



## Elementary School Plan Proposal August 2016

The School Committee and Administration, in preparing for this Elementary School Plan proposal, has conducted open meetings with parents at each of the elementary schools. In addition, a meeting was held at the high school in which the entire community was invited. The committee also held public meetings which included presentations from the architectural firm Dore & Whittier and from the Director of the Department of Public Works. Dore & Whittier, it should be noted, designed the new West Parish Elementary School, and they conducted an analysis of the conditions of the other four elementary schools. The Director of Public Works provided an account of the current condition of the schools and anticipated costs (replacing modulars, for example.) The School Committee has taken site visits to potential alternate sites as well. Last, the committee has reviewed enrollment projections from the Massachusetts School Building Authority (MSBA) and New England School Development Corporation (NESDEC).

The Elementary School Plan Proposal as proposed below, consists of three stages, with the third stage having two possible options.

1. **West Parish Elementary School--The first phase of the elementary school plan is the building of the new West Parish Elementary School.** This building was built to accommodate 370 students. Consistent with the guidelines of the Massachusetts School Building Authority (MSBA regarding enrollment, the new West Parish school has 18 regular education classrooms plus three Special Education classrooms and can accommodate 400 or so students, if necessary.
2. **A New School in East Gloucester--The second stage of the plan would seek to build a new elementary school in East Gloucester which would accommodate students from both East Gloucester and Veterans Memorial Elementary Schools.** An invitation into the program by the MSBA would include a feasibility study of an alternate site located at Pines/Swinson's Field.

At present, East Gloucester and Veterans have 473 students. A four-classroom school with that number of students would average 19.7 students per class.

Should the alternate site not prove to be viable, the School Committee will consider the Beeman site option.

If other options become available, in addition to the Pines/Swinsons, the School Committee will consider those options as well.

3. **Determine the Status of Beeman Memorial Elementary School and Plum Cove Elementary School.**

Option A--Once a feasibility study is conducted for East Gloucester (note that the Statement of Interest was submitted in February 2016), and the District is certain as to what size school could be built, the School Committee would determine the next phase of the plan; i.e., the status of Beeman Memorial Elementary School and Plum Cove Elementary School. Determining the status of those schools includes the consolidation of the two.

At present, Beeman and Plum Cove, collectively, house 5 classrooms per grade. Option A maintains the position that the plan for those two schools should remain "on hold" until a determination of the potential of the East Gloucester Statement of Interest is made.

Option B--This option is built on the assumption that the District will remain at 12 classrooms per grade, its current configuration. The latest projection of future enrollment, compiled by the NESDEC suggests that the district will have 100 more students in 2025, approximately 80 more in the elementary grades. In other words, the expectation is that enrollment will remain relatively steady.

If we presume that the East Gloucester Statement of Interest is accepted and that the subsequent feasibility study enables the District to build a 4 classroom per grade school in East Gloucester, then West Parish and the new school in East Gloucester combined would house 7 classrooms per grade, leaving 5 classrooms for the rest of the district (in order to maintain the current 12 classrooms per grade). Taking into account the time it takes to build a new school--this is, on average, a six-year process from start to finish--along with the need to consider what will be fiscally feasible and fiscally responsible, the elementary school plan would call for a consolidation of the Beeman and Plum Cove schools on the Beeman site (this presumes adequate, buildable land on the Beeman site).

The current enrollment of Beeman and Plum Cove is 596 students. With that number, a 30 classroom school, 5 classrooms per grade, would average 19.8 students per class. The

difference between Option A and Option B has to do with deciding when to make a decision about Beeman and Plum Cove.

The outline of the plan above rests on five fundamental considerations:

- The condition of the schools based upon the analysis presented by Dore & Whittier in the Gloucester Public Schools Master Plan Study, and upon the recognition that new schools and the consolidation of schools, rather than repairs (capital improvement), renovations, or additions would better meet the needs of students, and in the long run be the most cost effective.
- A realistic and fiscally responsible accounting of the City of Gloucester's capacity to finance the District's plan for the elementary schools, with consolidation as a factor in addressing that responsibility;
- An assessment of the timeframe for renovating/replacing the remaining schools. The average time for a project to be completed, according to the the West Parish project's Owner's Project Manager, is six years.
- The availability, or lack of, "swing space", allowing for the movement of students to an alternate location while construction is being done.
- A sense of where the larger unknown lies with respect to building and capacity. In this analysis, this consideration would continue to prioritize East Gloucester (Pine's/Swinson's Field), over the Beeman site, and would favor Option A over Option B in Stage 3 of the proposed plan.

Any plan put forward must take into account all of the above issues, the present condition of the schools, and the cost and time needed to both modernize and meet the needs of students across the entire district.

Further discussion is below.

## **Discussion**

### **West Parish**

A Statement of Interest (SOI) for the West Parish Elementary School was first submitted in 2007, and again in 2009. The latest submission was in January 2012, at which time the District was invited into the MSBA program. Among the other elementary schools, West Parish was deemed to be in the most dire need of renovation or replacement.

With respect to enrollment, the new West Parish Elementary School is replacing the original school in terms of the number of students. It is the policy of the Massachusetts School Building Authority to not support the construction of a new school (with reimbursement for costs) with a larger student enrollment than the school it is replacing unless there is a consolidation of schools. Stated another way, when there is consolidation, the MSBA will increase the capacity of a new school.

Historically, a few considerations should be noted regarding the replacement of the original West Parish with a similarly-sized school. First, there is the above-mentioned assessment of the condition of the original school and the clear need for it to be replaced. Second, there is the MSBA's policy regarding enrollment guidelines and consolidation. Third, there was little expectation for the closing of another elementary school in favor of having a large number of students outside the West Gloucester area transported to a school geographically located in West Gloucester. And, last, the Plan for Effective Learning Communities held some influence as a guiding principle.

### **The Elementary School Master Plan**

The Elementary School Master Plan prepared by Dore & Whittier in 2014 reviewed the conditions of the four remaining elementary schools and concluded that, district-wide, there is a need for approximately 91,870 sq. ft. of additional space (based upon criteria established by the MSBA). The report goes on to summarize its recommendations by providing four options (categorical options):

Option A: Option A is considered a Capital Improvement Only option. This option would be used as a baseline for the comparative cost of maintaining the existing facilities and assumes no educational program improvement. Beeman, East Gloucester, Plum Cove, and Veterans, according to the report, will remain undersized for both the existing and the projected enrollment.

#### Option B: Renovations and Additions

This option proposes that each facility will have an addition and renovation to the existing building to improve the program space. This option assumes that all students will remain within their current school or district and existing facilities will be improved to meet MSBA standards. These improvements do not suggest that every undersized classroom, teaching space, or administrative area will be enlarged but that core spaces will be added or improved and that modular

classrooms are replaced with permanent structures that meet MSBA guidelines. Capital improvements would be made to the building infrastructure, core areas would have additions or renovations to improve programing and the end result would be a 50-year school facility.

**Option C: Schools on Existing Building Locations, Reduced Number of Facilities**  
This option reviewed the potential for placing new buildings in the location of the existing buildings on each site. These buildings would have expanded footprints to accommodate the MSBA gross square foot allowance based on the projected student population. Where possible site circulation would be improved. Option C could include a mix of new schools and renovations but was presented in the report as new buildings (Option B, above, showed potential renovation options for each building). Three of the four existing schools are proposed in the option and one of the schools (Plum Cove or Veterans) would be taken off line. This option takes into consideration the projected reduction in student enrollment (1293)<sup>1</sup> and suggests a reduction in operational expense. This option does not account for the necessary swing space that would be needed for the new buildings to be constructed.

#### **Option D: New School Facilities**

This option provides a long range master plan that reduces the number of school facilities to three schools district-wide. In this option, each school site and location was considered for renovations, additions, or a new school. The Beeman School site offered the best option for a larger school that could (potentially) be constructed without the need for swing space. Once this larger school is constructed, swing space would then be available for the improvements at the East Gloucester School or a new school to be built on the existing site. These two school sites were chosen due to their location and overall buildable project site.

***Please note that the availability of an alternative site in East Gloucester was not known at the time this plan was developed.***

### **East Gloucester**

In the most recent Statement of Interest (SOI), submitted in February, 2016, the District was asked for a description of the programs not available due to facility constraints and the facility limitations precluding the programs from being offered. Based upon the Dore & Whittier report, the District responded as follows:

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<sup>1</sup> Please note that, as mentioned earlier, the most recent enrollment projection by NESDEC has elementary enrollment increasing by approximately 80 students by 2025.

The issue for East Gloucester is a larger one than the lack of availability of programs. There *are* constraints on certain programs. The larger issue, however, is that the educational instruction, in its entirety, is limited, even compromised by a building whose systems are old, function improperly, and are beyond repair.

The response goes on to discuss a variety of issues including HVAC, electrical, plumbing, fire protection, hazmat, technology and infrastructure, and a number of miscellaneous items. For a complete response to the question, see the Appendix to this document. The important point, according to the study, is that the school's "systems are old, function improperly, and are beyond repair."

The Elementary Master Plan provides four options for East Gloucester. The first option is the repair of the existing facility and all of its systems (Option A). The second is an addition/renovation to the existing school which would house 245 students (Option B). The third option is for a new, two-story building for 266 students (Option C), which would be part of a four-school configuration. The fourth option calls for a new school on the existing site which would house 399 students (Option D) and would be part of a three-elementary school configuration.

The School Committee's recommendation on these options is as follows:

- Renovation (Option A) of the existing facility and all of its systems is not recommended and in all likelihood will be shown to be quite expensive (as determined by a feasibility study). A lack of available swing space is an issue as well.
- Additions/renovations to the existing building (Option B) with its current modulars raises fundamental questions mentioned in the Executive Summary. Like Option A, the potential cost of renovating existing facilities for the four schools, let alone East Gloucester, must be questioned. And those buildings would need to be maintained. Second, this consideration calls into question the City of Gloucester's capacity to finance the District's renovation and/or replacement of the elementary schools. How many projects can the City support over time, and, and at what cost? The School Committee is committed to acting to improve school facilities, but wishes to do so in a fiscally responsible fashion.

The third consideration refers to the timeframe for renovating/replacing the remaining schools. The average time for a project to be completed, according to the the West Parish project's Owner's Project Manager, is six years. The building of single-school replacements for the four remaining elementary schools could, best-case scenario, take a quarter of a century or more. The School Committee is committed to modernizing the District's facilities in an reasonable amount of time.

The fourth consideration is that, like Option A, available swing space is an issue. In both options, the district would maintain 5 elementary schools.

- Option C calls for a new building on the East Gloucester site and would provide enrollment for 266 students. The same constraints of finance, time, swing space, and the number of facilities that would require maintenance would apply. Under this option, the district would maintain 4 elementary schools instead of five. Plum Cove or Veterans would be closed.
- Option D calls for a new building which would house 399 students at 3 classrooms per grade. Considering the physical location of the East Gloucester Elementary School, it does not appear feasible to add another 150 students to that site considering the congestion that it would create, in terms of transportation, traffic, and use of a limited amount of land.

What Option D does offer is the possibility of building a new school on a new site (again, the potential for a new site was not known at the time of the Dore & Whittier Report). Early prognostications--admittedly prior to a thorough geologic analysis--suggest that a new school could be built at a new location, at Pines/Swinson's Field. Further, it is anticipated that the location could provide enough space for not only a 3-classroom school, but for a 4-classroom school, housing 400-500 students. This configuration would call for the consolidation of East Gloucester Elementary School with Veterans Elementary School. Both schools have space, infrastructure, and systems issues and both would benefit from a consolidation.

The building of a new school on a new site would set the stage for the implementation of either Option C or Option D, a four-school or a three-school configuration.

## **Beeman**

The systems, space, and infrastructure needs of Beeman match those of East Gloucester. Like East Gloucester, a Statement of Interest (SOI) for Beeman was submitted to the MSBA in February, 2016. In response to Priority Question 1, which asks for a detailed description of the programs not currently available due to facility constraints, the state or local requirement for such programs, and the facility limitations precluding the programs from being offered, similar and profound concerns are provided, based upon the Dore & Whittier Report.

Once again, the full response to this question is located in the Appendix. Some of the issues emphasized include an increase in enrollment over the last 8 years from 280 to 346 students, severe space needs and overcrowding in the building particularly with respect to office space for teachers, converted closets into offices, group instruction and interventions held in hallways, scheduling conflicts between Physical Education and lunches, lack of private areas for Special

Education, physical systems that have gone well beyond their life expectancy, and the list could go on (HVAC, electrical, plumbing, fire protection, hazmat, Technology and Infrastructure, etc.).

The same issues from the Elementary Master Plan document that affect consideration of the East Gloucester options impact Beeman. *The major distinction is that East Gloucester is prioritized in this draft proposal because it presents the biggest unknown and has bearing on the subsequent phase of this Plan.* At this time, the committee knows less about what a new school on the Pines/Swinson Field site might be than what, in all likelihood, the building capacity or size of a potential new school on the Beeman site is.

This draft proposal reflects the position that until the committee has a clear sense of what can be done in East Gloucester, it would wait on providing a specific plan for the Beeman project. Whether a new school in East Gloucester would accommodate 3 classrooms or 4 classrooms, or remain a 2 classroom per grade school in each case, that determination would have an impact on the scope of a new project on the Beeman site.

The Elementary Master Plan Study proposes similar options for Beeman as it did for East Gloucester. Again, the first option is the renovation of the existing facility and all of its systems (Option A). The second is an addition/renovation to the existing school which would house 288 students (Option B) and 5 elementary schools. The third proposal is for a new, two-story building for 399 students (Option C). The fourth option is for a new school on the existing site which would house 532 students (Option D) and would be part of a three-elementary school configuration.

The School Committee's recommendation on these options is as follows:

- Like East Gloucester, renovation (Option A) of the existing facility and all of its systems is not recommended and in all likelihood will be shown to be quite expensive (as determined by a feasibility study). Available swing space is an issue.
- The addition/renovation to the existing building (Option B) with its current modulars raises the same questions about financial concerns, timeframe for the number of projects the District could ask for, and future maintenance costs. Like Option A, available swing space is an issue.
- Option C calls for a new school on the Beeman site and would provide enrollment for 399 students (3 classrooms per grade, an average of 22 students per classroom). The same constraints affecting Option B apply to Option C. Option C calls for a four-elementary school configuration.
- Option D calls for a new building which would house 532 students at 4 classrooms per grade. The average class size would be 22 students per grade.

## Appendix

### Statement of Interest Response East Gloucester Priority Question 1

The issue for East Gloucester is a larger one than the lack of availability of programs. There are constraints on certain programs. The larger issue, however, is that the educational instruction in its entirety is limited, even compromised by a building whose systems are old, function improperly, and are beyond repair.

#### Program Issues

The East Gloucester Elementary School is a Kindergarten through Grade 5 facility. There are two classes per grade along with a Language Based Classroom and a Learning Center. The gymnasium also functions as the school's cafeteria. The building has a library and an auditorium. Kindergarten classrooms and offices for the Psychologist, Reading Coach, and Student Support are in the modular rooms (as is the Learning Center. The Auditorium has a stage and abuts the administrative office. There is no music room; music classes take place on the stage. There is no art room; art takes place in each of the classrooms.

One classroom houses two Special Education teachers, a Speech and Language teacher, Title I teacher all work in one room providing services to students. There is a fifth teacher, for the hearing impaired, who has to use that room as well.

In the modulars, there is a small office for the Occupational Therapist which is only accessible by walking through a Kindergarten classroom. An English Language Learner teacher does not have her own area to service children; The ELL teacher works with students in the hallway, or in the library, if available.

There are no rooms for conferences such as Special Education IEP team meetings, 504 meetings, parent conferences, etc. There is no teacher workroom; teachers must use the hallway.

There are two adult bathrooms in the entire building, one designated for each gender.

#### Compromised Delivery of Instruction

##### HVAC

Based upon the Dore and Whittier report, the East Gloucester Elementary School's HVAC system has deteriorated in a manner that is consistent with a system that was installed long ago, in 1948. This is due to scale, poor water conditions, and a lack of preventive maintenance (this is a funding issue). Systems such as the one in East Gloucester will gradually deteriorate to a point of exceeding their maximum serviceable life.

According to the report, the majority of the building HVAC systems are the originally installed systems and are in poor condition. The systems are beyond their useful service life and in need of replacement. The overall HVAC system has become very inefficient and very costly to operate and maintain. Many of the automatic temperature controls appear compromised due to failed controls and equipment. Ventilation rates and acceptable air-quality are likely compromised due to the surface contamination on many systems as well as inoperable or poorly operating outside ventilation Controls.

The classrooms are heated and ventilated by steam unit ventilators. Those unit ventilators and exhaust fans appear to be originally installed equipment that are in poor condition and are beyond their expected service life. Older unit ventilators are inherently noisy. The teachers turn them off so that they can teach. This effectively stops the flow of ventilation air.

Support areas are also problematic. In the kitchen, there is a stainless steel wall mounted hood that is served by a propeller type exhaust fan. The fan is located at the back of the hood. The exhaust fan is not code compliant. There are no hood grease filters and no hood fire suppression system installed. Make-up air for the kitchen is provided through the gymnasium; however there are no transfer openings into kitchen. Therefore the kitchen is not provided with code compliant makeup air.

The crawl spaces consist of bare soil, rock formations, and even a small stream. There is no mechanical ventilation in the crawl spaces. Mechanical ventilation is recommended, due to the buildup of moisture from such an environment. Lobby, hallway and entryway areas are generally heated by various steam radiators, slope top radiation and steam cabinet unit heaters. There is no ventilation in the corridors. Some of the vestibules have no heat.

When considering the overall age and general poor condition of the HVAC systems and antiquated automatic temperature control system, the Master Plan recommendation is that all HVAC and associated control systems should be replaced. An upgrading of components of the systems on a sectional basis should not be considered since the mechanical systems and their components work together as a system. For example, changing the boilers without replacing the piping Name of School East Gloucester Elem Massachusetts School Building Authority 14 Statement of Interest systems, or the classroom unit ventilators without changing the automatic controls and the piping, would not achieve the benefits of the investment of upgrading the components since a failure could potentially occur at any point within the existing components. As the building presently exists, there does not appear to be any immediate life safety concerns associated with the HVAC systems. However, several areas of this building are not provided with code required ventilation. These areas should be provided with mechanical ventilation systems that provide code-required ventilation. Due to the poorly performing automatic temperature controls, energy consumption within the building is likely well above average when compared to similar buildings. In addition, maintenance costs and repair costs are likely above average considering the overall poor condition of the building HVAC and control systems.

East Gloucester requires an overall HVAC system replacement for the building. The replacement HVAC system should utilize new high efficiency HVAC systems and energy conservation design techniques.

### Electrical System

The existing systems in East Gloucester range from original vintage, approximately 65 years old to upgrades/add-ons recently installed including fire alarm and a lighting retrofit. Although new devices, equipment and fixtures were provided, the existing wiring, raceways, and boxes were generally reused. The facility is well maintained and clean; the systems, however, do not reflect nor do they meet the needs of a modern day facility. The piecemeal approach of having expanded these systems and the need to work around existing ongoing operations with budget constraints has resulted in inadequate capacity for expansion. Code changes over the years have resulted in existing systems that do not meet today's electrical codes. Most of the existing systems are not suited for expansion due to the incompatibility of new technologies. Replacement parts are no longer available for many of the systems. Replacement of all of the electrical systems for this facility would be required under any possible renovation Program.

### Miscellaneous

The main distribution panel and most remote panels are of the breaker type, however some panels are still of the fusible type. Most panels have no available space for additional circuits. Most switchgear equipment in the boiler room has corroded due to water infiltration into the basement & dampness within the space. Switchgear was manufactured by GE and is in poor to very poor condition.

The facility does not have a generator. Battery units exist for egress lighting but is generally inadequate. Exterior doors of classrooms have paper exit signs. Multi-purpose room has exit signs with wireguard and integral battery. Most exit signs have not been retrofitted with energy efficient LED lamps. Exterior doors do not have exterior emergency lighting. Exit sign coverage is inadequate.

East Gloucester does not have a lightning protection System. The telephone and cable TV services run underground into boiler room from same pole as power. Main entrance door has a video intercom station with a magnetic lock with remote release. A local request to exit push button exists at door. The receptacle coverage is inadequate in most spaces. Kitchen receptacles are GFI type but are virtually non-existent. There is no emergency power off device in the kitchen to kill power to equipment under hood. Boiler emergency shut-off switch exists outside boiler room door.

Typical classrooms have three duplex receptacles. As a result, extension cords are used throughout classrooms due to lack of receptacles (not good).

### Plumbing

Presently, the Plumbing Systems serving the building are cold water, hot water, sanitary waste and vent system, storm drain piping, and natural gas. In general, the fixtures have served their useful life and do not meet current codes for accessibility and water conservation. Current Access Code requires accessible fixtures wherever plumbing is provided. In terms of the water conservation fixtures, their use is governed by the provisions of the Plumbing and Building Code. Essentially, the code does not require the fixtures to be upgraded, but where new fixtures are installed, as may be required by other codes or concerns, the new fixtures need to be water-conserving type fixtures. All new fixtures are recommended. In general, the drainage piping can be reused where buried underground and where adequately sized for the intended new use. Video inspection of any existing piping to be re-used is recommended. Complete new water piping systems are recommended. The copper piping is in poor condition and has served its useful life.

#### Fire Protection

The Building does not contain an automatic sprinkler system. In general, Massachusetts General Law M.G.L. c.148, s.26G requires that any existing building over 7,500 square feet that undergoes major alterations or modifications or building addition must be sprinklered. The proposed scope of work needs to be reviewed to determine if project is a major alteration. If the work is considered a major alteration or building addition constructed, then an automatic sprinkler system is required for the entire existing building and additions. A hydrant flow test will be required to determine adequate Municipal water supply.

#### HazMat

Dore & Whittier had a Hazardous Materials Determination Inspection conducted for the East Gloucester Elementary School and the district Name of School East Gloucester Elem Massachusetts School Building Authority 15 Statement of Interest refers the MSBA to that report. Cost estimates for removal of ACMs and other hazardous materials and an allowance for removal of inaccessible or hidden ACM that may be found during a demolition project is estimated at \$570,000.

All of the above factors speak to a program that is compromised by a building that is 68 years old and whose systems and space availability do not provide an environment that is adequate to meet the needs of educating children.

*Above Adapted from the Dore & Whittier Report*

#### Technology & Infrastructure (IT DEPT)

Insufficient amount of data drops per room. Most rooms only have one working line.

The schools network cabling is Cat5, this is inappropriate for servicing modern computers & networking equipment. The current standard is Cat6e (support for Gigabit connections) Current infrastructure can not support deployment of VOIP phones to every classroom and workspace. Staff are unable to communicate with District staff as well as parents from their

rooms. They are forced to use public areas.

Without phones being in the classroom there is no direct way for staff to call 911 for emergencies.

There are no easy means of extending data lines to rooms and workspaces do to the lack of chaseways, drop ceilings, or conduit.

Inadequate electrical outlets in classrooms. Computers and other electronic educational devices are powered by extensive use of power strips and extension cords. This poses risk for tripping hazards and overloading of circuits.

No Generator for power backup. When the power goes out, core services such as phones, intercom, and internet are on temporary battery backup (less than 20 minutes of run time).

Lack of secure location for headend equipment. PBX, Intercom, and Network Switches are located in a publicly accessible space at the back of the auditorium stage.

There is no video surveillance system at the school for monitoring the school's entrances, parking lot, and playground.

### **Statement of Interest Response Beeman Priority Question 1**

Modular classrooms have vinyl wall siding to the underside of the structure. A textured wall board is used as a skirt and rodent control. In many areas the skirt board is damaged or missing, exposing the wood frame to weather and allowing access for rodents below the classrooms.

Textured wall board is water damaged, broken and missing in some areas at the base of the modular classrooms.

In the Beeman School almost every classroom has a door to the outside. Many of these doors are damaged, some do not close properly and many do not have proper weather striping. Most exterior doors throughout the building are aluminum systems; a few doors are steel with metal or wood framing. Most metal doors are half vision glazing, half metal panel. Many have side lights, and transom windows. Most are in poor condition. Door frames are damaged and thresholds are damaged and rotting. Several doors do not provide the proper hardware for accessibility or proper closing and locking mechanisms needed for security.

Building louvers and vents around the exterior building show a great deal of damage, rusting and nesting of birds or other animals is apparent in many of the louvers. It is likely that the damaged louvers have a negative effect on the venting system.

Corridors and classrooms in the main building have asbestos vinyl tile (AVT) flooring throughout. This flooring for the most part is in good condition. Any broken or damaged tiles should be abated and replaced

Classrooms have a plastered ceiling with perforated ceiling tiles adhered to the ceiling. Many of the perforated tiles are in poor condition. These tiles are most likely attached to the ceiling with glue. Toilet rooms and storage areas have plaster ceilings. Many of the plaster ceilings, including those in the classrooms, are in poor condition with peeling paint and water stains. These ceilings should be repaired.

Doors intended to provide a fire separation in the corridor are being held open with wood floor wedges. These doors should receive hold opens that are tied to the fire alarm system. Several doors had damaged or non-compliant hardware and many of the interior windows and side lights have wire glass which is no longer an accepted glazing. Many metal door and site light frames have rusted at the base.

Most built-in furniture and storage is in fair to poor condition and shows signs of age and wear. In some classrooms the pull down chalk board is no longer operable. The finish on cabinet doors and laminate counter tops is peeling and hinges need to be repaired or replaced.

Existing parking spaces does not provide access to the building along a path with the correct slope. Access to the main building entrance is not provided by an accessible route. Ramps of asphalt and wood provided at classroom doors do not provide the correct slope for accessible entrance. Other site issues include access to the play structures and accessible surface around play structures. Entrance door hardware does not meet accessibility Requirements.

With respect to handicapped accessibility, there are a number of issues that have programmatic implications. Many doorways and travel paths, such as the path to the principal's office, do not provide the correct width or turning radius for accessibility. The raised platform stage located in the gym/cafeteria does not provide access for handicap students, guest, or performers. Door hardware and entrance/exit pull clearances in many classrooms, restrooms, and teaching spaces does not comply with the requirements of ADA/MAAB. Toilet rooms, fixtures, and accessories in the main building are not accessible (accessible toilet rooms are located in the modular classroom area). The stair risers, treads, and handrails do not comply; (the handicap lift was not assessed for compliance). Drinking fountains and classroom sinks located in the main facility are not compliant (those located in the modular classroom area appear to be compliant) Signage for classrooms and other spaces does not meet ADA/MAAB requirements

## HVAC

In general, the majority of the building HVAC systems are originally installed systems that are in poor condition, beyond their useful service life and in need of replacement. The overall HVAC

system has become very inefficient and very costly to operate and maintain. Many of the automatic temperature controls appear compromised due to failed controls and equipment. Ventilation rates and acceptable air-quality are likely compromised due to the surface contamination on many systems as well as inoperable or poorly operating outside ventilation controls.

One of the boilers is from 1956 and is original to the building; it is far beyond the life expectancy for that particular piece of equipment. All of the building's mechanical systems should be replaced, as they have outlived their useful life. The only mechanical items that could possibly remain are some of the hot water piping systems.

The vast majority of the classrooms are served by unit ventilators with hot water coils and outside air louver. The outside air louvers are damaged and in rough shape. The hot water valve and dampers are pneumatically actuated. Ventilation air brought in thru the unit ventilators is relieved via a low wall grille connected to a central exhaust system. The roof mounted exhaust fans typically serve 4-5 classrooms. Only a couple of the exhaust fans actually work, hampering ventilation effectiveness. The unit ventilators are falling apart and need to be replaced. The maintenance staff can no longer get the replacement vibration isolators for the fan board. The jury rigged isolators have consequently made the unit vents noisy. This result is that each turns off the fan and all ventilation is lost. There is no ventilation in the corridors. The corridors are heated with cabinet unit heaters. The H&V units in the Name of School Beeman Memorial Massachusetts School Building Authority 15 Statement of Interest gym/cafetorium are recirculation only with no source of fresh air.

Generally speaking, there are a number of administration type spaces that have heat but no active mechanical ventilation. Ventilation is via operable windows or there is no means to ventilate. The health office has slope top radiation for heat and no ventilation. The principal secretary's office is an interior room that does not appear to be provided with code required ventilation. It is our understanding that the office door is left open most of the time to the corridor.

Based upon the overall age and general poor condition of the HVAC systems and antiquated automatic temperature control system, Dore & Whittier, who audited all of our elementary school buildings, recommends that all HVAC and associated control systems be replaced. According to D&W, as the building presently exists, there does not appear to be any immediate life safety concerns associated with the HVAC systems. However, several areas of this building are not provided with code required ventilation. These areas should be provided with mechanical ventilation systems that provide code-required ventilation. Due to the poorly performing automatic temperature controls, energy consumption within the building is likely well above average when compared to similar buildings. In addition, maintenance costs and repair costs are likely above average considering the overall poor condition of the building HVAC and control systems. That is the basis for the recommendation of an overall HVAC system replacement for

the building. The replacement HVAC system should utilize new high efficiency HVAC systems and energy conservation design techniques.

Consistent with the above, D&W do not recommend upgrading components of the systems on a sectional basis since the mechanical systems and their components work together as a system. For example, changing the boilers without replacing the piping systems, or the classroom unit ventilators without changing the automatic controls and the piping, would not achieve the benefits of the investment of upgrading the components since a failure could potentially occur at any point within the existing components.

Due to the poorly performing automatic temperature controls, energy consumption within the building is likely well above average when compared to similar buildings. In addition, maintenance costs and repair costs are likely above average considering the overall poor condition of the building HVAC and control systems. Therefore, we recommend an overall HVAC system replacement for the building.

#### Electrical

The existing systems of this facility range from original vintage, approximately 58 years old to upgrades/add-ons recently installed including fire alarm and lighting. Although new devices, equipment and fixtures were provided, the existing wiring, raceways, and boxes were generally reused. The building's systems do not reflect nor do they meet the needs of a modern day facility. The piecemeal approach of having expanded these systems has resulted in inadequate capacity for expansion. Code changes over the years have resulted in existing systems that do not meet today's electrical codes. Most of the existing systems are not suited for expansion due to the incompatibility of new technologies. Replacement parts are no longer available for many of the systems. Any renovation would require replacement of all of the electrical systems for this facility

The building does not have a generator. Self contained battery units exist in corridors for egress lighting but offer inadequate coverage due to spacing of units. The exterior doors do not have exterior emergency lighting. Exit signs have been retrofitted with LED lamps. Some exit signs have integral emergency heads with battery back-up while other exit signs do not have battery backup. Exit sign coverage is inadequate. The exit signs in gym have protective wire guards. Exit signs in many instances are not located over exterior doors for clear exit. The facility does not have lightning protection system.

The receptacle coverage is inadequate in most spaces. Typical classrooms have three duplex receptacles. Extension cords are used throughout classrooms due to lack of receptacles. The use of extension cords for permanent wiring is a code violation. There is no emergency power off device in the kitchen to kill power to equipment under hood.

#### Plumbing

In general, the fixtures in the original building have served their useful life and do not meet current codes for accessibility and water conservation. In the audit report on Beeman, complete new water piping systems are recommended. The copper appears to have served its useful life.

#### Fire Protection

The modular classroom building is protected by an automatic sprinkler system. The original school building is not protected by the system. System was installed in 2008 when modular building was installed.

#### HazMat

The cost for the removal and disposal of all accessible ACM, other hazardous material and an allowance for removal of inaccessible or hidden ACM that may be found during the demolition project is estimated at \$660,000.

#### *Above Adapted from the Dore & Whittier Report*

#### Technology & Infrastructure (IT DEPT)

Insufficient amount of data drops per room. Most rooms on have one working line.

The schools network cabling is Cat5, this is inappropriate for servicing modern computers & networking equipment. The current standard is Cat6e (support for Gigabit connections). The data cabling in the module units at Beeman are Cat6e. This was done when the addition was added.

Current infrastructure can not support deployment of VoIP phones to every classroom and workspace. Staff are unable to communicate with District staff as well as parents from their rooms. They are forced to use public areas.

Without phones being in the classroom there is no direct way for staff to call 911 for emergencies.

Inadequate electrical outlets in classrooms. Computers and other electronic educational devices are powered by extensive use of power strips and extension cords. This poses risk for tripping hazards and overloading of circuits. Name of School Beeman Memorial Massachusetts School Building Authority 16 Statement of Interest

No Generator for power backup. When the power goes out core services such as Phones, Intercom, & Internet are on temporary battery backup (less than 20 min.of run time).

Lack of secure location for headend equipment. PBX, and Network Switches are located in the staff Mail room. Intercom System is located in the Cafe/Gym Storage room.

The school's PBX and Networking equipment is not located in properly climate controlled/ventilated area.

There is no Video Surveillance system at the school for monitoring the school's entrances, parking lot, and Playground.