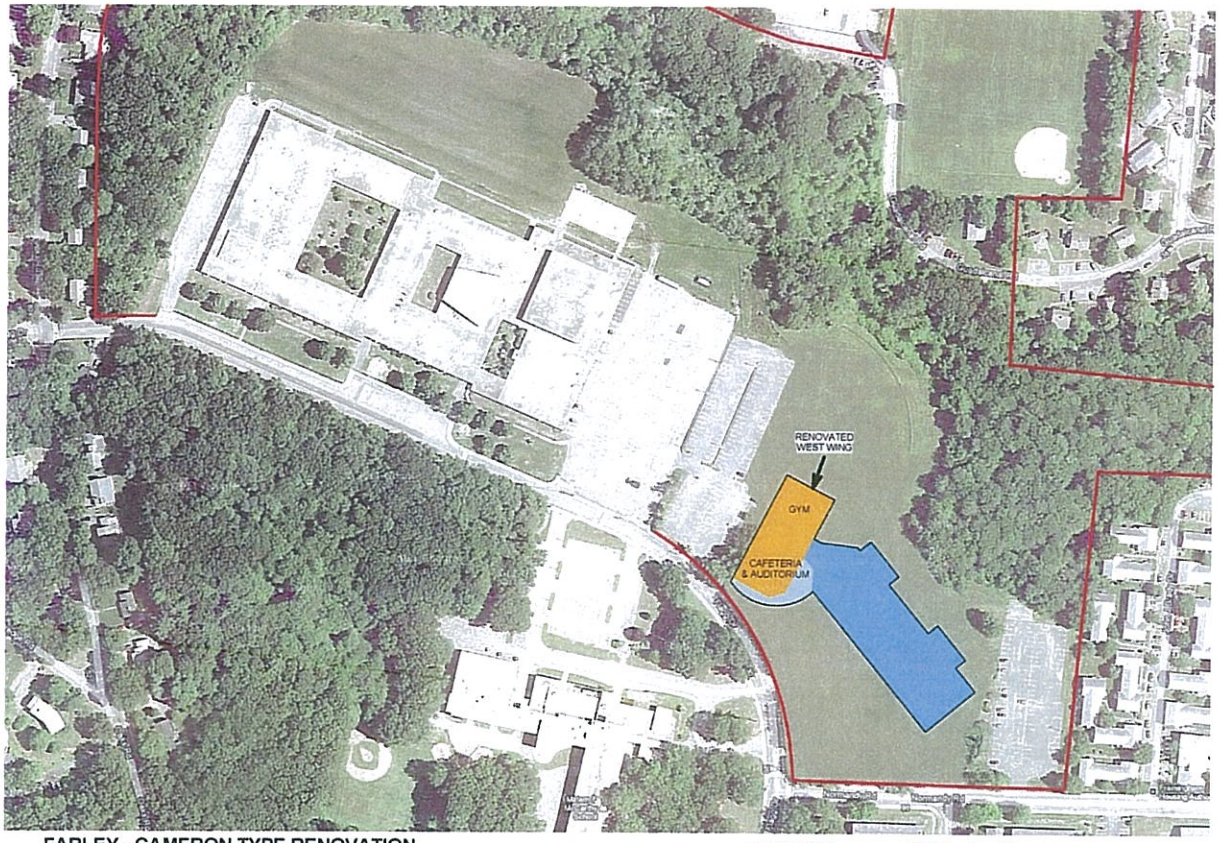
Pool

- Remove existing stainless steel gutter
- Remove pool deck
- Trace and cap all existing pool piping; demolish piping exposed when deck is removed

OPTION 5

FARLEY MIDDLE SCHOOL – RENOVATION/ADDITION HYBRID

Demolish 89,300 square feet; renovate 20,700 square feet, 99,300 square feet new construction.



FARLEY - CAMERON TYPE RENOVATION

RENOVATE 1 LEVEL NEW 2 LEVEL NEW

RENOVATED :	24,000 gsf
NEW 1ST FLOOR :	27,900 gsf
NEW 2ND FLOOR :	71,400 gsf
TOTAL NEW :	123,300 gsf

N

0 100 200

SCALE: 1" = 200'

- Remove existing stainless steel gutter
- Remove pool deck
- Trace and cap all existing pool piping; demolish piping exposed when deck is demolished
- Core 4"-diameter holes in pool bottom at 10" OC.
- Provide underdrain assembly at deep end of pool connected to stormwater system; coordinate elevation to provide gravity drainage
- Fill pool with ¾" crushed stone to 16" below bottom of new slab
- Provide 8" of compacted gravel fill
- Reinforced vapor barrier
- 3 inches of rigid board insulation
- 5"- hick concrete slab with WWF; 3500 PSI mix; finish to accommodate proposed finish

New Cafeteria and Auditorium

- Provide new kitchen/storage/serving and seating area; create balconied auditorium space
- Renovate locker area to make smaller

Gymnasium

Generally retain gym space, but upgrade systems and envelope:

- Provide new automatic fire protection system throughout
- Upgrade fire alarm system
- Provide new ceilings throughout to accommodate installation of new systems
- Provide new lighting control and energy efficient lighting system
- Provide new toilet rooms configured to provide handicap accessibility

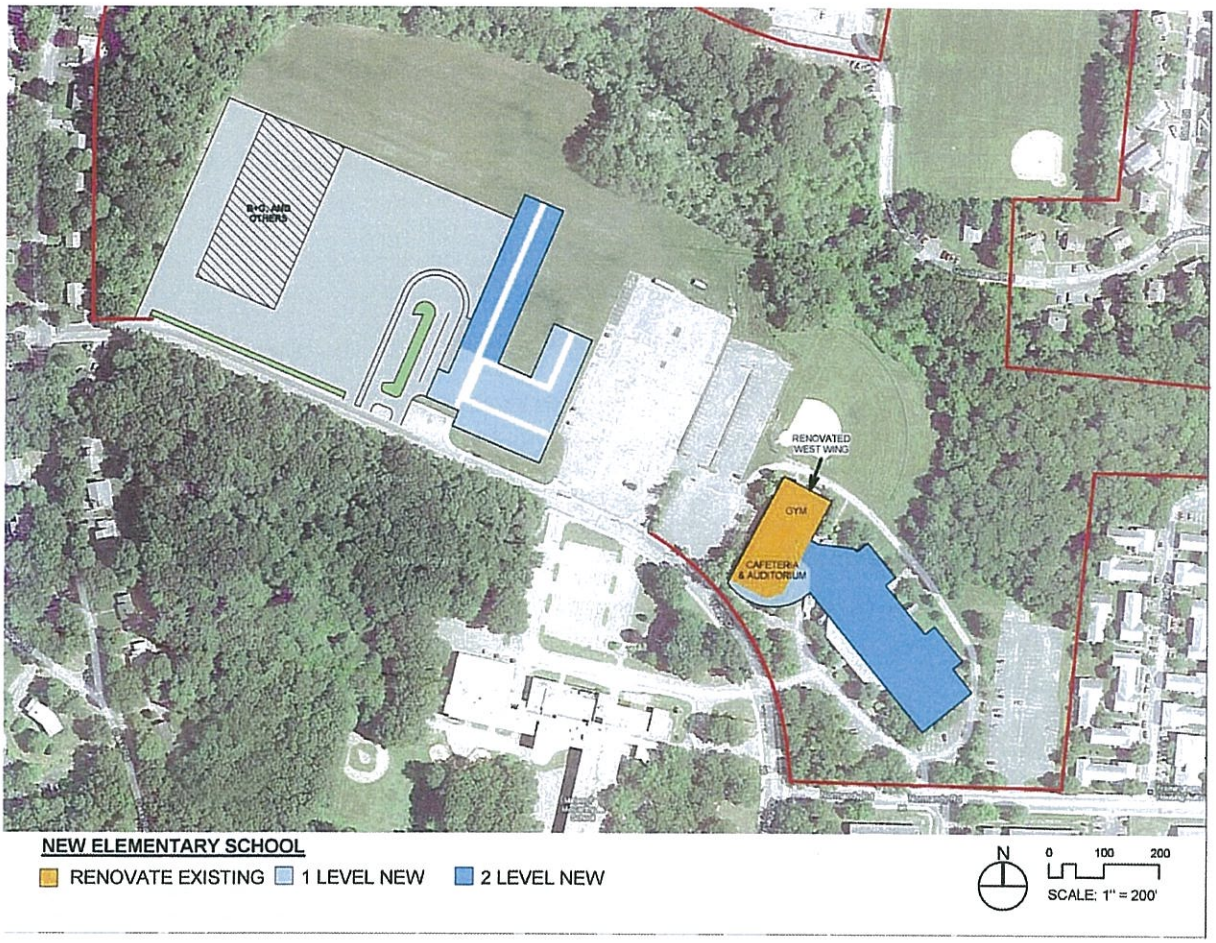
New Construction

- Two-story classroom wing and double-height curved area outside of cafeteria to provide additional seating space

OPTION 7

FULLER ELEMENTARY SCHOOL– NEW CONSTRUCTION

Demolish 196,000 SF; construct 85,000 SF of new construction.

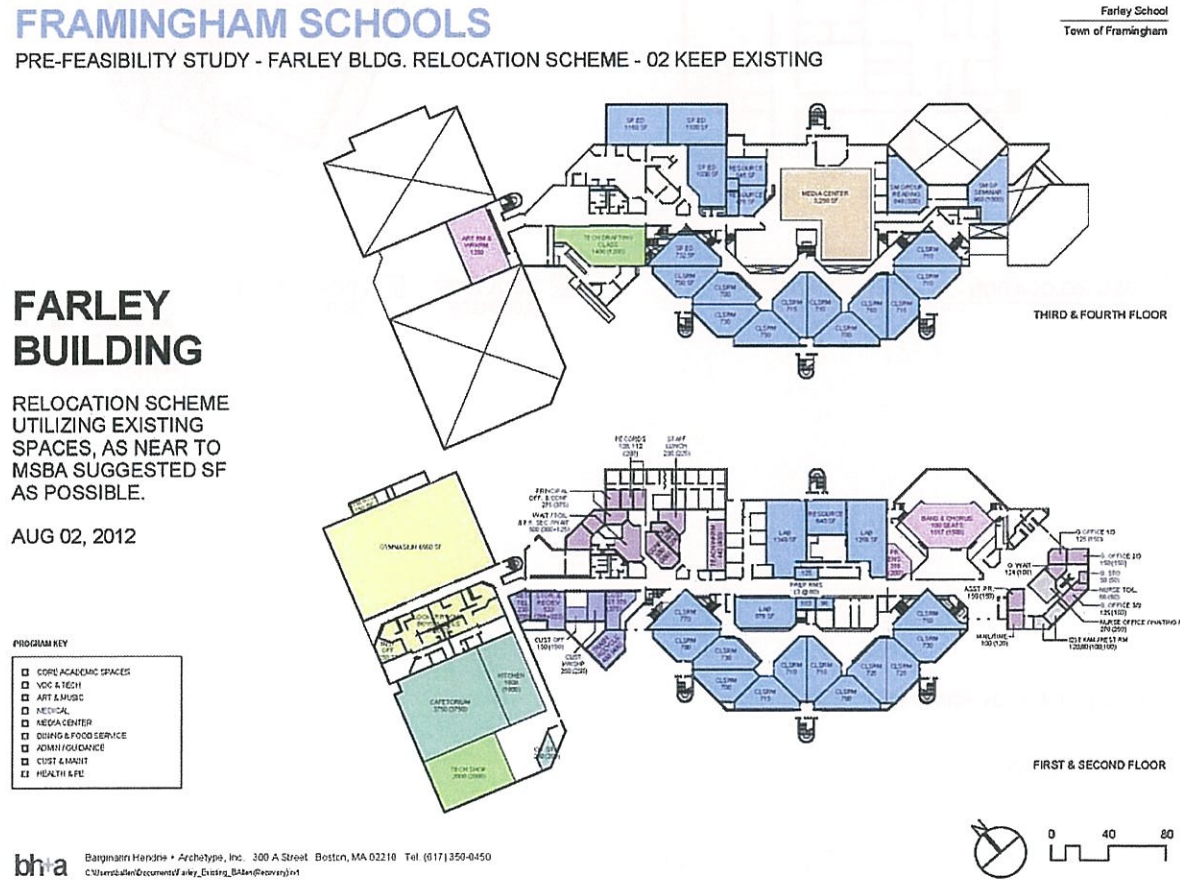


The intent of this option is to show how 450 – 500 elementary school students could be accommodated on this site. This could also be built on the existing parking lot and thus not require demolition of Fuller until this building is complete.

- Program-based renovations depend on functions determined to be necessary, but some key renovations include:
- Renovating the swimming pool space to create a cafeteria and kitchen facilities
- Relocating some of the partitions at triangular classrooms to accommodate class sizes. These partitions are in steel tracks that were designed to be moveable.
- Possibly creating one lab space for science classes, if the existing MBCC lab is not appropriate.

Requirements for building-code-based renovations are based on the amount of work done to particular areas of the building. The most significant item that would be required, should the entire building need to be brought up to the standards for a new building, would be the addition of a fire suppression system. If, for example, no repartitioning were to be done and the only area with changes were to be the Pool, a case could be made for not requiring the addition of sprinklers to the main portion of the building and only requiring sprinklers at the new area – the new cafeteria and related spaces that exceed 7500 square feet.

As a general indication of how the MSBA template program would fit into Farley, an analysis was done showing the program components (based on 500 middle school students) inserted into the existing Farley configuration. This indicates a reasonable fit could be made for classroom uses. The pool could be renovated for use as cafeteria space.



The scope to include:

- Envelope and structural repairs to pool area
- Interior renovations to allow for cafeteria and kitchen (though kitchen does not need to be a facility for cooking full meals. Other facilities can be used and food brought here. This system is already in place in town.)

The scope for renovation to the existing building:

Pool Space

Roof

- Remove existing roofing material from pool roof
- Remove existing metal deck from gym area
- Assume repairs to existing joist girders (splices, reinforcing, field welds) to 40%
- New connections to perimeter walls
- Abrasive blast joist girders; prime and paint
- New metal deck
- New roofing

INTERIM COSTS

For purposes of the Framingham Public Schools budgeting, separate from what is proposed to the MSBA for a renovation or new construction project, there will be costs associated with interim repairs to both Fuller and Farley.

The scope and costs for these can be looked at in two ways:

1. If the building is going to receive a major renovation or be torn down, with that construction starting not prior to 2016, what work will need to be done to allow the building to stay functional?

2. If the building is not going to receive a major renovation or be torn down (if the Town decides to retain the building for the longer term and focus on other buildings for the foreseeable future), what work should be done over the next 1-4 years? This option still assumes some major renovation will be needed at some point in the future.

The difference between these two options is that more significant items might be done in the short term if the building is to remain in use.

Summary of potential individual cost items if no comprehensive renovation / demolition done to buildings

	Option A 2012-2016	Option B 2012-2016	Option C 2017-2023
	Building to be demolished or receive major renovation in 2016 (or shortly thereafter)	Building to remain in use for long term	Building to remain in use for long term
Fuller	$2,426,000	$19,966,000	$13,950,000
Farley	$211,000	$2,326,000	$3,310,000

Fuller Option A

Scope of work:

- Repairs to 10% of roofing membrane
- Some ceiling work related to odors from moisture at deck
- Replace a small number of failed pumps for heating system
- Electrical repairs due to outages from obsolete system
- Replace a number of failed ventilators for heating system. Replace exhaust fans
- Caulk building expansion joints
- Caulk around windows to prevent further leaks
- Patch spalled concrete at building exterior so damage does not worsen

Fuller Option 1 B

Scope of work:

- Replace gypsum roof deck with steel, and all new roofing
- Related to roof work, replace ceilings and lighting
- Replace a small number of failed pumps for heating system.
- Replace all three electrical switchboards
- Replace fire alarm devices
- Replace a small number of failed ventilators for heating system. Replace/repair all exhaust fans.
- Caulk building expansion joints
- Caulk around windows to prevent further leaks
- Repairs to underside of concrete floor to prevent further deterioration. Provide ventilation to the space.
- Brick repointing – assume 20% of building
- Provide new kitchen grease trap and some updated equipment

G

COST ESTIMATES

Cost estimates were prepared for each school option in order to provide a general comparison of the various choices that may be available to the District. Cost estimates were prepared by CostPro cost estimators using December 2012 costs data.

Below is a summary chart of construction cost estimates for the major options considered:

Construction Cost Estimate Summary			
	Renovation	Hybrid	New
Fuller Middle School 120,000 SF	$35,300,000	$37,500,000	$42,700,000
Farley Middle School 120,000 SF	$17,200,000	$36,600,000	$36,700,000
Fuller Elementary School 85,000 SF	n/a	n/a	$34,600,000
Fuller K-8 School 195,000 SF	n/a	n/a	$65,600,000

Cost escalation beyond 2012 is not included in the Cost Estimate Summary above. Construction cost escalation factors are 3.5% - 4% increase per year.

H

APPENDIX I – INFRARED ROOF SCAN AND REPORT

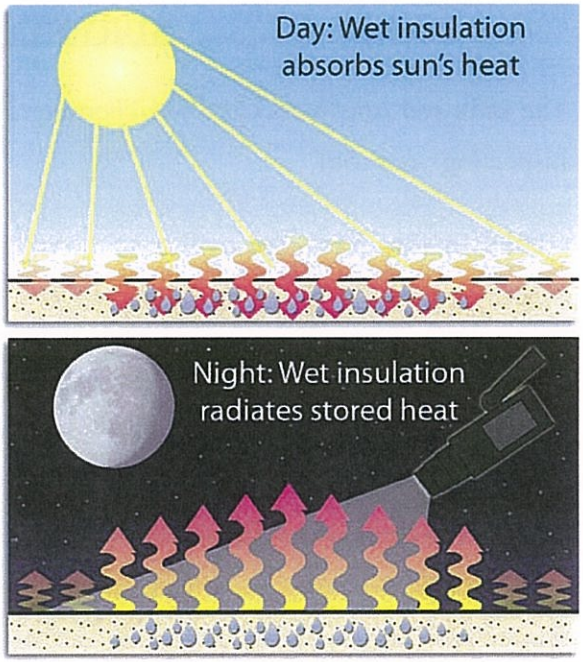
Table of Contents

INFRARED THERMOGRAPHY

All objects emit heat (i.e. infrared radiation). This radiation is constantly being absorbed and re-emitted by ourselves and everything around us. "Infrared scanning" and "thermography" are the terms used to describe the process of making this thermal radiation visible and capable of interpretation.

Infrared Roof Moisture Analysis locates areas of wet insulation within a flat roofing system. These areas of wet insulation can be pinpointed with the infrared scanner because wet and dry insulations have different abilities to absorb, conduct and retain heat. The thermal differences between wet and dry insulation are especially evident under two sets of circumstances.

First, wet roof insulation absorbs much more heat than dry insulation. Moisture-damaged insulation also stores more heat over a longer period of time than intact, dry materials. During the day, the sun's heat raises the temperature of wet insulation in the roofing system. As the roof cools off at night, the areas of wet insulation will stay warm longer than the dry areas. During the evening, this stored "solar gain" is released as radiant heat that is detectable with the infrared camera. As the evening progresses, areas of wet insulation will appear warmer to the camera than adjacent dry roofing.



Second, when there is a significant difference in ambient temperature between the interior and exterior of the building, heat losses from inside the building will be greater through the wet areas due to the reduced R-value of the wet insulation. This is especially true during the heating season. In both instances, when viewed from the roof side, wet insulation will show up as warmer in the infrared image. Often these two phenomena work together, creating strong, long-lasting thermal images that clearly illustrate the differences between wet and dry insulation.

The camera unit receives infrared radiation from the object being surveyed and converts it to an electrical signal that is instantaneously displayed on the color viewfinder. This high-resolution thermal image is then interpreted by Infra-red Analyzers' Certified Thermographers.

ThermaCam® PM390 Specifications	
Detector	PtSi/CMOS 256 x 256 FPA with variable integration (> 65,000 image elements)
Spectral band	3.4 to 5 µm
Sensitivity (NETD @ 30°C)	< 0.1°C
Temperature measurement range	-10 to 1500°C
Focus range	9" to infinity
FOV (DEG) 16 degree lens, f/1.5	17 horizontal x 16 vertical

SURVEY PROCEDURES

The Infra-red Analyzers Certified Thermographers followed defined survey procedures when inspecting your roof.

GUIDELINES: Every square foot of roofing in the contract was scanned a minimum of two times.

This roof is under a manufacturer's warranty. Therefore, to avoid any possibility of jeopardizing this warranty, the Certified Technician did not take core samples or moisture probes of the roof to verify presence of water. The non-destructive detection equipment used to test your roofing systems is extremely sensitive and accurate when locating areas of wet insulation. However, as with any non-destructive testing technique, there exists a slight possibility that false positives or false negatives may occur. Due to the lack of absolute physical verification, the areas marked on your roof and on the maps should be considered to represent suspected or probable areas of wet insulation, rather than verified areas of wet insulation.

FINDINGS

As per our survey procedures, the entire roof area in the contract was scanned a minimum of two times. A total of 44 areas of suspected wet insulation were detected in the inspected roofing.

The total size of the inspected roofing is approximately 185,796 square feet. The total amount of suspected wet insulation equals approximately 1,002 square feet. The amount of suspected wet insulation is approximately 0.5 % of the total inspected roof area. These areas of suspected wet insulation are marked directly on the roof and on the maps provided. Please refer to these maps when reviewing the report.

The table below represents the findings by roof section and total area tested.

ROOF MAPS

The last part of this report contains four copies each of a map of the roofs. These scaled drawings were plotted on an AUTOCAD® System and complete the documentation of the findings of the survey.

This report documents the locations and extent of suspected wet insulation at the time of the inspection. No information regarding the integrity of the roofing system or building is provided or implied in this report. Many factors, including sunlight, precipitation, wind, foot traffic, and building movement and the like can affect a roof over a short period of time. Regular inspections ensure early detection of problems and can extend the life of a roof membrane.

Deborah, thank you for using our services. Please call me if you have any questions regarding this report, or if I can help in any way.

Sincerely,

JP Phillips
Director of Operations

APPENDIX II – Wetlands Survey and Analysis

FRAMINGHAM PUBLIC SCHOOLS
EXISTING CONDITIONS NARRATIVE

INTRODUCTION

This narrative provides a general summary of potential site development restrictions relating to resource areas located within the Fuller Middle School/Farley Building/McCarthy School study area. These restrictions contemplate both the new construction and renovation options that the Town is considering for this area. For the purposes of this study, a resource area is defined as an area of Bordering Vegetated Wetland (BVW) as defined in 310 CMR 10.55(2), or a Riverfront Area as defined in 310 CMR 10.58(2).

In general, restrictions at the Fuller and Farley sites include the presence of bordering vegetated wetlands (BVW) and a perennial stream. Restrictions at the McCarthy site are limited to the presence of BVW. In both areas, any work (new or renovation) including buildings, parking lots, roadways, etc. that occurs within the setbacks of these resource areas would be subject to review by the Framingham Conservation Commission and subject to the regulations of both the Commonwealth and the Town.

As it relates to the MSBA should a new construction or renovation school project move forward, the process for submittal, review and approval is very much the same as it would be for a typical construction project. Aside from ensuring that the timing of submittals and approvals is coordinated with the MSBA schedule, there are no special or unique circumstances that need to be addressed. As per MSBA requirements, the Town will engage a design consultant team and an Owners Project Manager (OPM) to ensure the permitting process stays on a parallel track with the project design schedule. Generally, preliminary resource area information such as that developed for this pre-feasibility study is all that is required for the Feasibility Study and Schematic Design portion of the MSBA process. If the project is approved and moves forward into Design Development, that is the time when plans are developed for submission to the Conservation Commission.

EXISTING CONDITIONS

Fuller Middle School is located on the north side of Flagg Drive, diagonally opposite of the McCarthy School. The Fuller site is bounded to the north and west by resource areas, to the south by Flagg Drive, and to the east by the Farley Building. The Farley Building is located at the intersection of Flagg Drive and Normandy Road, east of Fuller Middle School. It is bounded by a resource area to the north, Normandy Road to the south, and a residential neighborhood to the east. A large central parking lot separates the Fuller and Farley structures.

There are a number of natural resource features within the study area that will affect future use of the Fuller, Farley and McCarthy properties. There is a stream that is located to the north of the Fuller School that runs in an east/west direction (parallel to the rear of the building and property) that appears to be have a drainage area of over ½ square miles and has a predicted flow rate (as determined by USGS Streamstats) that would classify it as a perennial stream, meaning that it is subject to the Massachusetts Department of Environmental Protection's (MA DEP) 200' riverfront area and regulations. There is also a bordering vegetated wetland resource in this area that is associated

any trees or other mature vegetation), grading to a topography which reduces runoff and increases infiltration, coverage by topsoil at a depth consistent with the natural conditions at the site, and seeding and planting with an erosion control mixture , followed by plantings of herbaceous and woody species appropriate to the site.

g) Alterations not conforming to criteria c), d) or e) above may be allowed when the applicant proposes mitigation either on-site or in the riverfront area within the same general area of the river basin at a ratio in square feet of at least 2:1 of mitigation area to area of alteration not conforming to the criteria. Alteration not conforming to the criteria shall begin at the riverfront boundary. Mitigation efforts may include off-site restoration of riverfront areas, conservation restrictions to preserve undisturbed riverfront areas that could be otherwise altered under 310 CMR 10.00, the purchase of development rights within the riverfront area, the restoration of bordering vegetated wetland, projects to remedy an existing adverse impact on the interests of the Act for which the applicant is not legally responsible, or similar activities undertaken voluntarily by the applicant which will support a determination by the issuing authority of no adverse impact.

h) The issuing authority shall include a continuing condition in the Certificate of Compliance for projects under 310 CMR 10.58(5) (f) or (g) above prohibiting further alteration within the restoration or mitigation area.

Regarding the presence of bordering vegetated wetlands (BVW) within the study area, the Town of Framingham's Wetland Regulations establishes a 125' Buffer Zone, as well as a 30' No Alteration Zone. There do not appear to be any Important Bird Areas, Estimated Habitat for Rare Wetlands Wildlife, or Vernal Pools within the study area, so any proposed work within the study area would not be subject to the restrictions placed on those so-called Unique Habitat No-Alteration Zones. Work is allowed within the 125' buffer zone, provided that the Applicant meets the performance standards set forth in the Wetland Regulations, including proof that all reasonable efforts to avoid, minimize, and mitigate adverse impacts on the buffer zone have been analyzed and/or proposed, and any proposed work within any portion of the 125' Buffer Zone shall not adversely affect the form or function of the 30' No Alteration Zone. The 30' No Alteration Zone includes performance standards for two types of No Alteration Zones: Undisturbed 30' No Alteration Zone and Disturbed 30' No Alteration Zone. In a previously undisturbed zone, no alterations of any sort are permitted. In a previously disturbed zone, which is the case within this study area, alterations are permitted provided that they no not result in:

- A net increase in impervious area
- A net increase in non-native or invasive species
- A net increase in stormwater runoff
- A net increase in lawn area
- A net decrease in vegetative cover

Furthermore, no structures can be constructed or placed on pervious ground without compensatory restoration and mitigation.

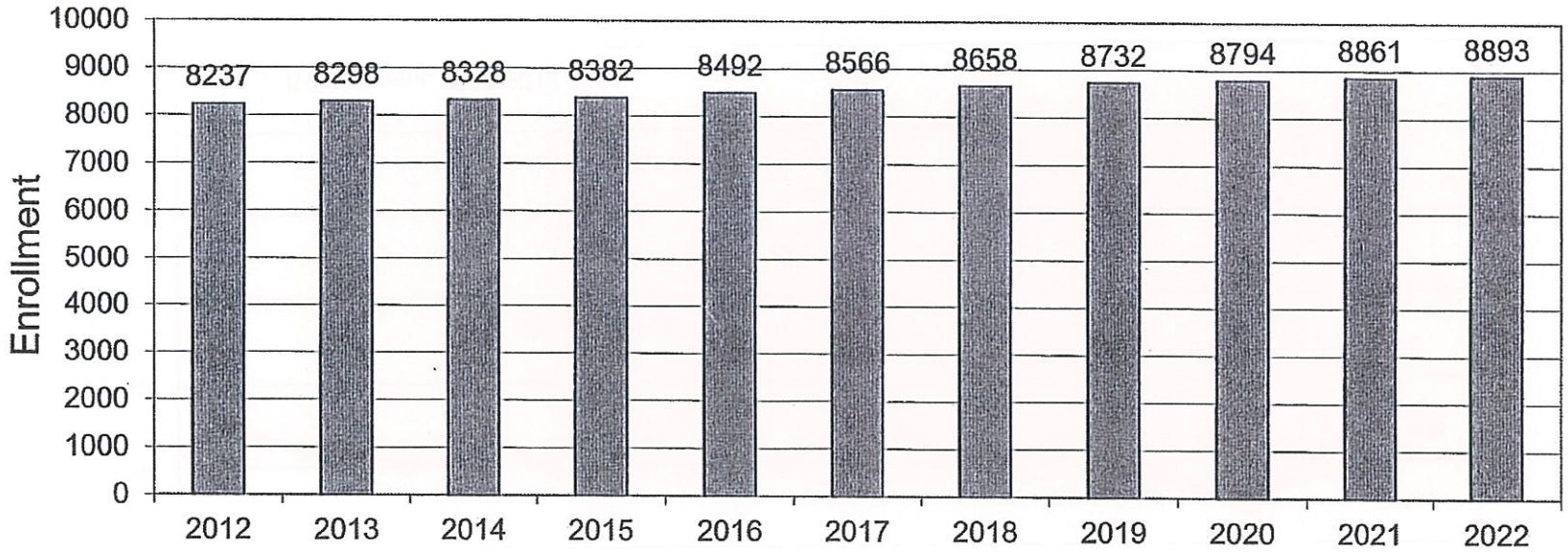
The Framingham Conservation Commission will have jurisdiction over and be the approving authority for both the Riverfront Area and the wetland resource areas. The Framingham Wetland Regulations will be the governing document for the wetland resource areas, and the applicant will need to meet

conditions for a base map, including contours, surface features, more precise building locations, etc. For the purposes of the Feasibility Study, the resource limit mapping that we have provided in the Compiled Existing Conditions Exhibit for this Pre-Feasibility Study should be of sufficient detail. We do not recommend incurring the cost of developing a full survey or flagging the wetland resource areas prior to approval of the Feasibility Study and Schematic Design. In general, the budgets allocated for Feasibility and Schematic Design do not allow for this work. However, if the Town deems it in its best interest to do so, it is not uncommon for the selected design consultant- at either the Pre-Feasibility or Feasibility/Schematic Design stage- to informally submit preliminary options to the Conservation Commission for their review and comment to establish a relationship and to let the Commission know that there could be pending action in the project area. Early feedback can help set the tone for the nature of the improvements, especially in sensitive areas such as the 200' Riverfront Setback, and buy-in at an early stage from the Commission can crate a smoother and more streamlined approval process as the project moves forward. Based on the location of the existing built conditions relative to the 200' Riverfront Setback and the 125' Buffer Zone, especially on the west side of the Fuller School, submission to the Conservation Commission will not be able to be avoided, since at a minimum demolition operations will need to take place within these setbacks.

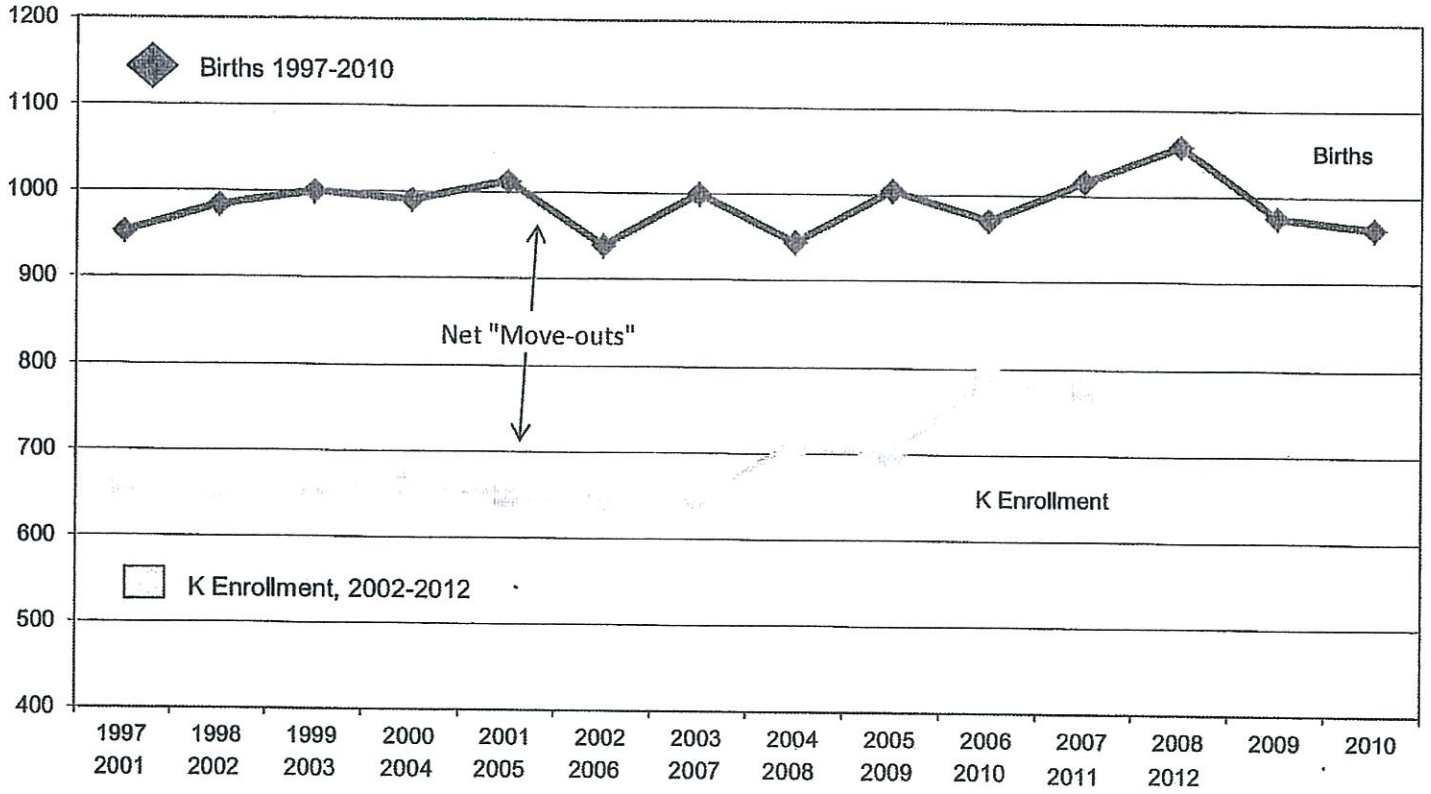
APPENDIX III – Demographic Report

Framingham, MA Projected Enrollment

PK-12 TO 2022 Based On Data Through School Year 2012-13



Framingham, MA Birth-to-Kindergarten Relationship



Framingham, MA Historical Enrollment

School District: Framingham, MA DRAFT

10/4/2012

Historical Enrollment By Grade

Birth Year	Births	School Year	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	UNGR	K-12	PK-12
1997	953	2002-03	217	661	706	739	673	680	709	622	640	750	536	494	512	426	0	8148	8365
1998	984	2003-04	162	655	661	677	722	666	653	626	593	636	594	527	480	463	0	7953	8115
1999	1000	2004-05	212	660	655	651	662	699	649	597	612	606	521	586	505	467	0	7870	8082
2000	991	2005-06	233	663	681	652	650	653	682	593	609	610	572	509	566	490	0	7930	8163
2001	1013	2006-07	267	649	642	669	635	632	646	630	586	595	571	545	485	552	0	7837	8104
2002	939	2007-08	261	647	660	638	651	640	630	594	620	594	523	547	519	440	0	7703	7964
2003	1000	2008-09	259	647	655	676	637	651	624	606	594	631	567	578	546	528	0	7940	8199
2004	944	2009-10	273	712	666	643	669	625	634	566	596	588	648	574	525	521	0	7967	8240
2005	1005	2010-11	284	700	717	662	636	666	620	575	575	578	566	559	552	485	0	7891	8175
2006	971	2011-12	250	786	717	689	660	650	645	555	584	560	524	532	541	492	1	7936	8186
2007	1017	2012-13	270	777	779	700	689	649	654	556	567	588	499	493	514	498	4	7967	8237

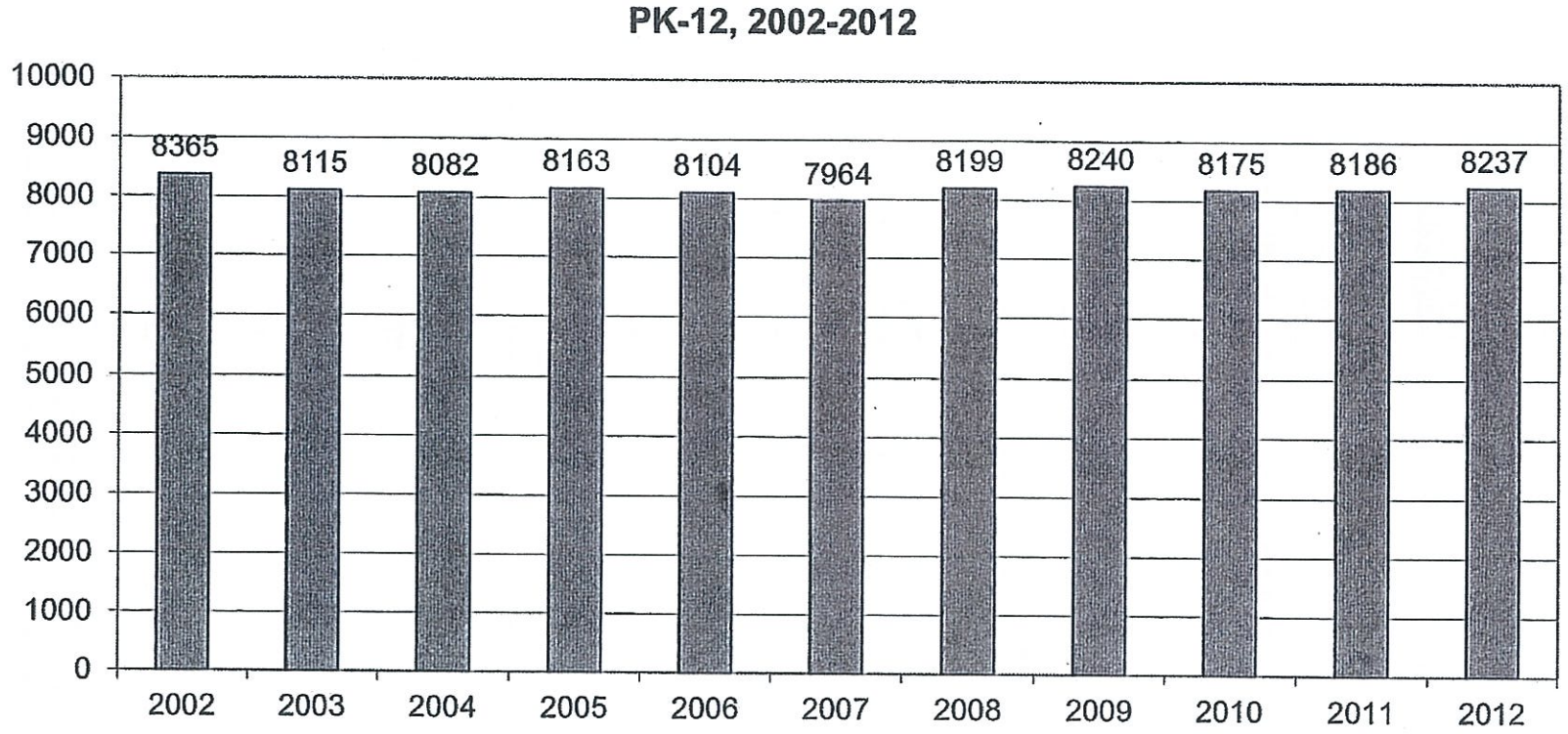
Historical Enrollment in Grade Combinations

Year	PK-5	K-5	K-6	K-8	5-8	6-8	7-8	7-12	9-12
2002-03	4385	4168	4790	6180	2721	2012	1390	3358	1968
2003-04	4196	4034	4660	5889	2508	1855	1229	3293	2064
2004-05	4188	3976	4573	5791	2464	1815	1218	3297	2079
2005-06	4214	3981	4574	5793	2494	1812	1219	3356	2137
2006-07	4140	3873	4503	5684	2457	1811	1181	3334	2153
2007-08	4127	3866	4460	5674	2438	1808	1214	3243	2029
2008-09	4149	3890	4496	5721	2455	1831	1225	3444	2219
2009-10	4222	3949	4515	5699	2384	1750	1184	3452	2268
2010-11	4285	4001	4576	5729	2348	1728	1153	3315	2162
2011-12	4397	4147	4702	5846	2344	1699	1144	3233	2089
2012-13	4518	4248	4804	5959	2365	1711	1155	3159	2004

Historical Percentage Changes

Year	K-12	Diff.	%
2002-03	8148	0	0.0%
2003-04	7953	-195	-2.4%
2004-05	7870	-83	-1.0%
2005-06	7930	60	0.8%
2006-07	7837	-93	-1.2%
2007-08	7703	-134	-1.7%
2008-09	7940	237	3.1%
2009-10	7967	27	0.3%
2010-11	7891	-76	-1.0%
2011-12	7936	45	0.6%
2012-13	7967	31	0.4%
Change		-181	-2.2%

Framingham, MA Historical Enrollment



APPENDIX IV – Assessor's Plans and Property Record Cards

TOWN OWNED LAND

PARCEL NO. 114

ASSESSOR'S MAP: 174
BLOCK: 1
LOT NUMBER: 4A, 6

STREET ADDRESS: FLAGG DR. & NORMANDY RD.

AREA OF PARCEL: 909,968 SQ. FT. 897,772 = 20.61 ON MAPS

PARCEL UNDER CONTROL OF: SCHOOL DEPT.

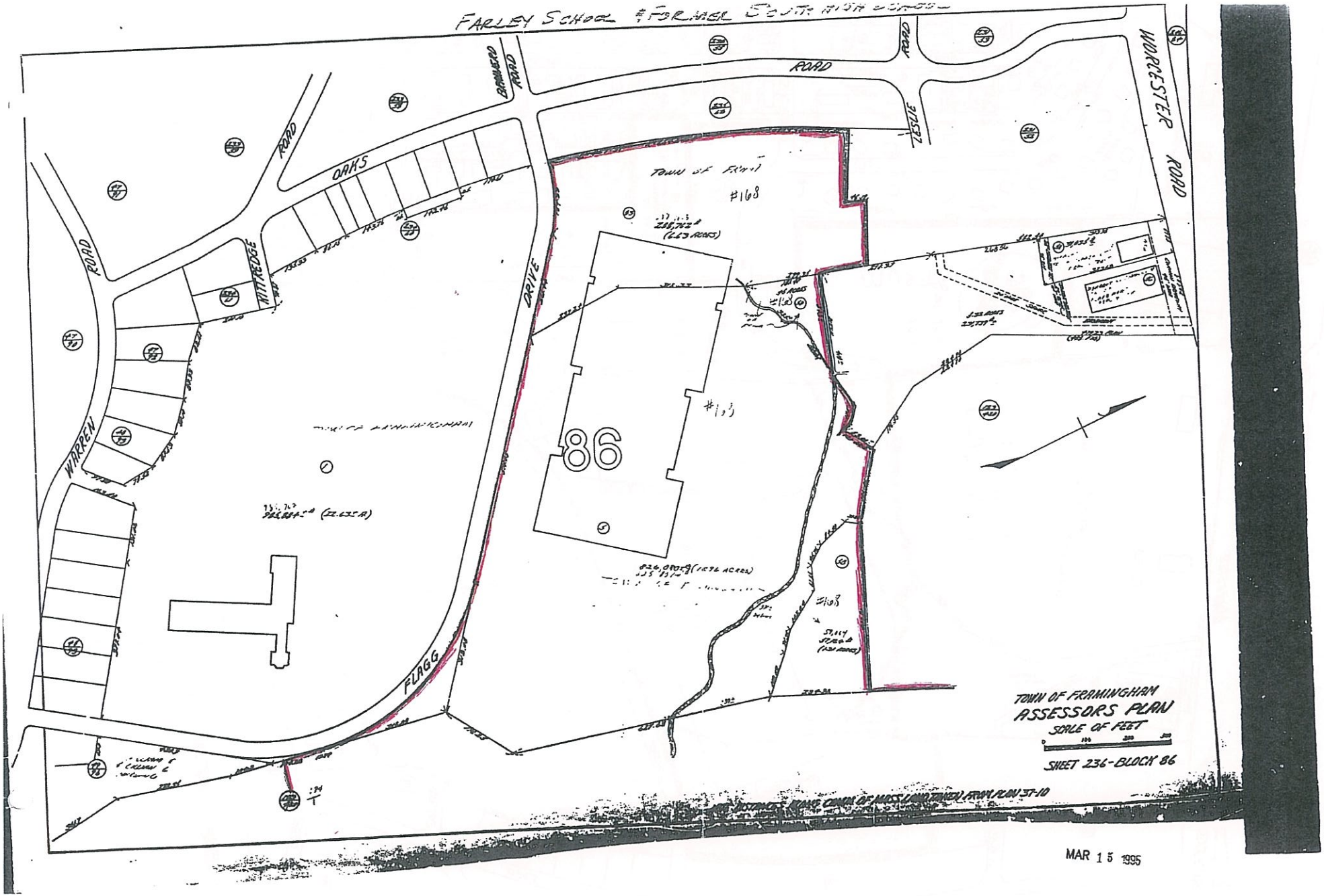
ZONING: G, R-1

DESCRIPTION: FARLEY MIDDLE SCHOOL, LEASED TO MASS. BAY COMMUNITY COLLEGE.
INCLUDED IN SOUTH HIGH AREA

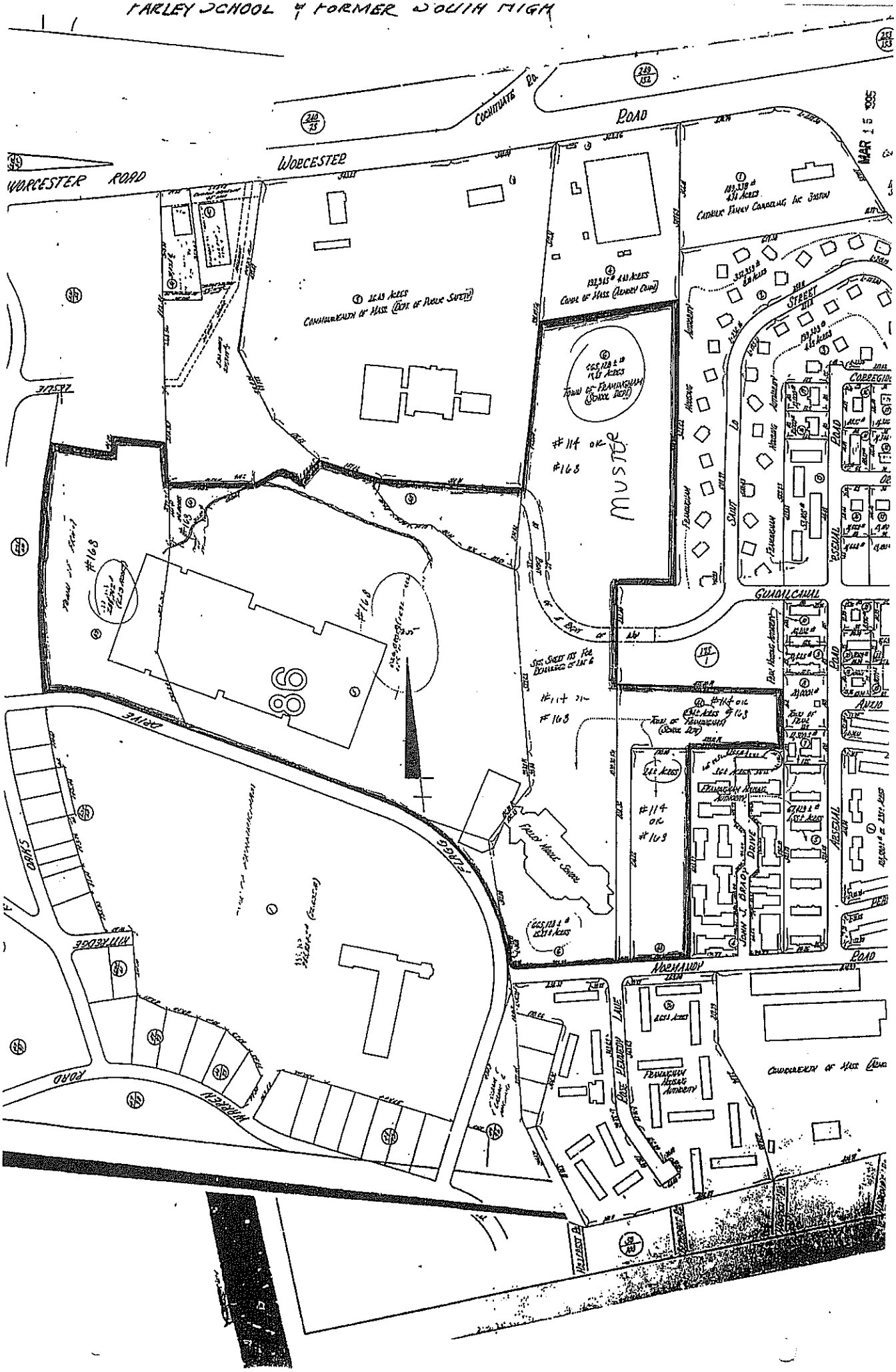
RECOMMENDATION FOR DISPOSAL:

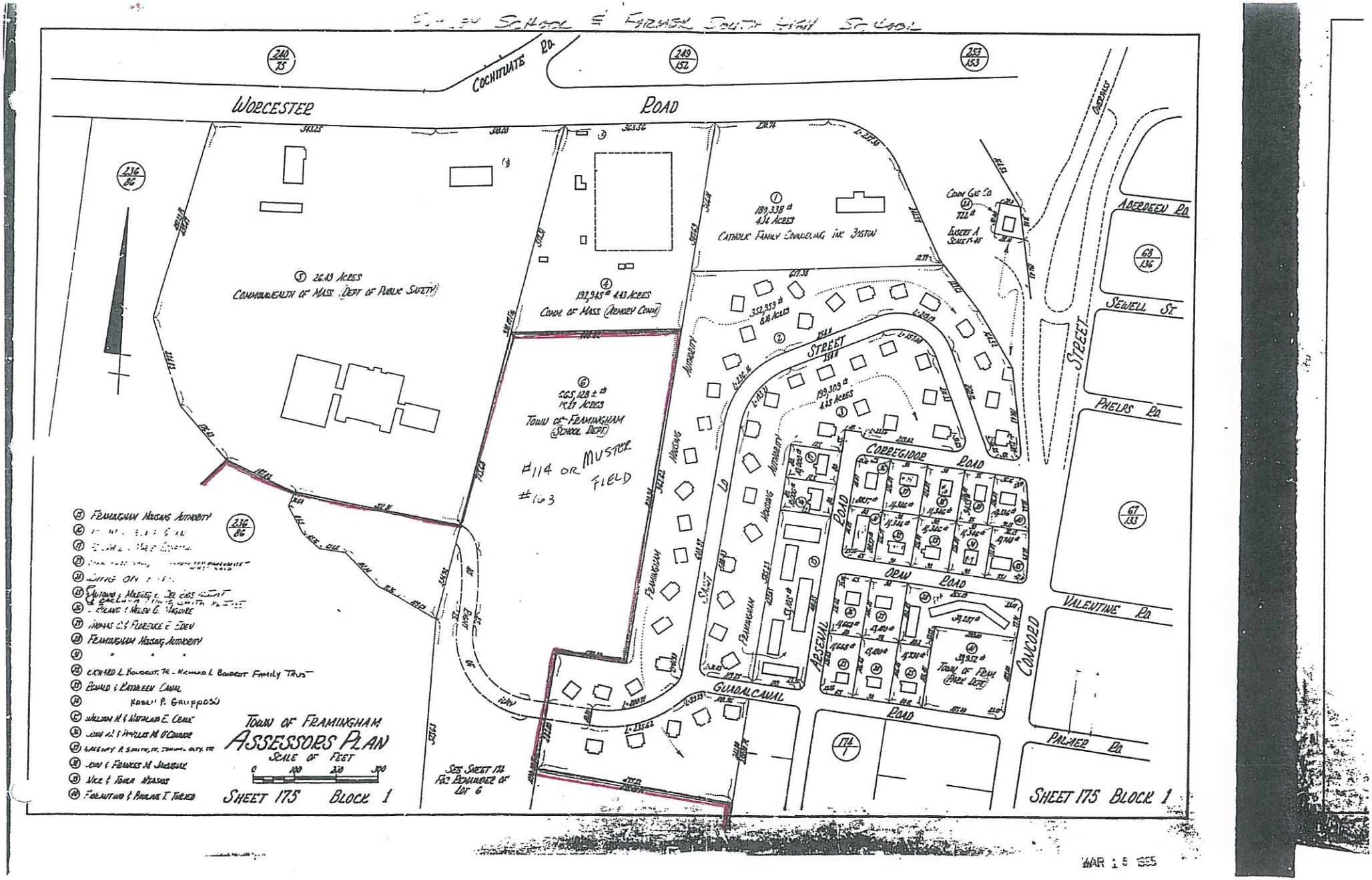
Lots
(6) - 665,128 S.F. - 15.27A
(1140163) - N.A - 2.40A
N.A - 2.94A
20.61 A

MAR 15 1995


FARLEY SCHOOL
ROAD
ROAD
ROAD
ROAD
ROAD
ROAD
DRIVE
DRIVE
WORCESTER ROAD
OAKS
WARREN
FLAGG
#168
#183
86
TOWN OF FRAMINGHAM
ASSESSORS PLAN
SCALE OF FEET
SHEET 236-BLOCK 86
MAR 15 1995

FARLEY SCHOOL & FORMER SOUTH HIGH




WORCESTER ROAD
COCHITUATE RD.
240/75
249/152
253/153
236/86
CATHOLIC FAMILY COUNSELING INC. BOSTON
26.43 ACRES
COMMONWEALTH OF MASS. DEPT OF PUBLIC SAFETY
4.43 ACRES
COMM. OF MASS. (ARMORY COMM.)
TOWN OF FRAMINGHAM (SCHOOL DEPT.)
#114 OR MUSTER FIELD
#163
CORREGIDOR ROAD
OAHU ROAD
ARSENAL STREET
GUADALCANAL ROAD
CONCORD STREET
SEWELL ST.
PHELPS RD.
VALENTINE RD.
PALMER RD.
ABERDEEN RD.
68/136
67/133
174/1
TOWN OF FRAMINGHAM
ASSESSORS PLAN
SCALE OF FEET
0 100 200 300
SHEET 175 BLOCK 1
SEE SHEET 174 FOR REMAINDER OF LOT 6
SHEET 175 BLOCK 1
MAR 15 '85

APPENDIX V – MSBA Statement of Interest Modules

As July 24, 2012:

- 14 districts are in the Eligibility Period
  - No districts are seeking local funding and authorization within the next 60 days
  - Nine of the 14 districts have already secured funding
  - Six of the 14 districts completed all Eligibility Period prerequisites and were voted into Feasibility Study at the July Board Meeting
  - Five of the 14 districts have yet to confirm their dates for action

One district was invited into Eligibility Period at the July 25, 2012 Board Meeting:

- *Plymouth (Plymouth South High School)*

Massachusetts School Building Authority

Funding Affordable, Sustainable, and Efficient Schools in Partnership with Local Communities

Module 3 – Feasibility Study

Module 3 - Feasibility Study Guidelines (/sites/default/files/edit-contentfile/Build%20With%20Us/Module%203%20-%20Feasibility%20Study/Module%203%20Feasibility%20Study%20-%20Rev1.pdf)

Upon successful conclusion of procurement of Owner's Project Management and Designer services in accordance with the procedures outlined under Module 2 - Forming the Project Team (/building/team) , the District and its team collaborate with the MSBA to document their educational program, generate an initial space summary, document existing conditions, establish design parameters, develop and evaluate alternatives, and recommend the most cost effective and educationally appropriate preferred solution to the MSBA Board of Directors for their consideration. During this phase, the Owner's Project Manager will submit on behalf of the District and its Designer a Preliminary Design Program and a Preferred Schematic Report. Approval by the MSBA Board of Directors is required for all projects to proceed into schematic design. Please refer to Module 4 - Schematic Design (/building/schematic) for additional information.

The following documents are available to assist the District:

- MSBA Space Summary Templates (/sites/default/files/edit-contentfile/Build%20With%20Us/Module%203%20-%20Feasibility%20Study/MSBA%20Space%20Summary%20Templates%20Rev3%2011_24_10.xls)
- Module 3 - Local Actions and Approvals Certification Template (/sites/default/files/edit-contentfile/Build%20With%20Us/Module%203%20-%20Feasibility%20Study/M3_Local_Actions_Approval_Cert_Template_Nov11.doc)
- Budget Statement for Preferred Schematic (/sites/default/files/edit-contentfile/Build%20With%20Us/Module%203%20-%20Feasibility%20Study/Budget%20Statement%20for%20Preferred%20Schematic_9_24_12.xls)
- Module 3 - Feasibility Study Completion Checklist (/sites/default/files/edit-contentfile/Build%20With%20Us/Module%203%20-%20Feasibility%20Study/M3_Feasibility_Study_Comp_Checklist_Nov11.doc)

Approval by the MSBA Board of Directors is required for all projects in order to advance the preferred schematic into schematic design.

As of October 3, 2012, the MSBA is working with 16 districts to define the scope of their potential projects for MSBA Board Consideration (this excludes Green Repair Program and Accelerated Repair Program projects).

According to the most recent data and schedules provided to the MSBA by districts, MSBA staff anticipates recommending eight districts to proceed with preferred schematic designs, and six districts to appear for Project Scope and Budget Agreement authorization at the upcoming November and January Board meetings.

Massachusetts School Building Authority

Funding Affordable, Sustainable, and Efficient Schools in Partnership with Local Communities

Module 5 – Funding the Project

Based upon the completed Feasibility Study and the steps outlined in Module 4 – Schematic Design (http://www.massschoolbuildings.org/building/schematic) , the District and MSBA staff establish and document the project scope, budget, schedule, and MSBA financial participation to forward to the MSBA Board of Directors for their approval. Approval by the MSBA Board of Directors establishes the MSBA participation in the proposed project. Module 5 – Funding the Project (/sites/default/files/edit-contentfile/Build%20With%20Us/Funding%20the%20Project/Module%205%20-%20Funding%20the%20Project.pdf) provides guidance on MSBA vote language (http://www.massschoolbuildings.org/sites/default/files/edit-contentfile/Guidelines_Forms/Vote%20Requirements/Project_Scope_Budget_Vote_Language_Bulletin_Sept_20_2008.pdf) and outlines the steps necessary to be completed by the District to enter into a Project Scope and Budget Agreement and a Project Funding Agreement with the MSBA. The District should utilize the Module 5 – Funding the Project Completion Checklist (/sites/default/files/edit-contentfile/Build%20With%20Us/Funding%20the%20Project/Module%205%20-%20Funding%20the%20Project%20Completion%20Checklist.doc) to ensure that it has completed all steps.

Upon Board approval of a proposed project, the District and the MSBA may enter into a Project Scope and Budget Agreement (http://www.massschoolbuildings.org/sites/default/files/edit-contentfile/Guidelines_Forms/Contracts_Forms/MSBA_TEMPLATE_FORWEB_7_09.pdf) that defines the project scope, budget, schedule, and potential MSBA participation in the project. Once the District secures community authorization and financial support, the MSBA and the District enter into a Project Funding Agreement, which also defines the scope, budget and schedule for the project. Once a Project Funding Agreement (http://www.massschoolbuildings.org/sites/default/files/edit-contentfile/Guidelines_Forms/Contracts_Forms/PFA_TEMPLATE_2005.pdf) is executed, the District can begin submitting requests for reimbursement (http://www.massschoolbuildings.org/building/funding/reimbursements) to the MSBA for project costs beyond the feasibility study.

Massachusetts School Building Authority

Funding Affordable, Sustainable, and Efficient Schools in Partnership with Local Communities

Module 7 – Construction

Construction Administration: The MSBA continues to monitor the progress of the project to confirm that it remains on schedule and within budget and meets the expectation of both the District and the MSBA as defined in the Project Funding Agreement. For the MSBA to process Reimbursement Requests submitted by the District, the project team is required to enter project budgets associated with the Amendment to the Project Funding Agreement into the ProPay System (/programs/pro-pay) . In order to easily align line items in reimbursement requests with ProPay codes and the Project Funding Agreement and, therefore, expedite processing requests, the MSBA is providing a sample standardized Schedule of Values (/sites/default/files/edit-content/file/Build%20With%20Us/Module%207/Schedule%20of%20Values.xls) to be used by the project team.

As the project progresses in the Construction Administration Phase, the District is required through its consultants to submit its Change Orders (/sites/default/files/edit-content/file/Build%20With%20Us/Module%207/Change_Order_Log_Template_05_03_12.xls) , executed and pending, in the format approved by the MSBA, for MSBA review to determine which costs may be eligible for reimbursement and to process related Budget Revision Requests (/guidelines) in a timely manner. It is important to note that all revisions to the Project Budgets that have been established in either the Feasibility Study Agreement or the Project Funding Agreement must be submitted to the MSBA for review and acceptance. The commissioning agent continues to play an integral role in this phase, testing all systems to ensure that the new or renovated building as a whole operates efficiently and as the owner intended. Project teams are reminded that the DCAM Standard Contractor Evaluation Form (http://www.mass.gov/anf/property-mgmt-and-construction/design-and-construction-of-public-bldgs/contractor-certification/contractor-evaluation-forms.html) must be completed at fifty percent project completion and at final completion of the project.

Please note that the awarding authority (school district) is responsible for monitoring the Contractor's compliance with Massachusetts prevailing wage requirements pursuant to M.G.L. c. l49 §§ 26 to 27H inclusive, and, pursuant to the terms of its contract, the Owner's Project Manager is responsible for assisting the awarding authority with such monitoring, including cataloging and filing payroll affidavits.

As presented at the October 3, 2012 Board Meeting, 95 projects are in Construction:

- 53 Green Repair Program Projects
- 2 Waiting List Projects
- 40 Core Program Projects
  - 11 Elementary Schools in the following Districts: *Andover, Arlington, Ashburnham-Westminster Regional, Brookline (Runkle), Douglas, Fairhaven, Marblehead, Somerville, Springfield (Dryden), Westfield, Winchester*
  - 12 Middle and Middle-High Schools in the following Districts: *Burlington, Douglas, Fall River, Hingham, Hudson, Medway, Oxford, Quincy, Rockland, Saugus, Shrewsbury, Sutton*
  - 17 High Schools listed in the table below

Addition/Renovation	New Projects	Model School Program
Danvers	Berlin-Boylston Regional	East Bridgewater
Dracut	Easthampton	Marshfield
Leominster	Essex/North Shore Regional Voc/Tech	Somerset-Berkley Regional
Lynnfield	Longmeadow	West Springfield
Methuen	Maynard	
Norfolk County Agricultural		
Norton		
Southeastern Regional Voc/Tech		

APPENDIX VI – Hazardous Materials Reports

1.0 INTRODUCTION:

Universal Environmental Consultants (UEC) has been providing comprehensive asbestos services since 2001 and has completed projects throughout New England. We have completed projects for a variety of clients including commercial, industrial, municipal, and public and private schools. We maintain appropriate asbestos licenses and staff with a minimum of fifteen years of experience.

UEC was contracted by BH+A to conduct a hazardous materials identification study at the Fuller Middle School, Framingham, MA.

Information included in this report was based on the AHERA Management Plans supplied by the Framingham Public Schools and based on a determination inspection performed by UEC. No testing was performed as part of this study. It is recommended that once a detailed scope of work is identified for a renovation or a demolition project, a comprehensive NESHAP inspection including asbestos testing for all suspect materials and testing for other hazardous materials including, Polychlorinated Biphenyls (PCB's) and Lead Based Paint (LBP) should be performed, which would provide a more accurate hazardous materials abatement costs and scope.

Additional testing and abatement plans for EPA review are required to be performed should PCB's was found in the caulking.

2.0 OBSERVATION AND COST ESTIMATES:

A. OBSERVATIONS:

The condition of ACM is very important. ACM in good condition does not present a health issue unless it is disturbed. Therefore, it is not necessary to remediate ACM in good condition unless it will be disturbed through renovation, demolition or other activity.

Refer to the AHERA Management Plan for condition of ACM.

1. Pipe and hard joint insulation was previously found to contain asbestos. The ACM was found at throughout the building including in crawl spaces.
2. Roof drain insulation was previously found to contain asbestos. The ACM was found at various locations.
3. Vinyl floor tiles and mastic were previously found to contain asbestos. The ACM was found at throughout the building including under carpet.
4. Transite panels were assumed to contain asbestos. The ACM was found at science rooms.
5. Flexible connectors were assumed to contain asbestos. The ACM was found at various locations.
6. Wire insulation was assumed to contain asbestos. The ACM was found at stage.
7. Paper and glue under stage wood floor were assumed to contain asbestos.
8. Paper and glue under gymnasium wood floor were assumed to contain asbestos.
9. Interior window glazing caulking was assumed to contain asbestos and assumed to contain PCB's.
10. Interior door glazing caulking was assumed to contain asbestos and assumed to contain PCB's.
11. Exterior window framing and glazing caulking was assumed to contain asbestos and assumed to contain PCB's.
12. Exterior door framing caulking was assumed to contain asbestos and assumed to contain PCB's.
13. Unit vent grille caulking was assumed to contain asbestos and assumed to contain PCB's.
14. Glue on blackboards was assumed to contain asbestos.
15. Underground sewer pipes were assumed to contain asbestos.
16. Damproofing on foundation and exterior walls was assumed to contain asbestos.
17. Thru-wall flashing was assumed to contain asbestos.
18. Ballasts in light fixtures were assumed to contain PCB's.
19. Tubes in light fixtures were assumed to contain mercury.
20. Exit signs, switches, thermostats were assumed to contain mercury.
21. Painted surfaces were assumed to contain lead based paint. However, lead abatement is not required prior to renovation or demolition. The general contractor must comply with OSHA and DEP regulations.

3.0 LIMITATIONS AND CONDITIONS:

This report has been completed based on visual and physical observations made and information available at the time of the site visits, as well as an interview with the Owner's representatives. This report is intended to be used as a summary of available information on existing conditions with conclusions based on a reasonable and knowledgeable review of evidence found in accordance with normally accepted industry standards, state and federal protocols, and within the scope and budget established by the client. Any additional data obtained by further review must be reviewed by UEC and the conclusions presented herein may be modified accordingly.

This report and attachments, prepared for the exclusive use of Owner for use in an environmental evaluation of the subject site, are an integral part of the inspections and opinions should not be formulated without reading the report in its entirety. No part of this report may be altered, used, copied or relied upon without prior written permission from UEC, except that this report may be conveyed in its entirety to parties associated with Owner for this subject study.

1.0 INTRODUCTION:

Universal Environmental Consultants (UEC) has been providing comprehensive asbestos services since 2001 and has completed projects throughout New England. We have completed projects for a variety of clients including commercial, industrial, municipal, and public and private schools. We maintain appropriate asbestos licenses and staff with a minimum of fifteen years of experience.

UEC was contracted by BH+A to conduct a hazardous materials identification study at the Farley Building, Framingham, MA.

Information included in this report was based on the original AHERA Management Plan dated April 7, 1989 supplied by the Framingham Public Schools and based on a determination inspection performed by UEC. No testing was performed as part of this study. It is recommended that once a detailed scope of work is identified for a renovation or a demolition project, a comprehensive NESHAP inspection including asbestos testing for all suspect materials and testing for other hazardous materials including, Polychlorinated Biphenyls (PCB's) and Lead Based Paint (LBP) should be performed, which would provide a more accurate hazardous materials abatement costs and scope.

Additional testing and abatement plans for EPA review are required to be performed should PCB's was found in the caulking.

2.0 OBSERVATION AND COST ESTIMATES:

A. OBSERVATIONS:

The condition of ACM is very important. ACM in good condition does not present a health issue unless it is disturbed. Therefore, it is not necessary to remediate ACM in good condition unless it will be disturbed through renovation, demolition or other activity.

Refer to the AHERA Management Plan for condition of ACM.

1. Vinyl floor tiles and mastic were previously found to contain asbestos. The ACM was found at throughout the building including under carpet.
2. Roof drain insulation was assumed to contain asbestos. The ACM was found at various locations.
3. Interior window glazing caulking was assumed to contain asbestos and assumed to contain PCB's.
4. Interior door glazing caulking was assumed to contain asbestos and assumed to contain PCB's.
5. Flexible connectors were assumed to contain asbestos. The ACM was found at various locations.
6. Fireproofing spray-on was found on beams. Bulk sampling performed at a sister school (Barbieri) indicated that the fireproofing not to contain asbestos.
7. 1'x 1' Acoustical ceiling tiles were found at various locations. Bulk sampling performed at a sister school (Barbieri) indicated that the fireproofing not to contain asbestos.
8. 2'x 4' Suspended acoustical ceiling tiles were found at various locations. Bulk sampling performed at a sister school (Barbieri) indicated that the fireproofing not to contain asbestos.
9. Ceiling plaster was found at various locations. Bulk sampling performed at a sister school (Barbieri) indicated that the fireproofing not to contain asbestos.
10. Dry wall and joint compound were found at various locations. Bulk sampling performed at a sister school (Barbieri) indicated that the fireproofing not to contain asbestos.
11. Glue on blackboards was assumed to contain asbestos.
12. Paper and glue under gymnasium rubber floor were assumed to contain asbestos.
13. Exterior window framing and glazing caulking was assumed to contain asbestos and assumed to contain PCB's.
14. Exterior door framing caulking was assumed to contain asbestos and assumed to contain PCB's.
15. Unit vent grille caulking was assumed to contain asbestos and assumed to contain PCB's.
16. Underground sewer pipes were assumed to contain asbestos.
17. Damproofing on foundation and exterior walls was assumed to contain asbestos.
18. Thru-wall flashing was assumed to contain asbestos.

3.0 LIMITATIONS AND CONDITIONS:

This report has been completed based on visual and physical observations made and information available at the time of the site visits, as well as an interview with the Owner's representatives. This report is intended to be used as a summary of available information on existing conditions with conclusions based on a reasonable and knowledgeable review of evidence found in accordance with normally accepted industry standards, state and federal protocols, and within the scope and budget established by the client. Any additional data obtained by further review must be reviewed by UEC and the conclusions presented herein may be modified accordingly.

This report and attachments, prepared for the exclusive use of Owner for use in an environmental evaluation of the subject site, are an integral part of the inspections and opinions should not be formulated without reading the report in its entirety. No part of this report may be altered, used, copied or relied upon without prior written permission from UEC, except that this report may be conveyed in its entirety to parties associated with Owner for this subject study.

APPENDIX VII – Cost Estimates

COSTPRO INC.

Fuller Middle School
Framingham, MA

2. Hybrid
Project Cost Plan (Uniformat II Level 3)

COSTPRO, INC.

Project: 1. Renovation	GFA(SF):	101,960	Date:	Jan-13		Sheet No: 1 OF 2		
Uniformat Element (Levels 2&3)	Amount $	Total Cost $	Rate $/SF Floor Area		%	Element Quantities	Unit	Element Unit Rate
A SUBSTRUCTURE		1,618,046		15.87	6.0%			
A10 Foundations	1,596,014		15.65			85,760	SF	18.61
A20 Basement Construction	22,032		0.22			16,200	SF	1.36
B SHELL		8,160,381		80.04	30.1%			
B10 Superstructure	2,953,990		28.97			101,960	SF	28.97
B20 Exterior Closure	3,210,567		31.49			42,311	SF	75.88
B30 Roofing	1,995,824		19.57			85,760	SF	23.27
C INTERIORS		2,376,311		23.31	8.8%			
C10 Interior Construction	1,134,358		11.13			101,960	SF	11.13
C20 Stairs	130,900		1.28			2	FLT	65450.00
C30 Interior Finishes	1,111,053		10.90			101,960	SF	10.90
D SERVICES		7,982,729		78.29	29.4%			
D10 Conveying Systems	65,000		0.64			2	STOP	32500.00
D20 Plumbing	1,024,047		10.04			101,960	SF	10.04
D30 HVAC	3,905,726		38.31			101,960	SF	38.31
D40 Fire Protection	528,380		5.18			101,960	SF	5.18
D50 Electrical Systems	2,459,576		24.12			101,960	SF	24.12
E EQUIPMENT & FURNISHINGS		886,045		8.69	3.3%			
E10 Equipment	638,019		6.26			101,960	SF	6.26
E20 Furnishings	248,026		2.43			101,960	SF	2.43
F SPECIAL CONSTRUCTION & DEMOLITION		1,130,350		11.09	4.2%			
F10 Special Construction	532,134		5.22			69,560	SF	7.65
F20 Selective Demolition	598,216		5.87			69,560	SF	8.60
G BUILDING SITEWORK		4,992,321		48.96	18.4%			
G10 Site Preparation	2,899,956		28.44			101,960	SF	28.44
G20 Site Improvements	1,106,700		10.85			101,960	SF	10.85
G30 Site Civil/Mechanical Utilities	610,737		5.99			101,960	SF	5.99
G40 Site Electrical Utilities	374,928		3.68			101,960	SF	3.68
G90 Other Site Construction	0		0.00			0	SF	0.00
SUBTOTAL		27,146,183		266.24	100.0%			
Z10 GENERAL REQUIREMENTS	15.8%	4,292,990		42.10				
Z20 CONTINGENCIES	15.0%	4,715,876		46.25				
Z30 CM AT RISK PREMIUM	5.0%	1,357,309		13.31				
Z90 PROJECT COST ESTIMATE		$ **37,512,358**		$ **367.91**				

Note: The above costs are construction hard costs. No allowance is included for design fees, project soft costs or project contingencies. all costs are in estimated in current dollars as of the date of this report.

COSTPRO INC.

Farley Middle School
Framingham, MA

4. Renovation
Project Cost Plan (Uniformat II Level 3) COSTPRO, INC.

Project: 4. Renovation	GFA(SF):	110,077	Date:	Jan-13		Sheet No: 1 OF 2		
Uniformat Element (Levels 2&3)	Amount $	Total Cost $	Rate $/SF Floor Area		%	Element Quantities	Unit	Element Unit Rate
A SUBSTRUCTURE		249,874		2.27	2.0%			
A10 Foundations	107,875		0.98			110,077	SF	0.98
A20 Basement Construction	141,999		1.29			110,077	SF	1.29
B SHELL		3,631,704		32.99	28.4%			
B10 Superstructure	1,498,148		13.61			110,077	SF	13.61
B20 Exterior Closure	1,585,373		14.40			19,486	SF	81.36
B30 Roofing	548,183		4.98			110,077	SF	4.98
C INTERIORS		1,653,807		15.02	12.9%			
C10 Interior Construction	461,223		4.19			110,077	SF	4.19
C20 Stairs	72,000		0.65			8	FLT	9000.00
C30 Interior Finishes	1,120,584		10.18			110,077	SF	10.18
D SERVICES		4,155,407		37.75	32.5%			
D10 Conveying Systems	0		0.00			0	STOP	0.00
D20 Plumbing	550,385		5.00			110,077	SF	5.00
D30 HVAC	247,673		2.25			110,077	SF	2.25
D40 Fire Protection	605,424		5.50			110,077	SF	5.50
D50 Electrical Systems	2,751,925		25.00			110,077	SF	25.00
E EQUIPMENT & FURNISHINGS		403,983		3.67	3.2%			
E10 Equipment	403,983		3.67			110,077	SF	3.67
E20 Furnishings	0		0.00			110,077	SF	0.00
F SPECIAL CONSTRUCTION & DEMOLITION		1,943,960		17.66	15.2%			
F10 Special Construction	997,298		9.06			110,077	SF	9.06
F20 Selective Demolition	946,662		8.60			110,077	SF	8.60
G BUILDING SITEWORK		738,617		6.71	5.8%			
G10 Site Preparation	0		0.00			110,077	SF	0.00
G20 Site Improvements	503,052		4.57			110,077	SF	4.57
G30 Site Civil/Mechanical Utilities	135,395		1.23			110,077	SF	1.23
G40 Site Electrical Utilities	100,170		0.91			110,077	SF	0.91
G90 Other Site Construction	0		0.00			0	SF	0.00
SUBTOTAL		12,777,352		116.08	100.0%			
Z10 GENERAL REQUIREMENTS	13.0%	1,661,056		15.09				
Z20 CONTINGENCIES	15.0%	2,165,761		19.67				
Z30 CM AT RISK PREMIUM	5.0%	638,868		5.80				
Z90 PROJECT COST ESTIMATE		$ 17,243,037	$	156.65				

Note: The above costs are construction hard costs. No allowance is included for design fees, project soft costs or project contingencies. all costs are in estimated in current dollars as of the date of this report.

COSTPRO INC.

Farley Middle School
Framingham, MA

6. All New Middle School
Project Cost Plan (Uniformat II Level 3)

COSTPRO, INC.

Project: 6. All New Middle School	GFA(SF):	120,000	Date:	Jan-13		Sheet No: 1 OF 2		
Uniformat Element (Levels 2&3)	Amount $	Total Cost $	Rate $/SF Floor Area		%	Element Quantities	Unit	Element Unit Rate
A SUBSTRUCTURE		4,236,768		35.31	15.1%			
A10 Foundations	4,134,496		34.45			75,200	SF	54.98
A20 Basement Construction	102,272		0.85			75,200	SF	1.36
B SHELL		6,694,078		55.78	23.9%			
B10 Superstructure	2,887,200		24.06			120,000	SF	24.06
B20 Exterior Closure	2,860,110		23.83			41,644	SF	68.68
B30 Roofing	946,768		7.89			75,200	SF	12.59
C INTERIORS		5,223,800		43.53	18.6%			
C10 Interior Construction	2,954,400		24.62			120,000	SF	24.62
C20 Stairs	261,800		2.18			4	FLT	65450.00
C30 Interior Finishes	2,007,600		16.73			120,000	SF	16.73
D SERVICES		7,883,000		65.69	28.1%			
D10 Conveying Systems	65,000		0.54			2	STOP	32500.00
D20 Plumbing	1,028,400		8.57			120,000	SF	8.57
D30 HVAC	3,580,800		29.84			120,000	SF	29.84
D40 Fire Protection	540,000		4.50			120,000	SF	4.50
D50 Electrical Systems	2,668,800		22.24			120,000	SF	22.24
E EQUIPMENT & FURNISHINGS		1,200,000		10.00	4.3%			
E10 Equipment	606,000		5.05			120,000	SF	5.05
E20 Furnishings	594,000		4.95			120,000	SF	4.95
F SPECIAL CONSTRUCTION & DEMOLITION		0		0.00	0.0%			
F10 Special Construction	0		0.00			0	SF	0.00
F20 Selective Demolition	0		0.00			0	SF	0.00
G BUILDING SITEWORK		2,823,600		23.53	10.1%			
G10 Site Preparation	1,878,000		15.65			120,000	SF	15.65
G20 Site Improvements	537,600		4.48			120,000	SF	4.48
G30 Site Civil/Mechanical Utilities	232,800		1.94			120,000	SF	1.94
G40 Site Electrical Utilities	175,200		1.46			120,000	SF	1.46
G90 Other Site Construction	0		0.00			0	SF	0.00
SUBTOTAL		28,061,246		233.84	100.0%			
Z10 GENERAL REQUIREMENTS	9.3%	2,620,920		21.84				
Z20 CONTINGENCIES	15.0%	4,602,325		38.35				
Z30 CM AT RISK PREMIUM	5.0%	1,403,062		11.69				
Z90 PROJECT COST ESTIMATE		$ 36,687,553		$ 305.73				

Note: The above costs are construction hard costs. No allowance is included for design fees, project soft costs or project contingencies. all costs are in estimated in current dollars as of the date of this report.

COSTPRO INC.

Fuller Middle School
Framingham, MA

8 All New K-8
Project Cost Plan (Uniformat II Level 3) COSTPRO, INC.

Project: 8 All New K-8	GFA(SF):	195,000	Date:	Jan-13		Sheet No: 1 OF 2		
Uniformat Element (Levels 2&3)	Amount $	Total Cost $	Rate $/SF Floor Area		%	Element Quantities	Unit	Element Unit Rate
A SUBSTRUCTURE		6,591,780		33.80	13.1%			
A10 Foundations	6,432,660		32.99			117,000	SF	54.98
A20 Basement Construction	159,120		0.82			117,000	SF	1.36
B SHELL		12,351,699		63.34	24.6%			
B10 Superstructure	4,691,700		24.06			195,000	SF	24.06
B20 Exterior Closure	6,186,969		31.73			90,084	SF	68.68
B30 Roofing	1,473,030		7.55			117,000	SF	12.59
C INTERIORS		8,608,191		44.14	17.1%			
C10 Interior Construction	4,920,923		25.24			195,000	SF	25.24
C20 Stairs	261,800		1.34			4	FLT	65450.00
C30 Interior Finishes	3,425,468		17.57			195,000	SF	17.57
D SERVICES		13,028,600		66.81	26.0%			
D10 Conveying Systems	65,000		0.33			2	STOP	32500.00
D20 Plumbing	1,930,500		9.90			195,000	SF	9.90
D30 HVAC	5,818,800		29.84			195,000	SF	29.84
D40 Fire Protection	877,500		4.50			195,000	SF	4.50
D50 Electrical Systems	4,336,800		22.24			195,000	SF	22.24
E EQUIPMENT & FURNISHINGS		1,950,000		10.00	3.9%			
E10 Equipment	984,750		5.05			195,000	SF	5.05
E20 Furnishings	965,250		4.95			195,000	SF	4.95
F SPECIAL CONSTRUCTION & DEMOLITION		0		0.00	0.0%			
F10 Special Construction	0		0.00			0	SF	0.00
F20 Selective Demolition	0		0.00			0	SF	0.00
G BUILDING SITEWORK		7,668,595		39.33	15.3%			
G10 Site Preparation	4,529,876		23.23			195,000	SF	23.23
G20 Site Improvements	2,051,707		10.52			195,000	SF	10.52
G30 Site Civil/Mechanical Utilities	712,012		3.65			195,000	SF	3.65
G40 Site Electrical Utilities	375,000		1.92			195,000	SF	1.92
G90 Other Site Construction	0		0.00			0	SF	0.00
SUBTOTAL		50,198,865		257.43	100.0%			
Z10 GENERAL REQUIREMENTS	9.3%	4,688,574		24.04				
Z20 CONTINGENCIES	15.0%	8,233,116		42.22				
Z30 CM AT RISK PREMIUM	5.0%	2,509,943		12.87				
Z90 PROJECT COST ESTIMATE		$ 65,630,498		$ 336.57				

Note: The above costs are construction hard costs. No allowance is included for design fees, project soft costs or project contingencies. all costs are in estimated in current dollars as of the date of this report.

Capital cost items separate from major renovation/new construction

The following list is intended to identify costs the Town should plan for in addressing some of the items noted in the conditions report as being in a state of disrepair. If comprehensive renovation or building demolition is to be done starting in 2016 or soon thereafter, interim work would only be for short-term needs while the building is still occupied (option a). If the building is not scheduled for major renovation or demolition, and is to remain in use long term, repairs should be done as needed, and in a manner that will be more permanent in nature (options b and c).

Costs listed here can be seen as individual costs for sepcific trade projects, or as items that can be combined into larger projects. Costs are therefore to be considered all-inclusive construction costs, including contractor's general conditions, contractor mark-ups, etc. Costs do not include soft costs such as project contingencies and design fees.

Totals for these costs are in some cases considerable. It should be noted that these are listed to identify possible costs. It is not anticipated that the Town would choose to perform all of these items, as ultimately commprehensive renovation or demolition is needed. Some items could be further deferred until that time.

Fuller Option a
2013-2016 costs if future major project (demo or renovation)

Scope of work:	
Repairs to 10% of roofing membrane. Tremco warranty is up in 2014, they will do repairs until then	$680,000
Some ceiling work related to odors from moisture at deck.	$200,000
Replace a few failed pumps for heating system. There are duplicate pumps , so system will not go down, but failed equipment should be replaced.	$40,000
Electrical repairs due to outages from obsolete system.	$1,000,000
Replace a few failed ventilators for heating system. Replace exhaust fans.	$140,000
Caulk building expansion joints.	$26,000
Caulk around windows to prevent further leaks.	$170,000
Patch spalled concrete at building exterior so damage does not worsen.	$170,000
total	**$2,426,000**

Farley Option a
2013-2016 costs if future major project (demo or renovation)

Scope of work:	
Caulk expansion joints at center of main wing and between main wing and pool wing.	$34,000
Caulk at all skylights.	$27,000
Repairs at gym roofing.	$150,000
total	**$211,000**

Farley Option b
2013-2016 costs if building to remain in use long term

Scope of work:	
Caulk expansion joints at center of main wing and between main wing and pool wing.	$34,000
Replace original rooftop exhaust fans	$41,000
Replace metal roofing at stairwells	$100,000
Caulk at all skylights.	$30,000
Replace gym/pool roofing	$740,000
Repair/replace wood panel siding.	$200,000
Structural and masonry repairs to pool wing to prevent further masonry deterioration due to moisture infiltration.	$1,100,000
Provide new drinking fountains	$60,000
Replace booster heater at kitchen.	$7,000
Provide exhaust fans at electrical rooms	$14,000
total	**$2,326,000**

Farley Option c
2018-2023 cost if building to remain in use long term

Scope of work:	
Repairs to windows and skylights	$1,700,000
New, larger elevator -4-stop for two-story split-level building.	$300,000
New kitchen equipment for existing small kitchen	$240,000
Replace carpet - assume 30% of building	$200,000
Add sprinklers	$870,000
total	**$3,310,000**