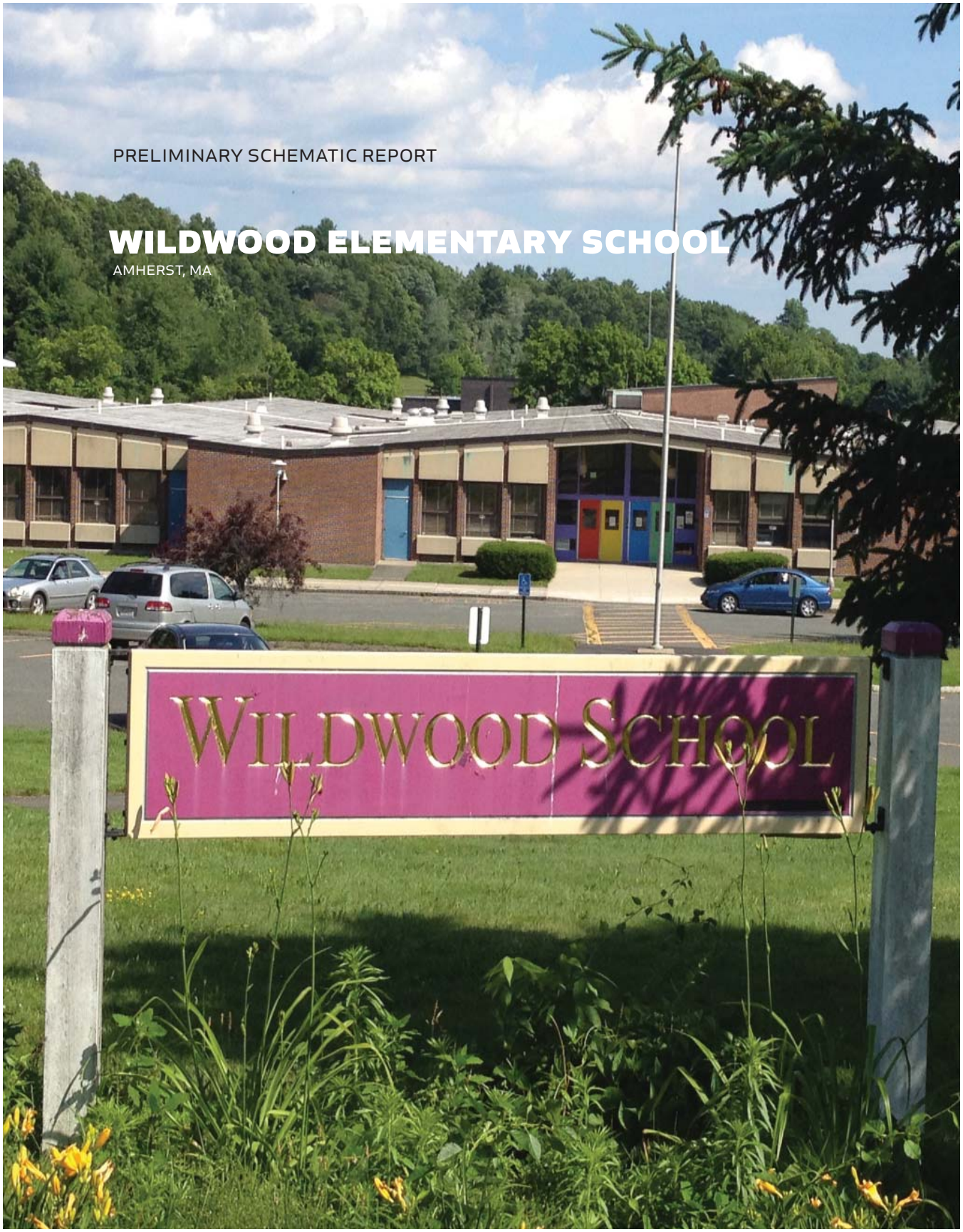
PRELIMINARY SCHEMATIC REPORT

WILDWOOD ELEMENTARY SCHOOL

AMHERST, MA



SUBMITTED TO THE MSBA FEBRUARY 11, 2016

JCJARCHITECTURE

TABLE OF CONTENTS

3.3.5 – Local Actions and Approval Certification

- Certified Copies of School Building Committee Meeting Minutes
- List of SBC meeting dates, agendas, materials presented
- List of School Committee meeting dates, agendas, materials presented
- List of Community Forum meeting dates, agendas, materials presented
- Signed Local Actions and Approval Certification

3.3.6 – Appendix

- Wildwood Airborne Mold Spore Testing Report
- Construction Cost Estimate (Uniformat II)

3.3.1 INTRODUCTION

INTRODUCTION

SECTION 3.3.1

3.3.1 – Introduction

- Process Overview
- Summary of Updated Project Schedule
- Summary of Final Evaluation of Exsting Conditions
- Summary Final Evaluation of Alternatives
- Summary of District's Preferred Solution
- MSBA Preliminary Design Program Review and District's Response

3.3.1 – Introduction

- Process Overview
- Summary of Updated Project Schedule
- Summary of Final Evaluation of Existing Conditions
- Summary of Final Evaluation of Alternatives
- Summary of District's Preferred Solution
- MSBA Preliminary Design Program Review and District's Response

3.1.1 - INTRODUCTION

The purpose of the Preferred Schematic Report is to define the programmatic, functional, spatial and environmental requirements of the educational facility necessary to meet the District's educational program and perform the review and investigation required to clearly define the existing building deficiencies. Based on the District's educational program we have identified the programmatic space needs for the Amherst Wildwood Elementary School project. The space needs, along with an evaluation of existing conditions and site development requirements, have formed the evaluation of alternatives upon which the most educationally appropriate and cost effective solution will be recommended. With that information in-hand, the Preferred Solution has been approved by the Wildwood School Building Committee and is being submitted to MSBA for review and comment prior to going to the Board for MSBA approval to proceed with the Schematic Design.

The Town of Amherst submitted their Statement of Interest (SOI) for the Wildwood Elementary School on March 19, 2013. The deficiencies identified in the SOI are detailed in the Appendix of the previously submitted Preliminary Design Program (PDP). To summarize the deficiencies here, the District has identified the existing open classroom arrangements, a diverse student population with a need for differentiation and intervention, a general lack of appropriate ELL spaces and inherent problems in building circulation with the existing location of student toilets and the necessity to pass through active learning classrooms in order to reach the student toilet facilities. These deficiencies have been identified as direct problems that the District desires to correct so that they can provide the best possible educational experience for all of their students. The existing Wildwood and Fort River Elementary Schools were built only a few years apart and are nearly identical in design and layout. Both buildings now show similar deficiencies, both from a design standpoint and an infrastructure standpoint. Both schools were built with open-plan classrooms at a time when such design was the prevailing model. Since that time it has been shown that such an environment is not conducive to learning for all students. The relatively high percentage of students needing differentiation and intervention is not well served by the existing environment.

PROCESS OVERVIEW

The Preliminary Design Program was submitted to MSBA on December 7, 2015. Review comments from the MSBA were received by the Town of Amherst on January 19, 2016 and the responses to those comments are included in the last part of section. The Design Team met with the School Building Committee and the School Committee on a regular schedule over the duration of this phase of the project and the meeting minutes from all of those meetings can be found in Section 3.3.5 "Local Actions and Approval Certification" of this report. The Town of Amherst conducted independent surveys and gathered and reported out the results of those surveys to the appropriate Committees. As a result of all of these efforts, the School Committee voted on January 19, 2016 to approve the grade reconfiguration to include a co-located grade 2-6 school to accommodate a total of 750 students. This grade reconfiguration would include an enrollment for a 750 student 2-6 school, which would entail redistricting to a district-wide system, maintaining the existing Crocker Farm Elementary School as a Pre-K – 1 and creating a new single 2-6 building, to replace the existing Wildwood and Fort River Elementary Schools. The District will be revisioning Crocker Farm School given its change from being a PreK-6 school to a PreK-1 early childhood center. The visioning work will be led by Tina Mannarino, Ph.D, of the LEARN Regional Service Center's Department of Young Children and Families. The Visioning group will include early childhood teachers, future parents of the district, community members, a member from the finance committee and the school committee, and administrators, and will complete 4-5 full days of work this spring and summer. The goal of the group is to develop a vision for the early childhood center in a similar way as was done for the Wildwood Building Project (via David Stephen of New Vista Design), since the change will affect the organization of the entire district. In terms of community support for the reconfiguration, developing a clear PreK-6 vision for the educational

program of the district is a critical step given that the result of the building project will only cover 3/4 of the students in Amherst.

The Amherst School Committee voted to have the 750 student school broken into two wings, each comprised of students in grades 2-6. To achieve that vision, the district developed maps that would divide the town into two contiguous enrollment zones from the current catchment maps, which have three enrollment zones which are not fully contiguous. Fortunately, multiple options that maintain a balance of socioeconomic equity (a research-based practice that is a goal of the Amherst School Committee) were identified as possibilities. The recommendation to the School Committee was to revisit the maps after the project's support by the MSBA and the Town of Amherst is confirmed to vote on the one that best serves the community. This would also allow more time for enrollment patterns to develop so that the plan would best address any changes to past patterns that might change by 2020. The maps were presented to the Amherst School Committee on December 22, 2015 and are included in the Appendix of this document.

The District and project team have implemented an extremely open, transparent and comprehensive design review process. In addition to the open, public meetings detailed below the project public outreach includes a web-site hosted by the OPM, JLA/NV5, which includes all public presentations and agendas and meeting minutes from each public meeting. The District also has established a FaceBook site on which similar data is posted, public comments can be offered and questions submitted to the District are answered.

School Building Committee Meetings

Multiple School Building Committee meetings were held in which design parameters, site options and building arrangements were presented and discussed. In addition estimated costs for each of the schemes were presented. In some cases, meetings were held jointly with the School Committee so all Committee members could benefit from an open discussion of the merits and issues involved with each scheme and configuration

School Committee Meetings

The project team also presented and met with the School Committee on numerous occasions to provide an update on the design process and to discuss the grade configuration options. Each SC meeting included time allotted for public comment and the team received many comments from residents and parents at each meeting. School Committee meetings were generally well attended by community members and were broadcast on local public access television.

Community Outreach

Multiple Community Forum meetings were held to present this information to the public and to receive feedback. Each Forum was held in the afternoon (4:00 PM) and in the evening (7:00 PM) to allow community members options for attendance. All Forums were televised on local access network and each devoted considerable time to public comment and question and was structured in a question and answer format, allowing the District and project team to respond to each question. A survey of teachers and parents was conducted by a professional survey firm in which opinions regarding grade configuration and the size of a potential school were elicited.

Other Meetings

The project team also met with the Board of Selectmen to explain the process and schedule, and to present the design options. The District also met with multiple school groups throughout the evaluation process, including School Councils, Staff, Paraeducators and Parent Guardian Organizations at each of the three elementary schools.

UPDATED PROJECT SCHEDULE

The proposed schedule is included in the Appendix. The primary milestones from that schedule are as follows:

Submit the Preferred Schematic Plan to the MSBA	**February 11, 2016**
MSBA Facilities Subcommittee Assessment Meeting	**February 24, 2016** -or- **March 9, 2016**
MSBA Board Approval of Preferred Schematic Plan	**March 30, 2016**
Submit the Schematic Design to the MSBA	**August 11, 2016**
MSBA Board Approval of Project Scope and Budget	**September 28, 2016**
Debt Override for Project Funding	**November 2016**
Town Vote for Project Scope and Budget Agreement	**December 2016**
Start of Construction	**October 2017**
Move-In Date	**August 2019**

SUMMARY OF FINAL EVALUATION OF EXISTING CONDITIONS

The Wildwood Elementary School, located at 71 Strong Street, Amherst, MA was built in 1970. In the Town's Statement of Intent (SOI), the following items were noted:

> "Both Fort River and Wildwood were built with open-environment classrooms at a time when this floor plan was the prevailing educational model. Since that time, it has been proven that this model does not provide an environment in which all students can learn successfully. We currently have a highly diverse student population which requires a significant level of differentiation and intervention. Forty percent of our students are income eligible, twenty-two percent are eligible for special education, and fourteen percent are English Language Learners. The open-environment includes three to four classroom spaces per unit which is noisy, and where learning is easily disrupted. This is true for all students and in particular for students with hearing impairments, those who are diagnosed with attentional deficits, and/or sensory disorders. At both schools, there are some classrooms through which students from other classes must pass in order to enter bathrooms and/or the hallway. This is very disruptive to instruction, whether it is a single student walking through or the full class of students moving to another activity, which happens multiple times per day. In addition, the building does not provide enough smaller non-classroom spaces for students who require small group and/or individual interventions based on their learning profiles."

The Wildwood Elementary School is a one story building covering approximately 82,000 square feet. The overall layout of the building is organized around a central connecting corridor with two separate looped corridors – one to the east and one to the west. The Main Entry is located to the north side of the building and leads directly into the main connecting corridor. The Main Administrative Offices are located about halfway down the main connecting corridor on the right (eastern side). The Cafeteria

and associated Kitchen spaces are located on this (eastern) side of the building along with the primary mechanical spaces and designated delivery areas. The western corridor loop connects the classroom "quads", the Library, the Gymnasium and various small scale teaching spaces as well as teacher planning spaces. The original building was designed as an "open classroom" model that was reconfigured with temporary partitions and furniture soon after completion in an attempt to correct some inherent acoustical issues and general organizational missteps. As a result of this reconfiguration, the bathrooms can now only be accessed by passing through several active classrooms causing frequent distractions and daily disruptions. This has caused problems for many years and is one of several driving factors that pushed the Town to pursue this building project with the MSBA.

SUMMARY OF FINAL EVALUATION OF ALTERNATIVES

The School Building Committee and School Committee evaluated multiple concept schemes for each grade configuration in consideration. Several preliminary add/reno schemes were developed but deemed to be unfavorable due to a variety of reasons including existing building conditions and existing site conditions. In the MSBA's review of the PDP, section 3.1.6 referred to these deficiencies and the District did not choose to pursue these further due to the complexity of phasing, the impact on the student's learning environment, the District's lack of options for swing space and the difficult site constraints created by these options during construction. The options that were explored were: Code-Only, W1, W2, W5, W7, W10, W11, W12, FR3, and FR5. A renovation or addition/renovation and new construction scheme were developed for a Wildwood 360 student configuration, a twin school 670 student configuration and a district-wide grade 2-6, 750 student configuration. Concept schemes were also developed on alternate sites for each of these potential configurations – the most feasible being the Fort River Elementary School site. After review of the concepts and the estimated conceptual costs, and after considerable thought, deliberation and public consideration regarding the optimum grade configuration, the Amherst School Committee voted 4-1 to proceed with the intent to reconfigure the District to an Early Education (Pre-K – 1) and grade 2-6 model, proposing a new 750 student school serving grades 2-6. Following that vote the School Building Committee further evaluated each of the concepts for that configuration, which included

- Option W7 - New construction at the Wildwood site over the existing footprint of the building, which would necessitate relocating the Wildwood population during construction.
- Option W10 - An addition/renovation at the Wildwood site which would fully renovate the existing portion of the building and proposes a substantial addition on the south side of the existing building.
- Option W12 - New construction at the Wildwood site in a phased construction process, which would not necessitate the relocation of Wildwood students until a portion of the new building was complete.
- Option FR 5 - New construction at the Fort River site over the existing footprint of the building, which would necessitate relocating the Wildwood population during construction.

These four options are described in greater detail in section 3.3.3 Final Evaluation of Alternatives.

SUMMARY OF DISTRICT'S PREFERRED SOLUTION

After considerable study and evaluation of the proposed design schemes, estimated costs, constructions schedules and evaluation of swing space options, the School Building Committee decided the Preferred Solution is W12.

W12 is a grade 2-6 (750) Option as a new building located on the Wildwood site. This Option assumes that the new school would be a two story, 122,714sf building with a footprint of approximately 72,000sf (remainder of the square footage would be second floor classroom space). This option would allow both the pedestrian and vehicular circulation to be reworked on site and all of the play areas to be updated. This Option allows the Wildwood students to remain in the existing space through the duration of the first phase of construction then to move into the new portion of the building as the second classroom wing is constructed. The Preferred Solution supports the goals identified in the Visioning Sessions and the Educational Program.

A criteria matrix which outlines the design criteria evaluated and the associated ratings for each of the concepts is included in the Appendix. In summary, the Committee's consensus was that Option W12 best met the project criteria and best supported the educational vision outlined in the Town's overall plan for its schools.

MSBA PRELIMINARY DESIGN PROGRAM REVIEW AND DISTRICT'S RESPONSE

The Preliminary Design Program was submitted to MSBA on December 7, 2015. Review comments from the MSBA were received by the Town of Amherst on January 19, 2016 and the responses to those comments are included in this section.

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February 1, 2016

Ms. Katie Loeffler
Project Coordinator
Massachusetts School Building Authority
40 Broad Street, Suite 500
Boston, MA 02109

Re: Town of Amherst
Wildwood Elementary School
Amherst, Massachusetts
Preliminary Design Program Submission
JCJ Project No. H15040.00

Dear Ms. Loeffler:

In collaboration with Town of Amherst (Town), Amherst Public Schools (APS) and Joslin, Lesser + Associates, Inc. (OPM), JCJ Architecture (JCJ) offers the following written response to the Massachusetts School Building Authority (MSBA) review comments of the Preliminary Design Program Submission for the above referenced project in the letter authored by Mary Pichetti dated January 19, 2016.

Attachment A –Module 3 Preliminary Design Program Review Comments

District: Town of Amherst
School: Wildwood Elementary School
Submittal Due Date: December 1, 2015
Submittal Received Date: December 7, 2015
Review Date: December 8, 2015 -Jan 7, 2016
Reviewed by: **K.Brown, J.Jumpe**

MSBA REVIEW COMMENTS:

The following comments on the Preliminary Design Program submittal are issued pursuant to a review of the project submittal document for the Wildwood Elementary School ("ES") presented as a part of the Feasibility Study submission in accordance with the MSBA Module 3 Guidelines, as produced by JCJ Architecture and its consultants. Certain supplemental components from the Owner's Project Manager (OPM) - Joslin, Lesser+ Associates are included.

3.1 Preliminary Design Program

Preliminary Design Program shall include the following:

- OPM certification of completeness & conformity - *Incomplete, provide as required.*

Response: A certification statement was included in the cover letter from Joslin Lesser Associates/NV5 as part of the Preliminary Design Program submittal. If a necessary component of the required certification was absent from that statement JLA/NV5 hereby reiterate that:

- *JLA/NV5 reviewed and coordinated the materials contained in this submittal.*
- *JLA/NV5 confirms that the submittal is complete and conforms to the MSBA requirements.*
- *JLA/NV5 confirms that the District and the Wildwood School Building Committee have approved the materials for submission to the MSBA.*

- Table of Contents - *Complete.*

Response: No response required.

- Introduction – *Complete. Refer to comments shown in italics.*

Response: Refer to responses noted below.

- Educational Program - *Complete. Refer to comments shown in italics.*

Response: Refer to responses noted below.

- Initial Space Summary - *Complete. Refer to comments shown in italics.*

Response: Refer to responses noted below.

- Evaluation of Existing Conditions – *Incomplete. Refer to comments shown in italics.*

Response: Refer to responses noted below.

- Site Development Requirements – *Complete. Refer to comments shown in italics.*

Response: Refer to responses noted below.

- Preliminary Evaluation of Alternatives – *Complete. Refer to comments shown in italics.*

Response: Refer to responses noted below.

- Local Actions and Approvals Certification(s)- *Complete. Refer to comments shown in italics.*

Response: Refer to responses noted below.

- Appendices – *Complete.*

Response: No response required.

3.1.1 Introduction

- Brief summary of the Facility Deficiencies - *provided; the Statement of Interest notes a roof replacement project in 2001 partially funded by MSBA- see the note below regarding MSBA funding recovery for past projects.*

Response: No response required.

- Narrative summary of the Capital Budget Statement and Target Budget for the proposed project - *provided, the submittal states the District's target construction budget is $29m to $33m.*

Response: The Capital Budget Statement in the Preliminary Design Program did not sufficiently communicate the District's comprehensive thoughts regarding the capital budget. Below is an amended response:

Capital budget statement

The Town of Amherst plans to issue debt for the Wildwood Elementary School Project. It is likely that we will seek a debt exclusion override in November 2016 to cover the debt service costs. The project costs are currently assumed to be $34,000,000 to $67,000,000 depending on the option selected.

The Town is currently evaluating three other major capital projects: replacement of the Fire Department Headquarters currently in downtown Amherst, replacement of the Department of Public Works headquarters, and an addition to the Jones Library, the main library in town. The Town has appropriated funds for the study phase of these projects. At this time, there are no cost estimates for these three projects. The Town has a long-term capital plan and allocates 8% of the tax levy to cover capital, including debt service. It is likely that two of the four (including Wildwood) capital projects will require a debt exclusion and the other two will fit within the Town's capital allocation. Town officials and boards are currently discussing the options for funding these projects. Debt exclusion votes for any of the other three projects would occur contemporaneously with or, more likely, after a debt exclusion vote on the Wildwood Project.

With regard to operational costs the option to rebuild/renovate a single K-6 school will have the lowest impact on operational expenditures. Under this option, utility costs may change as a newer building is more efficient but has more systems to maintain. Also under this option, the Town will have to address the capital needs of Fort River as it is in similar condition to Wildwood.
The option to reconfigure the grades in the District will result in significant savings as it will reduce the number of elementary schools operated in the District from three to two. The savings will be generated by fewer classrooms, custodial staff, and administrators. There will also be savings generated by operating one fewer cafeteria. Some of the savings will be offset by additional transportation demands.

The last option to build twin K-6 schools that share common areas will also result in significant savings. The District will go from three entirely independent schools to one independent school and two schools sharing common areas. The twin school option will generate about the same amount of savings as the reconfiguration option.

The Town anticipates that each of these factors will be a consideration in the final selection of a preferred schematic plan. An Operation Expenditure Summary and a Staffing Budget Summary are included in the Attachments Section.

- Updated Project Schedule - *provided, although the submitted schedule is very rudimentary and does not include dates. See MSBA Module 3 Appendix 3B - Sample Project Schedule for the level of information required (provide the required schedule in the following Preferred Schematic Report submittal).*

Response: A Project Schedule compliant with the MSBA Module 3 Appendix 3B Sample Project Schedule will be provided in the subsequent submittal.

3.1.2 Educational Program

Summary and description of the existing educational program, and the new or expanded educational vision, specifications, process, teaching philosophy statement, as well as the District's curriculum goals and objectives of the program. Include description of the following:

- Grade and school configuration policies - provided.

The submittal notes that district students are currently educated in three K-6 ES; (Fort River, Wildwood, and Crocker Farm). The Educational Program described the advantages & disadvantages of the three grade configurations and design enrollments options noted in the study certification, including the following:

- *a 360 student K-6 school (maintain the existing 3 ES district,*
- *replace the existing Wildwood ES with a new ES);*
- *a 670 student K-6 school (redistrict to a two ES system and replace the existing Wildwood and Fort River ESs with a twin-school building); and,*

- *a 750 student 2-6 school (redistrict to a district-wide system, replace the existing Wildwood and Fort River ESs with a new single 2-6 building, and re-purpose the existing Crocker Farms building as a PK -1).*

Note that the last pair of grade configuration options shown above would require redistricting ES students within the District, and depending on the site selection, closing either the Wildwood or Fort River School, or both if a new site is selected. The third grade configuration option shown above would also require repurposing the Crocker Farms School from a K-6 to a PK-1 facility as a separate project. The MSBA notes that, based on the information provided, this is the only option of the 3 that provides for PK education in the District. In the subsequent Preferred Schematic Report ("PSR"), the District and design team must provide an update to the MSBA regarding the future use and/or proposed closings of these facilities and a draft plan including a timeline describing local actions and steps required regarding any proposed redistricting. In addition, explain how the addition of PK students to the District's third (750 student 2-6 school) grade configuration option impacts the District's analysis.

- District class size policies - *provided, described as follows: Kindergarten and First Grade - 17 to 21 students (MSBA guidelines calculates PK and K at 18 students per classroom, and first grade at 23 students per classroom), Second and Third Grades 19 to 23 students (MSBA guidelines calculates these grades at 23 students per classroom), & Fourth through Sixth Grades - 20 to 24 students (MSBA guidelines calculates these grades at 23 students per classroom).*
- School scheduling method - *provided; in the District's response to these comments, provide a typical actual class schedule (most notably for science) that better demonstrates the intended school scheduling method, and how that is impacted by the project based learning approach.*

Response: As requested, a typical sample class schedule is noted below.

Sample Schedule (grade 6):

8:45-8:55: Homeroom/morning meeting
8:55-9:35: Specials
9:35-10:35: Math
10:35-11:35: Science
11:35-12:35: Literacy
12:35-1:30: Lunch/Recess
1:30-2:00: Enhancement Block (choice/integration time, includes STEM activities)
2:00-3:00: Social Studies
3:00-3:10: Dismissal

The District's upper grade levels use a departmentalized model, so having differentiated spaces is quite important. Project-based learning can occur because of the long blocks of time for each core subject; having 60 minutes of science instruction five times a week exceeds the time spent in this area in other local districts. As opposed to other schedules that divide up

instructional blocks into smaller pieces, project-based learning requires us to have extended blocks on a regular basis. In addition, the daily enhancement block allows for further exploration and extensions of projects.

- Teaching Methodology:

  General comment; some of the subject-specific sections adequately describe both what their current programming, and how a new facility would give the District more opportunities to strengthen/enhance their programming (particularly good: science, art, PE, music, social studies). However, some of the sections only explained what the current program looks like, but failed to mention what they might want from a new space (Literacy, Math, and Integrated Arts). Provide additional information regarding the District's thinking about what they currently have, and what they envision for their ideal space.

Response: Subjects:

- *Literacy—new spaces would include multiple work stations in the same room for reading groups, consistent with our balanced literacy approach, challenging in our current setting since the temporary, partial walls do not perform well as an instructional space for many reasons. Also, new spaces would include multiple teaching stations, consistent with our co-teaching model of inclusion of students with disabilities and ELL students, which is challenging in the current classroom spaces. Moving from "open classrooms" to rooms with acoustic privacy would allow for project-based work that involves more collaboration between peers, which is not possible in our current arrangement because volume is a constant issue.*
- *Math-- New spaces would include multiple teaching stations, consistent with our co-teaching model of inclusion of students with disabilities and ELL students. Moving from "open classrooms" to rooms with acoustic privacy would allow for project-based work that involves more collaboration between peers which is not possible in our current arrangement because volume is a constant issue. More storage space for maniupulatives would also be needed, which is a requirement in our current math program but we are not able to manage it well within existing infrastructure.*
- *Integrated Arts—this initiative is, by definition, one that requires flexible space and acoustic privacy, for students to be able to make noise as part of their work. Having space for collaboration for teachers is especially important in this model and not in place at the current Wildwood School as the former teacher room is being used for social-emotional development for students. In addition, the integrated arts program requires storage of materials in different areas around the building and would benefit from the art and music spaces being in close proximity.*

- Visual Arts - *Confirm that a kiln is required to deliver the curriculum and describe the benefits a kiln offers over the use of newer materials that do not require use of a kiln. Also consider designing an art room as a potential future flex classroom that can serve any grade in this building (with a toilet room instead of a kiln). Describe how this art room may be designed and located to provide additional flexibility to support fluctuating student populations.*

Response: *A kiln is essential to any basic 3D sculpture curriculum, as it allows students to create high-quality, long lasting work that will not crumble or fade. Synthetic and oil-based clays, air-dry clays, and other alternative clay products may still be provided in small amounts at the new school, especially for students with delayed fine-motor development. However, these are not sufficient for students in grades 2-6, as by this time they are ready for the next new challenge in their artistic development. They are capable of a deeper understanding of media and processes than their younger counterparts. A clay program using real clay and a real kiln is the appropriate next step in their arts education.*

Through sculpture, students learn essential 3D design skills while having opportunities to show success in the arts through multiple media. Ceramics is one of the few media that students with special needs - especially those needing adaptive fine and gross motor practice, and those with socio-emotional or sensory needs - consistently enjoy and show success with.

All students, whether served by special education programs or not, will also benefit from the ways in which an elementary ceramics program aligns vertically with arts curricula in the middle and high schools. Amherst, and the larger Pioneer Valley, are known for having strong ceramic arts education and culture, and it is important to connect and prepare our students for participation in clay classes and studios in their future schools and in our local community.

Furthermore, having a kiln also offers unique and important interdisciplinary opportunities for students to link 3D art with engineering, science, and technology - it ties directly into much of the arts integration work that I'm doing with 5th grade around engineering and design, for example. There is also significant overlap between the ceramic arts and social studies curricula, especially as the upper grades study ancient cultures and as second and third graders study indigenous groups of North America. Having a kiln and clay would make possible the types of integrative curriculum design and project-based learning that have been part of the Amherst Integrated Arts Initiative (AIAI) for the last several years, and bring this initiative into the future.

A kiln does not require a whole room unto itself - it requires a separate space within the room, away from student work areas and meeting areas, and a vent to the outside. It must be against an outside wall or near a window. Amherst students and families deserve a high-quality school, and the highest quality

schools around all have stellar arts programming. Strong arts programming necessitates a specialized space, both for the curriculum and materials and, most importantly, for the ease of learning and the safety of students.

- Vocations/Technology- *The educational program states that "the majority of technology education happens at the elementary level for students". Please explain.*

Response: Technology education is included in our elementary program so that our younger students gain the foundational skills in this area to apply them throughout their educational careers. Once students get to the Middle School, there is no formal technology classes to support this skill acquisition; rather, the application of technology is integrated into core courses.

- Media Center Library Programming - *The educational program discusses the limitations of their current library but does not describe the District's vision for an improved curriculum that a new library could support. Describe what the District requires to fit their Media Center Library Programming educational goals.*

Response: The library/media center needs to be both a place for whole classes of students attend to gain skills as well as a location where older students can come to more independently do research and deeper work consistent with project-based learning. Ideally, it would be integrated or adjacent to the makerspace as both would be intended to be flexible spaces for whole classes, small groups, or individual students to come for a variety of reasons. The library also needs to be connected to the school's approach to literacy development, so it should be a teacher resource as well.

- Health and Physical Education - *The educational program states that students have one 40 minute physical education session per week. Please verify.*

Response: Currently, students who have one forty-minute physical education session per week. Additionally, students in our specialized special education programs often have additional sessions in the gym for skill development and integration. Our physical education teachers often work with small groups of students at other parts of the day to pre-teach and re-teach skills.

- Additional comments:
  - *The statement that there are significant mold and air quality issues requires supporting documentation. In the District's response to these comments, provide copies of any indoor air quality testing reports or mold testing reports that provide specific details about health hazards present in the existing structure, and what the District has done to mitigate these hazards (note that the hazardous materials report included in the existing conditions analysis for this submittal included a test of the building for indoor airborne mold spore concentrations, and found them to be low, and were lower than the outside air sample).*

Response: Attached please find a copy of the Airborne Mold Spore Testing report prepared by OccuHealth, Inc., Mansfield, MA dated September 13, 2005. The District followed the recommendations noted in the Executive Summary of the report.

- *A 2014 teacher survey included in the educational program indicated lower teacher satisfaction with the physical environment in the Fort River facility compared to Wildwood. Given this result, explain why the Wildwood facility was selected by the Town as a priority project.*

Response: Wildwood School was selected as the priority for a few reasons:

- *Fort River had significant updating in the 1990's due to the mold issues and remediation; Wildwood had not has the same level of updating completed.*
- *Fort River's heating system was updated in 2011; Wildwood's is original to the building.*
- *Wildwood is slightly older than Fort River.*

- *The educational program notes that a 750 student school "could be separated into two distinct wings, each with its own administrative, teaching and mental health teams"; later the paragraph describes this larger building as benefiting from an economy of scale. These two statements appear to be contradictory; please clarify and describe the efficiencies the District could realize in construction and operations.*

Response: While it is correct that the wings would have autonomies, some economies of scale are still realized in this model. For instance, the size of the district would be reduced by approximately 40,000 square feet, which yields efficiencies in custodial and operational work. Some district programs, including specialized special education and newcomer ELL, would be shared between the wings. We already have shared staff members, who would not need to drive between three schools in the district if they worked with the intermediate grades; rather, they would simply walk down the hallway, saving on driving time and costs which we reimburse for.

- *For the subsequent submittal, the educational program should include a description of safety training, safety equipment and other equipment provided specifically for the proposed Maker-Space.*

Response: Attached please find a copy of the Educational Program revised to address Maker Space safety concerns (see Page 12).

3.1.3 Initial Space Summary

- Completed MSBA space summary spreadsheet; provide one spreadsheet per approved design enrollment - *The MSBA has performed an initial review of the space summary with the following comments below:*

Amherst | Wildwood ES	PDP								
	K-6 (360)	Guidelines	Difference	K-6 (670)	Guidelines	Difference	2-6 (750)	Guidelines	Difference
CORE ACADEMIC SPACES	17,550	15,950	1,600	33,200	28,800	4,400	36,100	32,850	3,250
SPECIAL EDUCATION	6,900	4,530	2,370	11,550	7,550	4,000	11,800	8,050	3,750
ART & MUSIC	2,800	2,500	300	5,200	5,000	200	5,400	5,075	325
HEALTH & PHYSICAL EDUCATION	4,400	6,300	(1,900)	6,400	6,300	100	6,400	6,300	100
MEDIA CENTER	3,000	2,290	710	3,400	3,685	(285)	4,000	4,045	(45)
DINING & FOOD SERVICE	5,800	5,880	(80)	7,600	8,686	(1,086)	8,600	9,412	(812)
MEDICAL	530	510	20	630	610	20	650	610	40
ADMINISTRATION & GUIDANCE	2,075	2,075	-	2,825	2,655	170	2,875	2,885	(10)
CUSTODIAL & MAINTENANCE	1,745	1,960	(215)	1,745	2,270	(525)	2,145	2,350	(205)
OTHER	1,200	-	1,200	1,200	-	1,200	1,200	-	1,200
Total Building Net Floor Area (NFA)	46,000	41,995	4,005	73,750	65,556	8,194	79,170	71,577	7,593
Total Building Gross Floor Area (GFA)[2]	68,080	62,280	5,800	109,150	97,150	12,000	122,714	108,750	13,964

The following comments are based on the K-6 configuration with an enrollment of 670 students.

- ***Core Academic*** *- The submittal states that the proposed spaces in excess of MSBA guidelines are required due to the District's class size policy and in order to deliver its educational program:*

Anticipated Core Academic Spaces	*MSBA Comments*
(28) general classrooms	*Proposes (4) classrooms in excess of the guidelines.*
(6) Kindergarten w/ Toilet	*Proposes (1) extra room in excess of the guidelines.*

The MSBA notes a minor variance between the District's class size policy and the guidelines which is used to explain the need for more classrooms than what is included in the guidelines. The MSBA also notes that student populations are projected to continue to decline. Prior to the MSBA accepting these variations to the guidelines, provide analysis that demonstrates the District could not delivery its curriculum with fewer classrooms through flexible organization of spaces and potential use of one of the kindergarten rooms as a first grade class to substantiate the long term need of the proposed additional classrooms.

- ***Special Education -*** *The MSBA notes that the proposed square footage to deliver the District's Special Education program exceeds the MSBA guidelines.*
  The submittal indicates 4 ELL classrooms in the SPED category; please clarify if all the ELL students using these spaces are Special Education students that have IEPs. If not, move these spaces into the Core Academic Spaces category.

The submittal also indicates 2 School Psychologist's offices and 2 School Adjustment Counselor's offices in the SPED category; please clarify if these functions are dedicated to Special Education students that have IEPs. If not, move these 4 offices into the Administration & Guidance category.

Please note that the Special Education program is subject to approval by the Department of Elementary and Secondary Education ("DESE"). The District should provide the information required for this submittal with its Schematic Design submittal. Formal approval of the District's proposed Special Education program by the DESE is a prerequisite for executing a Project Funding Agreement with the MSBA.

Response: The ELL Spaces will be moved into the Core Academic Spaces category. The two (2) School Psychologist and two (2) SAC offices are part of the SPED program and should remain listed under that category.

- ***Art & Music -*** *The overall proposed square footage for this category exceeds the MSBA guidelines due to additional area in the Music Practice I Ensemble rooms. Describe how the educational program supports this additional need, how the rooms are scheduled and the anticipated utilization.*

Response: The District has a longstanding commitment to small group instruction in instrumental music. Students learn an orchestra instrument in Grade 3 and have the option of switching to band in Grade 4. The four (4) Ensemble Rooms was adjusted to three (3) rooms at 175 SF to align with the three (3) music staff members. The overall SF for this category will now match the MSBA Guidelines of 5,075 SF.

- ***Health & Physical Education*** *- The overall proposed square footage for this category exceeds the MSBA guidelines due to additional area in the Gym Storeroom. Please note that storage areas in excess of those included in the guidelines should be carried in the grossing factor outside of the net area calculation.*

Response: 100 SF of Storage was reallocated from this category into the overall Gross Floor Area. This category now matches the MSBA Guidelines of 6,300 SF.

- ***Media Center -*** *The proposed programmatic spaces are below the MSBA guidelines. Refer to the Educational Program section above for further information.*

Response: See responses noted in the Educational Program section.

- ***Dining & Food Service*** - *The proposed programmatic spaces are below the MSBA guidelines. The proposed program provides a stage and table/chair storage room that are slightly undersized (note that the existing building does not have a stage or table/chair storage room), and the submittal states that the District intends to size the cafeteria for 3 seatings rather than the MSBA standard of 2. Note that the MSBA standard provides for the cafeteria space to be used as an assembly area, and the District's educational program states a need for "a large space for performances, such as a cafetorium, is a particular need." The District should verify that the proposed seating area and associated table/chair storage areas are adequate for the District's educational needs.*

Response: ***Our elementary schools currently have three seatings for lunch and we would like to continue this practice. It allows for more flexibility in school-wide scheduling, provides a lunchroom with fewer students which improves the experience for all, and leads to recess blocks with fewer students outside since most schedules include recess after lunch.***

- ***Medical*** - *The overall proposed square footage for this category exceeds the MSBA guidelines due to additional area for a second toilet room, although this additional area is partially offset by a smaller Nurse's office / waiting room. Describe how the educational program supports this additional need. Alternatively, this additional area can be reallocated to the grossing factor outside of the net area calculation.*

Response: ***As noted in the Educational Program, our district has multiple specialized programs that keep students with complex special needs in the district. Often times, this population includes students with complex medical needs that are supported by our school nurses. Having multiple toilets is a necessity given the inclusion of this population of students in our district.***

- ***Administration & Guidance*** - *The overall proposed square footage for this category exceeds the MSBA guidelines due to additional area in the General Office / Waiting Room / Toilet, the Principal's office, and the Conference rooms. Describe how the educational program supports this additional need. Alternatively, this additional area can be reallocated to the grossing factor outside of the net area calculation.*

Response: ***Given the interest in having the school broken into distinct wings, having two separate office areas does increase the square footage of this area but will allow for parents/guardians and students to feel connected to their wing; improve site security because of the familiarity of parents/guardians to the office staff; and respond to the community's interest in having a central area for each wing of the school.***

- ***Custodial & Maintenance -*** *The proposed spaces are below the MSBA guidelines. In the subsequent submittal the District should verify that the proposed area will meet the needs of Custodial & Maintenance staff.*

Response: The District will verify that the proposed area will meet the needs of Custodial & Maintenance staff making necessary revisions in the subsequent submittal.

- ***Other -*** *The proposed spaces exceeds the MSBA guidelines due to the addition of a 1,200 nsf Maker Space. Provide class scheduling and space utilization data to substantiate need for this proposed additional space. Describe the proposed room location and desired adjacencies for this function. Describe how this space differs from the proposed General Classrooms & Art rooms, and why a dedicated classroom-like space is required rather than providing this function in an Art room or General Classroom.*

Response: Makerspaces, whether focusing on STEM, STEM, robotics, science, or making, are effective, because they bring students to the foreground and gives them a chance to be creative instead of forcing them to learn specific concepts in specific ways like handouts. They are playgrounds for future designers and scientists. Makerspaces develop problem solving skills, the scientific process, and creativity more than typical classrooms. They provide hands-on project-based learning with minimal teacher intrusion and more potential for self-directed learning. A makerspace covers a multitude of skills and subjects, but it takes materials and good teachers to make it flourish. Designating a classroom as a makerspace is an important component in establishing a healthy, vibrant, tenable makerspace program. First, makerspaces are full of materials--from high-tech pieces of equipment like 3-D printers and robots, to low-tech items like recycled household items--and these require space for both use and storage. In order for a makerspace to function well, students must have easy access to the supplies they need, and they must be given adequate space in which to work. This enables greater exploration of the materials and decreases safety concerns related to crowding. Makerspace materials include items of high monetary value, as well as those to which students should not have access without a teacher's supervision, and a designated makerspace ensures that there can be a location where such materials are stored in a secure manner, such as adjacent to the library. The physical makerspace itself should encourage creative thinking and tinkering, and these are hampered when students lack elbow room to explore in an open-ended way. An inviting, effective makerspace should have ample countertops, standing tables, traditional tables, non-traffic floor space, and a connection to the outdoors (visual and/or physical) which allow students to explore the materials in a meaningful way.

- ***Total Building Net Floor Area –*** *The proposed spaces exceed the MSBA guidelines. See each space category above for review comments related to net areas.*

Response: Refer to responses noted above.

- ***Total Building Gross Floor Area -*** *The proposed spaces exceed the MSBA guidelines.*

Response: Refer to responses noted above.

3.1.4 Evaluation of Existing Conditions

- Confirmation of legal title to the property - *Not Provided. Include an update in the PSR submittal of the District's assessment regarding its ability to secure legal access and control to the property for all sites included in the final evaluation of alternates. Please describe any legal requirements and potential project schedule issues related to using land currently occupied by the Amherst Regional School District (as opposed to the Town of Amherst) if that option is still considered in the PSR submittal.*

Response: The initial evaluation of design concepts originally looked at multiple building sites including two sites adjacent to the existing Wildwood School and another Town owned sites. At the time of the Preliminary Design Program submission only two concepts, W4 and W6 were still viewed as potential options by the School Building Committee. Although a lease arrangement would need to be developed with the Regional School District if either of those schemes were pursued, in the review process subsequent to the PDP submission both of those concepts have been deemed to be unfavorable by the Committee and are no longer being considered. All current concept schemes are situated on the Wildwood or Fort River School sites.

- Determination that the property is available for development - *Provided. The submittal notes several alternate site options were investigated for viability including the existing Wildwood ES site and 2 adjacent parcels (see note above regarding Regional District land), the existing Fort River ES site, a Town-owned gravel pit site (noted as not viable due to a lack of access to public utilities and issues related to an adjacent railroad track), and finally several privately owned sites (noted as not economically viable).*

Response: No response required.

- Existing historically significant features and any related effect on the project design and/or schedule - *Not provided. Please describe any historically significant features of all proposed buildings and sites, and include in the schedule submitted with the schematic design, the timeline associated with filing with the Massachusetts Historical Commission ("MHC") and obtaining MHC approval prior to construction bids. The District should keep the MSBA informed of any decisions and/or proposed actions and should confirm that the proposed project is in conformance with Massachusetts General Law 950, CRM 71.00.*

Response: Commentary on any historical significant features of all proposed buildings and sites will be provided in the subsequent submittal.

- Initial Evaluation of building code compliance for the existing facility - *Provided. The submittal references the 9th edition of the MA State Building Code. The original 1970 Wildwood ES is noted as being in fair to poor condition with code compliance issues typical for a building of this vintage. The date of the existing Fort River ES is not noted, although it is stated to be contemporary and identical to the 1970 Wildwood ES building.*

Response: No response required.

- Initial Evaluation of Architectural Access Board rules and regulations and their application to a potential project - *Provided. Both ES buildings were built prior to the Americans with Disabilities Act requiring accessibility for the handicapped. Minimal modernizations were noted in the report.*

Response: No response required.

- Preliminary evaluation of significant structural, environmental, geotechnical, or other physical conditions that may impact the cost and evaluations of alternatives - *Provided, with the following comments:*
    - *The Mechanical, Electrical & Plumbing narrative notes that the existing building does not have an automatic sprinkler system, and that a hydrant flow test should be conducted to evaluate future addition of an automatic sprinkler system depending on the preferred option selected by the District. In the response to this review, the design team should provide indication when this flow test will be performed.*

Response: A flow test will be performed on the water service once a preferred site has been selected and will be provided in the subsequent submittal.

    - *The Civil narrative notes potential requirements for filing of a Notice of Intent with the Amherst Conservation Commission, and potential filing of a Wildlife Habitat Evaluation with the Notice of Intent. Subsequent submittals should provide an update regarding these approvals, including a schedule with appropriate milestones.*

Response: Updates for the Notice of Intent filing with the Amherst Conservation Commission and the potential filing of a Wildlife Habitat Evaluation with the Notice of Intent will be provided in the subsequent submittal.

- *The Civil narrative also notes that there is a 10,000 gallon heating oil UST and a 280 gallon diesel fuel UST, both located on the west side of the school. Costs for removing this tank and any potential associated contaminated soils should be itemized in the schematic design phase of the study and will be ineligible for MSBA funding.*

Response: Itemized costs for the removal of UST's and potential associated contaminated soils will be provided in the subsequent submittal.

- *The site landscape narrative notes poor pedestrian access and poor separation from vehicular traffic. This should be addressed in the District's preferred option.*

Response: The site landscape narrative will address pedestrian access and separation from vehicular traffic in the subsequent submittal.

- *References in the Geotechnical narrative requiring compliance with the 8th edition of the state building code should be updated, and the accuracy of resulting recommendations verified.*

Response: The geotechnical narrative requiring compliance with the 8th edition of the state building code will be updated in the subsequent submittal.

- Environmental site assessments minimally consisting of a Phase I: Initial Site Investigation performed by a licensed site professional - *provided. This Phase 1 report by Lord Associates is not clear whether the site described is the Wildwood ES site or the adjacent Amherst Regional Middle School site to the south. Multiple contradictory references are made to the site being occupied by a building constructed in 1976, on the eastern portion of the site, 3 stories, 108,000 SF, etc. which describes the Middle School rather than the Wildwood ES. Please clarify & revise the report as needed. This revised report should be included in the following PSR submittal.*
  The Phase 1 Report confirms the existence of a 17 year old fiberglass 10,000 gallon heating oil UST onsite (see above).

Response: The Lord Associates Phase 1 ESA report will be reviewed and revised accordingly to remove contradictory references to the buildings for the subsequent submittal.

- Assessment of the school for the presence of hazardous materials - *Provided. The hazardous materials assessment included a cost estimate for removal and disposal of hazardous materials totaling $900,000.*

Response: No response required.

3.1.5 Site Development Requirements

Provided, with the following comments:

- *The existing Wildwood ES site is noted to include shared access through the site from the only curb cut (on Strong St) to an existing privately owned day care center. In the District's response to these comments, provide indication of any existing and future legal agreements or easements with this property owner if this option is considered for the following PSR submittal.*

Response: Confirmation of existing and future legal agreements or easements with the day care center will be provided in the subsequent submittal.

- *In addition, please describe any legal requirements and potential project schedule issues related to using parcels currently owned by the Amherst Regional School District (as opposed to the Town of Amherst) if parcels adjacent to the existing Wildwood ES site option are still considered in the PSR submittal for future use.*

Response: Any legal requirements and/or potential schedule issues related to the use of parcels currently owned by the Amherst Regional School District if the adjacent parcels are included in the preferred option will be provide in the subsequent submittal.

3.1.6 Preliminary Evaluation of Alternatives

- *The Preliminary Evaluation of Alternatives should include a detailed analysis of compliance with district objectives for each of the following:*
    - Code Upgrade option that includes repair of systems and/or scope required for purposes of code compliance; with no modification of existing spaces or their function - *Provided. This option is noted as not meeting the needs of the District's educational program and not addressing the existing building design adjacencies as stated in the report.*

Response: No response required.

    - Renovation(s) and/or addition(s) of varying degrees to the existing building(s) - *Provided. Option WI includes a full renovation of the existing Wildwood facility for 360 K-6 students. This existing building is 14,000 sf larger than MSBA guidelines and is therefore more expensive than the comparable new replacement building option W2.*
      Two other (un-numbered) options are developed as addition/renovation projects in the 2 larger combined grade configurations located on the current Wildwood ES site. The cost of these 2 options is roughly 10% less than the comparable new building options. Due to the condition and design of the existing building, and the required phasing and extended construction duration, the District has elected not to continue the study of these 2 options.

In the District's response to these comments please elaborate why these addition/renovation options are not being considered in the Preferred Schematic submittal since they meet the needs of the District's Educational Program and are more cost effective.

Response: Commentary on why the addition/renovation options are not being considered will be provided in the subsequent submittal.

- Construction of new building and the evaluation of potential locations - *Provided. A total of 5 new building options are developed for the 3 grade configurations on the Wildwood ES site or portions of the adjacent Middle School site (W2, W3, W4, W5 & W6), and 2 new building options for the 2 grade configurations on the alternate Fort River ES site (FR1 & FR2). Option W2 consists of an onsite K-6 360 student new replacement for the Wildwood ES, the other 6 options include combining the school populations of the Wildwood ES and Fort Wood ES facilities. Options W3, W4, W5 and W6 include decommissioning the Fort River ES; Options FR1 and FR2 include decommissioning the Wildwood ES. In the District's response to this review and the subsequent PSR submittal, indicate the District's future plans for these buildings.*

Response: No response required.

- List of 3 distinct alternatives (including at least 1 renovation and/or addition option) are recommended for further development and evaluation - *Provided. Options selected by the District for further study include 1 renovation option (W1) and 7 new building options (W2, W3, W4, W5, W6, FR1 & FR2).*

Response: No response required.

3.1.7 Local Actions and Approval - *Provided, with the following comment:*

In the event that, in the subsequent PSR submittal, the District selects a Preferred Option that requires grade reconfiguration or redistricting, please provide the following to document approval and public notification of school configuration changes associated with the proposed project:

- *A description of the local process required to authorize a change to the existing grade configuration or redistricting in the district.*
- *A list of associated public meeting dates, agenda, attendees and description of the presentation materials.*
- *Certified copies of the governing body (e.g. School Building Committee) meeting notes showing specific grade reconfiguration and/or redistricting, vote language, and voting results if required locally.*
- *A certification from the Superintendent stating the District's intent to implement a grade configuration or consolidate schools, as applicable. The certification must be signed by the Chief Executive Officer, Superintendent of Schools, and Chair of the School Committee.*

Response: The requested documentation will be provided in the subsequent submittal if the Preferred Option requires grade reconfiguration.

Appendix – *Complete.*

Response: No response required.

Regarding past projects:

Both the MSBA's enabling legislation, M.G.L. c. 70B, and the MSBA's regulations, 963 CMR 2.00 et seq. specifically address the issue of past projects. MSBA records show a total MSBA payment of $550,311 for the Amherst Wildwood ES Roof Replacement Project #W20014248 completed in October 2001. Pursuant to these requirements and depending on the Town's ultimate plan for the Wildwood ES, the MSBA may recover a pro-rated portion of the financial assistance that the Town has received for previous renovation grants. The exact amount recovered will be established at the conclusion of the Schematic Design / Total Project Budget phase. Please see the MSBA website to view the MSBA's regulations, statute and closed school bulletin for additional information.

Response: The District will review the referenced documents.

End of Response.

Please contact our office with any questions.

Very truly yours,

Douglas K. Roberts, AIA, LEED AP, MCPPO
Principal / Managing Director

C: Legislative Delegation
Alisa Brewer, Chair, Amherst Select Board
David Zomeck, Amherst Interim Town Manager
Katherine Appy, Chair, Amherst School Committee
Michael Morris, Assistant Superintendent, Amherst Public Schools
Ron Bohonowicz, Director of Facilities and Maintenance, Amherst Public Schools
Thomas Murphy, Owner's Project Manager, Joslin, Lesser + Associates, Inc.
James E. LaPosta, Jr., FAIA, LEED AP, MCPPO, Designer, JCJ Architecture
James Hoagland, AIA, LEED AP, Designer, JCJ Architecture
File H15040.00 / 26

EVALUATION OF EXISTING CONDITIONS

SECTION 3.3.2

3.3.2 - Evaluation of Existing Conditions

- Executive Summary
- Future Testing Recommendations

3.3.3 FINAL EVALUATION OF ALTERNATIVES

3.3.2 – Evaluation of Existing Conditions

- Executive Summary
- Future testing Recommendations

3.3.2 – EVALUATION OF EXISTING CONDITIONS

EXECUTIVE SUMMARY

The information documented in the Preliminary Design Program document relative to the existing conditions at Wildwood Elementary School was found to be comprehensive and no new information has been added during this portion of the study that further informs the evaluation of the existing conditions or its impact on the final evaluation of the alternatives; however, as part of this submission, the Design team added some additional site information in an evaluation of the Fort River Elementary School site and that report can be found immediately after this summary. The findings and recommendations in this additional report further limited the buildable area on the proposed site and, due to the additional limitations, became one of the reasons that several of the original potential options were eliminated from consideration for the Preferred Schematic Report. In the Design Team's response to the PDP Comments, it was verified with the Town that they have legal title, in accordance with the provisions of 963 CMR 2.05(1) to the Wildwood property (that is the Preferred Solution) and that there are no historical registrations or historically significant issues associated with the Wildwood site.

FUTURE TESTING RECOMMENDATIONS

A hydrant flow test at the Preferred Option site is scheduled to be conducted in April 2016.

Additional geotechnical exploration at the Preferred Option site is scheduled to be conducted in May 2016.

Additional HazMat testing at the Preferred Option site is scheduled to be conducted in July 2016

Fort River Elementary School
Amherst, MA
Existing Conditions Systems Report
J#745 003 00.00
L#50315/Page 1/December 18, 2015

CIVIL

Site Conditions:

The Fort River Elementary School is located on the east side of South East Street, south of the intersection of Main Street, in the Town of Amherst, MA (Assessor's Map 15A, Lot 47). The site is currently developed as an elementary school with associated building, bituminous concrete parking, playground equipment and grass areas.

Zoning:

The western portion of Lot 47 is located in the Village Center Residence (R-VC) zoning district. The eastern portion of Lot 47 is located in the Flood-Prone Conservancy (FPC) special zoning district. The existing building is built in the R-VC zone. The western boundary of the FPC zone corresponds to the 174' elevation (mean sea level). No Zoning Overlay Districts exist on the site as of June 2014. The following dimensions are required in each of the zoning districts:

	Village Center Residence (R-VC)	Flood-Prone Conservancy (FPC)
• Minimum Lot Area	15,000 Square Feet	80,000 Square Feet
• Minimum Lot Frontage	120 Feet	200 Feet
• Minimum Front Yard Setback	15 Feet	40 Feet
• Minimum Rear Yard Setback	15 Feet	20 Feet
• Minimum Side Yard Setback	15 Feet	20 Feet
• Maximum Building Coverage	25 %	10 %
• Maximum Lot Coverage	40 %	15 %
• Maximum Height of Structures	35 Feet	20 Feet
• Maximum Floors	3 Stories	1 Stories

Essentially, the Flood-Prone Conservancy special district restricts construction within the 100-year flood zone as the geographic areas are deemed to "have substantial importance to the protection of life and property against the hazards of floods, erosion, and pollution and in general are essential to the public health, safety, and welfare." Permitting in this zone may be reviewed and granted by the Planning Board or the Special Permit Granting Authority under a Special Permit. Under the site plan or special permit review, additional scrutiny for drainage, elevation of building, adequacy of sewage and refuse disposal, control of erosion and sedimentation, location of equipment, storage of buoyant material, extent of paving, effect of fill, roadways and other encroachments on flood runoff and flow, and storage of chemicals and other hazardous substances. Generally, any filling within the flood zone will require the creation of compensatory storage to offset the flood storage lost from the new construction.

Water Supply:

The site is serviced by an existing 8" asbestos concrete service connected to the municipal 16" asbestos concrete main in South East Street. The service enters the site north of the existing north driveway and then runs along the east side of the parking lot, connecting to two fire hydrants in front of the building. The service then jogs to the east and terminates at a fire hydrant. Near the termination of the main a 4" domestic water service connects to the building in the area of the mechanical room.

It is our understanding that the existing Elementary School does not have an automatic fire suppression system.

Dependent on layout of a potential new school building, it is likely that portions of the water main will need to be removed/relocated. Abatement of the exposed asbestos concrete piping will be required.

Sewer System:

The building is connected to the municipal sanitary sewer system. Three 4" cast iron sanitary pipe discharges by gravity southerly from the south side of the building and connect to a 6" sanitary sewer pipe that runs westerly along the south building wall and then turns north along the western wall. One 5" cast iron and one 8" cast iron sanitary pipe discharges to the sanitary system described above by gravity westerly from the west side of the building. The pipe transitions to 8" where the 5" and 8" sanitary waste pipes connects. The sanitary sewer system then flows by gravity northwesterly to a wet well and pump system located on the south side of the School's north driveway. Available records indicate that the lift station only services the sanitary waste associated with the school. The lift station discharges the effluent in a 6" asbestos concrete forcemain to the 16" asbestos concrete municipal gravity sewer in South East Street.

While no record of sanitary pipe material is indicated on any available documents, it is likely asbestos concrete similar to the Wildwood School. Dependent on layout of a potential new school building, it is likely that portions of the asbestos concrete sewer service will need to be removed and relocated in advance of the school building construction. Abatement of the exposed piping will be required.

Drainage System:

Stormwater flows from the entry driveways, building and parking lots discharge to catch basins located in the parking and driveway areas. The stormwater collection system discharges to a pair of 44"x27" arched Corrugated Metal Pipe (CMP) that flows in a southeasterly direction to a headwall in the area of the south property line.

The pair of 44"x27" arched pipes convey a stream that existed prior to the construction of the Fort River Elementary School. Essentially, a head wall was constructed within the former stream bed at the upstream (north) end of the stream to convey the runoff under the School's parking lot. All elements of the site's drainage system discharges into that piping, which terminates at the downstream end of the existing stream (south).

Dependent on layout of a potential new school building, the municipal drainage system may need to be relocated in advance of the school building construction.

The piping associated with the drainage from the stream is considered "Bank" per the Massachusetts Wetland Protection Bylaw upon disturbing of the pipe. Alteration/reconfiguration of the drainage piping on the School property will require the filing of a Notice of Intent with the Amherst Conservation Commission. Removal and disposal of existing piping connected from the existing building, parking lot and associated school features to the drainage conveying the stream does not require Conservation Commission notification/filing, however new connections to the drainage conveying the pond runoff does require the filing of a Notice of Intent with the Town of Amherst. The Amherst Conservation Commission may require the filing of a Wildlife Habitat Evaluation in conjunction with the Notice of Intent.

No means of recharge/infiltration, peak flow attenuation or water quality treatment as required by the current MassDEP Stormwater Standards were noted as part of the existing stormwater system.

Natural Gas Services:

The site is serviced by natural gas.

Underground Fuel Tanks:

The building heating system is currently supplied by natural gas. The 10,000 gallon heating oil underground storage tank was removed under permit #20130094 issued on 08/21/2012 by the Town.

The building is served by a diesel emergency generator. The diesel fuel is stored in a 280 gallon underground tank located to the south of the School building.

Soil Conditions & Testing:

The United States Department of Agriculture Natural Resources Conservation Service (USDA NRCS) Soil Maps indicate the site is comprised of Pootatuck fine sandy loam (HSG 'B'), Limerick silt loam (HSG'B/D'), Scitico silt loam (HSG 'D'), Raynham silt loam (HSG 'C/D'), Winooski silt loam (HSG 'B'), Belgrade silt loam (HSG 'C'), Agawam fine sandy loam (HSG 'B') and Amostown-Windsor silty substratum-Urban land complex (HSG 'B'). Hydrologic Soil Group (HSG) indicates the ability of soils to infiltrate runoff into the ground for groundwater recharge, generally, HSG 'B' soils are capable of recharging 0.52 to 1.02 inches per hour, HSG 'C' soils are capable of recharging 0.17 to 0.27 inches per hour and HSG 'D' are capable of infiltrating 0.02 to 0.17 inches per hour. Per MassDEP Stormwater Standards, new stormwater systems need to recharge/infiltrate a prescribed volume of stormwater based on overall site impervious cover broken down by Hydrologic Soil Groups (HSG). During the design of the stormwater system, test pits will need to be completed to further classify onsite soils and determine estimated seasonal high groundwater levels.

Wetland Resource Area:

The Massachusetts Geographic Information System (Mass GIS) DEP Wetlands Layer identifies a "Shrub Swamp" resource area approximately 130 feet northeast of the existing building on an abutting property. As well, the Fort River and tributary streams exist on the site. Finally, an existing stream that ran in the area of the existing west parking lot was piped underground into two 44"x27" arched pipes. Modification of said pipes conveying the stream would be considered alteration of bank.

Alterations of land within 200 feet of the Fort River or tributary streams on the site or within 100 feet of the limit of the resource areas will require the filing of a Notice of Intent with the Amherst Conservation Commission.

Natural Heritage & Endangered Species Program (NHESP):

The Massachusetts Geographic Information System (Mass GIS) indicates that the site is located within an area of "Estimated Habitats of Rare Wildlife" and "Priority Habitat of Rare Species". The "Estimated Habitat of Rare Wildlife" area is identified as EH 76 and the "Priority Habitat of Rare Species" area is identified as PH 1337. Identification of the applicable species will require correspondence with the Natural Heritage & Endangered Species Program.

MA DEP Water Supply Protection Area/Water Resources Protection:

The site is not located within a Water Supply Protection Area Zone II and Water Resource Protection area according to the Massachusetts Geographic Information system (MASS GIS).

The site is not located within the Amherst Aquifer Recharge Protection (ARP) or Watershed Protection (WP) Overlay Districts.

Flood Zones:

The Federal Emergency Management Agency (FEMA), National Flood Insurance Program (NFIP), Flood Insurance Rate Map (FIRM) Community Panel 0005C, MAP 250156 005 C, effective date December 15, 1983 indicates that the site is located within "Zone C" areas of minimal flooding which has no limitations on site build out.

FINAL EVALUATION OF ALTERNATIVES

SECTION 3.3.3

3.3.3 - Final Evaluation of Alternatives

- Analysis of Alternatives
- Evaluation of Potential Construction Impacts
- Conceptual Architectural and Site Plans
- Site / Utilities Narrative
- Structural Systems Narrative
- Mechanical Systems Narrative
- Estimated Mechanical and Electrical Loads
- Proposed Total Project Budget / Construction Cost Estimate
- Permitting Requirements
- Proposed Project Design and Construction Schedule

3.3.4 PREFERRED SOLUTION

3.3.3 – Final Evaluation of Alternates

- Analysis of Alternatives
- Evaluation of Potential Construction Impacts
- Conceptual Architectural and Site Plans
- Site/Utilities Narrative
- Structural Systems Narrative
- Mechanical Systems Narrative
- Estimated Mechanical and Electrical Loads
- Proposed Total Project Budget / Construction Cost Estimate (Uniformat II)
- Permitting Requirements
- Proposed Project Design and Construction Schedule

3.3.3 – PRELIMINARY EVALUATION OF ALTERNATIVES

After documenting the Educational Program, the Initial Space Summary, evaluating the Existing Conditions and Site Development Requirements, the Designer developed a series of preliminary options for the sites that have been moved forward for consideration by the Wildwood School Building Committee (SBC) per their motion and vote at the December 3, 2015 meeting. These options were developed with the SBC's consideration and comment. As part of this process, School Assignment practices were analyzed and discussed. The tuition agreements with other school districts were discussed as were the various alternative educational opportunities that are partially contributing to a number of students going outside of the Amherst system. A Code Upgrade option was discussed for the Wildwood building and due to the factors listed in the SOI concerning the configuration of the "open classroom" model, as well as the location of the student bathrooms on the outside walls, it became evident that the significant components identified in the SOI would not be able to be corrected through this path and the delivery of the District's Educational Program would not be achieved through a Code Upgrade project. Various renovation/addition options were also discussed and due to the potential for extended construction schedules that these options would require DOE to phasing of construction, the options were not pursued further. These renovation/addition options were, however, priced out in a preliminary fashion and have been included in the Summary of Final Evaluation of Alternatives.

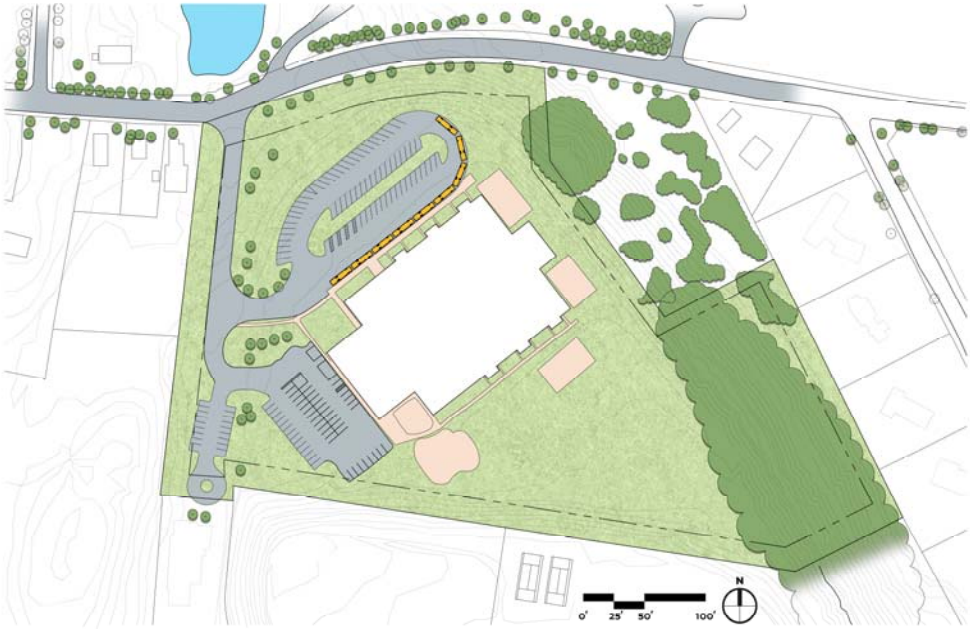
For the options evaluated as *unfavorable* due to the requirement to provide swing space during construction, a multiple phased construction was discussed allowing for the occupancy of the existing school during construction; thereby, negating the need for swing space. The construction phasing would include a first phase of construction where the building support and common area spaces with the academic spaces for a balanced range of students would be built, followed by the demolition of the existing facility and concluding with a second phase of construction where the balance of the academic spaces would be built. The potential impacts of this construction phasing strategy was considered and discussed in length during this phase.

ANALYSIS OF ALTERNATIVES

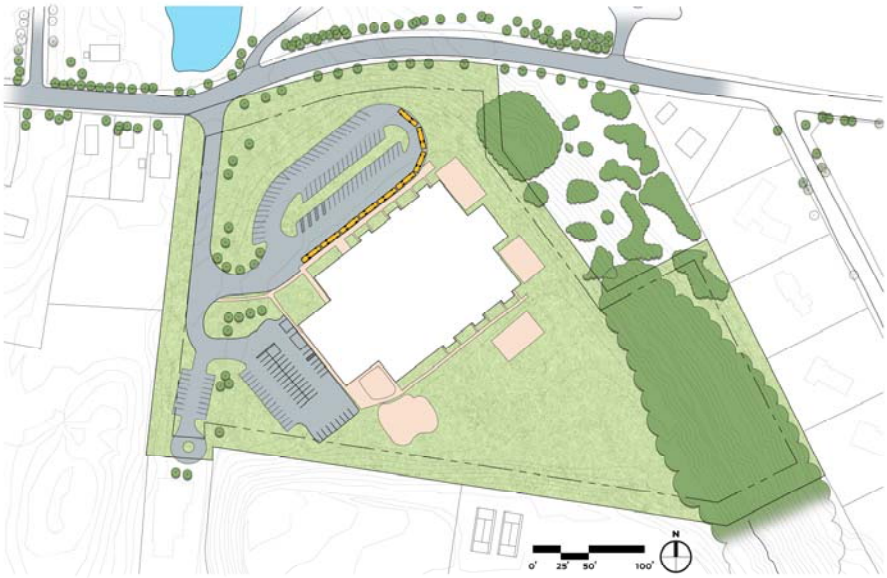
The options that were explored in the PDP were each developed with additional detail that helped the School Building Committee (SBC) understand the inherent advantages and disadvantages of each option and ultimately help the SBC move toward a decision on the Preferred Solution to be submitted to the MSBA.

The Wildwood site and the Fort River site were both explored and the following options (Code Update, W1, W2, W5, W7, W9, W10, W12, FR3 and FR5) were developed to a similar level of detail that was then presented to the School Building Committee. Subsequent to the School Committee's vote on January 19, 2016 supporting grade configuration and the development of a co-located 2-6 school, Options W7, W10, W12 and FR5 were determined to be the only remaining viable options. These four options are described in greater detail at the end of this section of the report. These options meet the MSBA criteria for addition/renovation options and new options for this phase of the process.

Code-Only Option studies a full Code upgrade. *With the School Committee's vote for grade reconfiguration (to a 750 student grade 2-6), this option was no longer viable.



Option W1 studies a full renovation to the existing K-6 building on the Wildwood site. This would entail a full renovation of the existing 82,000gsf building to accommodate a K-6 (360) program. *With the School Committee's vote for grade reconfiguration (to a 750 student grade 2-6), this option was no longer viable.

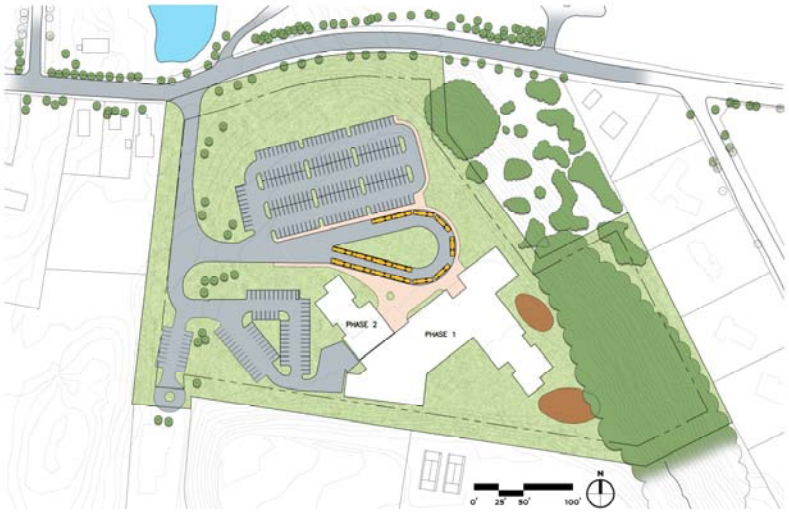


Option W2 studies a K-6 (360) Option as a new building located just to the southeast of the existing Wildwood Elementary School. This option would allow for the students to remain in the existing building while construction of the new school occurs. After completion of the new building, the parking and playfields could be reworked and replaced in-kind in the general area of the existing building footprint. This Option assumes that the new school would be a two story, 68,080sf building with a footprint of approximately 44,000sf (remainder of the square footage would be second floor classroom space). This option fits into the open area, does not impact the adjacent topography, and does not interfere with any of the primary utilities on site. *With the School Committee's vote for grade reconfiguration (to a 750 student grade 2-6), this option was no longer viable.

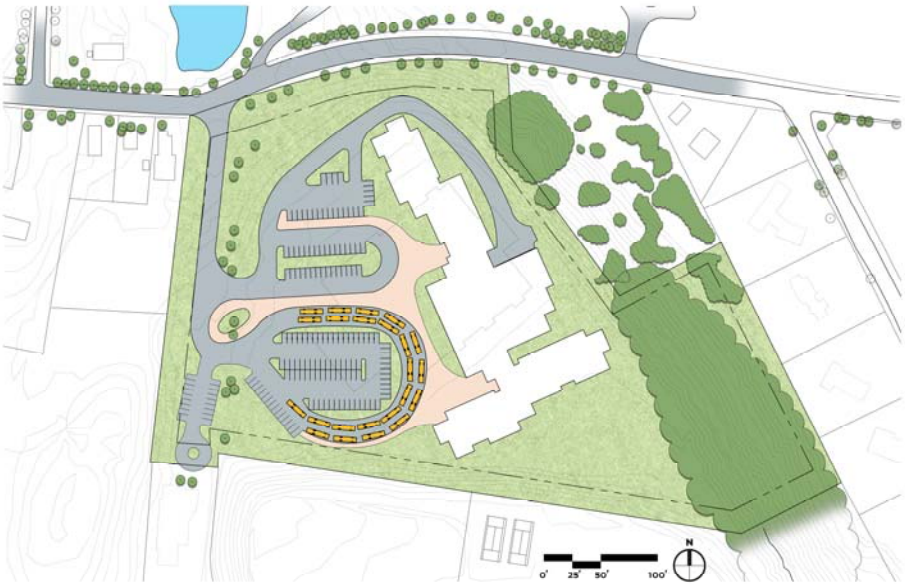
OPTION W2 - FIRST FLOOR PLAN

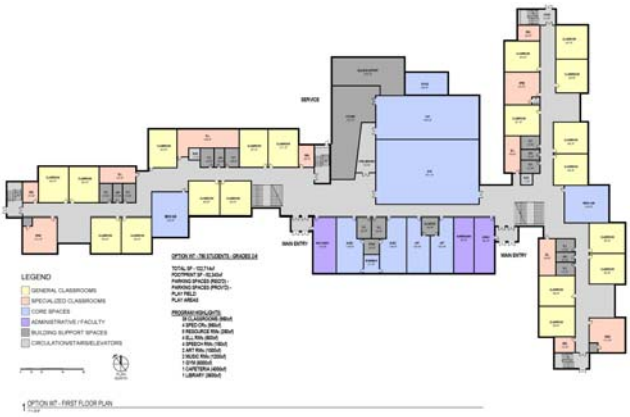
OPTION W2 - SECOND FLOOR PLAN

Option W5 studies a K-6 (670) Option as a new building located in the same area as the existing Wildwood Elementary School. This Option assumes that the new school would be a two story, 109,150sf building with a footprint of approximately 72,000sf (remainder of the square footage would be second floor classroom space). This option would allow both the pedestrian and vehicular circulation to be reworked on site and all of the play areas to be updated. This Option allows the Wildwood students to remain in the existing space through the duration of the first phase of construction then to move into the new portion of the building as the second classroom wing is constructed. *With the School Committee's vote for grade reconfiguration (to a 750 student grade 2-6), this option was no longer viable.



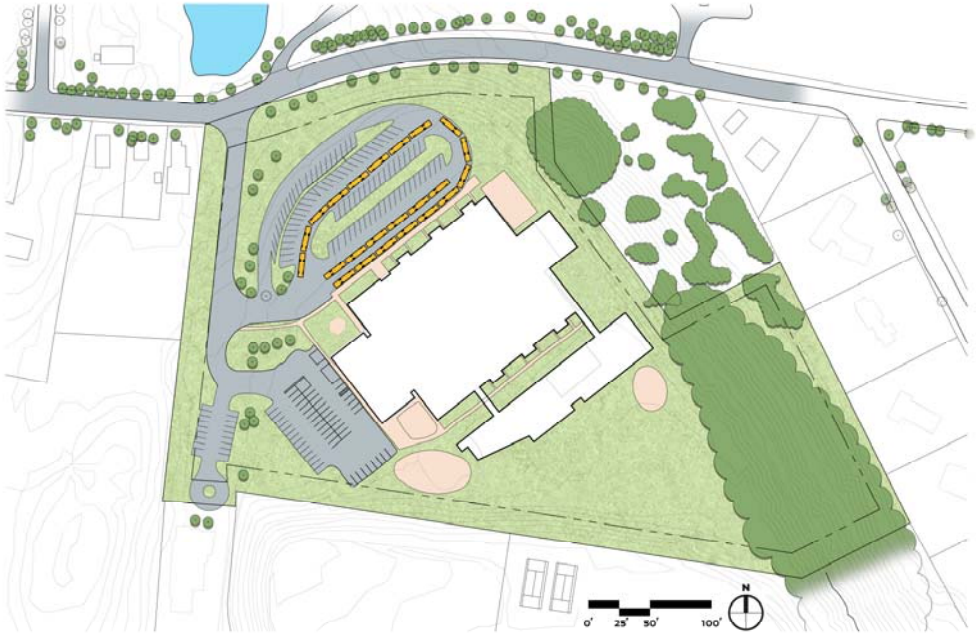
* **Option W7** studies a 2-6 (750) Option as a new building located in the same area as the existing Wildwood Elementary School. This Option assumes that the new school would be a two story, 122,714sf building with a footprint of approximately 80,000sf (remainder of the square footage would be second floor classroom space). This option would allow both the pedestrian and vehicular circulation to be reworked on site and all of the play areas to be updated. This Option will require relocation of the students to swing space through the duration of the construction.
* This option was moved forward by the Committee for more consideration.

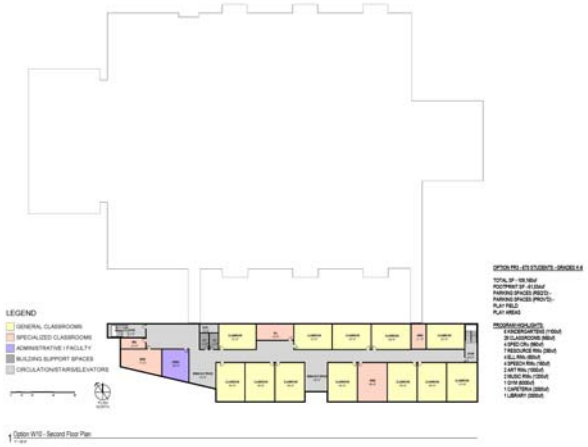




Option W9 studies a 2-6 (670) Option as an addition/renovation building located on the Wildwood site. This option assumes that the Wildwood students remain in the existing building while the addition is constructed to the south. Once the addition is complete, the Wildwood students will move into the new space and then the existing building would be renovated in several phases. Once the renovation is complete, the balance of the students would be moved into the school. The completed building would total 118,000SF with 82,000SF being renovation and 36,000SF being addition. In this option, the site circulation would remain close to what presently exists. *With the School Committee's vote for grade reconfiguration (to a 750 student grade 2-6), this option was no longer viable.

* **Option W10** studies a 2-6 (750) Option as an addition/renovation building located on the Wildwood site. This option assumes that the Wildwood students remain in the existing building while the addition is constructed to the south. Once the addition is complete, the Wildwood students will move into the new space and then the existing building would be renovated in several phases. Once the renovation is complete, the balance of the students would be moved into the school. In this option, the site circulation would remain close to what presently exists. The completed building would total 126,000SF with 82,000SF being renovation and 44,000SF being addition. In this option, the site circulation would remain close to what presently exists. This option would renovate the existing building very much in the manner that was described in Option W2, but would include a 2 story classroom addition to the south of the existing building to accommodate the additional student population. * This option was moved forward by the Committee for more consideration.

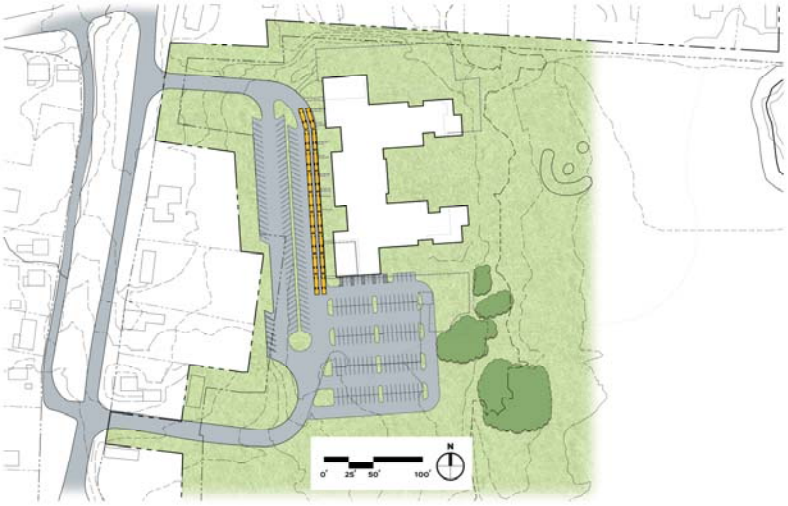


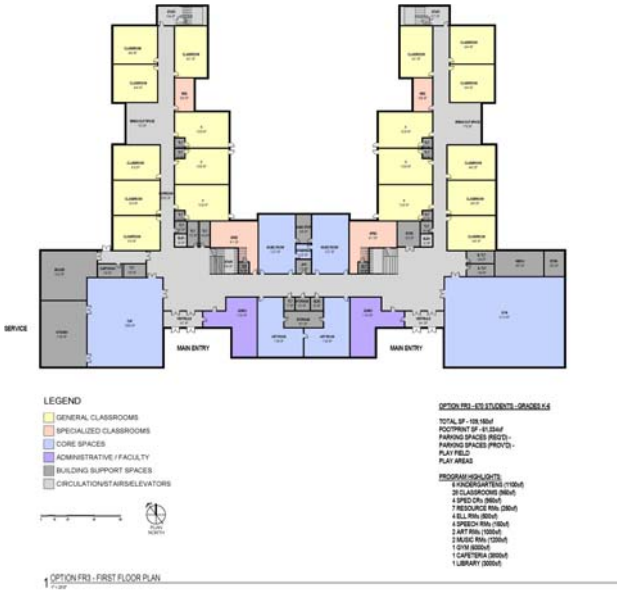


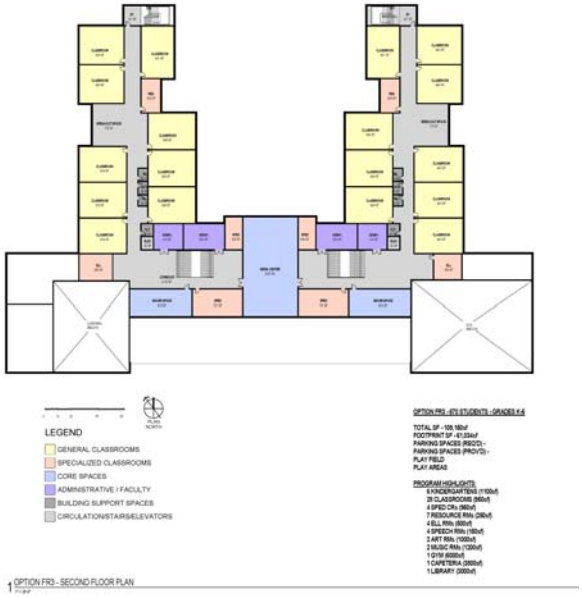
* **Option W12** studies a 2-6 (750) Option as a new building located on the Wildwood site. This Option assumes that the new school would be a two story, 122,714sf building with a footprint of approximately 72,000sf (remainder of the square footage would be second floor classroom space). This option would allow both the pedestrian and vehicular circulation to be reworked on site and all of the play areas to be updated. This Option allows the Wildwood students to remain in the existing space through the duration of the first phase of construction then to move into the new portion of the building as the second classroom wing is constructed. * This option was moved forward by the Committee for more consideration.

Option FR3 studies a K-6 (670) Option as a new building located on the Fort River site. Due to the required setbacks and the adjacent flood plain, the layout of this option would essentially reuse the existing circulation patterns and playfields while replacing the existing building with a new, two story structure that addresses the educational plan and the proposed Space Summary requirements. The completed building would total 109,150SF. In this option, the site circulation would remain close to what presently exists.

*With the School Committee's vote for grade reconfiguration (to a 750 student grade 2-6), this option was no longer viable.







* **Option FR5** studies a 2-6 (750) Option as a new building located on the Fort River site. Due to the required setbacks and the adjacent flood plain, the layout of this option would essentially reuse the existing circulation patterns and playfields while replacing the existing building with a new, two story structure that addresses the educational plan and the proposed Space Summary requirements. The completed new building would total 122,714SF. In this option, the site circulation would remain close to what presently exists. * This option was moved forward by the Committee for more consideration.

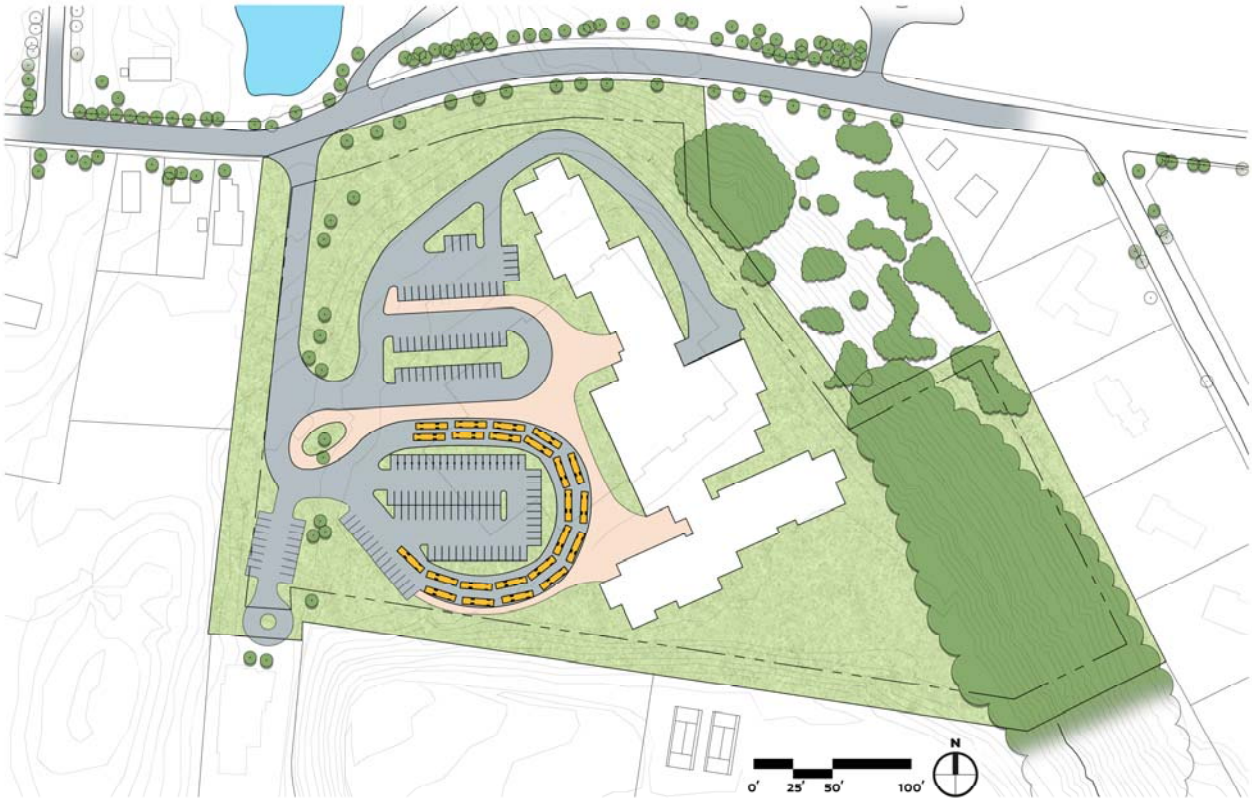
OPTION W7 - DETAIL

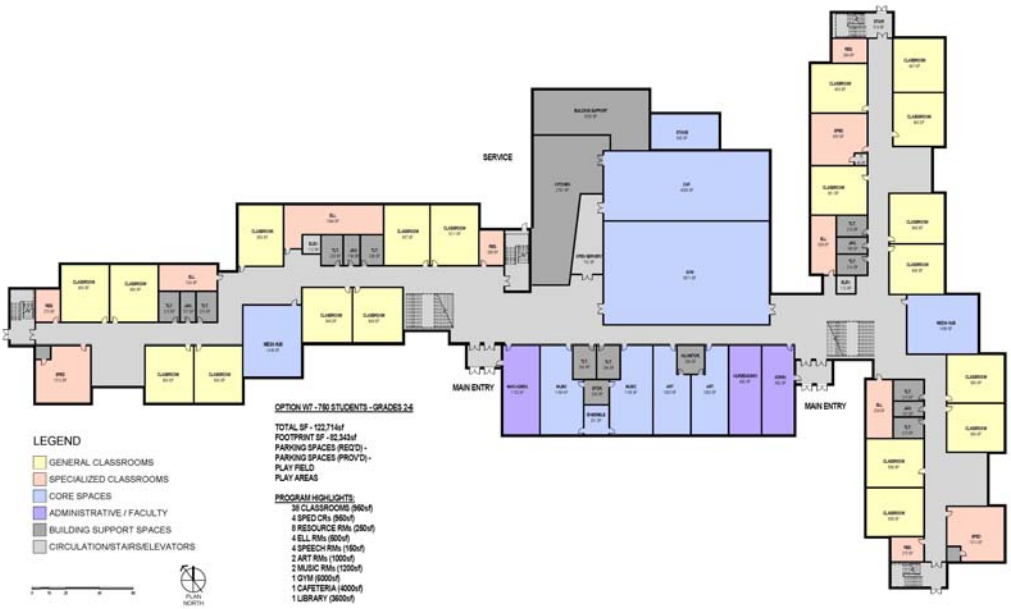
Option W7 studies a 2-6 (750) Option as a new building located in the same area as the existing Wildwood Elementary School. This Option assumes that the new school would be a two story, 120,854sf building with a footprint of approximately 80,000sf (remainder of the square footage would be second floor classroom space). This option would allow both the pedestrian and vehicular circulation to be reworked on site and all of the play areas to be updated. This Option will require relocation of the students to swing space through the duration of the construction.

EVALUATION OF POTENTIAL CONSTRUCTION IMPACTS

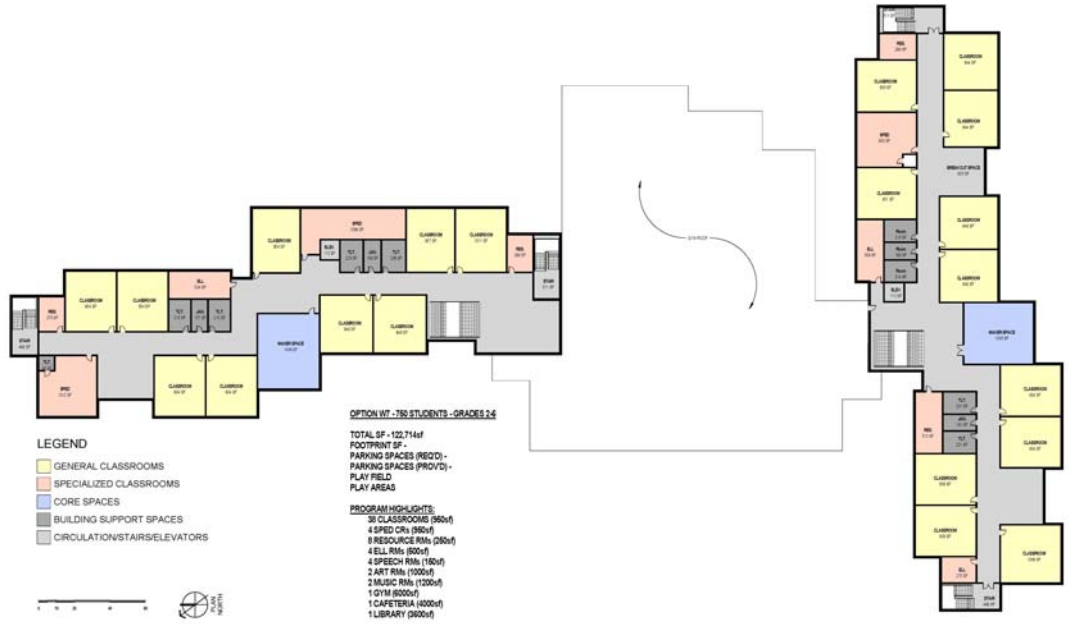
In order to implement this option, the Town must identify some swing space for the students that are currently occupying the building. The construction would entail demolishing the existing building at the outset of the schedule and then constructing the new building and site amenities in a proposed 24 month schedule.

CONCEPTUAL ARCHITECTURAL AND SITE PLANS





1 OPTION W7 - FIRST FLOOR PLAN



1 OPTION W7 - SECOND FLOOR PLAN

SITE/UTILITIES NARRATIVE – OPTION W7

Pedestrian Circulation

An unimpeded pedestrian route consisting of a rigid pavement material shall be provided from the parking and drop-off areas to the main building entries. Pavement will consist of materials such as standard concrete paving, unit pavers or a combination of both. Where pedestrian routes cross vehicular areas, the pedestrian paving material will be carried through to create visible contrast. Where achievable, all pedestrian routes shall be graded less than 5% to minimize potential barriers created by handrails.

The main entries to the building will be considered plaza areas and treated with enhanced paving consisting of brick or precast concrete unit pavers. All plaza areas will have a maximum slope of 2%, pitched away from the building for positive drainage. Plaza areas will include curbed areas for foundation plant materials and other opportunities to reduce the overall paved surface.

The current site plan does not indicate the need for exterior stairs and ramps. Should it be determined later that this is necessary, all stairs and ramps will meet MAAB standards. All stairs or ramps will be provided with railings at each side.

A secondary pedestrian route creating a complete loop around the building and connecting to all play areas, existing neighborhood sidewalks and nature trails shall be provided. Pavement will consist of asphalt or concrete paving. The portion of the route around the east and south faces of the building will have a width and be constructed of material able to accommodate occasional maintenance and security vehicles. A minimum width of 12' is proposed for this drivable sidewalk.

Play Areas

Play area A is proposed for grades 2-6 at the south side of the building between the two wings of the phase I building. The play area will be organized to group the play equipment by age group; however, there will be no formal barrier between the groupings of grades 2-4 and 5-6.

Play equipment will be chosen to encourage and stimulate inclusive play among users. Play structures incorporating sensory plan, climbing, sliding and swing elements will allow multiple play opportunities for all users.

The play surface will be a continuous, poured-in-place rubber resilient surface with a depth engineered for required fall heights determined by the selected play structures. The surface will consist of multiple, vibrant colors to complement the equipment and to create an interesting and stimulating environment.

Play Area B is proposed for grades 2-6 at west side of the phase II wing. The play area will be organized to group the play equipment by age group; however, there will be no formal barrier between the groupings of grades 2-4 and 5-6.

Play equipment will be chosen to encourage and stimulate inclusive play among users. Play structures incorporating sensory plan, climbing, sliding and swing elements will allow multiple play opportunities for all users.

The play surface will be a continuous, poured-in-place rubber resilient surface with a depth engineered for required fall heights determined by the selected play structures. The surface will consist of multiple, vibrant colors to complement the equipment and to create an interesting and stimulating environment.

A passive play area and swing set is proposed for the location at the southeast face of the gymnasium. A loose mulch and lawn surface is suggested for this area.

The paved bus loop can be used as an additional play, recreation or sports zone during times when bus activity is not present. The use of colored asphalt and line paint can be incorporated to create specific games in the paving surface.

Recreation

A multi-use field, approximately 150' x 200' will be located west of the building and south of the main drive into the parking area. The current direction is for the field to remain undesignated for a specific sport. Should it be decided that the field be designated for a specific sport, the proposed footprint is adequate for a U10 Soccer field or a Shetland League Baseball Diamond. The recreational field surface will consist of a low maintenance sports turf seed mix or sod.

Pedestrian circulation as noted previously will provide connections to all recreation areas. This will include a path to the parcel to the southwest of the site that is also owned by the town. The path will provide access to nature trails and three fitness stations located along the perimeter of the parcel where minimal site grading will be required.

Fencing and Gates

The property for the school is not currently fenced-off from adjacent properties. It is our understanding that this approach is not proposed for the site updates. It is our recommendation that a 4' coated chain link fence be located between the recreational field and the vehicular areas along the north and west extents. The fence will include gaps at selected locations to allow users to move in and out of the field area with ease. A 6' tall architectural fence fabric should be located along the west edge of the service drive. This is intended to act as a barrier to separate the recreational and play use from the service operations.

Play area A is not adjacent to vehicular use areas and therefore, we do not recommend providing a barrier or enclosure. Users should be encouraged to move freely in this area.

Planting

Every attempt will be made to maintain the large, healthy existing canopy trees on site. It is our recommendation that an arborist be consulted to perform a complete tree inventory to inform future decisions on what can and should be protected. Proposed planting is always is always beneficial, however, existing mature trees are a much larger asset.

The proposed parking lot shall be designed to provide planting islands for deciduous canopy trees such as native Maples, Oaks, or similar. The ground plane can be treated with a native, low maintenance seed mix. These areas can be mowed as little or often as desired.

The planting approach near and at the building will trend toward a more formal, yet simple approach. Foundation planting consisting of flowering evergreen shrubs, ornamental grasses, groundcovers and perennials shall be located in select planting zones in the plaza area. Additionally, we recommend three canopy trees be placed in tree grates within the plaza to provide shade and mitigate a potential heat-island effect.

The planted areas between the building and vehicular areas shall be treated with a low maintenance lawn seed mix and a combination of ornamental and shade trees. A similar approach is recommended for the zones between the play areas, recreational fields and undesignated areas around the east, south and west faces of the building. A planted screen should be provided in conjunction with the architectural fence to screen the service area.

A passive garden area is suggested for staff use along the east face of the building, south of the gymnasium and swing set. A few canopy trees could provide shade for a small seating area.

The current school operations include an informal student gardening program. We recommend this be implemented in the next phase as well. The preferred location is the south end of the building, just beyond play area A. The southern exposure gives the best chance for success. The space is adequate for a small greenhouse program should it be feasible.

Rain gardens or bioswales can be located in several areas within the vehicular areas and between the building and vehicular areas. A combination of native grasses and wildflowers located within mild depressions can successfully treat portions of stormwater on site. The volume and degree of treatment will depend on the sites hydrology as determined during future design phases. These areas can act as educational elements and potentially include interpretive information explaining their function.

Site Furniture and Miscellaneous Elements

Durable, yet attractive benches shall be provided near major building entries, adjacent to play areas and recreational areas and within the staff garden area. Matching litter receptacles will be located near seating areas. A bicycle parking area with durable hoop style back racks shall be located west of the parent drop-off. The southernmost landscape island in the parent drop-off loop is an ideal location for a flagpole.

UTILITIES NARRATIVE – OPTION W7

The following is the Site systems narrative, which defines the scope of work and capacities of the Site systems as well as the Basis of Design. The Site Utility systems shall be designed and constructed in accordance with *LEED for Schools*.

1. CODES

A. All work installed under this DIVISION shall comply with all local, state, and federal codes, laws, statutes, and authorities having jurisdiction.

B. The work shall be performed in accordance with local Department of Public Works Specifications, MA Highway Department Standard Specifications for Highways and Bridges and conform to all Amherst Bylaws.

2. DESIGN INTENT

A. The work of Division 31, 32 and 33 is as described in this narrative. All work is new and consists of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the site utility work and all items incidental thereto, including testing.

3. EXPECTED REVIEW/PERMITTING REQUIREMENTS

A. Notice of Intent – Amherst Conservation Commission and MassDEP – Driveway and utility alterations within 100 feet of a pond/land under water body buffer at Strong Street and connection of drainage to existing municipal drainage system (alteration of bank).

B. Site Plan Review – Amherst Planning Board – Major site construction project.

C. Zoning Board of Appeals – Amherst Zoning Board of Appeals – Relief from potential Zoning requirements such as 30% maximum lot coverage.

D. Water Main/Service Connections – Amherst Department of Public Works – Review of existing water main relocation and connection to proposed building.

E. Sewer Piping/Service Connections – Amherst Department of Public Works – Review of existing sewer relocation and connection to proposed building.

4. SITE EROSION CONTROL MEASURES

A. The Contractor shall prepare and submit the EPA Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activity under the EPA National Pollution Discharge Elimination System (NPDES) General Permit. The contractor shall implement a Storm Water Pollution Prevention Plan (SWPPP) per the requirements of the EPA General Permit. At project completion submit a Notice of Termination (NOT) to the EPA.

B. The Contractor shall place silt barrier and hay bales around the perimeter of the limit of work to prevent the migration of silt-laden runoff from discharging from the construction site.

C. The Contractor shall install sediment control bags in all existing and new stormwater inlets within the limit of work, and in areas prone to receive runoff from the construction site.

D. The Contractor shall prepare weekly logs of erosion control inspections and maintenance. Inspection logs shall also be prepared after all rain events resulting in more than 0.25 inches/24-hour.

5. UTILITY DEMOLITION, ABATEMENT & RELOCATION

A. Prior to the commencement of any excavation, the Contractor shall field locate all existing utilities within the limit of work based on available surface evidence and record documents.

B. The Contractor shall properly abate all existing asbestos concrete drainage and sewer piping required to be removed for the demolition of the existing building and construction of the new. The Contractor shall follow all applicable Local, State and Federal regulations while removing the piping.

6. STORM DRAINAGE SYSTEM

A. The storm water drainage system shall be designed in accordance with Town standards and the current edition of the Massachusetts DEP Storm Water Management Policy to mitigate storm water runoff to abutting properties.

B. Storm drain piping 12" and larger shall be smooth interior corrugated HDPE pipe with rubber gasket joints. Storm drain piping 10" and under will be ASTM-D3034 SDR35 PVC with push-on rubber ring joints.

C. Runoff from paved driveways, parking lots, walkways, playgrounds, playing fields, roof areas will be directed to a piped stormwater system. Catch basins and manholes shall be at least 6 feet deep and 4 feet in diameter. Castings shall be from the approved Mass Highway Department list. All catch basins will have 4 foot sumps and be equipped with environmental hoods.

D. Water quality structures shall be provided within the storm water drainage system to assist with TSS removal and water quality.

E. Storm water runoff rate and flood control is proposed to be provided via use of subsurface detention facilities consisting of water-tight HDPE piping and rainwater gardens. Overflow from these structures will be directed to the municipal drainage system piping on the site.

7. SANITARY SYSTEM

A. The sanitary system shall be designed in accordance with local DPW requirements.

B. Manholes shall be at least 4 feet in diameter with brick invert channels. Castings shall be from the approved MHD list.

C. Gravity sewer piping shall be Manville ASTM-D3034 SDR-35 PVC sewer pipe.

D. The school shall be equipped with an exterior precast concrete grease trap sized in according with the Massachusetts Plumbing Code and 310 CMR 15.00 Title 5.

E. The sanitary waste system shall discharge southerly to the existing municipal sewer system located on the property.

8. WATER SYSTEM

A. The water distribution system will be designed in accordance with Local Water Department standards.

B. All water piping, including domestic and fire water services to the building, shall be Class 52 cement-lined ductile iron pipe and fittings.

C. All water service piping shall be installed with a minimum cover of 5 feet.

D. A new 8" water main loop will be provided around the proposed building. The new loop will continue to be fed from the existing 8" water line under the existing driveway. Additional fire hydrants will be provided from the new water loop every 300 ft. on center or as required by the Fire Department.

9. PARKING LAYOUT, SURFACING & DRIVEWAYS

A. Parking spaces shall be a minimum of 9 feet wide x 18 feet in length and be clearly painted indicated the limits of the spaces.

B. The total parking quantity shall meet the requirements of the Town of Amherst Zoning Bylaw, Section 7.00. Based on Section 7.0030 of the Zoning Bylaw, the required minimum quantity of parking spaces for an Educational Use is (1) parking space for every four (4) seats. Based on 750 students and 100 staff members occupying the building, the minimum parking quantity shall be 213 spaces.

C. Based on 195 total parking spaces, 6 of those spaces shall be handicap accessible and shall fully conform to the requirements of 521 CMR (Architectural Access Board).

D. Areas paved with bituminous concrete shall consists of 12" of dense grade gravel overlaid by a 2-1/2" binder course and 1-1/2" wearing course of bituminous.

D. Driveways and maneuvering aisles shall be a minimum of 12' wide per lane of traffic throughout the site.

E. All paved roadways shall be pitched at a minimum of 1.5% but no more than 5% towards catch basin/inlet structures.

F. All roadway and parking curve radii shall conform to the requirements of the Amherst Street and Site Work Construction Standards.

G. Curbing shall be provided at along the pavement edge of driveways, parking lots and loading areas.

10. ZONING REQUIREMENTS

A. Lot 76 is located within the Neighborhood Residence ("R-N") zoning district. No Zoning Overlay Districts exist on the site as of June 2014. The following dimensions are required in the R-N district:

<u>Neighborhood Residence</u>

• Minimum Lot Area	20,000 Square Feet
• Minimum Lot Frontage	120 Feet
• Minimum Front Yard Setback	20 Feet
• Minimum Rear Yard Setback	15 Feet
• Minimum Side Yard Setback	15 Feet
• Maximum Building Coverage	20 %
• Maximum Lot Coverage	30 %
• Maximum Height of Structures	35 Feet
• Maximum Floors	3 Stories

STRUCTURAL SYSTEMS NARRATIVE – OPTION W7

W7 – New Construction

SUBSTRUCTURE

Foundations

Based on the foundations of the existing structure, the columns of the proposed structure would bear on reinforced concrete spread footings and the perimeter foundation walls would bear on continuous reinforced concrete strip footings extending at least 4 ft.-0 in. below grade. With the assumed bearing capacity of the soil of 2 tons/sf, a typical interior footing would be 8 ft. – 0 in. x 8 ft. - 0 in. x 24 in. deep and the typical exterior footings would be 7 ft. x 7 ft. x 24 in. deep in the two story areas. Typical interior footings below the Gymnasium level would be 6 ft. x 6 ft. x 24 in. deep. Typical exterior footings at the Gymnasium would be 8 ft. x 8 ft. x 24 in. deep. The exterior foundation walls would be 14 in. to 16 in. thick, reinforced cast-in-place concrete walls on 24 to 36 in. wide continuous reinforced concrete strip footings around the perimeter of the building extending a minimum of 4 ft. – 0 in. below finished grade.

Slabs-on-Grade

Based on the existing school construction, the lowest level of the proposed structure would be a 5 in. thick concrete slab-on-grade reinforced with welded wire fabric over a vapor barrier on 2 in. thick rigid insulation on 8 in. of compacted granular structural fill and a base course of 8 in. of compacted gravel.

SUPERSTRUCTURE

Floor Construction

Typical Floor Construction

A 5 ¼ in. light weight concrete composite metal deck slab reinforced with welded wire fabric on wide flange steel beams spanning between steel girders and columns. The weight of the structural steel is estimated to be 13 psf for the typical framing.

Roof Construction

Typical Roof Construction

The roof construction would be galvanized, corrugated 1 ½ in. deep, Type 'B' metal roof deck spanning between wide flange steel beams and girders. At locations of roof supported mechanical equipment, a concrete slab will be provided similar to the typical supported slab. The weight of the structural steel is estimated to be 13 psf.

Low Roof Structure

The roof would be a continuation of the adjacent floor and would be similar to the typical floor construction of 5 ¼ in. light weight concrete composite metal deck slab reinforced with welded wire fabric on wide flange steel beams spanning between steel girders and columns. This roof will be supporting the mechanical units. The units would be screened by a screen comprised of structural steel posts and beams. The weight of the structural steel is estimated to be 15 psf.

Gymnasium Roof Framing

The roof construction would be acoustic, galvanized, corrugated 3 in. deep, Type 'NA' metal roof deck at the Gymnasium and 3 in. deep Type 'N' metal roof deck at the Auditorium, spanning between long span steel joists. The weight of the steel joists and structural steel framing is estimated to be 13 psf.

VERTICAL FRAMING ELEMENTS

Columns

Columns will be hollow structural steel columns. Typical columns would be HSS 8 x 8 columns and the columns at the double story spaces at the Gymnasium and Auditorium would be HSS 12 x 12.

Lateral Load-Resisting System

The proposed school structure will be divided into two parts separated by way of an expansion joint.

The typical lateral load resisting system for both parts of the structure would be ordinary concentric braced frames comprised of HSS structural steel members.

MECHANICAL SYSTEMS NARRATIVE – OPTION 7

1. CODES

All work installed under Division 230000 shall comply with the City of Amherst Building Code and all state, county, and federal codes, laws, statutes, and authorities having jurisdiction.

2. DESIGN INTENT

The work of Division 230000 is described within the narrative report. The HVAC project scope of work shall consist of providing new HVAC equipment and systems as described here within. All new work shall consist of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the Heating, Ventilating and Air Conditioning work and all items incidental thereto, including commissioning and testing.

3. BASIS OF DESIGN: (MASS CODE)

Massachusetts Code values are listed herein based on ASHRAE Weather Data Tables.

Outside: Winter -1°F, Summer 86°F DB 73°F WB

Inside: 70°F +/- 2°F for heating 75°F, +/- 2°F (50% RH +/- 5%) for air conditioning area. Unoccupied temperature setback will be 60°F +/- 2°F for heating 80°F, +/- 2°F (60% RH +/- 5%) for air conditioning area.

Outside ventilation air shall be provided at rates in accordance with ASHRAE guide 62.1-2010 and the International

Mechanical Code as a minimum. All occupied areas will be designed to maintain 800 PPM carbon dioxide maximum.

4. SYSTEM DESCRIPTION:

A. Central Heating Plant:

LEED for Schools Credit EP2 & EC1

Heating for the entire building including rooftop units will be through the use of a high efficiency oil-fired non-condensing boiler plant. A new boiler plant with (3) 2200 MBH input boilers and (2) end suction base mounted pumps with a capacity of 660 gpm each. Each boiler plant will supply heating hot water to all heating apparatus located throughout the adjacent building areas through a two-pipe fiberglass insulated schedule 40 black steel piping system. New hot water piping shall be installed to serve new HVAC systems. The boiler plants shall supply a maximum hot water temperature of 160 deg F on a design heating day and the hot water supply water temperature will be adjusted downward based on an outside temperature reset schedule to improve the overall operating efficiency of the power plants.

Primary and standby end suction base mounted pumps will be provided with variable frequency drives for variable volume flow through the water distribution system for improved energy efficiency.

Combustion air for each boiler will be directly ducted to each boiler through a galvanized ductwork distribution system. Venting from each boiler shall be through separate double wall aluminized stainless steel (AL29-4C) vent system and shall discharge between 6 feet to 12 feet above the roof level depending on the location of building intake air locations.

B. Central Cooling Plant:

LEED for Schools Credit EP2 & EC1

A high efficiency central chilled water cooling plant consisting of (1) 30 ton outdoor air cooled chillers, w/ (2) 80 GPM chilled water pumps in a primary and standby arraignment. Each pump will be controlled by VFDs. Accessories, controls and steel and copper piping distribution system shall be provided to serve chilled water cooling to induction units located throughout the building.

C. Classroom Heating, Ventilation, and Air Conditioning (Including Art, Music, SPED and general classrooms:

LEED of Schools Credit EP2, EC1, EC5, IEQP1, IEQC1, 2, 3.1, 3.2, 5, 6.2 & 7.1

Displacement Ventilation System

It is proposed that displacement diffusers shall be used to provide air condition and ventilation to the Classroom areas. Heating will be provided by ceiling mounted radiant panels along the perimeter walls which will be fed from the central boiler plant.

Supply airflow to each classroom will be modulated by a VAV (variable air volume) terminal box with temperature and CO2 demand controls that will deliver supply airflow to the displacement ventilation diffusers located in the classroom. CO2 demand controls shall modulate the VAV terminal box position to maintain 800 PPM within the classrooms and shall communicate to the rooftop unit to modulate the outside air damper and return air damper positions.

New rooftop air handling units with supply and return fan with VFDs, energy recovery wheels, hot water heating coil with modulating control valve, DX cooling, hot gas reheat system, and MERV 13 filtration will be provided to serve the induction system. Supply air will be provided to the space through new galvanized steel supply duct distribution system. Return air will be drawn back to the units by ceiling return air registers located within the classroom and will be routed back to the rooftop unit by a galvanized sheet metal return air ductwork distribution system. A wall mounted combination thermostat / humidity / CO2 sensor shall be provided for each space and shall control radiant panels located in the ceiling along the perimeter walls.

It is estimated that the following rooftop air handling equipment will be required to serve these Classroom areas:

Four (4) air handling units each with a capacity of 10,000 CFM (45 Tons Cooling, 430 MBH Heating).

One (1) air handling unit with a capacity of 5,000 CFM (25 Tons Cooling, 220 MBH Heating).

D. Gymnasium

LEED for Schools Credit EP2, EC1, EC5, IEQP1, IEQC1, 2, 3.1, 3.2, 5, 6.2 & 7.1

The gymnasium will be provided with one (1) roof mounted air handling unit. The unit will have a capacity of approximately 6,000 CFM and will include supply and return fans with VFDs, energy recovery wheels, 400 MBH hot water heating coil with modulating control valve, 30 tons of DX cooling hot gas reheat system and MERV 13 filtration.

Supply air will be provided to the space through new galvanized steel supply duct distribution system located high within the space and exposed with duct mounted diffusers. Return air will be drawn back to the units by low wall mounted return air registers located within the space and will be routed back to the unit by a galvanized sheet metal return air ductwork distribution system.

Supplemental hot water fin tube radiation heating or wall mounted runtal style radiator system will be provided along exterior walls.

CO2 demand ventilation will be utilized to reduce outside air based on population. As levels of carbon dioxide drop generally relating to a reduction in population the outside air damper will modulate to reduce outside air flow and allow recirculation while always maintaining a maximum of 800 ppm, CO_2 level within the space.

E. Administration, Guidance Areas and Media Center:

LEED for Schools Credit EP2, EC1, EC5, IEQP1, IEQC1, 2, 3.1, 3.2, 5, 6.2 & 7.1

Spatial heating, ventilation, and air-conditioning for the Administration, Guidance, and Media Center areas will be

served by ducted horizontal ceiling mounted 2-pipe heating, ventilation, and cooling active chilled beam induction units. Ventilation air to these areas will be provided by (2) 100% outside air rooftop air handling units. The Administration Area unit will have an approximate capacity of 2,000 CFM and be equipped with supply and return fans, VFDs, energy recovery wheels, 100 MBH heating hot water coil with modulating control valve, 10 ton capacity DX cooling, hot gas reheat system, and MERV 13 filtration. The media center will have an approximate capacity of 2,500 CFM, 120 MBH heating hot water coil with modulating control valve, 12 ton Dx cooling with hot gas reheat system. All other unit components will be typical to the administration unit.

F. Cafeteria/Stage:

LEED for Schools Credit EP2, EC1, EC5, IEQP1, IEQC1, 2, 3.1, 3.2, 5, 6.2 & 7.1

The cafeteria and stage area will be provided with one (1) new rooftop air handling unit. The unit will be approximately 5,000 CFM and will include supply and return fans with VFDs, energy recovery wheels, 350 MBH heating hot water coil with modulating control valve, 25 ton DX cooling system, and MERV 13 filtration. Supply air will be provided to the space through new galvanized steel supply duct distribution system located high within the space and exposed with duct mounted diffusers. Return air will be drawn back to the units by low wall mounted return air registers located within the space and will be routed back to the rooftop unit by a galvanized sheet metal return air ductwork distribution system.

Supplemental hot water fin tube radiation heating or wall mounted runtal style radiator system will be provided along exterior walls.

CO2 demand ventilation will be utilized to reduce outside air based on population. As levels of carbon dioxide drop generally relating to a reduction in population the outside air damper will modulate to reduce outside air flow and allow recirculation while always maintaining a maximum of 800 ppm, CO_2 level within the space.

G. Kitchen:

The kitchen area shall be provided with a new roof mounted 5,000 CFM kitchen exhaust fan and a roof mounted heating, ventilation and air conditioning unit approximately 5,000 CFM, 20 ton DX, 480 MBH heating hot water coil and shall serve as a make-up air system.

A variable volume kitchen exhaust hood control system consisting of kitchen exhaust stack temperature and smoke density sensors, supply and exhaust fan variable speed drives, and associated controller will be provided by the kitchen equipment vendor. This system installation shall be field installed and coordinated with the ATC and Electrical Contractors.

H. Computer Rooms:

Computer rooms which require additional cooling loads or year round cooling above that of which the proposed displacement ventilation systems can achieve, shall be provided with Ductless Cooling split unit systems. Approximately (2) units with associated outdoor air cooled condensers will be utilized, refer to Mechanical Load letter for further sizing information. Ventilation will be provided through the associated or adjacent classroom unit. Heating will be provided through ceiling mounted radiant panels.

I. IT Data Rooms:

IT Data Rooms shall be air conditioned by dedicated variable refrigerant flow Ductless Cooling unit systems, refer to Mechanical Load letter for further sizing information.

J. Loading, Custodial Support Areas:

1. The loading area and custodial support areas of the building shall be heated by indoor hot water unit heaters. The units each have an approximate capacity of 400CFM and 20 MBH heating coils. (Approximately 10 units throughout)

2. Roof mounted exhaust fans will be utilized for general areas including toilet rooms, janitor closets and art rooms, refer to Mechanical Load letter for further sizing information (approximately 8 exhaust fans).

K. Lobby, Corridor, and Entry Way Heating:

Lobby, corridor and entry ways shall be heated by a combination of new hot water radiant panels, cabinet unit heaters and fin tube radiation heating equipment.

5. TESTING, ADJUSTING, BALANCING AND COMMISSIONING

All new HVAC systems shall be tested, adjusted, balanced and commissioned as part of the project scope.

ESTIMATED MECHANICAL AND ELECTRICAL LOADS – OPTION 7

Description:

Under this option the building will utilize No.2 fuel oil as its fuel source for the boiler plant. The heating plant will provide heating hot water with 35% propylene glycol solution mixture to the rooftop units as well as the radiant heating panels and terminal heating units within the building. The rooftop units will be equipped with energy recovery wheels, hot water coils and direct expansion cooling sections. The chilled water plant will consist of an outdoor roof mounted air cooled chiller, the chilled water will also be provided with a 35% propylene glycol solution mixture.

Boiler Plant:

Unit Tag	Mode	Fuel Source	Heating Capacity	Voltage / HP / Amp
B-1	Non-Condensing	No.2 Fuel Oil	2200 MBH	460V / 1-1/2HP / 2.8Amp
B-2	Non-Condensing	No.2 Fuel Oil	2200 MBH	460V / 1-1/2HP / 2.8Amp
B-3	Non-Condensing	No.2 Fuel Oil	2200 MBH	460V / 1-1/2HP / 2.8Amp

Hot Water Pumps:

Unit Tag	GPM	Motor Type	Control Type	Pump Type	Voltage / HP
P-1	660	Premium Efficiency	VFD	End Suction	460V / 20.0HP
P-2	660	Premium Efficiency	VFD	End Suction	460V / 20.0HP

Chiller Plant:

Unit Tag	Mode	Tonnage	Cooling Capacity	Voltage / MOP
CH-1	Air Cooled	30	360 MBH	460V / 200MOP

Chilled Water Pumps:

Unit Tag	GPM	Motor Type	Control Type	Pump Type	Voltage / HP
P-3	80	Premium Efficiency	ECM	Inline	460V / 2.0HP
P-4	80	Premium Efficiency	ECM	Inline	460V / 2.0HP

Classrooms/Sped Rooms:

Unit Tag	CFM	Cooling Capacity	Heating Capacity	Motor Qty/HP
RTU-1	10,000	45 Tons	430 MBH	(2) 10.0HP & (1) 3/4HP
RTU-2	10,000	45 Tons	430 MBH	(2) 10.0HP & (1) 3/4HP
RTU-3	10,000	45 Tons	430 MBH	(2) 10.0HP & (1) 3/4HP
RTU-4	10,000	45 Tons	430 MBH	(2) 10.0HP & (1) 3/4HP

Art/Music Rooms:

Unit Tag	CFM	Cooling Capacity	Heating Capacity	Motor Qty/HP
RTU-5	5000	25 Tons	220 MBH	(2) 5.0HP & (1) 3/4HP

Gym:

Unit Tag	CFM	Cooling Capacity	Heating Capacity	Motor Qty/HP
RTU-6	6000	30 Tons	400 MBH	(2) 5.0HP & (1) 3/4HP

Media Center:

Unit Tag	CFM	Cooling Capacity	Heating Capacity	Motor Qty/HP
RTU-7	2500	12 Tons	120 MBH	(2) 4.0HP & (1) 1/4HP

Café/Stage:

Unit Tag	CFM	Cooling Capacity	Heating Capacity	Motor Qty/HP
RTU-8	5000	25 Tons	350 MBH	(2) 5.0HP & (1) 3/4HP

Administration Area:

Unit Tag	CFM	Cooling Capacity	Heating Capacity	Motor Qty/HP
RTU-9	2000	10 Tons	100 MBH	(2) 4.0HP & (1) 1/4HP

Kitchen:

Unit Tag	CFM	Cooling Capacity	Heating Capacity	Motor Qty/HP
H&V-1	5000	20 Tons	480 MBH	(2) 7.5HP

General Exhaust:

Unit Tag	CFM	Motor Qty/HP	Area Served
EF-1	800	(1) 1.0HP	Storage/Toilet/Jan
EF-2	800	(1) 1.0HP	Storage/Toilet/Jan
EF-3	800	(1) 1.0HP	Storage/Toilet/Jan
EF-4	800	(1) 1.0HP	Storage/Toilet/Jan
EF-5	1200	(1) 2.0HP	Art Rooms
EF-6	1200	(1) 2.0HP	Art Rooms
EF-7	5000	(1) 5.0HP	Kitchen Hood
EF-8	1500	(1) 2.0HP	Main Elec Room

Split Cooling Units:

Unit Tag	CFM	Cooling Capacity	Heating Capacity	Area Served
DCU-1	600	2 Tons	N/A	IDF Room
DCU-2	600	2 Tons	N/A	IDF Room
DCU-3	900	4 Tons	N/A	Head End Room
DCU-4	800	3 Tons	N/A	Computer Room
DCU-5	800	3 Tons	N/A	Computer Room

Unit Heaters:

Unit Tag	CFM	Motor Qty/HP	Area Served
UH-1	500	(1) 1/4HP	Vestibule
UH-2	500	(1) 1/4HP	Vestibule
UH-3	500	(1) 1/4HP	Vestibule
UH-4	500	(1) 1/4HP	Vestibule
UH-5	500	(1) 1/4HP	Storage Rm
UH-6	500	(1) 1/4HP	Storage Rm
UH-7	800	(1) 1/4HP	Storage Rm
UH-8	1200	(1) 1/2HP	Storage Rm
UH-9	1200	(1) 1/2HP	Mechanical Rm
UH-10	1200	(1) 1/2HP	Receiving Area

ELECTRICAL NARRATIVE REPORT – OPTION W7

The following is the Electrical System Narrative, which defines the scope of work and capacities of the Power and Lighting system as well as the Basis of Design. The electrical systems shall be designed and constructed for *LEED for Schools 2009* where indicated on this narrative.

1. CODES

All work installed under Division 26 shall comply with the Massachusetts State Building Code and all local, county, and federal codes, laws, statutes, and authorities having jurisdiction.

2. DESIGN INTENT

The work of Division 26 is as described in this Narrative. All work is new and consists of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the Electrical work and all items incidental thereto, including commissioning and testing.

3. DESIGN PARAMETERS

High Voltage:	277/480 Volt
Low Voltage:	120/208 Volt
Phase:	3-Phase, 4-Wire
Amperage:	2,000 Amps
KW:	1,150 KW

4. BUILDING SYSTEMS

Sequence of Operations and Interactions:

Classroom and corridor lighting will be controlled via "addressable relays", which is achieved through programming. The control of the relays will be by automatic means such as a vacancy sensor in each classroom. Lighting controls will be in conformance with IECC 2012. The controllability shall be in conformance with LEED IEQ 6.1.

Exterior lighting will be controlled by photocell "on" and "timed" for "off" operation. Exterior lighting will have dimming capability and designed in accordance with IESS standards, and in compliance with LEED Light Pollution Reduction Credit.

Emergency lighting and exit lighting will be run through life safety panels to be on during normal power conditions, as well as, power outage conditions. The emergency lighting system will have control so that lights are "on" only when the building is occupied.

5. DESCRIPTION OF THE SYSTEMS

A. Electrical Distribution System:

The service capacity will be sized for 2,000 amperes at 277/480 volt, 3 phase, 4 wire. New lighting, power panels, and mechanical panels will be provided to accommodate respective loads. The equipment will be located in dedicated rooms or closets.

We anticipate secondary metering with the transformer supplied by the utility company.

We are proposing an underground secondary service of 2,000 Amps, 277/480 volt, 3 phase, 4 wire.

Our	A. HVAC	Boilers:				kVA
		B-1		1 – ½ HP		2.5
		B-2		1 – ½ HP		2.5
		B-3		1 – ½ HP		2.5
		Hot Water Pumps:				
		P-1		20 HP		19.8
		P-2		20 HP		(redundant)
		Chiller Plant:				
		Ch-1		30 Tons		45
		Chilled Water Pumps:				
		P-3		2 HP		2.5
		P-4		2 HP		(redundant)
		Roof-top Units:				
		RTU-1		45 Tons, (12) 7.5 HP & (1) ¾ HP = 85.6		
		RTU-2		45 Tons, (12) 7.5 HP & (1) ¾ HP = 85.6		
		RTU-3		45 Tons, (12) 7.5 HP & (1) ¾ HP = 85.6		
		RTU-4		45 Tons, (12) 7.5 HP & (1) ¾ HP = 85.6		
		RTU-5		25 Tons, (2) 5 HP & (1) ¾ HP = 50.0		
		RTU-6		30 Tons, (2) 5 HP & (1) ¾ HP = 57.5		
		RTU-7		12 Tons, (2) 4 HP & (1) ¼ HP = 26.25		
		RTU-8		25 Tons, (2) 5 HP & (1) ¾ HP = 50.0		
		RTU-9		10 Tons, (2) 4 HP & (1) ¼ HP = 23.25		

Kitchen Unit:					kVA
H&V-1			20 Tons (2) 7.5 HP	=	46.75
Exhaust Fans:					
EF-1			1 HP	=	1.3
EF-2			1 HP	=	1.3
EF-3			1 HP	=	1.3
EF-4			1 HP	=	1.3
EF-5			2 HP	=	2.5
EF-6			2 HP	=	2.5
EF-7			5 HP	=	5.7
EF-8			2 HP	=	2.5
Split Cooling Units:					
DCU-1			2 Tons	=	3
DCU-2			2 Tons	=	3
DCU-3			2 Tons	=	6
DCU-4			2 Tons	=	4.5
DCU-5			2 Tons	=	4.5
Unit Heaters:					
UH-1			1/4 HP	=	.6
UH-2			1/4 HP	=	.6
UH-3			1/4 HP	=	.6
UH-4			1/4 HP	=	.6
UH-5			1/4 HP	=	.6
UH-6			1/4 HP	=	.6
UH-7			1/4 HP	=	.6
UH-8			1/2 HP	=	.7
UH-9			1/2 HP	=	.7
UH-10			1/2 HP	=	.7
			Sub-Total	=	717.95

B. Plumbing/Fire Protection							
		Water Coolers	6	@	1/4 HP	=	2.0
		Circular Pumps	2	@	1/3 HP	=	1.0
		Water Heaters	2	@	1 HP	=	3.0
					Subtotal	=	6.0

C. Elevator			@	30 HP	=	33.3
D. Exterior Lighting					=	5.0
E. Interior Lighting	122,714 s.f.		@	1.0W/s.f.	=	122.7
F. General Power	122,714 s.f.		@	2.0 W/s.f.	=	245.4
G. Kitchen Equipment					=	20.0

Connected Load Summary				A.	=	717.95
				B.	=	6.0
				C.	=	33.3
				D.	=	5.0
				E.	=	122.7
				F.	=	245.4
				G.	=	20.0
				Total	=	1150.35

1150.35 kVA @ 277/480V, 3 phase, 4 wire = 1384.3 amperes

1384.3 amperes @ 125% derating factor = 1730.4 amperes

A standard 2,000 ampere 277/480V, 3 phase, 4 wire service was selected. The main circuit breaker will be solid state and rated 80% of continuous load.

Secondary service will consist of (5) sets of #600 KCM copper in (5) 4" conduits plus (1) 4" spare.

B. Interior Lighting System:

Classroom lighting fixtures consist of pendant mounted direct/indirect LED luminaries and dimming drivers. The fixtures will be pre-wired for dimming control where natural daylight is available and also for multi-level switching. Office lighting fixtures will consist of similar fixtures to classrooms. Offices on the perimeter with windows will have daylight dimming controls similar to classrooms.

In general, lighting power density will be 30-40 percent less than IECC 2012. The power density reduction relates to LEED Credit EAC1.

Lighting levels will be approximately 30 foot candles in classrooms and offices. The daylight dimming foot candle level will be in conformance with LEED Credit IEQ 6.1.

Gymnasium lighting will be comprised of high bay LED fixtures with integral dimming drivers. The fixtures will be provided with protective wire guards and integral occupancy sensors. The light level will be designed for approximately 50 foot candles.

Corridor lighting will be comprised of recessed LED linear direct fixtures and recessed LED downlight fixtures. The corridor light level will be designed for approximately 20 foot candles. Corridor lighting will be on time clock control and only "on" during occupied hours. The light level will be switched to 50 percent when classrooms are in occupied period.

Cafeteria lighting will be a combination of LED pendant mounted direct/indirect fixtures and LED pendant decorative fixtures with integral dimming drivers. The light levels will be designed for approximately 30 foot candles.

Kitchen lighting will consist of recessed LED acrylic lensed gasketed troffers with aluminum frame doors with three T5 lamps and electronic ballasts. Light levels will be approximately 50 foot candles.

Art/music rooms will consist of pendant linear direct slot LED fixtures with an acrylic frosted lens pendant mounted between acoustical clouds. LED supplemental track lighting will be provided for display of art work with proper color rendering. Light levels will be approximately 30 foot candles.

Each area will be locally switched and designed for multi-level controls. Each classroom, office space, and toilet room will have a vacancy sensor to turn lights "off" when unoccupied. Daylight sensors will be installed in each room where natural light is available for dimming of light fixtures. The control system shall be in accordance with LEED IEQC 6.1.

The entire school will be controlled with an automatic lighting control system for programming lights "on" and "off". The system will interface with the building automation system (BAS) for scheduling purposes.

C. Emergency Lighting System:

An exterior 200 KW diesel fired emergency generator with sound attenuated enclosure and state code belly tank will be provided. Light fixtures and LED exit signs will be installed to serve all egress areas such as corridors, intervening spaces, toilets, stairs, and exit discharge exterior doors.

The generator will be sized to include fire safety systems, boilers and circulating pumps, refrigeration equipment, communications systems, etc.

A 2,000 ampere switchboard section with kirk key interlock shall be provided as an alternate for roll-up generator.

D. Site Lighting System:

Fixtures for area lighting will be pole mounted cut-off 'LED' luminaries in the parking area and roadways. Pole heights will be 20 feet. The exterior lighting will be connected to the automatic lighting control system for photocell "on" and timed "off" operation. The site lighting fixtures will be dark sky compliant. The illumination level will be 0.5fc for parking areas in accordance with Illuminating Engineering Society. Building perimeter fixtures will be 'LED' wall mounted cut-off over exterior doors for exit discharge. Lighting design will be in conformance to LEED for Schools Credit SSc8.

E. Wiring Devices:

Each classroom will have a minimum of two duplex receptacles per teaching wall and two double duplex receptacles on dedicated circuits at classroom computer workstations. The teacher's workstation will have a double duplex receptacle also on a dedicated circuit.

Office areas will generally have one duplex outlet per wall. At each workstation a double duplex receptacle will be provided.

Corridors will have a cleaning receptacle at approximately 25 foot intervals.

Exterior weatherproof receptacles with lockable enclosures will be installed at exterior doors.

A system of computer grade panelboards with double neutrals and surge protective devices will be provided for receptacle circuits.

F. Uninterruptible Power Supply (UPS):

One 24 KW, three phase centralized UPS system will be provided with battery back-up.

The system will provide conditioned power to sensitive electronic loads, telecommunication systems, bridge over power interruptions of short duration and allow an orderly shutdown of servers, communication systems, etc. during a prolonged power outage.

The UPS system will also be connected to the standby generator.

G. Fire Alarm System:

A fire alarm and detection system will be provided with 60 hr. battery back-up. The system will be of the addressable type where each device will be identified at the control panel and remote annunciator by device type and location to facilitate search for origin of alarms. The fire alarm control panel will contain voice evacuation amplifiers and microphone units.

Smoke detectors will be provided in assembly areas, corridors, stairwells, and other egress ways.

The sprinkler system will be supervised for water flow and tampering with valves.

Speaker/strobes will be provided in egress ways, classrooms, assembly spaces, open areas, and other large spaces. Strobe only units will be provided in single toilets and conference rooms.

Manual pull stations will be provided at exit discharge doors and at each egress stairwell
not located at grade level.

The system will be remotely connected to automatically report alarms to the fire department via an approved method by the fire department.

H. Distributed Antenna System (DAS) for Public Safety Communications:

The DAS system consists of bi-directional amplifiers, donor antennas, coverage antennas, coax cable, coax connectors, splitters, combiners, and couplers. The components provide coverage for public safety 2-way radio systems to operate within the building.

I. Lightning Protection System:

A lightning protection system will be provided.

The lightning protection equipment will include air terminals, conductors, conduits, fasteners, connectors, ground rods, etc.

6. TESTING REQUIREMENTS

The Electrical Contractor shall provide testing of the following systems with the Owner and Owner's Representative present:

- Lighting and power panels for correct phase balance.
- Emergency generator.
- Lighting Control System (interior and exterior).
- Fire Alarm System.
- Uninterruptible Power Supply
- Security System.
- Lightning Protection System.

Testing reports shall be submitted to the Engineer for review and approval before providing to the Owner.

7. OPERATION MANUALS AND MAINTENANCE MANUALS

When the project is completed, the Electrical Contractor shall provide operation and maintenance manuals to the Owner.

8. RECORD DRAWINGS AND CONTROL DOCUMENTS

When the project is completed, an as-built set of drawings, showing all lighting and power requirements from contract and addendum items, will be provided to the Owner.

9. COMMISSIONING

The project will be commissioned per Section 018100 of the specifications.

10. SECURITY SYSTEM

A. <u>CCTV:</u>

A Closed Circuit TV system will consist of computer servers with image software, computer monitors, and IP based closed circuit TV cameras. The head end server will be located in the head end MDF room and will be rack mounted. The system can be accessed from any PC within the facility or externally via an IP address. Each camera can be viewed independently. The Storage Appliance Network (SAN) will store this information for 30 days at 30 frames per second.

The location of the cameras is generally in corridors and exterior building perimeter. The exterior cameras are 180 degree, multi-head type.

The system will fully integrate with the access control system to allow viewing of events from a single alarm viewer. Camera images and recorded video will be linked to the access system to allow retrieval of video that is associated with an event.

B. Intrusion System:

An intrusion system will consist of security panel, keypads, motion detectors, and door contacts. The system is addressable which means that each device will be identified when an alarm occurs. The system is designed so that corridors will have dual tech sensors along with grade level window spaces and door contacts at each exterior door.

The system can be partitioned into several zones; therefore, it is possible to use the Gym area while the remainder of the school remains alarmed.

The system will include a digital transmitter to summons the local police department in the event of an alarm condition

The intrusion system will be connected to the automated lighting control system to automatically turn on lighting upon an alarm.

C. Card Access:

A card access system includes a card access controller, door controllers, and proximity readers/keypads with key-fobs. Proximity readers will be located at various locations. Each proximity reader will have a distinctive code to identify the user and a log will be kept in memory. The log within the panel can be accessed through a computer.

The alarm condition will also initiate real time recording on the integrated CCTV System. The system may be programmed with graphic maps allowing the end-user to quickly identify alarm conditions and lock/unlock doors.

The system is modular and may be easily expanded to accommodate any additional devices.

D. Door Entry System:

A combination audio and video intercom system will be provided at main doors. Intercom stations and master intercom stations will have audio and video systems. The system will integrate with the card access system for door unlocking.

E. Site Utilities:

The incoming services including electric, telephone, cable tv, fiber, and fire alarm will enter building underground.

TECHNOLOGY NARRATIVE REPORT – OPTION W7

The following is the Technology System narrative, which defines the scope of work and capacities of the Communications system infrastructure and Security system as well as the Basis of Design.

1. CODES

A. All work installed under Section 270000 shall comply with the Massachusetts Building Code, IBC 2009 Appendix 115AA - Stretch Energy Code, and all local, county, and federal codes, laws, statues, and authorities having jurisdiction.

2. DESIGN INTENT

A. All work is new and consists of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the Technology and Security work and all items incidental thereto, including commissioning and testing.

3. TECHNOLOGY

A. The data system infrastructure will consist of fiber optic backbone cabling horizontal wiring will consist of Category 6A UTP Plenum rated cabling for both data and telephone systems for gigabit connectivity. The telephone infrastructure will accommodate PBX, or VOIP based voice systems. The existing NEC SV8100 VOIP phone system can be utilized and expanded on for the new building.

B. Each classroom will have four data outlets for student computers. Two data, one voice with video, and audio connections to a wall mounted projector will be provided at the teacher's station with interconnectivity to a interactive whiteboard. A wall phone outlet with 2-way ceiling speaker will be provided for communications with administration. Wireless access points will be provided in all classrooms and other spaces in addition to (2) CAT6A.cables to access points multimode fiber will also be provided.

C. A central paging system will be provided and integrated with the telephone system.

D. A wireless GPS/LAN based master clock system will be provided with 120V wireless remote clocks that act as transceivers.

E. The Main Distribution Frame (MDF) will contain all core network switching and IP voice switch. Intermediate Distribution Frames (IDFs) will serve each floor/wing of the school. A fiber optic backbone will be provided from each IDF to MDF. The backbone will be designed for 10 Gbps Ethernet.

TESTING REQUIREMENTS

A. The Technology and Security Contractors shall provide testing of the following systems with the Owner and Owner's representative present:

- Telephone and data cabling
- Fiber optic backbone cabling
- Paging system
- Wireless clock system
- A/V wiring for classrooms

Testing reports shall be submitted to the Engineer for review and approval before providing to the Owner.

4. OPERATION MANUALS AND MAINTENANCE MANUALS:

A. When the project is completed, the Technology Contractor shall provide operation and maintenance manuals to the Owner.

5. RECORD DRAWINGS AND CONTROL DOCUMENTS:

A. When the project is completed, an as-built set of drawings, showing all lighting and power requirements from contract and addendum items, will be provided to the Owner.

6. COMMISSIONING

A. The project shall be commissioned per Commissioning Section of the specifications

PLUMBING NARRATIVE REPORT – OPTION W7

The following is the Plumbing system narrative, which defines the scope of work and capacities of the Plumbing system as well as the Basis of Design. The Plumbing Systems shall be designed and constructed for ***LEED for Schools*** where indicated on this narrative.

1. CODES

A. All work installed under Section 220000 shall comply with the MA Building Code, MA Plumbing Code and all state, county, and federal codes, laws, statutes, and authorities having jurisdiction.

2. DESIGN INTENT

A. All work is new and consists of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the Plumbing work and all items incidental thereto, including commissioning and testing.

3. GENERAL

A. The Plumbing Systems that will serve the project are cold water, hot water, sanitary waste and vent system, grease waste system, and storm drain system.

B. The Building will be serviced by Municipal water and Municipal sewer system.

C. All Plumbing in the building will conform to Accessibility Codes and to Water Conserving sections of the Plumbing Code.

4. DRAINAGE SYSTEM

A. Soil, Waste, and Vent piping system is provided to connect to all fixtures and equipment. System runs from 10 feet outside building and terminates with stack vents through the roof.

B. A separate Grease Waste System starting with connection to an exterior concrete grease interceptor running thru the kitchen and servery area fixtures and terminating with a vent terminal through the roof. Point of use grease interceptors are to be provided at designated kitchen fixtures. The grease interceptor is provided under Division 33 scope.

C. Storm Drainage system is provided to drain all roofs with roof drains piped through the building to a point 10 feet outside the building.

D. Drainage system piping will be service weight cast iron piping; hub and spigot with gaskets for below grade; no hub with gaskets, bands and clamps for above grade 2 in. and larger. Waste and vent piping 1-1/2 in. and smaller will be type 'L' copper.

5. WATER SYSTEM

A. New 4 inch domestic water service from the municipal water system will be provided. A meter and backflow preventer, if required, will be provided.

B. Cold water distribution main is provided. Non-freeze wall hydrants with integral back flow preventers are provided along the exterior of the building.

C. Domestic hot water heating will be provided with an oil fired water heater with a rated input of 450,000 BTUH with 245 gallons of storage. System is to be equipped with thermostatically controlled mixing devices to control water temperature to the fixtures.

D. A pump will re-circulate hot water from the piping system. Water temperature will be 120 deg. to serve general use fixtures. A 140 deg. F hot water will be supplied to the kitchen dishwasher.

E. Water piping will be type 'L' copper with wrought copper sweat fittings, silver solder or press-

7. FIXTURES

LEED for Schools Credit WEp1 & WEc3

A. Furnish and install all fixtures, including supports, connections, fittings, and any incidentals to make a complete installation.

B. Fixtures shall be the manufacturer's guaranteed label trademark indicating first quality. All acid resisting enameled ware shall bear the manufacturer's symbol signifying acid resisting material.

C. Vitreous china and acid resisting enameled fixtures, including stops, supplies and traps shall be of one manufacturer by Kohler, American Standard, or Eljer, or equal. Supports shall be Zurn, Smith, Josam, or equal. All fixtures shall be white. Faucets shall be Speakman, Chicago, or equal.

D. Fixtures shall be as scheduled on drawings.

1. Water Closet: High efficiency toilet, 1.28 gallon per flush, wall hung, vitreous china, siphon jet. Manually operated 1.28 gallon per flush-flush valve.

2. Urinal: High efficiency 0.13 gallon per flush urinal, wall hung, vitreous china. Manually operated 0.13 gallon per flush-flush valve.

3. Lavatory: Wall hung/countertop ADA lavatory with 0.5 GPM metering mixing faucet programmed for 10 second run-time cycle.

4. Sink: Elkay ADA stainless steel countertop sink with Chicago 201A faucet and 0.5 GPM aerator.

5. Drinking Fountain: Halsey Taylor hi-low wall mounted electric water cooler, stainless steel basin with bottle filling stations.

6. Janitor Sink: 24 x 24 x 10 Terrazo mop receptor Stern-Williams or equal.

8. DRAINS

A. Drains are cast iron, caulked outlets, nickaloy strainers, and in waterproofed areas and roofs shall have galvanized iron clamping rings with 6 lb. lead flashings to bond 9 in. in all directions. Drains shall be Smith, Zurn, Josam, or equal.

9. VALVES

A. Locate all valves so as to isolate all parts of the system. Shutoff valves 3 in. and smaller shall be ball valves, solder end or screwed, Apollo, or equal.

10. INSULATION

A. All water piping shall be insulated with snap-on fiberglass insulation Type ASJ-SSL, equal to Johns Manville Micro-Lok HP.

11. CLEANOUTS

A. Cleanouts shall be full size up to 4 in. threaded bronze plugs located as indicated on the drawings and/or where required in soil and waste pipes.

12. ACCESS DOORS

A. Furnish access doors for access to all concealed parts of the plumbing system that require accessibility. Coordinate types and locations with the Architect.

FIRE PROTECTION NARRATIVE REPORT – OPTION W7

The following is the Fire Protection system narrative, which defines the scope of work and capacities of the Fire Protection system as well as the Basis of Design.

1. CODES

A. All work installed under Section 210000 shall comply with the MA Building Code and all state, county, and federal codes, laws, statutes, and authorities having jurisdiction.

2. DESIGN INTENT

A. All work is new and consists of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the Fire Protection work and all items incidental thereto, including commissioning and testing.

3. GENERAL

A. In accordance with the provisions of the Massachusetts Building Code, a school building of greater than 12,000s.f. must be protected with an automatic sprinkler system.

4. DESCRIPTION

A. The new building will be served by a new 8 inch fire service, double check valve assembly, wet alarm valve complete with electric bell, and fire department connection meeting local thread standards.

B. System will be an automatic sprinkler system with control valve assemblies to limit the sprinkler area controlled to less than 52,000 s.f. as required by NFPA 13-2013. Three sprinkler zones will be provided for First Floor and two for the Second Floor.

C. Control valve assemblies shall consist of a supervised shutoff valve, check valve, flow switch and test connection with drain.

D. All areas of the building, including all finished and unfinished spaces, combustible concealed spaces, all electrical rooms and closets will be sprinklered.

E. All sprinkler heads will be quick response, pendent in hung ceiling areas and upright in unfinished areas.

5. BASIS OF DESIGN

A. The mechanical rooms, kitchen, classrooms, and storage rooms are considered Ordinary Hazard Group 1; all other areas are considered light hazard.

B. Required Design Densities:

Light Hazard Areas	0.10 GPM over 1,500 s.f.
Ordinary Hazard Group 1	0.15 GPM over 1,500 s.f.

C. Sprinkler spacing (max.):

Light Hazard Areas:	225 s.f.
Ordinary Hazard Areas:	130 s.f.

E. A hydrant flow test will be required to determine Municipal water supply capacities.

6. PIPING

A. Sprinkler piping 1-1/2 in. and smaller shall be ASTM A-53, Schedule 40 black steel pipe. Sprinkler/standpipe piping 2 in. and larger shall be ASTM A-135, Schedule 10 black steel pipe.

7. FITTINGS

A. Fittings on fire service piping, 2 in. and larger, shall be Victaulic Fire Lock Ductile Iron Fittings conforming to ASTM A-536 with integral grooved shoulder and back stop lugs and grooved ends for use with Style 009-EZ or Style 005 couplings. Branch line fittings shall be welded or shall be Victaulic 920/920N Mechanical Tees. Schedule 10 pipe shall be roll grooved. Schedule 40 pipe, where used with mechanical couplings, shall be roll grooved and shall be threaded where used with screwed fittings. Fittings for threaded piping shall be malleable iron screwed sprinkler fittings.

8. JOINTS

A. Threaded pipe joints shall have an approved thread compound applied on male threads only. Teflon tape shall be used for threads on sprinkler heads. Joints on piping, 2 in. and larger, shall be made up with Victaulic, or equal, Fire Lock Style 005, rigid coupling of ductile iron and pressure responsive gasket system for wet sprinkler system as recommended by manufacturer.

9. DOUBLE CHECK VALVE ASSEMBLY

A. Double check valve assembly shall be MA State approved, U.L./F.M. approved, with iron body bronze mounted construction complete with supervised OS & Y gate valves and test cocks. Furnish two spare sets of gaskets and repair kits.

B. Double check valve detector assembly shall be of one of the following:

1. Watts Series 757-OSY
2. Wilkins 350A-OSY
3. Conbraco Series 4S-100
4. Or equal

10. SPRINKLERS

A. All sprinklers to be used on this project shall be Quick Response type and shall be stamped with date of manufacture and temperature rating. Temperature ratings shall be determined by the location of the heads per NFPA 13-2013, section 8.3.2.5, and shall be minimum 155 degrees F. throughout except in special areas around heat producing equipment, skylights, and attics in which case use temperature rating to conform with hazard as specified in NFPA 13-2013.

B. Furnish spare heads of each type installed located in a cabinet along with special sprinkler wrenches. The number of spares and location of cabinet shall be in complete accord with NFPA 13-2013.

C. Sprinklers shall be manufactured by Tyco, Victaulic, Viking, or equal.

D. Upright sprinkler heads in areas with no ceilings shall be Tyco Model "TY-FRB".

E. Sidewall and pendent wet heads shall be Tyco Model "TY-FRB".

F. Concealed heads shall be Tyco Model "RFII" with white cover plates.

G. Sidewall and pendent dry sprinkler heads shall be Tyco Model "DS-1".

PROPOSED TOTAL PROJECT BUDGET / CONSTRUCTION COST ESTIMATE (UNIFORMAT II) – OPTION W7

A.M. Fogarty & Assoc., Inc.
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TEL: (781) 749-7272 • FAX: (781) 740-2652
ptim@amfogarty.com
"Construction Cost Consultants"

STUDY
Wildwood Elementary School
Amherst, MA

2-Feb-16

Designer: JCJ Architecture
Drawings Dated:

Drawings Dated: Jan. 21, 2016

OPTION W7	GSF			COST PER S.F.	**TOTAL**
NEW CONSTRUCTION - BLDG COST	122,714	**GSF**		$271.91	**$33,367,252**
DEMOLITION	82,000	**GSF**		$6.75	**$553,500**
HAZARDOUS WASTE REMOVAL	82,000	**GSF**		$10.00	**$820,000**
SITE COST					**$3,247,568**

	TOTAL DIRECT COST				$37,988,321
CM AT RISK CHPTR 149A					
DESIGN CONTINGENCY			12%		$4,558,598
CM CONTINGENCY			2%		$850,938
ESCALATION (bid fall 2017)			5%		$2,127,346
GENERAL CONDITIONS	24		MOS	$115,000	$2,760,000
GENERAL REQUIREMENTS			2%		$965,704
BUILDING PERMIT			1%		$492,509
P&P BOND & INSURANCE			2%		$985,018
PROFIT			3%		$1,521,853

	TOTAL CONSTRUCTION COST				$52,250,288
	COST PER SF				**$425.79**

Prepared by: A. M. Fogarty & Associates, Inc.
WILDWOOD ELEM SCHOOL STUDY 1 - 162/2/201610:24 AM

PERMITTING REQUIREMENTS

A. Notice of Intent – Amherst Conservation Commission and MassDEP – Driveway and utility alterations within 100 feet of a pond/land under water body buffer at Strong Street and connection of drainage to existing municipal drainage system (alteration of bank).

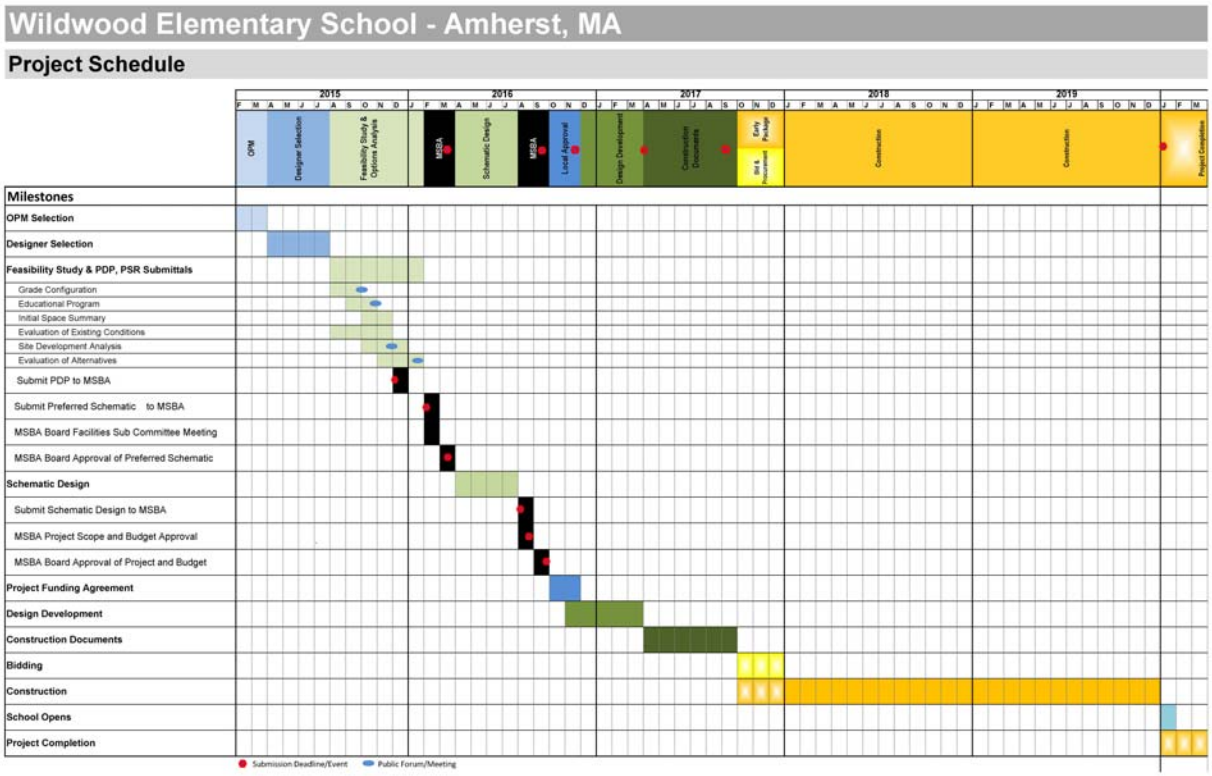
B. Site Plan Review – Amherst Planning Board – Major site construction project.

C. Zoning Board of Appeals – Amherst Zoning Board of Appeals – Relief from potential Zoning requirements such as 30% maximum lot coverage.

D. Water Main/Service Connections – Amherst Department of Public Works – Review of existing water main relocation and connection to proposed building.

E. Sewer Piping/Service Connections – Amherst Department of Public Works – Review of existing sewer relocation and connection to proposed building.

PROPOSED PROJECT DESIGN AND CONSTRUCTION SCHEDULE – OPTION W7



Feasibility Study Phase

November 20, 2015

Project Management

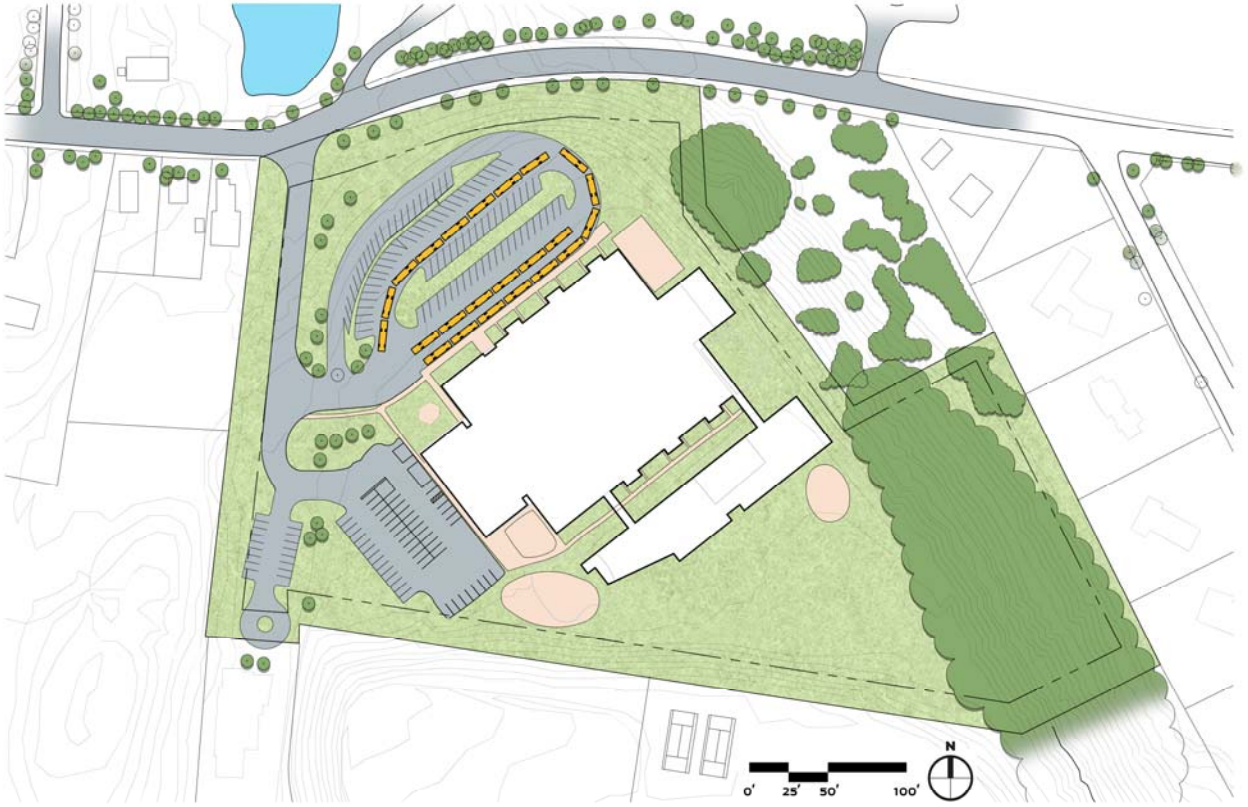
OPTION W10 - DETAIL

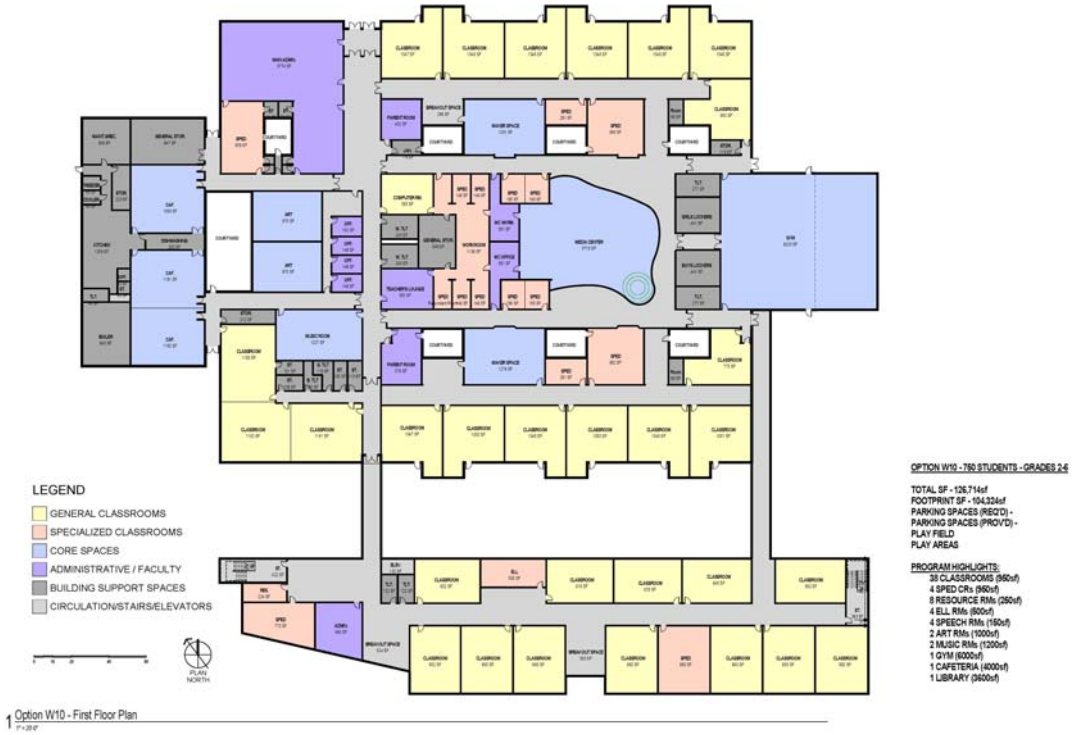
Option W10 studies a 2-6 (750) Option as an addition/renovation building located on the Wildwood site. This option assumes that the Wildwood students remain in the existing building while the addition is constructed to the south. Once the addition is complete, the Wildwood students will move into the new space and then the existing building would be renovated in several phases. Once the renovation is complete, the balance of the students would be moved into the school. In this option, the site circulation would remain close to what presently exists. The completed building would total 126,000SF with 82,000SF being renovation and 44,000SF being addition. In this option, the site circulation would remain close to what presently exists. This option would renovate the existing building very much in the manner that was described in Option W2, but would include a new 2 story classroom addition to the south of the existing building to accommodate the additional student population.

EVALUATION OF POTENTIAL CONSTRUCTION IMPACTS

In order to implement this option, the Town must identify some swing space for the students that are currently occupying the building. The construction would entail building the new addition first, then renovating portions of the existing building in stages in a proposed 32 month schedule. This option could potentially be quite disruptive to the education environment while construction is underway.

CONCEPTUAL ARCHITECTURAL AND SITE PLANS





1 Option W10 - First Floor Plan

OPTION W10 - 760 STUDENTS - GRADES 2-6

TOTAL SF - 126,714sf
FOOTPRINT SF - 104,324sf
PARKING SPACES (REQ'D) -
PARKING SPACES (PROV'D) -
PLAY FIELD
PLAY AREAS

PROGRAM HIGHLIGHTS:
38 CLASSROOMS (960sf)
4 SPED CRs (960sf)
8 RESOURCE RMs (250sf)
4 ELL RMs (800sf)
4 SPEECH RMs (160sf)
2 ART RMs (1000sf)
2 MUSIC RMs (1200sf)
1 GYM (6000sf)
1 CAFETERIA (4000sf)
1 LIBRARY (3600sf)

1 Option W10 - Second Floor Plan

OPTION FR3 - 670 STUDENTS - GRADES K-6

TOTAL SF - 109,150sf
FOOTPRINT SF - 61,034sf
PARKING SPACES (REQ'D) -
PARKING SPACES (PROV'D) -
PLAY FIELD
PLAY AREAS

PROGRAM HIGHLIGHTS:
6 KINDERGARTENS (1100sf)
28 CLASSROOMS (960sf)
4 SPED CRs (960sf)
7 RESOURCE RMs (250sf)
4 ELL RMs (500sf)
4 SPEECH RMs (160sf)
2 ART RMs (1000sf)
2 MUSIC RMs (1200sf)
1 GYM (6000sf)
1 CAFETERIA (3800sf)
1 LIBRARY (3000sf)

SITE/UTILITIES NARRATIVE – OPTION W10

Pedestrian Circulation

An unimpeded pedestrian route consisting of a rigid pavement material shall be provided from the parking and drop-off areas to the main building entries. Pavement will consist of materials such as standard concrete paving, unit pavers or a combination of both. Where pedestrian routes cross vehicular areas, the pedestrian paving material will be carried through to create visible contrast. Where achievable, all pedestrian routes shall be graded less than 5% to minimize potential barriers created by handrails.

The main entries to the building will be considered plaza areas and treated with enhanced paving consisting of brick or precast concrete unit pavers. All plaza areas will have a maximum slope of 2%, pitched away from the building for positive drainage. Plaza areas will include curbed areas for foundation plant materials and other opportunities to reduce the overall paved surface.

The current site plan does not indicate the need for exterior stairs and ramps. Should it be determined later that this is necessary, all stairs and ramps will meet MAAB standards. All stairs or ramps will be provided with railings at each side.

A secondary pedestrian route creating a complete loop around the building and connecting to all play areas, existing neighborhood sidewalks and nature trails shall be provided. Pavement will consist of asphalt or concrete paving. The portion of the route around the east and south faces of the building will have a width and be constructed of material able to accommodate occasional maintenance and security vehicles. A minimum width of 12' is proposed for this drivable sidewalk.

Play Areas

Play area A is proposed for grades 2-6 at the south side of the building between the two wings of the phase I building. The play area will be organized to group the play equipment by age group; however, there will be no formal barrier between the groupings of grades 2-4 and 5-6.

Play equipment will be chosen to encourage and stimulate inclusive play among users. Play structures incorporating sensory plan, climbing, sliding and swing elements will allow multiple play opportunities for all users.

The play surface will be a continuous, poured-in-place rubber resilient surface with a depth engineered for required fall heights determined by the selected play structures. The surface will consist of multiple, vibrant colors to complement the equipment and to create an interesting and stimulating environment.

Play Area B is proposed for grades 2-6 at west side of the phase II wing. The play area will be organized to group the play equipment by age group; however, there will be no formal barrier between the groupings of grades 2-4 and 5-6.

Play equipment will be chosen to encourage and stimulate inclusive play among users. Play structures incorporating sensory plan, climbing, sliding and swing elements will allow multiple play opportunities for all users.

The play surface will be a continuous, poured-in-place rubber resilient surface with a depth engineered for required fall heights determined by the selected play structures. The surface will consist of multiple, vibrant colors to complement the equipment and to create an interesting and stimulating environment.

A passive play area and swing set is proposed for the location at the southeast face of the gymnasium. A loose mulch and lawn surface is suggested for this area.

The paved bus loop can be used as an additional play, recreation or sports zone during times when bus activity is not present. The use of colored asphalt and line paint can be incorporated to create specific games in the paving surface.

Recreation

A multi-use field, approximately 150' x 200' will be located west of the building and south of the main drive into the parking area. The current direction is for the field to remain undesignated for a specific sport. Should it be decided that the field be designated for a specific sport, the proposed footprint is adequate for a U10 Soccer field or a Shetland League Baseball Diamond. The recreational field surface will consist of a low maintenance sports turf seed mix or sod.

Pedestrian circulation as noted previously will provide connections to all recreation areas. This will include a path to the parcel to the southwest of the site that is also owned by the town. The path will provide access to nature trails and three fitness stations located along the perimeter of the parcel where minimal site grading will be required.

Fencing and Gates

The property for the school is not currently fenced-off from adjacent properties. It is our understanding that this approach is not proposed for the site updates. It is our recommendation that a 4' coated chain link fence be located between the recreational field and the vehicular areas along the north and west extents. The fence will include gaps at selected locations to allow users to move in and out of the field area with ease. A 6' tall architectural fence fabric should be located along the west edge of the service drive. This is intended to act as a barrier to separate the recreational and play use from the service operations.

Play area A is not adjacent to vehicular use areas and therefore, we do not recommend providing a barrier or enclosure. Users should be encouraged to move freely in this area.

Planting

Every attempt will be made to maintain the large, healthy existing canopy trees on site. It is our recommendation that an arborist be consulted to perform a complete tree inventory to inform future decisions on what can and should be protected. Proposed planting is always is always beneficial, however, existing mature trees are a much larger asset.

The proposed parking lot shall be designed to provide planting islands for deciduous canopy trees such as native Maples, Oaks, or similar. The ground plane can be treated with a native, low maintenance seed mix. These areas can be mowed as little or often as desired.

The planting approach near and at the building will trend toward a more formal, yet simple approach. Foundation planting consisting of flowering evergreen shrubs, ornamental grasses, groundcovers and perennials shall be located in select planting zones in the plaza area. Additionally, we recommend three canopy trees be placed in tree grates within the plaza to provide shade and mitigate a potential heat-island effect.

The planted areas between the building and vehicular areas shall be treated with a low maintenance lawn seed mix and a combination of ornamental and shade trees. A similar approach is recommended for the zones between the play areas, recreational fields and undesignated areas around the east, south and west

faces of the building. A planted screen should be provided in conjunction with the architectural fence to screen the service area.

A passive garden area is suggested for staff use along the east face of the building, south of the gymnasium and swing set. A few canopy trees could provide shade for a small seating area.

The current school operations include an informal student gardening program. We recommend this be implemented in the next phase as well. The preferred location is the south end of the building, just beyond play area A. The southern exposure gives the best chance for success. The space is adequate for a small greenhouse program should it be feasible.

Rain gardens or bioswales can be located in several areas within the vehicular areas and between the building and vehicular areas. A combination of native grasses and wildflowers located within mild depressions can successfully treat portions of stormwater on site. The volume and degree of treatment will depend on the sites hydrology as determined during future design phases. These areas can act as educational elements and potentially include interpretive information explaining their function.

Site Furniture and Miscellaneous Elements

Durable, yet attractive benches shall be provided near major building entries, adjacent to play areas and recreational areas and within the staff garden area. Matching litter receptacles will be located near seating areas. A bicycle parking area with durable hoop style back racks shall be located west of the parent drop-off. The southernmost landscape island in the parent drop-off loop is an ideal location for a flagpole.

UTILITIES NARRATIVE – OPTION W10

The following is the Site systems narrative, which defines the scope of work and capacities of the Site systems as well as the Basis of Design. The Site Utility systems shall be designed and constructed in accordance with *LEED for Schools*.

1. CODES

A. All work installed under this DIVISION shall comply with all local, state, and federal codes, laws, statutes, and authorities having jurisdiction.

B. The work shall be performed in accordance with local Department of Public Works Specifications, MA Highway Department Standard Specifications for Highways and Bridges and conform to all Amherst Bylaws.

2. DESIGN INTENT

A. The work of Division 31, 32 and 33 is as described in this narrative. All work is new and consists of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the site utility work and all items incidental thereto, including testing.

3. EXPECTED REVIEW/PERMITTING REQUIREMENTS

A. Notice of Intent – Amherst Conservation Commission and MassDEP – Driveway and utility alterations within 100 feet of a pond/land under water body buffer at Strong Street and connection of drainage to existing municipal drainage system (alteration of bank).

B. Site Plan Review – Amherst Planning Board – Major site construction project.

C. Zoning Board of Appeals – Amherst Zoning Board of Appeals – Relief from potential Zoning requirements such as 30% maximum lot coverage.

D. Water Main/Service Connections – Amherst Department of Public Works – Review of existing water main relocation and connection to proposed building.

E. Sewer Piping/Service Connections – Amherst Department of Public Works – Review of existing sewer relocation and connection to proposed building.

4. SITE EROSION CONTROL MEASURES

A. The Contractor shall prepare and submit the EPA Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activity under the EPA National Pollution Discharge Elimination System (NPDES) General Permit. The contractor shall implement a Storm Water Pollution Prevention Plan (SWPPP) per the requirements of the EPA General Permit. At project completion submit a Notice of Termination (NOT) to the EPA.

B. The Contractor shall place silt barrier and hay bales around the perimeter of the limit of work to prevent the migration of silt-laden runoff from discharging from the construction site.

C. The Contractor shall install sediment control bags in all existing and new stormwater inlets within the limit of work, and in areas prone to receive runoff from the construction site.

D. The Contractor shall prepare weekly logs of erosion control inspections and maintenance. Inspection logs shall also be prepared after all rain events resulting in more than 0.25 inches/24-hour.

5. UTILITY DEMOLITION, ABATEMENT & RELOCATION

A. Prior to the commencement of any excavation, the Contractor shall field locate all existing utilities within the limit of work based on available surface evidence and record documents.

B. The Contractor shall properly abate all existing asbestos concrete drainage and sewer piping required to be removed for the demolition of the existing building and construction of the new. The Contractor shall follow all applicable Local, State and Federal regulations while removing the piping.

6. STORM DRAINAGE SYSTEM

A. The storm water drainage system shall be designed in accordance with Town standards and the current edition of the Massachusetts DEP Storm Water Management Policy to mitigate storm water runoff to abutting properties.

B. Storm drain piping 12" and larger shall be smooth interior corrugated HDPE pipe with rubber gasket joints. Storm drain piping 10" and under will be ASTM-D3034 SDR35 PVC with push-on rubber ring joints.

C. Runoff from paved driveways, parking lots, walkways, playgrounds, playing fields, roof areas will be directed to a piped stormwater system. Catch basins and manholes shall be at least 6 feet deep and 4 feet in diameter. Castings shall be from the approved Mass Highway Department list. All catch basins will have 4 foot sumps and be equipped with environmental hoods.

D. Water quality structures shall be provided within the storm water drainage system to assist with TSS removal and water quality.

E. Storm water runoff rate and flood control is proposed to be provided via use of subsurface detention facilities consisting of water-tight HDPE piping and rainwater gardens. Overflow from these structures will be directed to the municipal drainage system piping on the site.

7. SANITARY SYSTEM

B. The sanitary system shall be designed in accordance with local DPW requirements.

B. Manholes shall be at least 4 feet in diameter with brick invert channels. Castings shall be from the approved MHD list.

C. Gravity sewer piping shall be Manville ASTM-D3034 SDR-35 PVC sewer pipe.

D. The school shall be equipped with an exterior precast concrete grease trap sized in according with the Massachusetts Plumbing Code and 310 CMR 15.00 Title 5.

E. The sanitary waste system shall discharge southerly to the existing municipal sewer system located on the property.

8. WATER SYSTEM

A. The water distribution system will be designed in accordance with Local Water Department standards.

B. All water piping, including domestic and fire water services to the building, shall be Class 52 cement-lined ductile iron pipe and fittings.

C. All water service piping shall be installed with a minimum cover of 5 feet.

E. A new 8" water main loop will be provided around the proposed building. The new loop will continue to be fed from the existing 8" water line under the existing driveway. Additional fire hydrants will be provided from the new water loop every 300 ft. on center or as required by the Fire Department.

9. PARKING LAYOUT, SURFACING & DRIVEWAYS

A. Parking spaces shall be a minimum of 9 feet wide x 18 feet in length and be clearly painted indicated the limits of the spaces.

B. The total parking quantity shall meet the requirements of the Town of Amherst Zoning Bylaw, Section 7.00. Based on Section 7.0030 of the Zoning Bylaw, the required minimum quantity of parking spaces for an Educational Use is (1) parking space for every four (4) seats. Based on 750 students and 100 staff members occupying the building, the minimum parking quantity shall be 213 spaces.

C. Based on 195 total parking spaces, 6 of those spaces shall be handicap accessible and shall fully conform to the requirements of 521 CMR (Architectural Access Board).

D. Areas paved with bituminous concrete shall consists of 12" of dense grade gravel overlaid by a 2-1/2" binder course and 1-1/2" wearing course of bituminous.

D. Driveways and maneuvering aisles shall be a minimum of 12' wide per lane of traffic throughout the site.

E. All paved roadways shall be pitched at a minimum of 1.5% but no more than 5% towards catch basin/inlet structures.

F. All roadway and parking curve radii shall conform to the requirements of the Amherst Street and Site Work Construction Standards.

G. Curbing shall be provided at along the pavement edge of driveways, parking lots and loading areas.

10. ZONING REQUIREMENTS

A. Lot 76 is located within the Neighborhood Residence ("R-N") zoning district. No Zoning Overlay Districts exist on the site as of June 2014. The following dimensions are required in the R-N district:

Neighborhood Residence

- Minimum Lot Area 20,000 Square Feet
- Minimum Lot Frontage 120 Feet
- Minimum Front Yard Setback 20 Feet
- Minimum Rear Yard Setback 15 Feet
- Minimum Side Yard Setback 15 Feet
- Maximum Building Coverage 20 %
- Maximum Lot Coverage 30 %
- Maximum Height of Structures 35 Feet
- Maximum Floors 3 Stories

STRUCTURAL SYSTEMS NARRATIVE – OPTION W10

PROPOSED SCHEME – W10 – Addition/Renovation

The proposed scheme requires renovation of the entire school and reconfiguration of the majority of the demising walls. The scheme requires construction of two additions. The first addition is a single story addition to the existing Gymnasium to expand the space, this will require demolition of the existing exterior wall and columns on the eastern side of the Gymnasium. The second addition will be a two story classroom wing addition to the south of the existing school that will be connected to the school with two, single level connectors.

PRIMARY STRUCTURAL CODE ISSUES RELATED TO THE EXISTING STRUCTURE

Due to the extent of the proposed demolition, and the renovations and additions to the existing structure, the existing structure will have to be upgraded by the addition of some masonry shear walls. All of the existing masonry walls will be required to be clipped to the floor or roof structure.

PROPOSED STRUCTURAL SCHEME

The Gymnasium addition will be structurally connected to the existing structure and the Academic Wing Addition will be structurally separated from the existing structure.

Due to the extent of the proposed renovations and reconfiguration of the interior spaces, additional reinforced masonry shear walls will be required. The proposed shear walls would be located at the existing column lines. An allowance for 8, 20 ft. long, full height shear walls should be made in the project budget. These new shear walls will be supported on new, 2 ft. – 0 in. wide x 1 ft. – 0 in. deep reinforced concrete foundations.

Due to the replacement of the entire mechanical and HVAC system, an allowance should be made for reinforcement of the existing roof framing to support the new units. This cost should be carried as a percentage cost of the mechanical units in the budget.

All of the existing masonry walls will be required to be clipped to the existing structure with steel angle clips at 4 ft. – 0 in. on center.

PROPOSED ADDITIONS

SUBSTRUCTURE

Foundations

Based on the foundations of the existing structure, the columns of the proposed additions would bear on reinforced concrete footings and the perimeter foundation walls would bear on continuous reinforced concrete strip footings extending at least 4 ft. – 0 in. below grade. With the assumed bearing capacity of the soil of 2 tons/sf, a typical interior footing would be 8 ft. - 0 in. x 8 ft. - 0 in. x 24 in. deep and a typical exterior footing would be 7 ft. x 7 ft. x 24 in. in the two story addition. Typical footings for the gymnasium addition would be 8 ft. x 8 ft. x 24 in. deep. The typical exterior footings would be 8 ft. x 8 ft. x 24 in. deep. The exterior foundation walls would be 14 to 16 in. thick reinforced cast-in-place concrete walls in 24 to 36

in. wide x 12 in. deep continuous reinforced concrete strip footings around the perimeter of the additions extending a minimum of 4 ft. - 0 in. below finished grade.

Slabs-on-Grade

Based on the existing school construction, the lowest level of the proposed additions would be a 5 in. thick concrete slab-on-grade reinforced with welded wire fabric over a vapor barrier on 2 in. thick rigid insulation on 8 in. of compacted granular structural fill and a base course of 8 in. of compacted gravel.

SUPERSTRUCTURE

Floor Construction

Typical Floor Construction

Typical floor construction would be a 5 ¼ in. light weight concrete composite metal deck slab reinforced with welded wire fabric on wide flange steel beams spanning between steel girders and columns. The weight of the structural steel is estimated to be 13 psf for the typical framing.

Roof Construction

Typical Roof Construction

The roof construction would be galvanized, corrugated 1 ½ in. deep, Type 'B' metal roof deck spanning between wide flange steel beams and girders. At locations of roof supported mechanical equipment, a concrete slab will be provided similar to the typical supported slab. The weight of the structural steel is estimated to be 13 psf.

Gymnasium Roof Construction

The existing East wall of the Gymnasium will be demolished and replaced with a long span steel plate girder and two columns supporting the existing roof steel joists and the new steel roof joists. The roof construction of the addition would be acoustic, galvanized, corrugated 3 in. deep, Type 'NA' metal roof deck spanning between long span steel joists. The weight of the plate girder is estimated to be 500 pounds per foot and the weight of the steel joists and structural steel framing of the addition is estimated to be 13 psf.

Vertical Framing Elements

Columns

Columns will be hollow structural steel columns. Typical columns would be HSS 8 x 8 columns and the columns at the gymnasium would be HSS 12 x 12.

Lateral Load-Resisting System

The typical lateral load resisting system would be concentric braced frames comprised of HSS structural steel members.

MECHANICAL SYSTEMS NARRATIVE – OPTION 10

6. CODES

All work installed under Division 230000 shall comply with the City of Amherst Building Code and all state, county, and federal codes, laws, statutes, and authorities having jurisdiction.

7. DESIGN INTENT

The work of Division 230000 is described within the narrative report. The HVAC project scope of work shall consist of providing new HVAC equipment and systems as described here within. All new work shall consist of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the Heating, Ventilating and Air Conditioning work and all items incidental thereto, including commissioning and testing.

8. BASIS OF DESIGN: (MASS CODE)

Massachusetts Code values are listed herein based on ASHRAE Weather Data Tables.

Outside: Winter -1°F, Summer 86°F DB 73°F WB

Inside: 70°F +/- 2°F for heating 75°F, +/- 2°F (50% RH +/- 5%) for air conditioning area. Unoccupied temperature setback will be 60°F +/- 2°F for heating 80°F, +/- 2°F (60% RH +/- 5%) for air conditioning area.

Outside ventilation air shall be provided at rates in accordance with ASHRAE guide 62.1-2010 and the International

Mechanical Code as a minimum. All occupied areas will be designed to maintain 800 PPM carbon dioxide maximum.

9. SYSTEM DESCRIPTION:

A. Central Heating Plant:

LEED for Schools Credit EP2 & EC1

Heating for the entire building including rooftop units will be through the use of a high efficiency oil-fired non-condensing boiler plant. A new boiler plant with (3) 2200 MBH input boilers and (2) end suction base mounted pumps with a capacity of 660 gpm each. Each boiler plant will supply heating hot water to all heating apparatus located throughout the adjacent building areas through a two-pipe fiberglass insulated schedule 40 black steel piping system. New hot water piping shall be installed to serve new HVAC systems. The boiler plants shall supply a maximum hot water temperature of 160 deg F on a design heating day and the hot water supply water temperature will be adjusted downward based on an outside temperature reset schedule to improve the overall operating efficiency of the power plants.

Primary and standby end suction base mounted pumps will be provided with variable frequency drives for variable volume flow through the water distribution system for improved energy efficiency.

Combustion air for each boiler will be directly ducted to each boiler through a galvanized ductwork distribution system. Venting from each boiler shall be through separate double wall aluminized stainless steel (AL29-4C) vent system and shall discharge between 6 feet to 12 feet above the roof level depending on the location of building intake air locations.

B. Central Cooling Plant:

LEED for Schools Credit EP2 & EC1

A high efficiency central chilled water cooling plant consisting of (1) 30 ton outdoor air cooled chillers, w/ (2) 80 GPM chilled water pumps in a primary and standby arraignment. Each pump will be controlled by VFDs. Accessories, controls and steel and copper piping distribution system shall be provided to serve chilled water cooling to induction units located throughout the building.

C. Classroom Heating, Ventilation, and Air Conditioning (Including Art, Music, SPED and general classrooms:

LEED of Schools Credit EP2, EC1, EC5, IEQP1, IEQC1, 2, 3.1, 3.2, 5, 6.2 & 7.1

Displacement Ventilation System

It is proposed that displacement diffusers shall be used to provide air condition and ventilation to the Classroom areas. Heating will be provided by ceiling mounted radiant panels along the perimeter walls which will be fed from the central boiler plant.

Supply airflow to each classroom will be modulated by a VAV (variable air volume) terminal box with temperature and CO2 demand controls that will deliver supply airflow to the displacement ventilation diffusers located in the classroom. CO2 demand controls shall modulate the VAV terminal box position to maintain 800 PPM within the classrooms and shall communicate to the rooftop unit to modulate the outside air damper and return air damper positions.

New rooftop air handling units with supply and return fan with VFDs, energy recovery wheels, hot water heating coil with modulating control valve, DX cooling, hot gas reheat system, and MERV 13 filtration will be provided to serve the induction system. Supply air will be provided to the space through new galvanized steel supply duct distribution system. Return air will be drawn back to the units by ceiling return air registers located within the classroom and will be routed back to the rooftop unit by a galvanized sheet metal return air ductwork distribution system. A wall mounted combination thermostat / humidity / CO2 sensor shall be provided for each space and shall control radiant panels located in the ceiling along the perimeter walls.

It is estimated that the following rooftop air handling equipment will be required to serve these Classroom areas:

Four (4) air handling units each with a capacity of 10,000 CFM (45 Tons Cooling, 430 MBH Heating).

One (1) air handling unit with a capacity of 5,000 CFM (25 Tons Cooling, 220 MBH Heating).

D. Gymnasium

LEED for Schools Credit EP2, EC1, EC5, IEQP1, IEQC1, 2, 3.1, 3.2, 5, 6.2 & 7.1

The gymnasium will be provided with one (1) roof mounted air handling unit. The unit will have a capacity of approximately 6,000 CFM and will include supply and return fans with VFDs, energy recovery wheels, 400 MBH hot water heating coil with modulating control valve, 30 tons of DX cooling hot gas reheat system and MERV 13 filtration.

Supply air will be provided to the space through new galvanized steel supply duct distribution system located high within the space and exposed with duct mounted diffusers. Return air will be drawn back to the units by low wall mounted return air registers located within the space and will be routed back to the unit by a galvanized sheet metal return air ductwork distribution system.

Supplemental hot water fin tube radiation heating or wall mounted runtal style radiator system will be provided along exterior walls.

CO2 demand ventilation will be utilized to reduce outside air based on population. As levels of carbon dioxide drop generally relating to a reduction in population the outside air damper will modulate to reduce outside air flow and allow recirculation while always maintaining a maximum of 800 ppm, CO_2 level within the space.

E. Administration, Guidance Areas and Media Center:

LEED for Schools Credit EP2, EC1, EC5, IEQP1, IEQC1, 2, 3.1, 3.2, 5, 6.2 & 7.1

Spatial heating, ventilation, and air-conditioning for the Administration, Guidance, and Media Center areas will be

served by ducted horizontal ceiling mounted 2-pipe heating, ventilation, and cooling active chilled beam induction units. Ventilation air to these areas will be provided by (2) 100% outside air rooftop air handling units. The Administration Area unit will have an approximate capacity of 2,000 CFM and be equipped with supply and return fans, VFDs, energy recovery wheels, 100 MBH heating hot water coil with modulating control valve, 10 ton capacity DX cooling, hot gas reheat system, and MERV 13 filtration. The media center will have an approximate capacity of 2,500 CFM, 120 MBH heating hot water coil with modulating control valve, 12 ton Dx cooling with hot gas reheat system. All other unit components will be typical to the administration unit.

F. Cafeteria/Stage:

LEED for Schools Credit EP2, EC1, EC5, IEQP1, IEQC1, 2, 3.1, 3.2, 5, 6.2 & 7.1

The cafeteria and stage area will be provided with one (1) new rooftop air handling unit. The unit will be approximately 5,000 CFM and will include supply and return fans with VFDs, energy recovery wheels, 350 MBH heating hot water coil with modulating control valve, 25 ton DX cooling system, and MERV 13 filtration. Supply air will be provided to the space through new galvanized steel supply duct distribution system located high within the space and exposed with duct mounted diffusers. Return air will be drawn back to the units by low wall mounted return air registers located within the space and will be routed back to the rooftop unit by a galvanized sheet metal return air ductwork distribution system.

Supplemental hot water fin tube radiation heating or wall mounted runtal style radiator system will be provided along exterior walls.

CO2 demand ventilation will be utilized to reduce outside air based on population. As levels of carbon dioxide drop generally relating to a reduction in population the outside air damper will modulate to reduce outside air flow and allow recirculation while always maintaining a maximum of 800 ppm, CO_2 level within the space.

G. Kitchen:

The kitchen area shall be provided with a new roof mounted 5,000 CFM kitchen exhaust fan and a roof mounted heating, ventilation and air conditioning unit approximately 5,000 CFM, 20 ton DX, 480 MBH heating hot water coil and shall serve as a make-up air system.

A variable volume kitchen exhaust hood control system consisting of kitchen exhaust stack temperature and smoke density sensors, supply and exhaust fan variable speed drives, and associated controller will be provided by the kitchen equipment vendor. This system installation shall be field installed and coordinated with the ATC and Electrical Contractors.

H. Computer Rooms:

Computer rooms which require additional cooling loads or year round cooling above that of which the proposed displacement ventilation systems can achieve, shall be provided with Ductless Cooling split unit systems. Approximately (2) units with associated outdoor air cooled condensers will be utilized, refer to Mechanical Load letter for further sizing information. Ventilation will be provided through the associated or adjacent classroom unit. Heating will be provided through ceiling mounted radiant panels.

I. IT Data Rooms:

IT Data Rooms shall be air conditioned by dedicated variable refrigerant flow Ductless Cooling unit systems, refer to Mechanical Load letter for further sizing information.

J. Loading, Custodial Support Areas:

1. The loading area and custodial support areas of the building shall be heated by indoor hot water unit heaters. The units each have an approximate capacity of 400CFM and 20 MBH heating coils. (Approximately 10 units throughout)

2. Roof mounted exhaust fans will be utilized for general areas including toilet rooms, janitor closets and art rooms, refer to Mechanical Load letter for further sizing information (approximately 8 exhaust fans).

K. Lobby, Corridor, and Entry Way Heating:

Lobby, corridor and entry ways shall be heated by a combination of new hot water radiant panels, cabinet unit heaters and fin tube radiation heating equipment.

10. TESTING, ADJUSTING, BALANCING AND COMMISSIONING

All new HVAC systems shall be tested, adjusted, balanced and commissioned as part of the project scope.

ESTIMATED MECHANICAL AND ELECTRICAL LOADS – OPTION 10

Description:

Under this option the building will utilize No.2 fuel oil as its fuel source for the boiler plant. The heating plant will provide heating hot water with 35% propylene glycol solution mixture to the rooftop units as well as the radiant heating panels and terminal heating units within the building. The rooftop units will be equipped with energy recovery wheels, hot water coils and direct expansion cooling sections. The chilled water plant will consist of an outdoor roof mounted air cooled chiller, the chilled water will also be provided with a 35% propylene glycol solution mixture.

Boiler Plant:

Unit Tag	Mode	Fuel Source	Heating Capacity	Voltage / HP / Amp
B-1	Non-Condensing	No.2 Fuel Oil	2200 MBH	460V / 1-1/2HP / 2.8Amp
B-2	Non-Condensing	No.2 Fuel Oil	2200 MBH	460V / 1-1/2HP / 2.8Amp
B-3	Non-Condensing	No.2 Fuel Oil	2200 MBH	460V / 1-1/2HP / 2.8Amp

Hot Water Pumps:

Unit Tag	GPM	Motor Type	Control Type	Pump Type	Voltage / HP
P-1	660	Premium Efficiency	VFD	End Suction	460V / 20.0HP
P-2	660	Premium Efficiency	VFD	End Suction	460V / 20.0HP

Chiller Plant:

Unit Tag	Mode	Tonnage	Cooling Capacity	Voltage / MOP
CH-1	Air Cooled	30	360 MBH	460V / 200MOP

Chilled Water Pumps:

Unit Tag	GPM	Motor Type	Control Type	Pump Type	Voltage / HP
P-3	80	Premium Efficiency	ECM	Inline	460V / 2.0HP
P-4	80	Premium Efficiency	ECM	Inline	460V / 2.0HP

Classrooms/Sped Rooms:

Unit Tag	CFM	Cooling Capacity	Heating Capacity	Motor Qty/HP
RTU-1	10,000	45 Tons	430 MBH	(2) 10.0HP & (1) 3/4HP
RTU-2	10,000	45 Tons	430 MBH	(2) 10.0HP & (1) 3/4HP
RTU-3	10,000	45 Tons	430 MBH	(2) 10.0HP & (1) 3/4HP
RTU-4	10,000	45 Tons	430 MBH	(2) 10.0HP & (1) 3/4HP

Art/Music Rooms:

Unit Tag	CFM	Cooling Capacity	Heating Capacity	Motor Qty/HP
RTU-5	5000	25 Tons	220 MBH	(2) 5.0HP & (1) 3/4HP

Gym:

Unit Tag	CFM	Cooling Capacity	Heating Capacity	Motor Qty/HP
RTU-6	6000	30 Tons	400 MBH	(2) 5.0HP & (1) 3/4HP

Media Center:

Unit Tag	CFM	Cooling Capacity	Heating Capacity	Motor Qty/HP
RTU-7	2500	12 Tons	120 MBH	(2) 4.0HP & (1) 1/4HP

Café/Stage:

Unit Tag	CFM	Cooling Capacity	Heating Capacity	Motor Qty/HP
RTU-8	5000	25 Tons	350 MBH	(2) 5.0HP & (1) 3/4HP

Administration Area:

Unit Tag	CFM	Cooling Capacity	Heating Capacity	Motor Qty/HP
RTU-9	2000	10 Tons	100 MBH	(2) 4.0HP & (1) 1/4HP

Kitchen:

Unit Tag	CFM	Cooling Capacity	Heating Capacity	Motor Qty/HP
H&V-1	5000	20 Tons	480 MBH	(2) 7.5HP

General Exhaust:

Unit Tag	CFM	Motor Qty/HP	Area Served
EF-1	800	(1) 1.0HP	Storage/Toilet/Jan
EF-2	800	(1) 1.0HP	Storage/Toilet/Jan
EF-3	800	(1) 1.0HP	Storage/Toilet/Jan
EF-4	800	(1) 1.0HP	Storage/Toilet/Jan
EF-5	1200	(1) 2.0HP	Art Rooms
EF-6	1200	(1) 2.0HP	Art Rooms
EF-7	5000	(1) 5.0HP	Kitchen Hood
EF-8	1500	(1) 2.0HP	Main Elec Room

Split Cooling Units:

Unit Tag	CFM	Cooling Capacity	Heating Capacity	Area Served
DCU-1	600	2 Tons	N/A	IDF Room
DCU-2	600	2 Tons	N/A	IDF Room
DCU-3	900	4 Tons	N/A	Head End Room
DCU-4	800	3 Tons	N/A	Computer Room
DCU-5	800	3 Tons	N/A	Computer Room

Unit Heaters:

Unit Tag	CFM	Motor Qty/HP	Area Served
UH-1	500	(1) 1/4HP	Vestibule
UH-2	500	(1) 1/4HP	Vestibule
UH-3	500	(1) 1/4HP	Vestibule
UH-4	500	(1) 1/4HP	Vestibule
UH-5	500	(1) 1/4HP	Storage Rm
UH-6	500	(1) 1/4HP	Storage Rm
UH-7	800	(1) 1/4HP	Storage Rm
UH-8	1200	(1) 1/2HP	Storage Rm
UH-9	1200	(1) 1/2HP	Mechanical Rm
UH-10	1200	(1) 1/2HP	Receiving Area

ELECTRICAL NARRATIVE REPORT – OPTION W10

The following is the Electrical System Narrative, which defines the scope of work and capacities of the Power and Lighting system as well as the Basis of Design. The electrical systems shall be designed and constructed for *LEED for Schools 2009* where indicated on this narrative.

1. CODES

All work installed under Division 26 shall comply with the Massachusetts State Building Code and all local, county, and federal codes, laws, statutes, and authorities having jurisdiction.

2. DESIGN INTENT

The work of Division 26 is as described in this Narrative. All work is new and consists of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the Electrical work and all items incidental thereto, including commissioning and testing.

3. DESIGN PARAMETERS

High Voltage:	277/480 Volt
Low Voltage:	120/208 Volt
Phase:	3-Phase, 4-Wire
Amperage:	2,000 Amps
KW:	1,150 KW

4. BUILDING SYSTEMS

Sequence of Operations and Interactions:

Classroom and corridor lighting will be controlled via "addressable relays", which is achieved through programming. The control of the relays will be by automatic means such as a vacancy sensor in each classroom. Lighting controls will be in conformance with IECC 2012. The controllability shall be in conformance with LEED IEQ 6.1.

Exterior lighting will be controlled by photocell "on" and "timed" for "off" operation. Exterior lighting will have dimming capability and designed in accordance with IESS standards, and in compliance with LEED Light Pollution Reduction Credit.

Emergency lighting and exit lighting will be run through life safety panels to be on during normal power conditions, as well as, power outage conditions. The emergency lighting system will have control so that lights are "on" only when the building is occupied.

5. DESCRIPTION OF THE SYSTEMS

J. Electrical Distribution System:

The service capacity will be sized for 2,000 amperes at 277/480 volt, 3 phase, 4 wire. New lighting, power panels, and mechanical panels will be provided to accommodate respective loads. The equipment will be located in dedicated rooms or closets.

We anticipate secondary metering with the transformer supplied by the utility company.

We are proposing an underground secondary service of 2,000 Amps, 277/480 volt, 3 phase, 4 wire.

Our	A. HVAC	Boilers:				kVA
		B-1		1 – ½ HP		2.5
		B-2		1 – ½ HP		2.5
		B-3		1 – ½ HP		2.5
		Hot Water Pumps:				
		P-1		20 HP		19.8
		P-2		20 HP		(redundant)
		Chiller Plant:				
		Ch-1		30 Tons		45
		Chilled Water Pumps:				
		P-3		2 HP		2.5
		P-4		2 HP		(redundant)
		Roof-top Units:				
		RTU-1		45 Tons, (12) 7.5 HP & (1) ¾ HP = 85.6		
		RTU-2		45 Tons, (12) 7.5 HP & (1) ¾ HP = 85.6		
		RTU-3		45 Tons, (12) 7.5 HP & (1) ¾ HP = 85.6		
		RTU-4		45 Tons, (12) 7.5 HP & (1) ¾ HP = 85.6		
		RTU-5		25 Tons, (2) 5 HP & (1) ¾ HP = 50.0		
		RTU-6		30 Tons, (2) 5 HP & (1) ¾ HP = 57.5		
		RTU-7		12 Tons, (2) 4 HP & (1) ¼ HP = 26.25		
		RTU-8		25 Tons, (2) 5 HP & (1) ¾ HP = 50.0		
		RTU-9		10 Tons, (2) 4 HP & (1) ¼ HP = 23.25		

Kitchen Unit:					kVA
H&V-1			20 Tons (2) 7.5 HP	=	46.75
Exhaust Fans:					
EF-1			1 HP	=	1.3
EF-2			1 HP	=	1.3
EF-3			1 HP	=	1.3
EF-4			1 HP	=	1.3
EF-5			2 HP	=	2.5
EF-6			2 HP	=	2.5
EF-7			5 HP	=	5.7
EF-8			2 HP	=	2.5
Split Cooling Units:					
DCU-1			2 Tons	=	3
DCU-2			2 Tons	=	3
DCU-3			2 Tons	=	6
DCU-4			2 Tons	=	4.5
DCU-5			2 Tons	=	4.5
Unit Heaters:					
UH-1			1/4 HP	=	.6
UH-2			1/4 HP	=	.6
UH-3			1/4 HP	=	.6
UH-4			1/4 HP	=	.6
UH-5			1/4 HP	=	.6
UH-6			1/4 HP	=	.6
UH-7			1/4 HP	=	.6
UH-8			1/2 HP	=	.7
UH-9			1/2 HP	=	.7
UH-10			1/2 HP	=	.7
			Sub-Total	=	717.95

B. Plumbing/Fire Protection							
		Water Coolers	6	@	1/4 HP	=	2.0
		Circular Pumps	2	@	1/3 HP	=	1.0
		Water Heaters	2	@	1 HP	=	3.0
					Subtotal	=	6.0

C. Elevator			@	30 HP	=	33.3
D. Exterior Lighting					=	5.0
E. Interior Lighting	122,714 s.f.		@	1.0W/s.f.	=	122.7
F. General Power	122,714 s.f.		@	2.0 W/s.f.	=	245.4
G. Kitchen Equipment					=	20.0

Connected Load Summary				A.	=	717.95
				B.	=	6.0
				C.	=	33.3
				D.	=	5.0
				E.	=	122.7
				F.	=	245.4
				G.	=	20.0
				Total	=	1150.35

1150.35 kVA @ 277/480V, 3 phase, 4 wire = 1384.3 amperes

1384.3 amperes @ 125% derating factor = 1730.4 amperes

A standard 2,000 ampere 277/480V, 3 phase, 4 wire service was selected. The main circuit breaker will be solid state and rated 80% of continuous load.

Secondary service will consist of (5) sets of #600 KCM copper in (5) 4" conduits plus (1) 4" spare.

K. Interior Lighting System:

Classroom lighting fixtures consist of pendant mounted direct/indirect LED luminaries and dimming drivers. The fixtures will be pre-wired for dimming control where natural daylight is available and also for multi-level switching. Office lighting fixtures will consist of similar fixtures to classrooms. Offices on the perimeter with windows will have daylight dimming controls similar to classrooms.

In general, lighting power density will be 30-40 percent less than IECC 2012. The power density reduction relates to LEED Credit EAC1.

Lighting levels will be approximately 30 foot candles in classrooms and offices. The daylight dimming foot candle level will be in conformance with LEED Credit IEQ 6.1.

Gymnasium lighting will be comprised of high bay LED fixtures with integral dimming drivers. The fixtures will be provided with protective wire guards and integral occupancy sensors. The light level will be designed for approximately 50 foot candles.

Corridor lighting will be comprised of recessed LED linear direct fixtures and recessed LED downlight fixtures. The corridor light level will be designed for approximately 20 foot candles. Corridor lighting will be on time clock control and only "on" during occupied hours. The light level will be switched to 50 percent when classrooms are in occupied period.

Cafeteria lighting will be a combination of LED pendant mounted direct/indirect fixtures and LED pendant decorative fixtures with integral dimming drivers. The light levels will be designed for approximately 30 foot candles.

Kitchen lighting will consist of recessed LED acrylic lensed gasketed troffers with aluminum frame doors with three T5 lamps and electronic ballasts. Light levels will be approximately 50 foot candles.

Art/music rooms will consist of pendant linear direct slot LED fixtures with an acrylic frosted lens pendant mounted between acoustical clouds. LED supplemental track lighting will be provided for display of art work with proper color rendering. Light levels will be approximately 30 foot candles.

Each area will be locally switched and designed for multi-level controls. Each classroom, office space, and toilet room will have a vacancy sensor to turn lights "off" when unoccupied. Daylight sensors will be installed in each room where natural light is available for dimming of light fixtures. The control system shall be in accordance with LEED IEQC 6.1.

The entire school will be controlled with an automatic lighting control system for programming lights "on" and "off". The system will interface with the building automation system (BAS) for scheduling purposes.

L. Emergency Lighting System:

An exterior 200 KW diesel fired emergency generator with sound attenuated enclosure and state code belly tank will be provided. Light fixtures and LED exit signs will be installed to serve all egress areas such as corridors, intervening spaces, toilets, stairs, and exit discharge exterior doors.

The generator will be sized to include fire safety systems, boilers and circulating pumps, refrigeration equipment, communications systems, etc.

A 2,000 ampere switchboard section with kirk key interlock shall be provided as an alternate for roll-up generator.

M. Site Lighting System:

Fixtures for area lighting will be pole mounted cut-off 'LED' luminaries in the parking area and roadways. Pole heights will be 20 feet. The exterior lighting will be connected to the automatic lighting control system for photocell "on" and timed "off" operation. The site lighting fixtures will be dark sky compliant. The illumination level will be 0.5fc for parking areas in accordance with Illuminating Engineering Society. Building perimeter fixtures will be 'LED' wall mounted cut-off over exterior doors for exit discharge. Lighting design will be in conformance to LEED for Schools Credit SSc8.

N. Wiring Devices:

Each classroom will have a minimum of two duplex receptacles per teaching wall and two double duplex receptacles on dedicated circuits at classroom computer workstations. The teacher's workstation will have a double duplex receptacle also on a dedicated circuit.

Office areas will generally have one duplex outlet per wall. At each workstation a double duplex receptacle will be provided.

Corridors will have a cleaning receptacle at approximately 25 foot intervals.

Exterior weatherproof receptacles with lockable enclosures will be installed at exterior doors.

A system of computer grade panelboards with double neutrals and surge protective devices will be provided for receptacle circuits.

O. Uninterruptible Power Supply (UPS):

One 24 KW, three phase centralized UPS system will be provided with battery back-up.

The system will provide conditioned power to sensitive electronic loads, telecommunication systems, bridge over power interruptions of short duration and allow an orderly shutdown of servers, communication systems, etc. during a prolonged power outage.

The UPS system will also be connected to the standby generator.

P. Fire Alarm System:

A fire alarm and detection system will be provided with 60 hr. battery back-up. The system will be of the addressable type where each device will be identified at the control panel and remote annunciator by device type and location to facilitate search for origin of alarms. The fire alarm control panel will contain voice evacuation amplifiers and microphone units.

Smoke detectors will be provided in assembly areas, corridors, stairwells, and other egress ways.

The sprinkler system will be supervised for water flow and tampering with valves.

Speaker/strobes will be provided in egress ways, classrooms, assembly spaces, open areas, and other large spaces. Strobe only units will be provided in single toilets and conference rooms.

Manual pull stations will be provided at exit discharge doors and at each egress stairwell
not located at grade level.

The system will be remotely connected to automatically report alarms to the fire department via an approved method by the fire department.

Q. Distributed Antenna System (DAS) for Public Safety Communications:

The DAS system consists of bi-directional amplifiers, donor antennas, coverage antennas, coax cable, coax connectors, splitters, combiners, and couplers. The components provide coverage for public safety 2-way radio systems to operate within the building.

R. Lightning Protection System:

A lightning protection system will be provided.

The lightning protection equipment will include air terminals, conductors, conduits, fasteners, connectors, ground rods, etc.

6. TESTING REQUIREMENTS

The Electrical Contractor shall provide testing of the following systems with the Owner and Owner's Representative present:

- Lighting and power panels for correct phase balance.
- Emergency generator.
- Lighting Control System (interior and exterior).
- Fire Alarm System.
- Uninterruptible Power Supply
- Security System.
- Lightning Protection System.

Testing reports shall be submitted to the Engineer for review and approval before providing to the Owner.

7. OPERATION MANUALS AND MAINTENANCE MANUALS

When the project is completed, the Electrical Contractor shall provide operation and maintenance manuals to the Owner.

8. RECORD DRAWINGS AND CONTROL DOCUMENTS

When the project is completed, an as-built set of drawings, showing all lighting and power requirements from contract and addendum items, will be provided to the Owner.

9. COMMISSIONING

The project will be commissioned per Section 018100 of the specifications.

10. SECURITY SYSTEM

F. <u>CCTV:</u>

A Closed Circuit TV system will consist of computer servers with image software, computer monitors, and IP based closed circuit TV cameras. The head end server will be located in the head end MDF room and will be rack mounted. The system can be accessed from any PC within the facility or externally via an IP address. Each camera can be viewed independently. The Storage Appliance Network (SAN) will store this information for 30 days at 30 frames per second.

The location of the cameras is generally in corridors and exterior building perimeter. The exterior cameras are 180 degree, multi-head type.

The system will fully integrate with the access control system to allow viewing of events from a single alarm viewer. Camera images and recorded video will be linked to the access system to allow retrieval of video that is associated with an event.

G. Intrusion System:

An intrusion system will consist of security panel, keypads, motion detectors, and door contacts. The system is addressable which means that each device will be identified when an alarm occurs. The system is designed so that corridors will have dual tech sensors along with grade level window spaces and door contacts at each exterior door.

The system can be partitioned into several zones; therefore, it is possible to use the Gym area while the remainder of the school remains alarmed.

The system will include a digital transmitter to summons the local police department in the event of an alarm condition

The intrusion system will be connected to the automated lighting control system to automatically turn on lighting upon an alarm.

H. Card Access:

A card access system includes a card access controller, door controllers, and proximity readers/keypads with key-fobs. Proximity readers will be located at various locations. Each proximity reader will have a distinctive code to identify the user and a log will be kept in memory. The log within the panel can be accessed through a computer.

The alarm condition will also initiate real time recording on the integrated CCTV System. The system may be programmed with graphic maps allowing the end-user to quickly identify alarm conditions and lock/unlock doors.

The system is modular and may be easily expanded to accommodate any additional devices.

I. Door Entry System:

A combination audio and video intercom system will be provided at main doors. Intercom stations and master intercom stations will have audio and video systems. The system will integrate with the card access system for door unlocking.

J. Site Utilities:

The incoming services including electric, telephone, cable tv, fiber, and fire alarm will enter building underground.

TECHNOLOGY NARRATIVE REPORT – OPTION W10

The following is the Technology System narrative, which defines the scope of work and capacities of the Communications system infrastructure and Security system as well as the Basis of Design.

1. CODES

A. All work installed under Section 270000 shall comply with the Massachusetts Building Code, IBC 2009 Appendix 115AA - Stretch Energy Code, and all local, county, and federal codes, laws, statues, and authorities having jurisdiction.

2. DESIGN INTENT

A. All work is new and consists of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the Technology and Security work and all items incidental thereto, including commissioning and testing.

3. TECHNOLOGY

F. The data system infrastructure will consist of fiber optic backbone cabling horizontal wiring will consist of Category 6A UTP Plenum rated cabling for both data and telephone systems for gigabit connectivity. The telephone infrastructure will accommodate PBX, or VOIP based voice systems. The existing NEC SV8100 VOIP phone system can be utilized and expanded on for the new building.

G. Each classroom will have four data outlets for student computers. Two data, one voice with video, and audio connections to a wall mounted projector will be provided at the teacher's station with interconnectivity to a interactive whiteboard. A wall phone outlet with 2-way ceiling speaker will be provided for communications with administration. Wireless access points will be provided in all classrooms and other spaces in addition to (2) CAT6A.cables to access points multimode fiber will also be provided.

H. A central paging system will be provided and integrated with the telephone system.

I. A wireless GPS/LAN based master clock system will be provided with 120V wireless remote clocks that act as transceivers.

J. The Main Distribution Frame (MDF) will contain all core network switching and IP voice switch. Intermediate Distribution Frames (IDFs) will serve each floor/wing of the school. A fiber optic backbone will be provided from each IDF to MDF. The backbone will be designed for 10 Gbps Ethernet.

TESTING REQUIREMENTS

A. The Technology and Security Contractors shall provide testing of the following systems with the Owner and Owner's representative present:

- Telephone and data cabling
- Fiber optic backbone cabling
- Paging system
- Wireless clock system
- A/V wiring for classrooms

Testing reports shall be submitted to the Engineer for review and approval before providing to the Owner.

4. OPERATION MANUALS AND MAINTENANCE MANUALS:

A. When the project is completed, the Technology Contractor shall provide operation and maintenance manuals to the Owner.

5. RECORD DRAWINGS AND CONTROL DOCUMENTS:

A. When the project is completed, an as-built set of drawings, showing all lighting and power requirements from contract and addendum items, will be provided to the Owner.

6. COMMISSIONING

A. The project shall be commissioned per Commissioning Section of the specifications

PLUMBING NARRATIVE REPORT – OPTION W10

The following is the Plumbing system narrative, which defines the scope of work and capacities of the Plumbing system as well as the Basis of Design. The Plumbing Systems shall be designed and constructed for ***LEED for Schools*** where indicated on this narrative.

1. CODES

A. All work installed under Section 220000 shall comply with the MA Building Code, MA Plumbing Code and all state, county, and federal codes, laws, statutes, and authorities having jurisdiction.

2. DESIGN INTENT

F. All work is new and consists of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the Plumbing work and all items incidental thereto, including commissioning and testing.

3. GENERAL

D. The Plumbing Systems that will serve the project are cold water, hot water, sanitary waste and vent system, grease waste system, and storm drain system.

E. The Building will be serviced by Municipal water and Municipal sewer system.

F. All Plumbing in the building will conform to Accessibility Codes and to Water Conserving sections of the Plumbing Code.

4. DRAINAGE SYSTEM

A. Soil, Waste, and Vent piping system is provided to connect to all fixtures and equipment. System runs from 10 feet outside building and terminates with stack vents through the roof.

G. A separate Grease Waste System starting with connection to an exterior concrete grease interceptor running thru the kitchen and servery area fixtures and terminating with a vent terminal through the roof. Point of use grease interceptors are to be provided at designated kitchen fixtures. The grease interceptor is provided under Division 33 scope.

H. Storm Drainage system is provided to drain all roofs with roof drains piped through the building to a point 10 feet outside the building.

I. Drainage system piping will be service weight cast iron piping; hub and spigot with gaskets for below grade; no hub with gaskets, bands and clamps for above grade 2 in. and larger. Waste and vent piping 1-1/2 in. and smaller will be type 'L' copper.

5. WATER SYSTEM

A. New 4 inch domestic water service from the municipal water system will be provided. A meter and backflow preventer, if required, will be provided.

B. Cold water distribution main is provided. Non-freeze wall hydrants with integral back flow preventers are provided along the exterior of the building.

C. Domestic hot water heating will be provided with an oil fired water heater with a rated input of 450,000 BTUH with 245 gallons of storage. System is to be equipped with thermostatically controlled mixing devices to control water temperature to the fixtures.

D. A pump will re-circulate hot water from the piping system. Water temperature will be 120 deg. to serve general use fixtures. A 140 deg. F hot water will be supplied to the kitchen dishwasher.

E. Water piping will be type 'L' copper with wrought copper sweat fittings, silver solder or press-

7. FIXTURES

LEED for Schools Credit WEp1 & WEc3

A. Furnish and install all fixtures, including supports, connections, fittings, and any incidentals to make a complete installation.

B. Fixtures shall be the manufacturer's guaranteed label trademark indicating first quality. All acid resisting enameled ware shall bear the manufacturer's symbol signifying acid resisting material.

C. Vitreous china and acid resisting enameled fixtures, including stops, supplies and traps shall be of one manufacturer by Kohler, American Standard, or Eljer, or equal. Supports shall be Zurn, Smith, Josam, or equal. All fixtures shall be white. Faucets shall be Speakman, Chicago, or equal.

D. Fixtures shall be as scheduled on drawings.

7. Water Closet: High efficiency toilet, 1.28 gallon per flush, wall hung, vitreous china, siphon jet. Manually operated 1.28 gallon per flush-flush valve.

8. Urinal: High efficiency 0.13 gallon per flush urinal, wall hung, vitreous china. Manually operated 0.13 gallon per flush-flush valve.

9. Lavatory: Wall hung/countertop ADA lavatory with 0.5 GPM metering mixing faucet programmed for 10 second run-time cycle.

10. Sink: Elkay ADA stainless steel countertop sink with Chicago 201A faucet and 0.5 GPM aerator.

11. Drinking Fountain: Halsey Taylor hi-low wall mounted electric water cooler, stainless steel basin with bottle filling stations.

12. Janitor Sink: 24 x 24 x 10 Terrazo mop receptor Stern-Williams or equal.

8. DRAINS

A. Drains are cast iron, caulked outlets, nickaloy strainers, and in waterproofed areas and roofs shall have galvanized iron clamping rings with 6 lb. lead flashings to bond 9 in. in all directions. Drains shall be Smith, Zurn, Josam, or equal.

9. VALVES

A. Locate all valves so as to isolate all parts of the system. Shutoff valves 3 in. and smaller shall be ball valves, solder end or screwed, Apollo, or equal.

10. INSULATION

A. All water piping shall be insulated with snap-on fiberglass insulation Type ASJ-SSL, equal to Johns Manville Micro-Lok HP.

11. CLEANOUTS

A. Cleanouts shall be full size up to 4 in. threaded bronze plugs located as indicated on the drawings and/or where required in soil and waste pipes.

12. ACCESS DOORS

A. Furnish access doors for access to all concealed parts of the plumbing system that require accessibility. Coordinate types and locations with the Architect.

FIRE PROTECTION NARRATIVE REPORT – OPTION W10

The following is the Fire Protection system narrative, which defines the scope of work and capacities of the Fire Protection system as well as the Basis of Design.

1. CODES

A. All work installed under Section 210000 shall comply with the MA Building Code and all state, county, and federal codes, laws, statutes, and authorities having jurisdiction.

2. DESIGN INTENT

A. All work is new and consists of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the Fire Protection work and all items incidental thereto, including commissioning and testing.

3. GENERAL

A. In accordance with the provisions of the Massachusetts Building Code, a school building of greater than 12,000s.f. must be protected with an automatic sprinkler system.

4. DESCRIPTION

A. The new building will be served by a new 8 inch fire service, double check valve assembly, wet alarm valve complete with electric bell, and fire department connection meeting local thread standards.

B. System will be an automatic sprinkler system with control valve assemblies to limit the sprinkler area controlled to less than 52,000 s.f. as required by NFPA 13-2013. Three sprinkler zones will be provided for First Floor and two for the Second Floor.

C. Control valve assemblies shall consist of a supervised shutoff valve, check valve, flow switch and test connection with drain.

D. All areas of the building, including all finished and unfinished spaces, combustible concealed spaces, all electrical rooms and closets will be sprinklered.

E. All sprinkler heads will be quick response, pendent in hung ceiling areas and upright in unfinished areas.

5. BASIS OF DESIGN

A. The mechanical rooms, kitchen, classrooms, and storage rooms are considered Ordinary Hazard Group 1; all other areas are considered light hazard.

B. Required Design Densities:

Light Hazard Areas	0.10 GPM over 1,500 s.f.
Ordinary Hazard Group 1	0.15 GPM over 1,500 s.f.

C. Sprinkler spacing (max.):

Light Hazard Areas:	225 s.f.
Ordinary Hazard Areas:	130 s.f.

J. A hydrant flow test will be required to determine Municipal water supply capacities.

6. PIPING

A. Sprinkler piping 1-1/2 in. and smaller shall be ASTM A-53, Schedule 40 black steel pipe. Sprinkler/standpipe piping 2 in. and larger shall be ASTM A-135, Schedule 10 black steel pipe.

7. FITTINGS

A. Fittings on fire service piping, 2 in. and larger, shall be Victaulic Fire Lock Ductile Iron Fittings conforming to ASTM A-536 with integral grooved shoulder and back stop lugs and grooved ends for use with Style 009-EZ or Style 005 couplings. Branch line fittings shall be welded or shall be Victaulic 920/920N Mechanical Tees. Schedule 10 pipe shall be roll grooved. Schedule 40 pipe, where used with mechanical couplings, shall be roll grooved and shall be threaded where used with screwed fittings. Fittings for threaded piping shall be malleable iron screwed sprinkler fittings.

8. JOINTS

A. Threaded pipe joints shall have an approved thread compound applied on male threads only. Teflon tape shall be used for threads on sprinkler heads. Joints on piping, 2 in. and larger, shall be made up with Victaulic, or equal, Fire Lock Style 005, rigid coupling of ductile iron and pressure responsive gasket system for wet sprinkler system as recommended by manufacturer.

9. DOUBLE CHECK VALVE ASSEMBLY

A. Double check valve assembly shall be MA State approved, U.L./F.M. approved, with iron body bronze mounted construction complete with supervised OS & Y gate valves and test cocks. Furnish two spare sets of gaskets and repair kits.

B. Double check valve detector assembly shall be of one of the following:

1. Watts Series 757-OSY
2. Wilkins 350A-OSY
3. Conbraco Series 4S-100
4. Or equal

10. SPRINKLERS

H. All sprinklers to be used on this project shall be Quick Response type and shall be stamped with date of manufacture and temperature rating. Temperature ratings shall be determined by the location of the heads per NFPA 13-2013, section 8.3.2.5, and shall be minimum 155 degrees F. throughout except in special areas around heat producing equipment, skylights, and attics in which case use temperature rating to conform with hazard as specified in NFPA 13-2013.

I. Furnish spare heads of each type installed located in a cabinet along with special sprinkler wrenches. The number of spares and location of cabinet shall be in complete accord with NFPA 13-2013.

J. Sprinklers shall be manufactured by Tyco, Victaulic, Viking, or equal.

K. Upright sprinkler heads in areas with no ceilings shall be Tyco Model "TY-FRB".

L. Sidewall and pendent wet heads shall be Tyco Model "TY-FRB".

M. Concealed heads shall be Tyco Model "RFII" with white cover plates.

N. Sidewall and pendent dry sprinkler heads shall be Tyco Model "DS-1".

PROPOSED TOTAL PROJECT BUDGET / CONSTRUCTION COST ESTIMATE (UNIFORMAT II) – OPTION W10

A.M. Fogarty & Assoc., Inc.
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ptim@amfogarty.com
"Construction Cost Consultants"

STUDY
Wildwood Elementary School
Amherst, MA

2-Feb-16

Designer: JCJ Architecture
Drawings Dated:

Drawings Dated: Jan. 21, 2016

OPTION W10	GSF		COST PER S.F.	**TOTAL**
RENOVATION	82,000	**GSF**	$200.38	**$16,431,007**
ADDITION - BLDG COST	44,000	**GSF**	$301.87	**$13,282,217**
HAZARDOUS WASTE REMOVAL	82,000	**GSF**	$10.00	**$820,000**
SITE COST				**$3,068,387**

	TOTAL DIRECT COST			$33,601,611
CM AT RISK CHPTR 149A				
DESIGN CONTINGENCY		12%		$4,032,193
CM CONTINGENCY		2%		$752,676
ESCALATION (bid fall 2017)		5%		$1,881,690
GENERAL CONDITIONS	32	MOS	$115,000	$3,680,000
GENERAL REQUIREMENTS		2.5%		$1,098,704
BUILDING PERMIT		1%		$450,469
P&P BOND & INSURANCE		2%		$900,937
PROFIT		3%		$1,391,948

	TOTAL CONSTRUCTION COST			$47,790,229
	COST PER SF			**$379.29**

Prepared by: A. M. Fogarty & Associates, Inc.
WILDWOOD ELEM SCHOOL STUDY 1 - 162/2/201610:24 AM

PERMITTING REQUIREMENTS

A. Notice of Intent – Amherst Conservation Commission and MassDEP – Driveway and utility alterations within 100 feet of a pond/land under water body buffer at Strong Street and connection of drainage to existing municipal drainage system (alteration of bank).

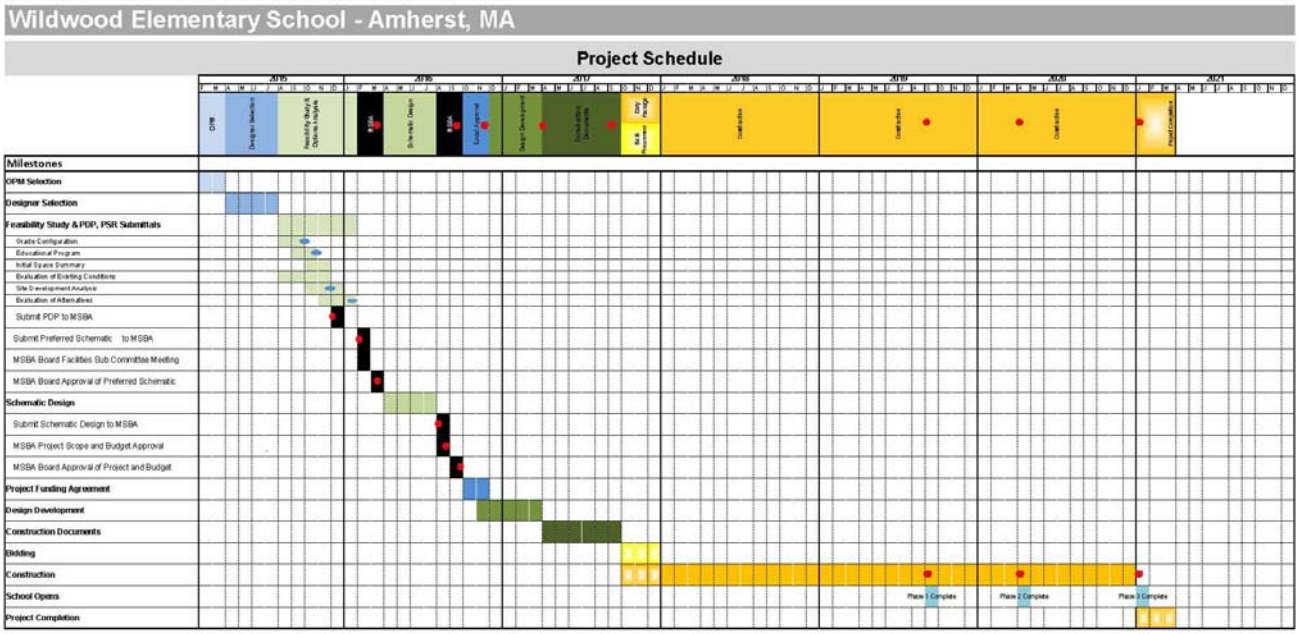
B. Site Plan Review – Amherst Planning Board – Major site construction project.

C. Zoning Board of Appeals – Amherst Zoning Board of Appeals – Relief from potential Zoning requirements such as 30% maximum lot coverage.

D. Water Main/Service Connections – Amherst Department of Public Works – Review of existing water main relocation and connection to proposed building.

E. Sewer Piping/Service Connections – Amherst Department of Public Works – Review of existing sewer relocation and connection to proposed building.

PROPOSED PROJECT DESIGN AND CONSTRUCTION SCHEDULE



Feasibility Study Phase

November 20, 2015

JOSLIN LESSER
Project Management

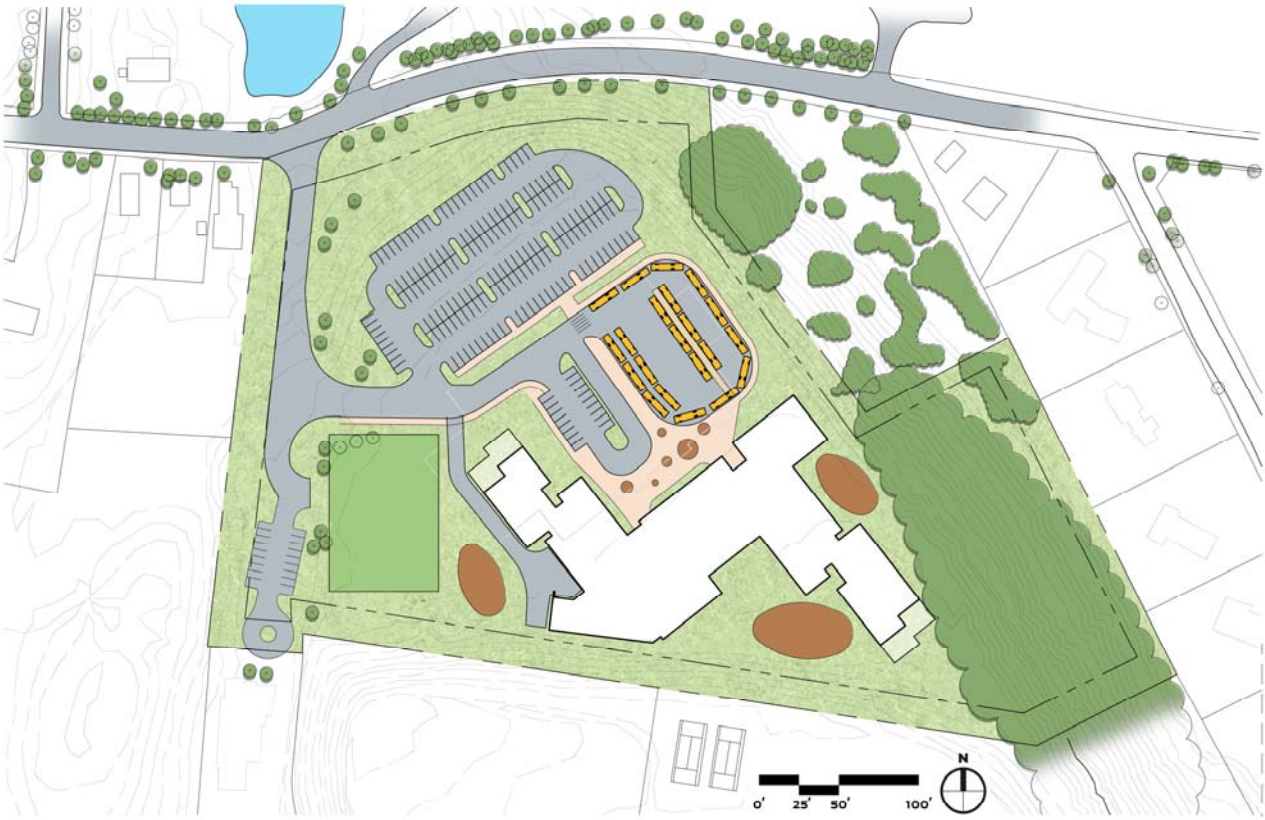
OPTION W12 - DETAIL

* Option W12 studies a 2-6 (750) Option as a new building located on the Wildwood site. This Option assumes that the new school would be a two story, 122,714sf building with a footprint of approximately 72,000sf (remainder of the square footage would be second floor classroom space). This option would allow both the pedestrian and vehicular circulation to be reworked on site and all of the play areas to be updated. This Option allows the Wildwood students to remain in the existing space through the duration of the first phase of construction then to move into the new portion of the building as the second classroom wing is constructed.

EVALUATION OF POTENTIAL CONSTRUCTION IMPACTS

The construction would entail building the core facilities and the southern classroom wing first, demolishing the existing building, and building the northern classroom wing in a proposed 30 month schedule. This option could potentially be mildly disruptive to the education environment while construction is underway.

CONCEPTUAL ARCHITECTURAL AND SITE PLANS



LEGEND

- GENERAL CLASSROOMS
- SPECIALIZED CLASSROOMS
- CORE SPACES
- ADMINISTRATIVE / FACULTY
- BUILDING SUPPORT SPACES
- CIRCULATION/STAIRS/ELEVATORS

PLAN NORTH

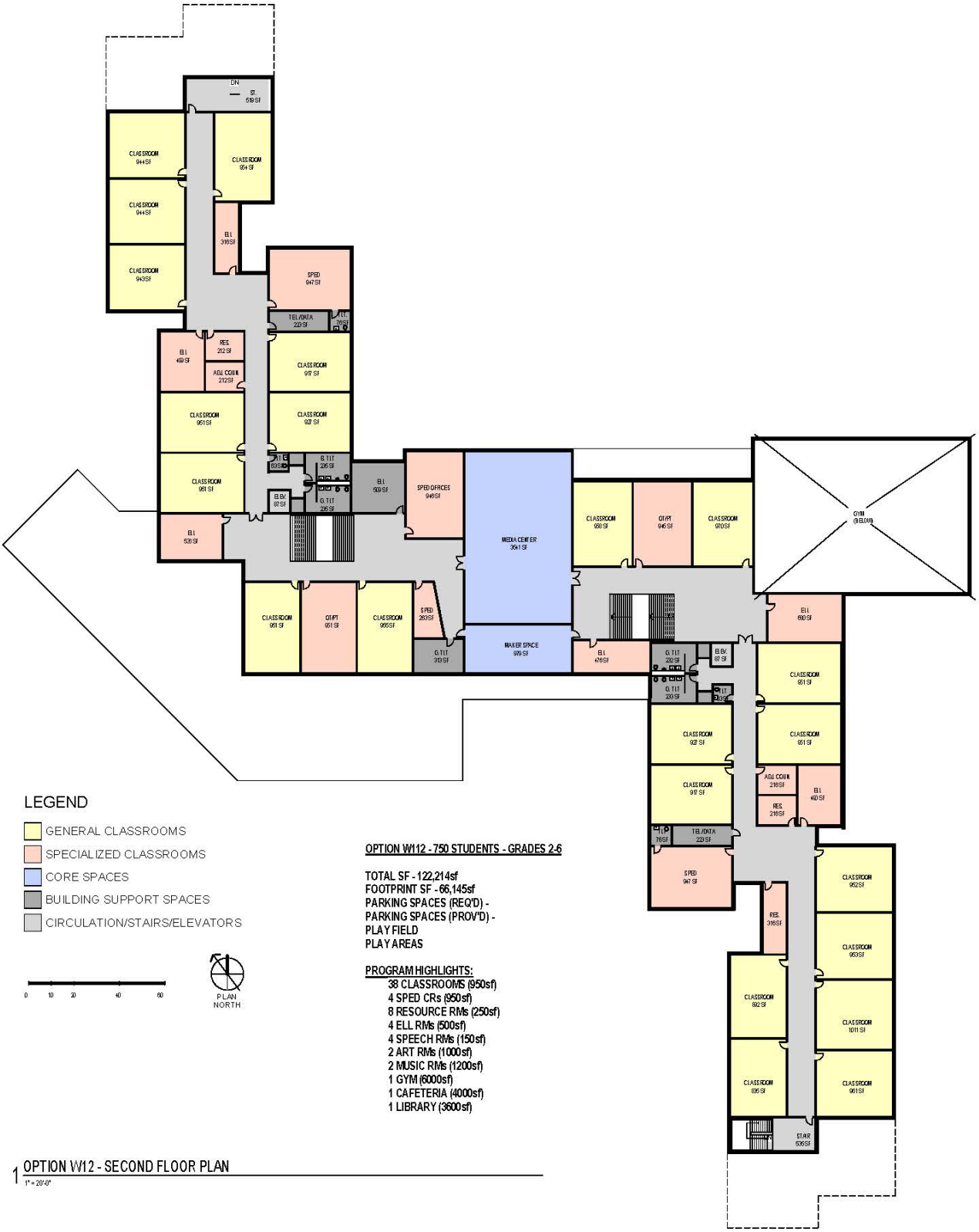
OPTION W12 - 750 STUDENTS - GRADES 2-6

TOTAL SF - 122,214sf
FOOTPRINT SF - 66,145sf
PARKING SPACES (REQ'D) -
PARKING SPACES (PROV'D) -
PLAY FIELD
PLAY AREAS

PROGRAM HIGHLIGHTS:

- 38 CLASSROOMS (950sf)
- 4 SPED CRs (950sf)
- 8 RESOURCE RMs (250sf)
- 4 ELL RMs (500sf)
- 4 SPEECH RMs (150sf)
- 2 ART RMs (1000sf)
- 2 MUSIC RMs (1200sf)
- 1 GYM (6000sf)
- 1 CAFETERIA (4000sf)
- 1 LIBRARY (3600sf)

1 OPTION W12 - FIRST FLOOR PLAN
1" = 20'-0"



1 OPTION W12 - SECOND FLOOR PLAN
1" = 20'-0"

SITE/UTILITIES NARRATIVE – W12

Pedestrian Circulation

An unimpeded pedestrian route consisting of a rigid pavement material shall be provided from the parking and drop-off areas to the main building entries. Pavement will consist of materials such as standard concrete paving, unit pavers or a combination of both. Where pedestrian routes cross vehicular areas, the pedestrian paving material will be carried through to create visible contrast. Where achievable, all pedestrian routes shall be graded less than 5% to minimize potential barriers created by handrails.

The main entries to the building will be considered plaza areas and treated with enhanced paving consisting of brick or precast concrete unit pavers. All plaza areas will have a maximum slope of 2%, pitched away from the building for positive drainage. Plaza areas will include curbed areas for foundation plant materials and other opportunities to reduce the overall paved surface.

The current site plan does not indicate the need for exterior stairs and ramps. Should it be determined later that this is necessary, all stairs and ramps will meet MAAB standards. All stairs or ramps will be provided with railings at each side.

A secondary pedestrian route creating a complete loop around the building and connecting to all play areas, existing neighborhood sidewalks and nature trails shall be provided. Pavement will consist of asphalt or concrete paving. The portion of the route around the east and south faces of the building will have a width and be constructed of material able to accommodate occasional maintenance and security vehicles. A minimum width of 12' is proposed for this drivable sidewalk.

Play Areas

Play area A is proposed for grades 2-6 at the south side of the building between the two wings of the phase I building. The play area will be organized to group the play equipment by age group; however, there will be no formal barrier between the groupings of grades 2-4 and 5-6.

Play equipment will be chosen to encourage and stimulate inclusive play among users. Play structures incorporating sensory plan, climbing, sliding and swing elements will allow multiple play opportunities for all users.

The play surface will be a continuous, poured-in-place rubber resilient surface with a depth engineered for required fall heights determined by the selected play structures. The surface will consist of multiple, vibrant colors to complement the equipment and to create an interesting and stimulating environment.

Play Area B is proposed for grades 2-6 at west side of the phase II wing. The play area will be organized to group the play equipment by age group; however, there will be no formal barrier between the groupings of grades 2-4 and 5-6.

Play equipment will be chosen to encourage and stimulate inclusive play among users. Play structures incorporating sensory plan, climbing, sliding and swing elements will allow multiple play opportunities for all users.

The play surface will be a continuous, poured-in-place rubber resilient surface with a depth engineered for required fall heights determined by the selected play structures. The surface will consist of multiple, vibrant colors to complement the equipment and to create an interesting and stimulating environment.

A passive play area and swing set is proposed for the location at the southeast face of the gymnasium. A loose mulch and lawn surface is suggested for this area.

The paved bus loop can be used as an additional play, recreation or sports zone during times when bus activity is not present. The use of colored asphalt and line paint can be incorporated to create specific games in the paving surface.

Recreation

A multi-use field, approximately 150' x 200' will be located west of the building and south of the main drive into the parking area. The current direction is for the field to remain undesignated for a specific sport. Should it be decided that the field be designated for a specific sport, the proposed footprint is adequate for a U10 Soccer field or a Shetland League Baseball Diamond. The recreational field surface will consist of a low maintenance sports turf seed mix or sod.

Pedestrian circulation as noted previously will provide connections to all recreation areas. This will include a path to the parcel to the southwest of the site that is also owned by the town. The path will provide access to nature trails and three fitness stations located along the perimeter of the parcel where minimal site grading will be required.

Fencing and Gates

The property for the school is not currently fenced-off from adjacent properties. It is our understanding that this approach is not proposed for the site updates. It is our recommendation that a 4' coated chain link fence be located between the recreational field and the vehicular areas along the north and west extents. The fence will include gaps at selected locations to allow users to move in and out of the field area with ease. A 6' tall architectural fence fabric should be located along the west edge of the service drive. This is intended to act as a barrier to separate the recreational and play use from the service operations.

Play area A is not adjacent to vehicular use areas and therefore, we do not recommend providing a barrier or enclosure. Users should be encouraged to move freely in this area.

Planting

Every attempt will be made to maintain the large, healthy existing canopy trees on site. It is our recommendation that an arborist be consulted to perform a complete tree inventory to inform future decisions on what can and should be protected. Proposed planting is always is always beneficial, however, existing mature trees are a much larger asset.

The proposed parking lot shall be designed to provide planting islands for deciduous canopy trees such as native Maples, Oaks, or similar. The ground plane can be treated with a native, low maintenance seed mix. These areas can be mowed as little or often as desired.

The planting approach near and at the building will trend toward a more formal, yet simple approach. Foundation planting consisting of flowering evergreen shrubs, ornamental grasses, groundcovers and perennials shall be located in select planting zones in the plaza area. Additionally, we recommend three canopy trees be placed in tree grates within the plaza to provide shade and mitigate a potential heat-island effect.

The planted areas between the building and vehicular areas shall be treated with a low maintenance lawn seed mix and a combination of ornamental and shade trees. A similar approach is recommended for the zones between the play areas, recreational fields and undesignated areas around the east, south and west

faces of the building. A planted screen should be provided in conjunction with the architectural fence to screen the service area.

A passive garden area is suggested for staff use along the east face of the building, south of the gymnasium and swing set. A few canopy trees could provide shade for a small seating area.

The current school operations include an informal student gardening program. We recommend this be implemented in the next phase as well. The preferred location is the south end of the building, just beyond play area A. The southern exposure gives the best chance for success. The space is adequate for a small greenhouse program should it be feasible.

Rain gardens or bioswales can be located in several areas within the vehicular areas and between the building and vehicular areas. A combination of native grasses and wildflowers located within mild depressions can successfully treat portions of stormwater on site. The volume and degree of treatment will depend on the sites hydrology as determined during future design phases. These areas can act as educational elements and potentially include interpretive information explaining their function.

Site Furniture and Miscellaneous Elements

Durable, yet attractive benches shall be provided near major building entries, adjacent to play areas and recreational areas and within the staff garden area. Matching litter receptacles will be located near seating areas. A bicycle parking area with durable hoop style back racks shall be located west of the parent drop-off. The southernmost landscape island in the parent drop-off loop is an ideal location for a flagpole.

UTILITIES NARRATIVE – OPTION W12

The following is the Site systems narrative, which defines the scope of work and capacities of the Site systems as well as the Basis of Design. The Site Utility systems shall be designed and constructed in accordance with *LEED for Schools*.

1. CODES

A. All work installed under this DIVISION shall comply with all local, state, and federal codes, laws, statutes, and authorities having jurisdiction.

B. The work shall be performed in accordance with local Department of Public Works Specifications, MA Highway Department Standard Specifications for Highways and Bridges and conform to all Amherst Bylaws.

2. DESIGN INTENT

A. The work of Division 31, 32 and 33 is as described in this narrative. All work is new and consists of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the site utility work and all items incidental thereto, including testing.

3. EXPECTED REVIEW/PERMITTING REQUIREMENTS

A. Notice of Intent – Amherst Conservation Commission and MassDEP – Driveway and utility alterations within 100 feet of a pond/land under water body buffer at Strong Street and connection of drainage to existing municipal drainage system (alteration of bank).

B. Site Plan Review – Amherst Planning Board – Major site construction project.

C. Zoning Board of Appeals – Amherst Zoning Board of Appeals – Relief from potential Zoning requirements such as 30% maximum lot coverage.

D. Water Main/Service Connections – Amherst Department of Public Works – Review of existing water main relocation and connection to proposed building.

E. Sewer Piping/Service Connections – Amherst Department of Public Works – Review of existing sewer relocation and connection to proposed building.

4. SITE EROSION CONTROL MEASURES

A. The Contractor shall prepare and submit the EPA Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activity under the EPA National Pollution Discharge Elimination System (NPDES) General Permit. The contractor shall implement a Storm Water Pollution Prevention Plan (SWPPP) per the requirements of the EPA General Permit. At project completion submit a Notice of Termination (NOT) to the EPA.

B. The Contractor shall place silt barrier and hay bales around the perimeter of the limit of work to prevent the migration of silt-laden runoff from discharging from the construction site.

C. The Contractor shall install sediment control bags in all existing and new stormwater inlets within the limit of work, and in areas prone to receive runoff from the construction site.

D. The Contractor shall prepare weekly logs of erosion control inspections and maintenance. Inspection logs shall also be prepared after all rain events resulting in more than 0.25 inches/24-hour.

5. UTILITY DEMOLITION, ABATEMENT & RELOCATION

A. Prior to the commencement of any excavation, the Contractor shall field locate all existing utilities within the limit of work based on available surface evidence and record documents.

B. The Contractor shall properly abate all existing asbestos concrete drainage and sewer piping required to be removed for the demolition of the existing building and construction of the new. The Contractor shall follow all applicable Local, State and Federal regulations while removing the piping.

6. STORM DRAINAGE SYSTEM

A. The storm water drainage system shall be designed in accordance with Town standards and the current edition of the Massachusetts DEP Storm Water Management Policy to mitigate storm water runoff to abutting properties.

B. Storm drain piping 12" and larger shall be smooth interior corrugated HDPE pipe with rubber gasket joints. Storm drain piping 10" and under will be ASTM-D3034 SDR35 PVC with push-on rubber ring joints.

C. Runoff from paved driveways, parking lots, walkways, playgrounds, playing fields, roof areas will be directed to a piped stormwater system. Catch basins and manholes shall be at least 6 feet deep and 4 feet in diameter. Castings shall be from the approved Mass Highway Department list. All catch basins will have 4 foot sumps and be equipped with environmental hoods.

D. Water quality structures shall be provided within the storm water drainage system to assist with TSS removal and water quality.

E. Storm water runoff rate and flood control is proposed to be provided via use of subsurface detention facilities consisting of water-tight HDPE piping and rainwater gardens. Overflow from these structures will be directed to the municipal drainage system piping on the site.

7. SANITARY SYSTEM

C. The sanitary system shall be designed in accordance with local DPW requirements.

B. Manholes shall be at least 4 feet in diameter with brick invert channels. Castings shall be from the approved MHD list.

C. Gravity sewer piping shall be Manville ASTM-D3034 SDR-35 PVC sewer pipe.

D. The school shall be equipped with an exterior precast concrete grease trap sized in according with the Massachusetts Plumbing Code and 310 CMR 15.00 Title 5.

E. The sanitary waste system shall discharge southerly to the existing municipal sewer system located on the property.

8. WATER SYSTEM

A. The water distribution system will be designed in accordance with Local Water Department standards.

B. All water piping, including domestic and fire water services to the building, shall be Class 52 cement-lined ductile iron pipe and fittings.

C. All water service piping shall be installed with a minimum cover of 5 feet.

F. A new 8" water main loop will be provided around the proposed building. The new loop will continue to be fed from the existing 8" water line under the existing driveway. Additional fire hydrants will be provided from the new water loop every 300 ft. on center or as required by the Fire Department.

9. PARKING LAYOUT, SURFACING & DRIVEWAYS

A. Parking spaces shall be a minimum of 9 feet wide x 18 feet in length and be clearly painted indicated the limits of the spaces.

B. The total parking quantity shall meet the requirements of the Town of Amherst Zoning Bylaw, Section 7.00. Based on Section 7.0030 of the Zoning Bylaw, the required minimum quantity of parking spaces for an Educational Use is (1) parking space for every four (4) seats. Based on 750 students and 100 staff members occupying the building, the minimum parking quantity shall be 213 spaces.

C. Based on 195 total parking spaces, 6 of those spaces shall be handicap accessible and shall fully conform to the requirements of 521 CMR (Architectural Access Board).

D. Areas paved with bituminous concrete shall consists of 12" of dense grade gravel overlaid by a 2-1/2" binder course and 1-1/2" wearing course of bituminous.

D. Driveways and maneuvering aisles shall be a minimum of 12' wide per lane of traffic throughout the site.

E. All paved roadways shall be pitched at a minimum of 1.5% but no more than 5% towards catch basin/inlet structures.

F. All roadway and parking curve radii shall conform to the requirements of the Amherst Street and Site Work Construction Standards.

G. Curbing shall be provided at along the pavement edge of driveways, parking lots and loading areas.

10. ZONING REQUIREMENTS

A. Lot 76 is located within the Neighborhood Residence ("R-N") zoning district. No Zoning Overlay Districts exist on the site as of June 2014. The following dimensions are required in the R-N district:

Neighborhood Residence

• Minimum Lot Area	20,000 Square Feet
• Minimum Lot Frontage	120 Feet
• Minimum Front Yard Setback	20 Feet
• Minimum Rear Yard Setback	15 Feet
• Minimum Side Yard Setback	15 Feet
• Maximum Building Coverage	20 %
• Maximum Lot Coverage	30 %
• Maximum Height of Structures	35 Feet
• Maximum Floors	3 Stories

STRUCTURAL SYSTEMS NARRATIVE

PROPOSED SCHEME – W12 – New Construction

SUBSTRUCTURE

Foundations

Based on the foundations of the existing structure, the columns of the proposed structure would bear on reinforced concrete spread footings and the perimeter foundation walls would bear on continuous reinforced concrete strip footings extending at least 4 ft.-0 in. below grade. With the assumed bearing capacity of the soil of 2 tons/sf, a typical interior footing would be 8 ft. – 0 in. x 8 ft. - 0 in. x 24 in. deep and the typical exterior footings would be 7 ft. x 7 ft. x 24 in. deep in the two story areas. Typical interior footings below the Gymnasium level would be 6 ft. x 6 ft. x 24 in. deep. Typical exterior footings at the Gymnasium would be 8 ft. x 8 ft. x 24 in. deep. The exterior foundation walls would be 14 in. to 16 in. thick, reinforced cast-in-place concrete walls on 24 to 36 in. wide continuous reinforced concrete strip footings around the perimeter of the building extending a minimum of 4 ft. – 0 in. below finished grade.

Slabs-on-Grade

Based on the existing school construction, the lowest level of the proposed structure would be a 5 in. thick concrete slab-on-grade reinforced with welded wire fabric over a vapor barrier on 2 in. thick rigid insulation on 8 in. of compacted granular structural fill and a base course of 8 in. of compacted gravel.

SUPERSTRUCTURE

Floor Construction

Typical Floor Construction

A 5 ¼ in. light weight concrete composite metal deck slab reinforced with welded wire fabric on wide flange steel beams spanning between steel girders and columns. The weight of the structural steel is estimated to be 13 psf for the typical framing.

Roof Construction

Typical Roof Construction

The roof construction would be galvanized, corrugated 1 ½ in. deep, Type 'B' metal roof deck spanning between wide flange steel beams and girders. At locations of roof supported mechanical equipment, a concrete slab will be provided similar to the typical supported slab. The weight of the structural steel is estimated to be 13 psf.

Low Roof Structure

The roof would be a continuation of the adjacent floor and would be similar to the typical floor construction of 5 ¼ in. light weight concrete composite metal deck slab reinforced with welded wire fabric on wide flange steel beams spanning between steel girders and columns. This roof will be supporting the mechanical units. The units would be screened by a screen comprised of structural steel posts and beams. The weight of the structural steel is estimated to be 15 psf.

Gymnasium Roof Framing

The roof construction would be acoustic, galvanized, corrugated 3 in. deep, Type 'NA' metal roof deck at the Gymnasium and 3 in. deep Type 'N' metal roof deck at the Auditorium, spanning between long span steel joists. The weight of the steel joists and structural steel framing is estimated to be 13 psf.

VERTICAL FRAMING ELEMENTS

Columns

Columns will be hollow structural steel columns. Typical columns would be HSS 8 x 8 columns and the columns at the double story spaces at the Gymnasium and Auditorium would be HSS 12 x 12.

Lateral Load-Resisting System

The proposed school structure will be divided into two parts separated by way of an expansion joint.

The typical lateral load resisting system for both parts of the structure would be ordinary concentric braced frames comprised of HSS structural steel members.

MECHANICAL SYSTEMS NARRATIVE – OPTION W12

1. CODES

All work installed under Division 230000 shall comply with the City of Amherst Building Code and all state, county, and federal codes, laws, statutes, and authorities having jurisdiction.

2. DESIGN INTENT

The work of Division 230000 is described within the narrative report. The HVAC project scope of work shall consist of providing new HVAC equipment and systems as described here within. All new work shall consist of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the Heating, Ventilating and Air Conditioning work and all items incidental thereto, including commissioning and testing.

3. BASIS OF DESIGN: (MASS CODE)

Massachusetts Code values are listed herein based on ASHRAE Weather Data Tables.

Outside: Winter -1°F, Summer 86°F DB 73°F WB

Inside: 70°F +/- 2°F for heating 75°F, +/- 2°F (50% RH +/- 5%) for air conditioning area. Unoccupied temperature setback will be 60°F +/- 2°F for heating 80°F, +/- 2°F (60% RH +/- 5%) for air conditioning area.

Outside ventilation air shall be provided at rates in accordance with ASHRAE guide 62.1-2010 and the International

Mechanical Code as a minimum. All occupied areas will be designed to maintain 800 PPM carbon dioxide maximum.

4. SYSTEM DESCRIPTION:

A. Central Heating Plant:

LEED for Schools Credit EP2 & EC1

Heating for the entire building including rooftop units will be through the use of a high efficiency oil-fired non-condensing boiler plant. A new boiler plant with (3) 2200 MBH input boilers and (2) end suction base mounted pumps with a capacity of 660 gpm each. Each boiler plant will supply heating hot water to all heating apparatus located throughout the adjacent building areas through a two-pipe fiberglass insulated schedule 40 black steel piping system. New hot water piping shall be installed to serve new HVAC systems. The boiler plants shall supply a maximum hot water temperature of 160 deg F on a design heating day and the hot water supply water temperature will be adjusted downward based on an outside temperature reset schedule to improve the overall operating efficiency of the power plants.

Primary and standby end suction base mounted pumps will be provided with variable frequency drives for variable volume flow through the water distribution system for improved energy efficiency.

Combustion air for each boiler will be directly ducted to each boiler through a galvanized ductwork distribution system. Venting from each boiler shall be through separate double wall aluminized stainless steel (AL29-4C) vent system and shall discharge between 6 feet to 12 feet above the roof level depending on the location of building intake air locations.

B. Central Cooling Plant:

LEED for Schools Credit EP2 & EC1

A high efficiency central chilled water cooling plant consisting of (1) 30 ton outdoor air cooled chillers, w/ (2) 80 GPM chilled water pumps in a primary and standby arraignment. Each pump will be controlled by VFDs. Accessories, controls and steel and copper piping distribution system shall be provided to serve chilled water cooling to induction units located throughout the building.

C. Classroom Heating, Ventilation, and Air Conditioning (Including Art, Music, SPED and general classrooms:

LEED of Schools Credit EP2, EC1, EC5, IEQP1, IEQC1, 2, 3.1, 3.2, 5, 6.2 & 7.1

Displacement Ventilation System

It is proposed that displacement diffusers shall be used to provide air condition and ventilation to the Classroom areas. Heating will be provided by ceiling mounted radiant panels along the perimeter walls which will be fed from the central boiler plant.

Supply airflow to each classroom will be modulated by a VAV (variable air volume) terminal box with temperature and CO2 demand controls that will deliver supply airflow to the displacement ventilation diffusers located in the classroom. CO2 demand controls shall modulate the VAV terminal box position to maintain 800 PPM within the classrooms and shall communicate to the rooftop unit to modulate the outside air damper and return air damper positions.

New rooftop air handling units with supply and return fan with VFDs, energy recovery wheels, hot water heating coil with modulating control valve, DX cooling, hot gas reheat system, and MERV 13 filtration will be provided to serve the induction system. Supply air will be provided to the space through new galvanized steel supply duct distribution system. Return air will be drawn back to the units by ceiling return air registers located within the classroom and will be routed back to the rooftop unit by a galvanized sheet metal return air ductwork distribution system. A wall mounted combination thermostat / humidity / CO2 sensor shall be provided for each space and shall control radiant panels located in the ceiling along the perimeter walls.

It is estimated that the following rooftop air handling equipment will be required to serve these Classroom areas:

Four (4) air handling units each with a capacity of 10,000 CFM (45 Tons Cooling, 430 MBH Heating).

One (1) air handling unit with a capacity of 5,000 CFM (25 Tons Cooling, 220 MBH Heating).

D. Gymnasium

LEED for Schools Credit EP2, EC1, EC5, IEQP1, IEQC1, 2, 3.1, 3.2, 5, 6.2 & 7.1

The gymnasium will be provided with one (1) roof mounted air handling unit. The unit will have a capacity of approximately 6,000 CFM and will include supply and return fans with VFDs, energy recovery wheels, 400 MBH hot water heating coil with modulating control valve, 30 tons of DX cooling hot gas reheat system and MERV 13 filtration.

Supply air will be provided to the space through new galvanized steel supply duct distribution system located high within the space and exposed with duct mounted diffusers. Return air will be drawn back to the units by low wall mounted return air registers located within the space and will be routed back to the unit by a galvanized sheet metal return air ductwork distribution system.

Supplemental hot water fin tube radiation heating or wall mounted runtal style radiator system will be provided along exterior walls.

CO2 demand ventilation will be utilized to reduce outside air based on population. As levels of carbon dioxide drop generally relating to a reduction in population the outside air damper will modulate to reduce outside air flow and allow recirculation while always maintaining a maximum of 800 ppm, CO_2 level within the space.

E. Administration, Guidance Areas and Media Center:

LEED for Schools Credit EP2, EC1, EC5, IEQP1, IEQC1, 2, 3.1, 3.2, 5, 6.2 & 7.1

Spatial heating, ventilation, and air-conditioning for the Administration, Guidance, and Media Center areas will be

served by ducted horizontal ceiling mounted 2-pipe heating, ventilation, and cooling active chilled beam induction units. Ventilation air to these areas will be provided by (2) 100% outside air rooftop air handling units. The Administration Area unit will have an approximate capacity of 2,000 CFM and be equipped with supply and return fans, VFDs, energy recovery wheels, 100 MBH heating hot water coil with modulating control valve, 10 ton capacity DX cooling, hot gas reheat system, and MERV 13 filtration. The media center will have an approximate capacity of 2,500 CFM, 120 MBH heating hot water coil with modulating control valve, 12 ton Dx cooling with hot gas reheat system. All other unit components will be typical to the administration unit.

F. Cafeteria/Stage:

LEED for Schools Credit EP2, EC1, EC5, IEQP1, IEQC1, 2, 3.1, 3.2, 5, 6.2 & 7.1

The cafeteria and stage area will be provided with one (1) new rooftop air handling unit. The unit will be approximately 5,000 CFM and will include supply and return fans with VFDs, energy recovery wheels, 350 MBH heating hot water coil with modulating control valve, 25 ton DX cooling system, and MERV 13 filtration. Supply air will be provided to the space through new galvanized steel supply duct distribution system located high within the space and exposed with duct mounted diffusers. Return air will be drawn back to the units by low wall mounted return air registers located within the space and will be routed back to the rooftop unit by a galvanized sheet metal return air ductwork distribution system.

Supplemental hot water fin tube radiation heating or wall mounted runtal style radiator system will be provided along exterior walls.

CO2 demand ventilation will be utilized to reduce outside air based on population. As levels of carbon dioxide drop generally relating to a reduction in population the outside air damper will modulate to reduce outside air flow and allow recirculation while always maintaining a maximum of 800 ppm, CO_2 level within the space.

G. Kitchen:

The kitchen area shall be provided with a new roof mounted 5,000 CFM kitchen exhaust fan and a roof mounted heating, ventilation and air conditioning unit approximately 5,000 CFM, 20 ton DX, 480 MBH heating hot water coil and shall serve as a make-up air system.

A variable volume kitchen exhaust hood control system consisting of kitchen exhaust stack temperature and smoke density sensors, supply and exhaust fan variable speed drives, and associated controller will be provided by the kitchen equipment vendor. This system installation shall be field installed and coordinated with the ATC and Electrical Contractors.

H. Computer Rooms:

Computer rooms which require additional cooling loads or year round cooling above that of which the proposed displacement ventilation systems can achieve, shall be provided with Ductless Cooling split unit systems. Approximately (2) units with associated outdoor air cooled condensers will be utilized, refer to Mechanical Load letter for further sizing information. Ventilation will be provided through the associated or adjacent classroom unit. Heating will be provided through ceiling mounted radiant panels.

I. IT Data Rooms:

IT Data Rooms shall be air conditioned by dedicated variable refrigerant flow Ductless Cooling unit systems, refer to Mechanical Load letter for further sizing information.

J. Loading, Custodial Support Areas:

1. The loading area and custodial support areas of the building shall be heated by indoor hot water unit heaters. The units each have an approximate capacity of 400CFM and 20 MBH heating coils. (Approximately 10 units throughout)

2. Roof mounted exhaust fans will be utilized for general areas including toilet rooms, janitor closets and art rooms, refer to Mechanical Load letter for further sizing information (approximately 8 exhaust fans).

K. Lobby, Corridor, and Entry Way Heating:

Lobby, corridor and entry ways shall be heated by a combination of new hot water radiant panels, cabinet unit heaters and fin tube radiation heating equipment.

5. TESTING, ADJUSTING, BALANCING AND COMMISSIONING

All new HVAC systems shall be tested, adjusted, balanced and commissioned as part of the project scope.

ESTIMATED MECHANICAL AND ELECTRICAL LOADS – OPTION W12

Description:

Under this option the building will utilize No.2 fuel oil as its fuel source for the boiler plant. The heating plant will provide heating hot water with 35% propylene glycol solution mixture to the rooftop units as well as the radiant heating panels and terminal heating units within the building. The rooftop units will be equipped with energy recovery wheels, hot water coils and direct expansion cooling sections. The chilled water plant will consist of an outdoor roof mounted air cooled chiller, the chilled water will also be provided with a 35% propylene glycol solution mixture.

Boiler Plant:

Unit Tag	Mode	Fuel Source	Heating Capacity	Voltage / HP / Amp
B-1	Non-Condensing	No.2 Fuel Oil	2200 MBH	460V / 1-1/2HP / 2.8Amp
B-2	Non-Condensing	No.2 Fuel Oil	2200 MBH	460V / 1-1/2HP / 2.8Amp
B-3	Non-Condensing	No.2 Fuel Oil	2200 MBH	460V / 1-1/2HP / 2.8Amp

Hot Water Pumps:

Unit Tag	GPM	Motor Type	Control Type	Pump Type	Voltage / HP
P-1	660	Premium Efficiency	VFD	End Suction	460V / 20.0HP
P-2	660	Premium Efficiency	VFD	End Suction	460V / 20.0HP

Chiller Plant:

Unit Tag	Mode	Tonnage	Cooling Capacity	Voltage / MOP
CH-1	Air Cooled	30	360 MBH	460V / 200MOP

Chilled Water Pumps:

Unit Tag	GPM	Motor Type	Control Type	Pump Type	Voltage / HP
P-3	80	Premium Efficiency	ECM	Inline	460V / 2.0HP
P-4	80	Premium Efficiency	ECM	Inline	460V / 2.0HP

Classrooms/Sped Rooms:

Unit Tag	CFM	Cooling Capacity	Heating Capacity	Motor Qty/HP
RTU-1	10,000	45 Tons	430 MBH	(2) 10.0HP & (1) 3/4HP
RTU-2	10,000	45 Tons	430 MBH	(2) 10.0HP & (1) 3/4HP
RTU-3	10,000	45 Tons	430 MBH	(2) 10.0HP & (1) 3/4HP
RTU-4	10,000	45 Tons	430 MBH	(2) 10.0HP & (1) 3/4HP

Art/Music Rooms:

Unit Tag	CFM	Cooling Capacity	Heating Capacity	Motor Qty/HP
RTU-5	5000	25 Tons	220 MBH	(2) 5.0HP & (1) 3/4HP

Gym:

Unit Tag	CFM	Cooling Capacity	Heating Capacity	Motor Qty/HP
RTU-6	6000	30 Tons	400 MBH	(2) 5.0HP & (1) 3/4HP

Media Center:

Unit Tag	CFM	Cooling Capacity	Heating Capacity	Motor Qty/HP
RTU-7	2500	12 Tons	120 MBH	(2) 4.0HP & (1) 1/4HP

Café/Stage:

Unit Tag	CFM	Cooling Capacity	Heating Capacity	Motor Qty/HP
RTU-8	5000	25 Tons	350 MBH	(2) 5.0HP & (1) 3/4HP

Administration Area:

Unit Tag	CFM	Cooling Capacity	Heating Capacity	Motor Qty/HP
RTU-9	2000	10 Tons	100 MBH	(2) 4.0HP & (1) 1/4HP

Kitchen:

Unit Tag	CFM	Cooling Capacity	Heating Capacity	Motor Qty/HP
H&V-1	5000	20 Tons	480 MBH	(2) 7.5HP

General Exhaust:

Unit Tag	CFM	Motor Qty/HP	Area Served
EF-1	800	(1) 1.0HP	Storage/Toilet/Jan
EF-2	800	(1) 1.0HP	Storage/Toilet/Jan
EF-3	800	(1) 1.0HP	Storage/Toilet/Jan
EF-4	800	(1) 1.0HP	Storage/Toilet/Jan
EF-5	1200	(1) 2.0HP	Art Rooms
EF-6	1200	(1) 2.0HP	Art Rooms
EF-7	5000	(1) 5.0HP	Kitchen Hood
EF-8	1500	(1) 2.0HP	Main Elec Room

Split Cooling Units:

Unit Tag	CFM	Cooling Capacity	Heating Capacity	Area Served
DCU-1	600	2 Tons	N/A	IDF Room
DCU-2	600	2 Tons	N/A	IDF Room
DCU-3	900	4 Tons	N/A	Head End Room
DCU-4	800	3 Tons	N/A	Computer Room
DCU-5	800	3 Tons	N/A	Computer Room

Unit Heaters:

Unit Tag	CFM	Motor Qty/HP	Area Served
UH-1	500	(1) 1/4HP	Vestibule
UH-2	500	(1) 1/4HP	Vestibule
UH-3	500	(1) 1/4HP	Vestibule
UH-4	500	(1) 1/4HP	Vestibule
UH-5	500	(1) 1/4HP	Storage Rm
UH-6	500	(1) 1/4HP	Storage Rm
UH-7	800	(1) 1/4HP	Storage Rm
UH-8	1200	(1) 1/2HP	Storage Rm
UH-9	1200	(1) 1/2HP	Mechanical Rm
UH-10	1200	(1) 1/2HP	Receiving Area

ELECTRICAL NARRATIVE REPORT – OPTION W12

The following is the Electrical System Narrative, which defines the scope of work and capacities of the Power and Lighting system as well as the Basis of Design. The electrical systems shall be designed and constructed for *LEED for Schools 2009* where indicated on this narrative.

1. CODES

All work installed under Division 26 shall comply with the Massachusetts State Building Code and all local, county, and federal codes, laws, statutes, and authorities having jurisdiction.

2. DESIGN INTENT

The work of Division 26 is as described in this Narrative. All work is new and consists of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the Electrical work and all items incidental thereto, including commissioning and testing.

3. DESIGN PARAMETERS

High Voltage:	277/480 Volt
Low Voltage:	120/208 Volt
Phase:	3-Phase, 4-Wire
Amperage:	2,000 Amps
KW:	1,150 KW

4. BUILDING SYSTEMS

Sequence of Operations and Interactions:

Classroom and corridor lighting will be controlled via "addressable relays", which is achieved through programming. The control of the relays will be by automatic means such as a vacancy sensor in each classroom. Lighting controls will be in conformance with IECC 2012. The controllability shall be in conformance with LEED IEQ 6.1.

Exterior lighting will be controlled by photocell "on" and "timed" for "off" operation. Exterior lighting will have dimming capability and designed in accordance with IESS standards, and in compliance with LEED Light Pollution Reduction Credit.

Emergency lighting and exit lighting will be run through life safety panels to be on during normal power conditions, as well as, power outage conditions. The emergency lighting system will have control so that lights are "on" only when the building is occupied.

5. DESCRIPTION OF THE SYSTEMS

S. Electrical Distribution System:

The service capacity will be sized for 2,000 amperes at 277/480 volt, 3 phase, 4 wire. New lighting, power panels, and mechanical panels will be provided to accommodate respective loads. The equipment will be located in dedicated rooms or closets.

We anticipate secondary metering with the transformer supplied by the utility company.

We are proposing an underground secondary service of 2,000 Amps, 277/480 volt, 3 phase, 4 wire.

Our	A. HVAC	Boilers:				kVA
		B-1		1 – ½ HP		2.5
		B-2		1 – ½ HP		2.5
		B-3		1 – ½ HP		2.5
		Hot Water Pumps:				
		P-1		20 HP		19.8
		P-2		20 HP		(redundant)
		Chiller Plant:				
		Ch-1		30 Tons		45
		Chilled Water Pumps:				
		P-3		2 HP		2.5
		P-4		2 HP		(redundant)
		Roof-top Units:				
		RTU-1				45 Tons, (12) 7.5 HP & (1) ¾ HP = 85.6
		RTU-2				45 Tons, (12) 7.5 HP & (1) ¾ HP = 85.6
		RTU-3				45 Tons, (12) 7.5 HP & (1) ¾ HP = 85.6
		RTU-4				45 Tons, (12) 7.5 HP & (1) ¾ HP = 85.6
		RTU-5				25 Tons, (2) 5 HP & (1) ¾ HP = 50.0
		RTU-6				30 Tons, (2) 5 HP & (1) ¾ HP = 57.5
		RTU-7				12 Tons, (2) 4 HP & (1) ¼ HP = 26.25
		RTU-8				25 Tons, (2) 5 HP & (1) ¾ HP = 50.0
		RTU-9				10 Tons, (2) 4 HP & (1) ¼ HP = 23.25

Kitchen Unit:					kVA
H&V-1			20 Tons (2) 7.5 HP	=	46.75
Exhaust Fans:					
EF-1			1 HP	=	1.3
EF-2			1 HP	=	1.3
EF-3			1 HP	=	1.3
EF-4			1 HP	=	1.3
EF-5			2 HP	=	2.5
EF-6			2 HP	=	2.5
EF-7			5 HP	=	5.7
EF-8			2 HP	=	2.5
Split Cooling Units:					
DCU-1			2 Tons	=	3
DCU-2			2 Tons	=	3
DCU-3			2 Tons	=	6
DCU-4			2 Tons	=	4.5
DCU-5			2 Tons	=	4.5
Unit Heaters:					
UH-1			1/4 HP	=	.6
UH-2			1/4 HP	=	.6
UH-3			1/4 HP	=	.6
UH-4			1/4 HP	=	.6
UH-5			1/4 HP	=	.6
UH-6			1/4 HP	=	.6
UH-7			1/4 HP	=	.6
UH-8			1/2 HP	=	.7
UH-9			1/2 HP	=	.7
UH-10			1/2 HP	=	.7
			Sub-Total	=	717.95

B. Plumbing/Fire Protection							
		Water Coolers	6	@	1/4 HP	=	2.0
		Circular Pumps	2	@	1/3 HP	=	1.0
		Water Heaters	2	@	1 HP	=	3.0
					Subtotal	=	6.0

C. Elevator			@	30 HP	=	33.3
D. Exterior Lighting					=	5.0
E. Interior Lighting	122,714 s.f.		@	1.0W/s.f.	=	122.7
F. General Power	122,714 s.f.		@	2.0 W/s.f.	=	245.4
G. Kitchen Equipment					=	20.0

Connected Load Summary				A.	=	717.95
				B.	=	6.0
				C.	=	33.3
				D.	=	5.0
				E.	=	122.7
				F.	=	245.4
				G.	=	20.0
				Total	=	1150.35

1150.35 kVA @ 277/480V, 3 phase, 4 wire = 1384.3 amperes

1384.3 amperes @ 125% derating factor = 1730.4 amperes

A standard 2,000 ampere 277/480V, 3 phase, 4 wire service was selected. The main circuit breaker will be solid state and rated 80% of continuous load.

Secondary service will consist of (5) sets of #600 KCM copper in (5) 4" conduits plus (1) 4" spare.

T. Interior Lighting System:

Classroom lighting fixtures consist of pendant mounted direct/indirect LED luminaries and dimming drivers. The fixtures will be pre-wired for dimming control where natural daylight is available and also for multi-level switching. Office lighting fixtures will consist of similar fixtures to classrooms. Offices on the perimeter with windows will have daylight dimming controls similar to classrooms.

In general, lighting power density will be 30-40 percent less than IECC 2012. The power density reduction relates to LEED Credit EAC1.

Lighting levels will be approximately 30 foot candles in classrooms and offices. The daylight dimming foot candle level will be in conformance with LEED Credit IEQ 6.1.

Gymnasium lighting will be comprised of high bay LED fixtures with integral dimming drivers. The fixtures will be provided with protective wire guards and integral occupancy sensors. The light level will be designed for approximately 50 foot candles.

Corridor lighting will be comprised of recessed LED linear direct fixtures and recessed LED downlight fixtures. The corridor light level will be designed for approximately 20 foot candles. Corridor lighting will be on time clock control and only "on" during occupied hours. The light level will be switched to 50 percent when classrooms are in occupied period.

Cafeteria lighting will be a combination of LED pendant mounted direct/indirect fixtures and LED pendant decorative fixtures with integral dimming drivers. The light levels will be designed for approximately 30 foot candles.

Kitchen lighting will consist of recessed LED acrylic lensed gasketed troffers with aluminum frame doors with three T5 lamps and electronic ballasts. Light levels will be approximately 50 foot candles.

Art/music rooms will consist of pendant linear direct slot LED fixtures with an acrylic frosted lens pendant mounted between acoustical clouds. LED supplemental track lighting will be provided for display of art work with proper color rendering. Light levels will be approximately 30 foot candles.

Each area will be locally switched and designed for multi-level controls. Each classroom, office space, and toilet room will have a vacancy sensor to turn lights "off" when unoccupied. Daylight sensors will be installed in each room where natural light is available for dimming of light fixtures. The control system shall be in accordance with LEED IEQC 6.1.

The entire school will be controlled with an automatic lighting control system for programming lights "on" and "off". The system will interface with the building automation system (BAS) for scheduling purposes.

U. Emergency Lighting System:

An exterior 200 KW diesel fired emergency generator with sound attenuated enclosure and state code belly tank will be provided. Light fixtures and LED exit signs will be installed to serve all egress areas such as corridors, intervening spaces, toilets, stairs, and exit discharge exterior doors.

The generator will be sized to include fire safety systems, boilers and circulating pumps, refrigeration equipment, communications systems, etc.

A 2,000 ampere switchboard section with kirk key interlock shall be provided as an alternate for roll-up generator.

V. Site Lighting System:

Fixtures for area lighting will be pole mounted cut-off 'LED' luminaries in the parking area and roadways. Pole heights will be 20 feet. The exterior lighting will be connected to the automatic lighting control system for photocell "on" and timed "off" operation. The site lighting fixtures will be dark sky compliant. The illumination level will be 0.5fc for parking areas in accordance with Illuminating Engineering Society. Building perimeter fixtures will be 'LED' wall mounted cut-off over exterior doors for exit discharge. Lighting design will be in conformance to LEED for Schools Credit SSc8.

W. Wiring Devices:

Each classroom will have a minimum of two duplex receptacles per teaching wall and two double duplex receptacles on dedicated circuits at classroom computer workstations. The teacher's workstation will have a double duplex receptacle also on a dedicated circuit.

Office areas will generally have one duplex outlet per wall. At each workstation a double duplex receptacle will be provided.

Corridors will have a cleaning receptacle at approximately 25 foot intervals.

Exterior weatherproof receptacles with lockable enclosures will be installed at exterior doors.

A system of computer grade panelboards with double neutrals and surge protective devices will be provided for receptacle circuits.

X. Uninterruptible Power Supply (UPS):

One 24 KW, three phase centralized UPS system will be provided with battery back-up.

The system will provide conditioned power to sensitive electronic loads, telecommunication systems, bridge over power interruptions of short duration and allow an orderly shutdown of servers, communication systems, etc. during a prolonged power outage.

The UPS system will also be connected to the standby generator.

Y. Fire Alarm System:

A fire alarm and detection system will be provided with 60 hr. battery back-up. The system will be of the addressable type where each device will be identified at the control panel and remote annunciator by device type and location to facilitate search for origin of alarms. The fire alarm control panel will contain voice evacuation amplifiers and microphone units.

Smoke detectors will be provided in assembly areas, corridors, stairwells, and other egress ways.

The sprinkler system will be supervised for water flow and tampering with valves.

Speaker/strobes will be provided in egress ways, classrooms, assembly spaces, open areas, and other large spaces. Strobe only units will be provided in single toilets and conference rooms.

Manual pull stations will be provided at exit discharge doors and at each egress stairwell
not located at grade level.

The system will be remotely connected to automatically report alarms to the fire department via an approved method by the fire department.

Z. Distributed Antenna System (DAS) for Public Safety Communications:

The DAS system consists of bi-directional amplifiers, donor antennas, coverage antennas, coax cable, coax connectors, splitters, combiners, and couplers. The components provide coverage for public safety 2-way radio systems to operate within the building.

AA. Lightning Protection System:

A lightning protection system will be provided.

The lightning protection equipment will include air terminals, conductors, conduits, fasteners, connectors, ground rods, etc.

6. TESTING REQUIREMENTS

The Electrical Contractor shall provide testing of the following systems with the Owner and Owner's Representative present:

- Lighting and power panels for correct phase balance.
- Emergency generator.
- Lighting Control System (interior and exterior).
- Fire Alarm System.
- Uninterruptible Power Supply
- Security System.
- Lightning Protection System.

Testing reports shall be submitted to the Engineer for review and approval before providing to the Owner.

7. OPERATION MANUALS AND MAINTENANCE MANUALS

When the project is completed, the Electrical Contractor shall provide operation and maintenance manuals to the Owner.

8. RECORD DRAWINGS AND CONTROL DOCUMENTS

When the project is completed, an as-built set of drawings, showing all lighting and power requirements from contract and addendum items, will be provided to the Owner.

9. COMMISSIONING

The project will be commissioned per Section 018100 of the specifications.

10. SECURITY SYSTEM

K. <u>CCTV:</u>

A Closed Circuit TV system will consist of computer servers with image software, computer monitors, and IP based closed circuit TV cameras. The head end server will be located in the head end MDF room and will be rack mounted. The system can be accessed from any PC within the facility or externally via an IP address. Each camera can be viewed independently. The Storage Appliance Network (SAN) will store this information for 30 days at 30 frames per second.

The location of the cameras is generally in corridors and exterior building perimeter. The exterior cameras are 180 degree, multi-head type.

The system will fully integrate with the access control system to allow viewing of events from a single alarm viewer. Camera images and recorded video will be linked to the access system to allow retrieval of video that is associated with an event.

L. Intrusion System:

An intrusion system will consist of security panel, keypads, motion detectors, and door contacts. The system is addressable which means that each device will be identified when an alarm occurs. The system is designed so that corridors will have dual tech sensors along with grade level window spaces and door contacts at each exterior door.

The system can be partitioned into several zones; therefore, it is possible to use the Gym area while the remainder of the school remains alarmed.

The system will include a digital transmitter to summons the local police department in the event of an alarm condition

The intrusion system will be connected to the automated lighting control system to automatically turn on lighting upon an alarm.

M. Card Access:

A card access system includes a card access controller, door controllers, and proximity readers/keypads with key-fobs. Proximity readers will be located at various locations. Each proximity reader will have a distinctive code to identify the user and a log will be kept in memory. The log within the panel can be accessed through a computer.

The alarm condition will also initiate real time recording on the integrated CCTV System. The system may be programmed with graphic maps allowing the end-user to quickly identify alarm conditions and lock/unlock doors.

The system is modular and may be easily expanded to accommodate any additional devices.

N. Door Entry System:

A combination audio and video intercom system will be provided at main doors. Intercom stations and master intercom stations will have audio and video systems. The system will integrate with the card access system for door unlocking.

O. Site Utilities:

The incoming services including electric, telephone, cable tv, fiber, and fire alarm will enter building underground.

TECHNOLOGY NARRATIVE REPORT – OPTION W12

The following is the Technology System narrative, which defines the scope of work and capacities of the Communications system infrastructure and Security system as well as the Basis of Design.

1. CODES

A. All work installed under Section 270000 shall comply with the Massachusetts Building Code, IBC 2009 Appendix 115AA - Stretch Energy Code, and all local, county, and federal codes, laws, statues, and authorities having jurisdiction.

2. DESIGN INTENT

A. All work is new and consists of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the Technology and Security work and all items incidental thereto, including commissioning and testing.

3. TECHNOLOGY

A. The data system infrastructure will consist of fiber optic backbone cabling horizontal wiring will consist of Category 6A UTP Plenum rated cabling for both data and telephone systems for gigabit connectivity. The telephone infrastructure will accommodate PBX, or VOIP based voice systems. The existing NEC SV8100 VOIP phone system can be utilized and expanded on for the new building.

B. Each classroom will have four data outlets for student computers. Two data, one voice with video, and audio connections to a wall mounted projector will be provided at the teacher's station with interconnectivity to a interactive whiteboard. A wall phone outlet with 2-way ceiling speaker will be provided for communications with administration. Wireless access points will be provided in all classrooms and other spaces in addition to (2) CAT6A.cables to access points multimode fiber will also be provided.

C. A central paging system will be provided and integrated with the telephone system.

D. A wireless GPS/LAN based master clock system will be provided with 120V wireless remote clocks that act as transceivers.

E. The Main Distribution Frame (MDF) will contain all core network switching and IP voice switch. Intermediate Distribution Frames (IDFs) will serve each floor/wing of the school. A fiber optic backbone will be provided from each IDF to MDF. The backbone will be designed for 10 Gbps Ethernet.

TESTING REQUIREMENTS

A. The Technology and Security Contractors shall provide testing of the following systems with the Owner and Owner's representative present:

- Telephone and data cabling
- Fiber optic backbone cabling
- Paging system
- Wireless clock system
- A/V wiring for classrooms

Testing reports shall be submitted to the Engineer for review and approval before providing to the Owner.

4. OPERATION MANUALS AND MAINTENANCE MANUALS:

A. When the project is completed, the Technology Contractor shall provide operation and maintenance manuals to the Owner.

5. RECORD DRAWINGS AND CONTROL DOCUMENTS:

A. When the project is completed, an as-built set of drawings, showing all lighting and power requirements from contract and addendum items, will be provided to the Owner.

6. COMMISSIONING

A. The project shall be commissioned per Commissioning Section of the specifications

PLUMBING NARRATIVE REPORT – OPTION W12

The following is the Plumbing system narrative, which defines the scope of work and capacities of the Plumbing system as well as the Basis of Design. The Plumbing Systems shall be designed and constructed for ***LEED for Schools*** where indicated on this narrative.

1. CODES

A. All work installed under Section 220000 shall comply with the MA Building Code, MA Plumbing Code and all state, county, and federal codes, laws, statutes, and authorities having jurisdiction.

2. DESIGN INTENT

K. All work is new and consists of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the Plumbing work and all items incidental thereto, including commissioning and testing.

3. GENERAL

G. The Plumbing Systems that will serve the project are cold water, hot water, sanitary waste and vent system, grease waste system, and storm drain system.

H. The Building will be serviced by Municipal water and Municipal sewer system.

I. All Plumbing in the building will conform to Accessibility Codes and to Water Conserving sections of the Plumbing Code.

4. DRAINAGE SYSTEM

A. Soil, Waste, and Vent piping system is provided to connect to all fixtures and equipment. System runs from 10 feet outside building and terminates with stack vents through the roof.

L. A separate Grease Waste System starting with connection to an exterior concrete grease interceptor running thru the kitchen and servery area fixtures and terminating with a vent terminal through the roof. Point of use grease interceptors are to be provided at designated kitchen fixtures. The grease interceptor is provided under Division 33 scope.

M. Storm Drainage system is provided to drain all roofs with roof drains piped through the building to a point 10 feet outside the building.

N. Drainage system piping will be service weight cast iron piping; hub and spigot with gaskets for below grade; no hub with gaskets, bands and clamps for above grade 2 in. and larger. Waste and vent piping 1-1/2 in. and smaller will be type 'L' copper.

5. WATER SYSTEM

A. New 4 inch domestic water service from the municipal water system will be provided. A meter and backflow preventer, if required, will be provided.

B. Cold water distribution main is provided. Non-freeze wall hydrants with integral back flow preventers are provided along the exterior of the building.

C. Domestic hot water heating will be provided with an oil fired water heater with a rated input of 450,000 BTUH with 245 gallons of storage. System is to be equipped with thermostatically controlled mixing devices to control water temperature to the fixtures.

D. A pump will re-circulate hot water from the piping system. Water temperature will be 120 deg. to serve general use fixtures. A 140 deg. F hot water will be supplied to the kitchen dishwasher.

E. Water piping will be type 'L' copper with wrought copper sweat fittings, silver solder or press-

7. FIXTURES *LEED for Schools Credit WEp1 & WEc3*

A. Furnish and install all fixtures, including supports, connections, fittings, and any incidentals to make a complete installation.

B. Fixtures shall be the manufacturer's guaranteed label trademark indicating first quality. All acid resisting enameled ware shall bear the manufacturer's symbol signifying acid resisting material.

C. Vitreous china and acid resisting enameled fixtures, including stops, supplies and traps shall be of one manufacturer by Kohler, American Standard, or Eljer, or equal. Supports shall be Zurn, Smith, Josam, or equal. All fixtures shall be white. Faucets shall be Speakman, Chicago, or equal.

D. Fixtures shall be as scheduled on drawings.

13. Water Closet: High efficiency toilet, 1.28 gallon per flush, wall hung, vitreous china, siphon jet. Manually operated 1.28 gallon per flush-flush valve.

14. Urinal: High efficiency 0.13 gallon per flush urinal, wall hung, vitreous china. Manually operated 0.13 gallon per flush-flush valve.

15. Lavatory: Wall hung/countertop ADA lavatory with 0.5 GPM metering mixing faucet programmed for 10 second run-time cycle.

16. Sink: Elkay ADA stainless steel countertop sink with Chicago 201A faucet and 0.5 GPM aerator.

17. Drinking Fountain: Halsey Taylor hi-low wall mounted electric water cooler, stainless steel basin with bottle filling stations.

18. Janitor Sink: 24 x 24 x 10 Terrazo mop receptor Stern-Williams or equal.

8. DRAINS

A. Drains are cast iron, caulked outlets, nickaloy strainers, and in waterproofed areas and roofs shall have galvanized iron clamping rings with 6 lb. lead flashings to bond 9 in. in all directions. Drains shall be Smith, Zurn, Josam, or equal.

9. VALVES

A. Locate all valves so as to isolate all parts of the system. Shutoff valves 3 in. and smaller shall be ball valves, solder end or screwed, Apollo, or equal.

10. INSULATION

A. All water piping shall be insulated with snap-on fiberglass insulation Type ASJ-SSL, equal to Johns Manville Micro-Lok HP.

11. CLEANOUTS

A. Cleanouts shall be full size up to 4 in. threaded bronze plugs located as indicated on the drawings and/or where required in soil and waste pipes.

12. ACCESS DOORS

A. Furnish access doors for access to all concealed parts of the plumbing system that require accessibility. Coordinate types and locations with the Architect.

FIRE PROTECTION NARRATIVE REPORT – OPTION W12

The following is the Fire Protection system narrative, which defines the scope of work and capacities of the Fire Protection system as well as the Basis of Design.

1. CODES

A. All work installed under Section 210000 shall comply with the MA Building Code and all state, county, and federal codes, laws, statutes, and authorities having jurisdiction.

2. DESIGN INTENT

A. All work is new and consists of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the Fire Protection work and all items incidental thereto, including commissioning and testing.

3. GENERAL

A. In accordance with the provisions of the Massachusetts Building Code, a school building of greater than 12,000s.f. must be protected with an automatic sprinkler system.

4. DESCRIPTION

A. The new building will be served by a new 8 inch fire service, double check valve assembly, wet alarm valve complete with electric bell, and fire department connection meeting local thread standards.

B. System will be an automatic sprinkler system with control valve assemblies to limit the sprinkler area controlled to less than 52,000 s.f. as required by NFPA 13-2013. Three sprinkler zones will be provided for First Floor and two for the Second Floor.

C. Control valve assemblies shall consist of a supervised shutoff valve, check valve, flow switch and test connection with drain.

D. All areas of the building, including all finished and unfinished spaces, combustible concealed spaces, all electrical rooms and closets will be sprinklered.

E. All sprinkler heads will be quick response, pendent in hung ceiling areas and upright in unfinished areas.

5. BASIS OF DESIGN

A. The mechanical rooms, kitchen, classrooms, and storage rooms are considered Ordinary Hazard Group 1; all other areas are considered light hazard.

B. Required Design Densities:

Light Hazard Areas	0.10 GPM over 1,500 s.f.
Ordinary Hazard Group 1	0.15 GPM over 1,500 s.f.

C. Sprinkler spacing (max.):

Light Hazard Areas:	225 s.f.
Ordinary Hazard Areas:	130 s.f.

0. A hydrant flow test will be required to determine Municipal water supply capacities.

6. PIPING

A. Sprinkler piping 1-1/2 in. and smaller shall be ASTM A-53, Schedule 40 black steel pipe. Sprinkler/standpipe piping 2 in. and larger shall be ASTM A-135, Schedule 10 black steel pipe.

7. FITTINGS

A. Fittings on fire service piping, 2 in. and larger, shall be Victaulic Fire Lock Ductile Iron Fittings conforming to ASTM A-536 with integral grooved shoulder and back stop lugs and grooved ends for use with Style 009-EZ or Style 005 couplings. Branch line fittings shall be welded or shall be Victaulic 920/920N Mechanical Tees. Schedule 10 pipe shall be roll grooved. Schedule 40 pipe, where used with mechanical couplings, shall be roll grooved and shall be threaded where used with screwed fittings. Fittings for threaded piping shall be malleable iron screwed sprinkler fittings.

8. JOINTS

A. Threaded pipe joints shall have an approved thread compound applied on male threads only. Teflon tape shall be used for threads on sprinkler heads. Joints on piping, 2 in. and larger, shall be made up with Victaulic, or equal, Fire Lock Style 005, rigid coupling of ductile iron and pressure responsive gasket system for wet sprinkler system as recommended by manufacturer.

9. DOUBLE CHECK VALVE ASSEMBLY

A. Double check valve assembly shall be MA State approved, U.L./F.M. approved, with iron body bronze mounted construction complete with supervised OS & Y gate valves and test cocks. Furnish two spare sets of gaskets and repair kits.

B. Double check valve detector assembly shall be of one of the following:

1. Watts Series 757-OSY
2. Wilkins 350A-OSY
3. Conbraco Series 4S-100
4. Or equal

10. SPRINKLERS

O. All sprinklers to be used on this project shall be Quick Response type and shall be stamped with date of manufacture and temperature rating. Temperature ratings shall be determined by the location of the heads per NFPA 13-2013, section 8.3.2.5, and shall be minimum 155 degrees F. throughout except in special areas around heat producing equipment, skylights, and attics in which case use temperature rating to conform with hazard as specified in NFPA 13-2013.

P. Furnish spare heads of each type installed located in a cabinet along with special sprinkler wrenches. The number of spares and location of cabinet shall be in complete accord with NFPA 13-2013.

Q. Sprinklers shall be manufactured by Tyco, Victaulic, Viking, or equal.

R. Upright sprinkler heads in areas with no ceilings shall be Tyco Model "TY-FRB".

S. Sidewall and pendent wet heads shall be Tyco Model "TY-FRB".

T. Concealed heads shall be Tyco Model "RFII" with white cover plates.

U. Sidewall and pendent dry sprinkler heads shall be Tyco Model "DS-1".

PROPOSED TOTAL PROJECT BUDGET / CONSTRUCTION COST ESTIMATE (UNIFORMAT II) – OPTION W12

A.M. Fogarty & Assoc., Inc.
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ptim@amfogarty.com
"Construction Cost Consultants"

STUDY
Wildwood Elementary School
Amherst, MA

2-Feb-16

Designer: JCJ Architecture
Drawings Dated:

Drawings Dated: Jan. 21, 2016

OPTION W12	GSF		COST PER S.F.	**TOTAL**
NEW CONSTRUCTION - BLDG COST	122,714	**GSF**	$264.26	**$32,428,434**
DEMOLITION	82,000	**GSF**	$6.75	**$553,500**
HAZARDOUS WASTE REMOVAL	82,000	**GSF**	$10.00	**$820,000**
SITE COST				**$3,167,701**
	TOTAL DIRECT COST			$36,969,635
CM AT RISK CHPTR 149A				
DESIGN CONTINGENCY		12%		$4,436,356
CM CONTINGENCY		2%		$828,120
ESCALATION (bid fall 2017)		5%		$2,070,300
GENERAL CONDITIONS	30	MOS	$115,000	$3,450,000
GENERAL REQUIREMENTS		2%		$955,088
BUILDING PERMIT		1%		$487,095
P&P BOND & INSURANCE		2%		$974,190
PROFIT		3%		$1,505,124
	TOTAL CONSTRUCTION COST			$51,675,907
	COST PER SF			**$421.11**

Prepared by: A. M. Fogarty & Associates, Inc.
WILDWOOD ELEM SCHOOL STUDY 1 - 162/2/201610:24 AM

PERMITTING REQUIREMENTS

A. Notice of Intent – Amherst Conservation Commission and MassDEP – Driveway and utility alterations within 100 feet of a pond/land under water body buffer at Strong Street and connection of drainage to existing municipal drainage system (alteration of bank).

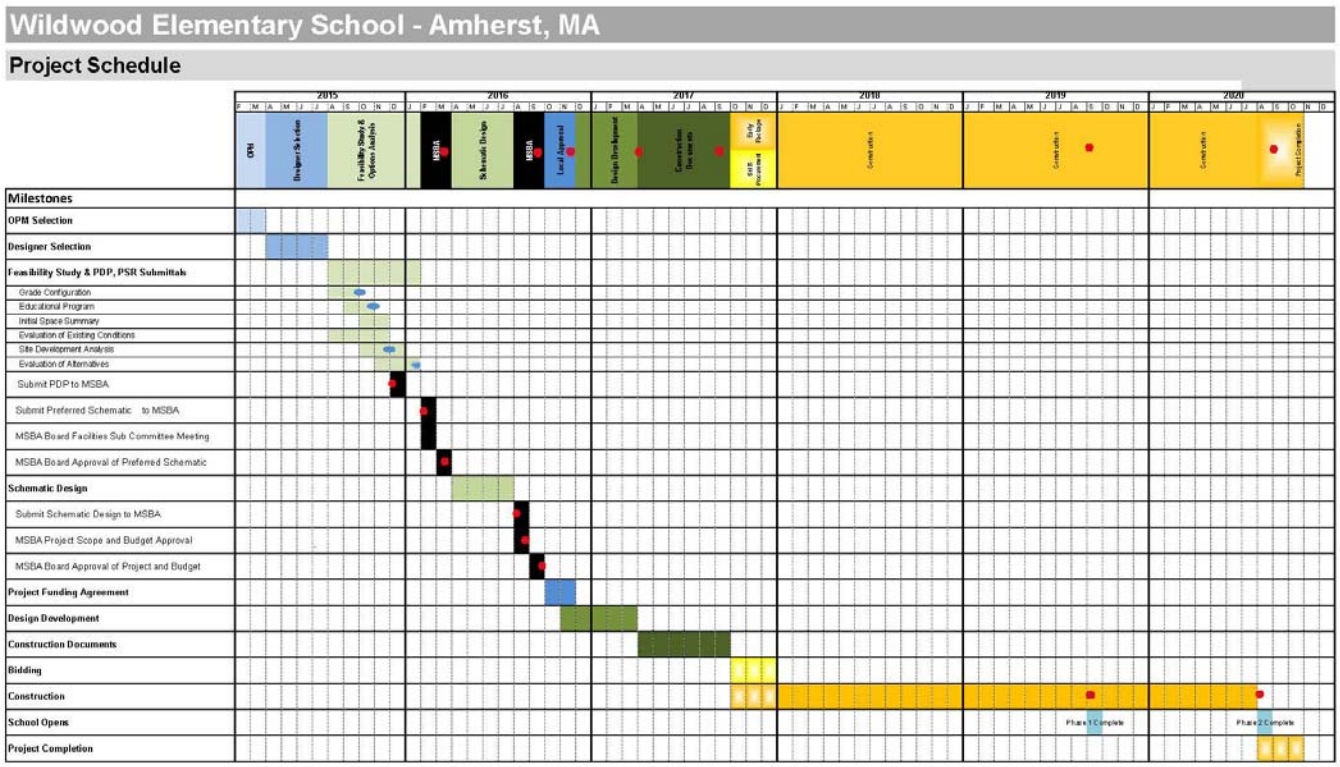
B. Site Plan Review – Amherst Planning Board – Major site construction project.

C. Zoning Board of Appeals – Amherst Zoning Board of Appeals – Relief from potential Zoning requirements such as 30% maximum lot coverage.

D. Water Main/Service Connections – Amherst Department of Public Works – Review of existing water main relocation and connection to proposed building.

E. Sewer Piping/Service Connections – Amherst Department of Public Works – Review of existing sewer relocation and connection to proposed building.

PROPOSED PROJECT DESIGN AND CONSTRUCTION SCHEDULE – OPTION W12



Feasibility Study Phase

November 20, 2015

JOSLIN LESSER Project Management

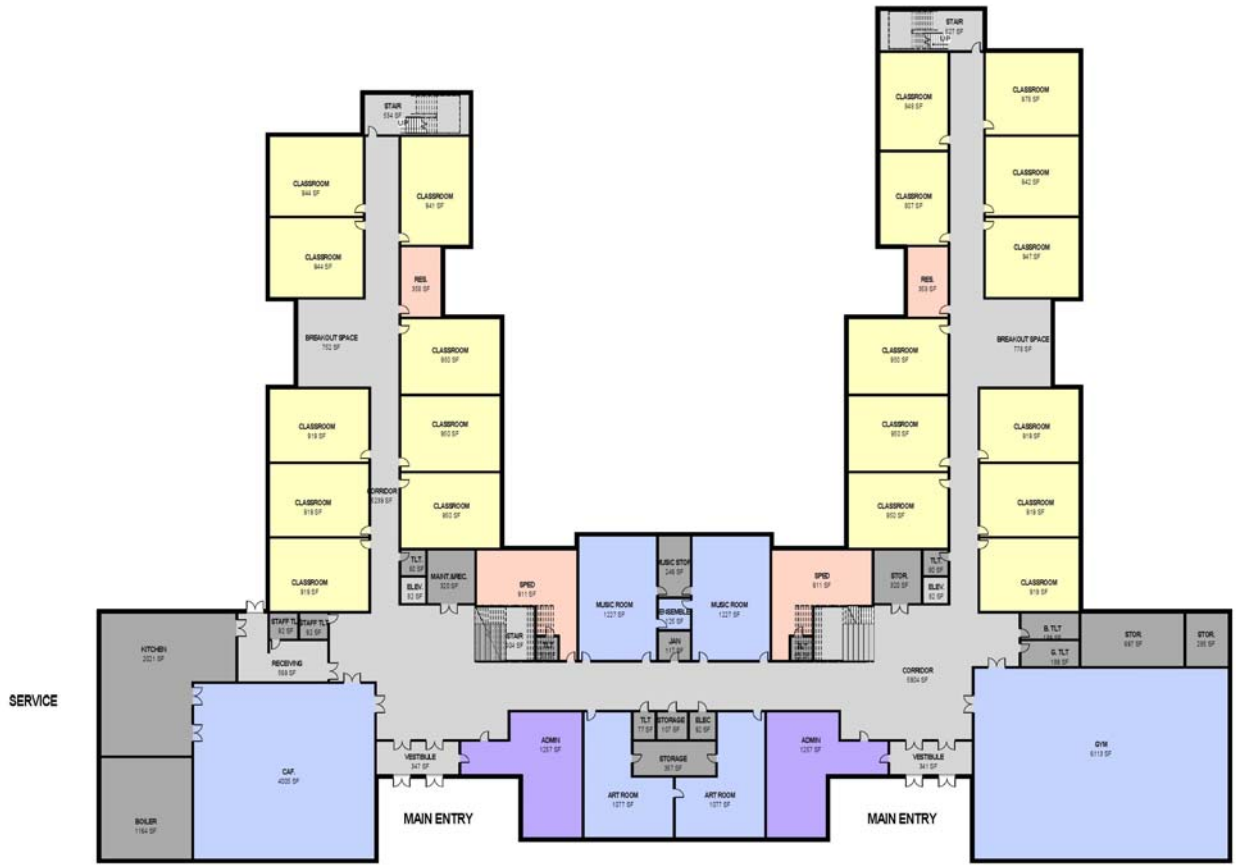
OPTION FR5 - DETAIL

Option FR5 studies a 2-6 (750) Option as a new building located on the Fort River site. Due to the required setbacks and the adjacent flood plain, the layout of this option would essentially reuse the existing circulation patterns and playfields while replacing the existing building with a new, two story structure that addresses the educational plan and the proposed Space Summary requirements. The completed new building would total 122,714SF. In this option, the site circulation would remain close to what presently exists.

EVALUATION OF POTENTIAL CONSTRUCTION IMPACTS

In order to implement this option, the Town must identify some swing space for the students that are currently occupying the building. The construction would entail demolishing the existing building and constructing the new school in a proposed 20 month schedule. This option could potentially be quite disruptive to the educational environment due to the displacement of students to temporary locations.

CONCEPTUAL ARCHITECTURAL AND SITE PLANS



LEGEND

- GENERAL CLASSROOMS
- SPECIALIZED CLASSROOMS
- CORE SPACES
- ADMINISTRATIVE / FACULTY
- BUILDING SUPPORT SPACES
- CIRCULATION/STAIRS/ELEVATORS

0 10 20 40 80

PLAN NORTH

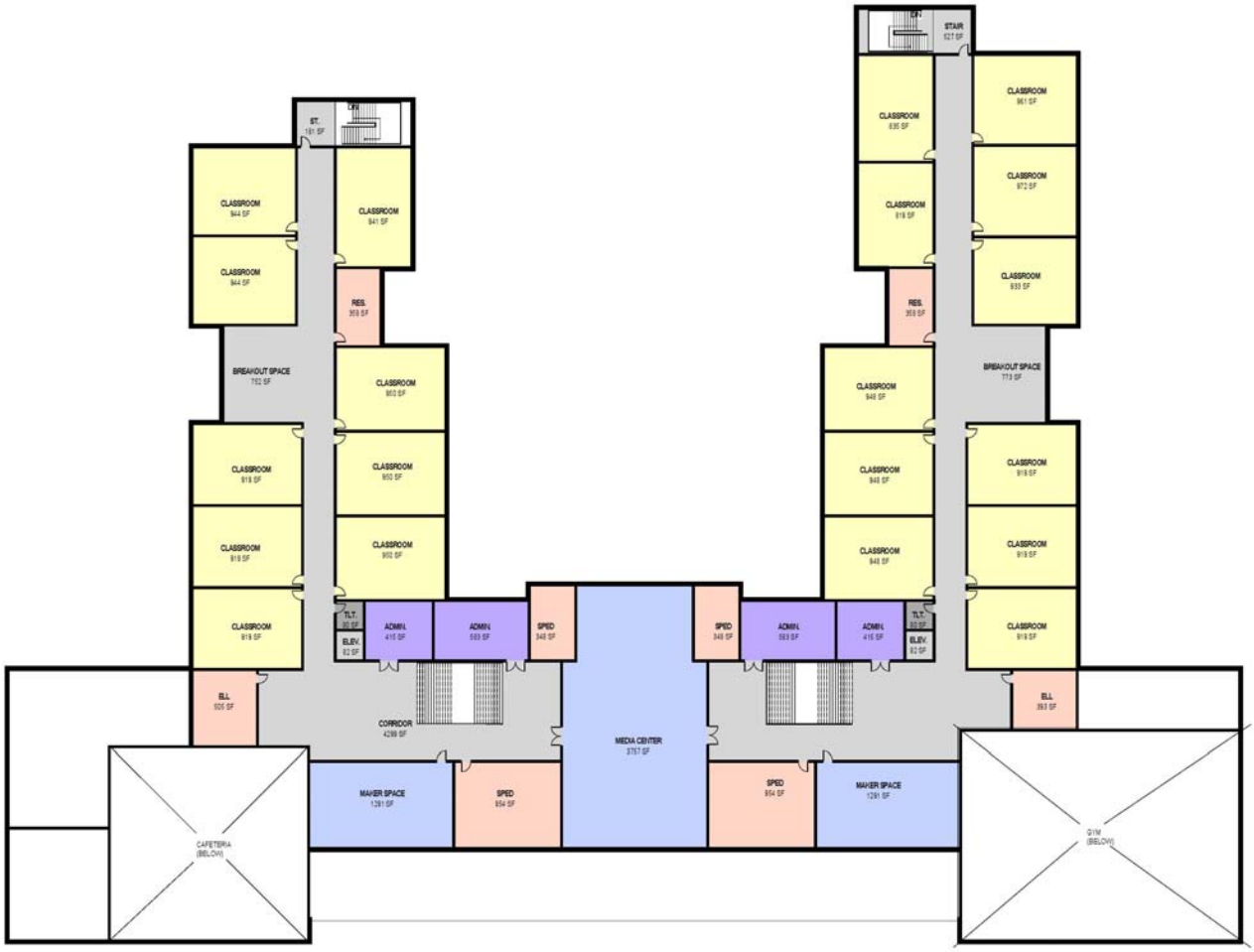
OPTION FR5 - 750 STUDENTS - GRADES 2-6

TOTAL SF - 122,714sf
FOOTPRINT SF - 82,343sf
PARKING SPACES (REQ'D) -
PARKING SPACES (PROV'D) -
PLAY FIELD
PLAY AREAS

PROGRAM HIGHLIGHTS:

- 38 CLASSROOMS (950sf)
- 4 SPED CRs (950sf)
- 8 RESOURCE RMs (250sf)
- 4 ELL RMs (500sf)
- 4 SPEECH RMs (150sf)
- 2 ART RMs (1000sf)
- 2 MUSIC RMs (1200sf)
- 1 GYM (6000sf)
- 1 CAFETERIA (4000sf)
- 1 LIBRARY (3600sf)

1 FR5 - FIRST FLOOR PLAN
1" = 20'-0"



LEGEND

- GENERAL CLASSROOMS
- SPECIALIZED CLASSROOMS
- CORE SPACES
- ADMINISTRATIVE / FACULTY
- BUILDING SUPPORT SPACES
- CIRCULATION/STAIRS/ELEVATORS

0 10 20 40 80

PLAN NORTH

OPTION FR5 - 750 STUDENTS - GRADES 2-6

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- 2 MUSIC RMs (1200sf)
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- 1 CAFETERIA (4000sf)
- 1 LIBRARY (3600sf)

1 OPTION W5 - SECOND FLOOR PLAN
1" = 20'-0"

SITE/UTILITIES NARRATIVE – OPTION FR5

Pedestrian Circulation

An unimpeded pedestrian route consisting of a rigid pavement material shall be provided from the parking and drop-off areas to the main building entries. Pavement will consist of materials such as standard concrete paving, unit pavers or a combination of both. Where pedestrian routes cross vehicular areas, the pedestrian paving material will be carried through to create visible contrast. Where achievable, all pedestrian routes shall be graded less than 5% to minimize potential barriers created by handrails.

The main entries to the building will be considered plaza areas and treated with enhanced paving consisting of brick or precast concrete unit pavers. All plaza areas will have a maximum slope of 2%, pitched away from the building for positive drainage. Plaza areas will include curbed areas for foundation plant materials and other opportunities to reduce the overall paved surface.

The current site plan does not indicate the need for exterior stairs and ramps. Should it be determined later that this is necessary, all stairs and ramps will meet MAAB standards. All stairs or ramps will be provided with railings at each side.

A secondary pedestrian route creating a complete loop around the building and connecting to all play areas, existing neighborhood sidewalks and nature trails shall be provided. Pavement will consist of asphalt or concrete paving. The portion of the route around the east and south faces of the building will have a width and be constructed of material able to accommodate occasional maintenance and security vehicles. A minimum width of 12' is proposed for this drivable sidewalk.

Play Areas

Play area A is proposed for grades 2-6 at the south side of the building between the two wings of the phase I building. The play area will be organized to group the play equipment by age group; however, there will be no formal barrier between the groupings of grades 2-4 and 5-6.

Play equipment will be chosen to encourage and stimulate inclusive play among users. Play structures incorporating sensory plan, climbing, sliding and swing elements will allow multiple play opportunities for all users.

The play surface will be a continuous, poured-in-place rubber resilient surface with a depth engineered for required fall heights determined by the selected play structures. The surface will consist of multiple, vibrant colors to complement the equipment and to create an interesting and stimulating environment.

Play Area B is proposed for grades 2-6 at west side of the phase II wing. The play area will be organized to group the play equipment by age group; however, there will be no formal barrier between the groupings of grades 2-4 and 5-6.

Play equipment will be chosen to encourage and stimulate inclusive play among users. Play structures incorporating sensory plan, climbing, sliding and swing elements will allow multiple play opportunities for all users.

The play surface will be a continuous, poured-in-place rubber resilient surface with a depth engineered for required fall heights determined by the selected play structures. The surface will consist of multiple, vibrant colors to complement the equipment and to create an interesting and stimulating environment.

A passive play area and swing set is proposed for the location at the southeast face of the gymnasium. A loose mulch and lawn surface is suggested for this area.

The paved bus loop can be used as an additional play, recreation or sports zone during times when bus activity is not present. The use of colored asphalt and line paint can be incorporated to create specific games in the paving surface.

Recreation

A multi-use field, approximately 150' x 200' will be located west of the building and south of the main drive into the parking area. The current direction is for the field to remain undesignated for a specific sport. Should it be decided that the field be designated for a specific sport, the proposed footprint is adequate for a U10 Soccer field or a Shetland League Baseball Diamond. The recreational field surface will consist of a low maintenance sports turf seed mix or sod.

Pedestrian circulation as noted previously will provide connections to all recreation areas. This will include a path to the parcel to the southwest of the site that is also owned by the town. The path will provide access to nature trails and three fitness stations located along the perimeter of the parcel where minimal site grading will be required.

Fencing and Gates

The property for the school is not currently fenced-off from adjacent properties. It is our understanding that this approach is not proposed for the site updates. It is our recommendation that a 4' coated chain link fence be located between the recreational field and the vehicular areas along the north and west extents. The fence will include gaps at selected locations to allow users to move in and out of the field area with ease. A 6' tall architectural fence fabric should be located along the west edge of the service drive. This is intended to act as a barrier to separate the recreational and play use from the service operations.

Play area A is not adjacent to vehicular use areas and therefore, we do not recommend providing a barrier or enclosure. Users should be encouraged to move freely in this area.

Planting

Every attempt will be made to maintain the large, healthy existing canopy trees on site. It is our recommendation that an arborist be consulted to perform a complete tree inventory to inform future decisions on what can and should be protected. Proposed planting is always is always beneficial, however, existing mature trees are a much larger asset.

The proposed parking lot shall be designed to provide planting islands for deciduous canopy trees such as native Maples, Oaks, or similar. The ground plane can be treated with a native, low maintenance seed mix. These areas can be mowed as little or often as desired.

The planting approach near and at the building will trend toward a more formal, yet simple approach. Foundation planting consisting of flowering evergreen shrubs, ornamental grasses, groundcovers and perennials shall be located in select planting zones in the plaza area. Additionally, we recommend three canopy trees be placed in tree grates within the plaza to provide shade and mitigate a potential heat-island effect.

The planted areas between the building and vehicular areas shall be treated with a low maintenance lawn seed mix and a combination of ornamental and shade trees. A similar approach is recommended for the zones between the play areas, recreational fields and undesignated areas around the east, south and west

faces of the building. A planted screen should be provided in conjunction with the architectural fence to screen the service area.

A passive garden area is suggested for staff use along the east face of the building, south of the gymnasium and swing set. A few canopy trees could provide shade for a small seating area.

The current school operations include an informal student gardening program. We recommend this be implemented in the next phase as well. The preferred location is the south end of the building, just beyond play area A. The southern exposure gives the best chance for success. The space is adequate for a small greenhouse program should it be feasible.

Rain gardens or bioswales can be located in several areas within the vehicular areas and between the building and vehicular areas. A combination of native grasses and wildflowers located within mild depressions can successfully treat portions of stormwater on site. The volume and degree of treatment will depend on the sites hydrology as determined during future design phases. These areas can act as educational elements and potentially include interpretive information explaining their function.

Site Furniture and Miscellaneous Elements

Durable, yet attractive benches shall be provided near major building entries, adjacent to play areas and recreational areas and within the staff garden area. Matching litter receptacles will be located near seating areas. A bicycle parking area with durable hoop style back racks shall be located west of the parent drop-off. The southernmost landscape island in the parent drop-off loop is an ideal location for a flagpole.

CIVIL NARRATIVE REPORT - OPTION FR5

The following is the Site systems narrative, which defines the scope of work and capacities of the Site systems as well as the Basis of Design. The Site Utility systems shall be designed and constructed in accordance with *LEED for Schools*.

1. CODES

A. All work installed under this DIVISION shall comply with all local, state, and federal codes, laws, statutes, and authorities having jurisdiction.

B. The work shall be performed in accordance with local Department of Public Works Specifications, MA Highway Department Standard Specifications for Highways and Bridges and conform to all Amherst Bylaws.

2. DESIGN INTENT

A. The work of Division 31, 32 and 33 is as described in this narrative. All work is new and consists of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the site utility work and all items incidental thereto, including testing.

3. EXPECTED REVIEW/PERMITTING REQUIREMENTS

A. Notice of Intent – Amherst Conservation Commission and MassDEP – Construction work within 200 foot stream buffer on north side of the site and connection of drainage to existing municipal drainage system (alteration of bank).

B. Site Plan Review – Amherst Planning Board – Major site construction project.

C. Zoning Board of Appeals – Amherst Zoning Board of Appeals – Relief from potential Zoning requirements such as 15%/40% maximum lot coverage.

D. Water Main/Service Connections – Amherst Department of Public Works – Review of new water service from the new building to the municipal main.

E. Sewer Piping/Service Connections – Amherst Department of Public Works – Review of sewer connection from the proposed building to the existing sewage lift station.

4. SITE EROSION CONTROL MEASURES

A. The Contractor shall prepare and submit the EPA Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activity under the EPA National Pollution Discharge Elimination System (NPDES) General Permit. The contractor shall implement a Storm Water Pollution Prevention Plan (SWPPP) per the requirements of the EPA General Permit. At project completion submit a Notice of Termination (NOT) to the EPA.

B. The Contractor shall place silt barrier and hay bales around the perimeter of the limit of work to prevent the migration of silt-laden runoff from discharging from the construction site.

C. The Contractor shall install sediment control bags in all existing and new stormwater inlets within the limit of work, and in areas prone to receive runoff from the construction site.

D. The Contractor shall prepare weekly logs of erosion control inspections and maintenance. Inspection logs shall also be prepared after all rain events resulting in more than 0.25 inches/24-hour.

5. UTILITY DEMOLITION, ABATEMENT & RELOCATION

A. Prior to the commencement of any excavation, the Contractor shall field locate all existing utilities within the limit of work based on available surface evidence and record documents.

B. Furnish and install all required precast structures, piping and the like to maintain operations of existing building during the construction of the new building.

C. The Contractor shall properly abate all existing asbestos concrete drainage and sewer piping required to be removed for the demolition of the existing building and construction of the new. The Contractor shall follow all applicable Local, State and Federal regulations while removing the piping.

6. STORM DRAINAGE SYSTEM

A. The storm water drainage system shall be designed in accordance with Town standards and the current edition of the Massachusetts DEP Storm Water Management Policy to mitigate storm water runoff to abutting properties.

B. Storm drain piping 12" and larger shall be smooth interior corrugated HDPE pipe with rubber gasket joints. Storm drain piping 10" and under will be ASTM-D3034 SDR35 PVC with push-on rubber ring joints.

C. Runoff from paved driveways, parking lots, walkways, playgrounds, playing fields, roof areas will be directed to a piped stormwater system. Catch basins and manholes shall be at least 6 feet deep and 4 feet in diameter. Castings shall be from the approved Mass Highway Department list. All catch basins will have 4 foot sumps and be equipped with environmental hoods.

D. Water quality structures shall be provided within the storm water drainage system to assist with TSS removal and water quality.

E. Storm water runoff rate and flood control is proposed to be provided via use of subsurface detention facilities consisting of water-tight HDPE piping and rainwater gardens. Overflow from these structures will be directed to the municipal drainage system piping on the site.

7. SANITARY SYSTEM

A. The sanitary system shall be designed in accordance with local DPW requirements.

B. Manholes shall be at least 4 feet in diameter with brick invert channels. Castings shall be from the approved MHD list.

C. Gravity sewer piping shall be Manville ASTM-D3034 SDR-35 PVC sewer pipe.

D. The school shall be equipped with an exterior precast concrete grease trap sized in according with the Massachusetts Plumbing Code and 310 CMR 15.00 Title 5.

E. The sanitary waste system shall discharge westerly by gravity flow to the existing sanitary lift station which discharges to the existing municipal sewer system west of the property.

8. WATER SYSTEM

A. The water distribution system will be designed in accordance with Local Water Department standards.

B. All water piping, including domestic and fire water services to the building, shall be Class 52 cement-lined ductile iron pipe and fittings.

C. All water service piping shall be installed with a minimum cover of 5 feet.

D. A new 8" water main loop will be provided around the proposed building. The new loop will continue to be fed from the existing 8" water line under the existing driveway. Additional fire hydrants will be provided from the new water loop every 300 ft. on center or as required by the Fire Department.

9. PARKING LAYOUT, SURFACING & DRIVEWAYS

A. Parking spaces shall be a minimum of 9 feet wide x 18 feet in length and be clearly painted indicated the limits of the spaces.

B. The total parking quantity shall meet the requirements of the Town of Amherst Zoning Bylaw, Section 7.00. Based on Section 7.0030 of the Zoning Bylaw, the required minimum quantity of parking spaces for an Educational Use is (1) parking space for every four (4) seats. Based on 750 students and 100 staff members occupying the building, the minimum parking quantity shall be 213 spaces.

C. Based on 195 total parking spaces, 6 of those spaces shall be handicap accessible and shall fully conform to the requirements of 521 CMR (Architectural Access Board).

D. Areas paved with bituminous concrete shall consists of 12" of dense grade gravel overlaid by a 2-1/2" binder course and 1-1/2" wearing course of bituminous.

D. Driveways and maneuvering aisles shall be a minimum of 12' wide per lane of traffic throughout the site.

E. All paved roadways shall be pitched at a minimum of 1.5% but no more than 5% towards catch basin/inlet structures.

F. All roadway and parking curve radii shall conform to the requirements of the Amherst Street and Site Work Construction Standards.

G. Curbing shall be provided at along the pavement edge of driveways, parking lots and loading areas.

10. ZONING REQUIREMENTS

A. The western portion of Lot 47 is located in the Village Center Residence (R-VC) zoning district. The eastern portion of Lot 47 is located in the Flood-Prone Conservancy (FPC) special zoning district. The existing building is built in the R-VC zone. The western boundary of the FPC zone corresponds to the 174' elevation (mean sea level). No Zoning Overlay Districts exist on the site as of June 2014. The following dimensions are required in each of the zoning districts:

	Village Center Residence (R-VC)	Flood-Prone Conservancy (FPC)
Minimum Lot Area	15,000 Square Feet	80,000 Square Feet
Minimum Lot Frontage	120 Feet	200 Feet
Minimum Front Yard Setback	15 Feet	40 Feet
Minimum Rear Yard Setback	15 Feet	20 Feet
Minimum Side Yard Setback	15 Feet	20 Feet
Maximum Building Coverage	25 %	10 %
Maximum Lot Coverage	40 %	15 %
Maximum Height of Structures	35 Feet	20 Feet
Maximum Floors	3 Stories	1 Story

STRUCTURAL SYSTEMS NARRATIVE – OPTION FR5

PROPOSED SCHEME – FR5 – New Construction

SUBSTRUCTURE

Foundations

Based on the foundations of the existing structure, the columns of the proposed structure would bear on reinforced concrete spread footings and the perimeter foundation walls would bear on continuous reinforced concrete strip footings extending at least 4 ft.-0 in. below grade. With the assumed bearing capacity of the soil of 2 tons/sf, a typical interior footing would be 8 ft. – 0 in. x 8 ft. - 0 in. x 24 in. deep and the typical exterior footings would be 7 ft. x 7 ft. x 24 in. deep in the two story areas. Typical interior footings below the Gymnasium level would be 6 ft. x 6 ft. x 24 in. deep. Typical exterior footings at the Gymnasium would be 8 ft. x 8 ft. x 24 in. deep. The exterior foundation walls would be 14 in. to 16 in. thick, reinforced cast-in-place concrete walls on 24 to 36 in. wide continuous reinforced concrete strip footings around the perimeter of the building extending a minimum of 4 ft. – 0 in. below finished grade.

Slabs-on-Grade

Based on the existing school construction, the lowest level of the proposed structure would be a 5 in. thick concrete slab-on-grade reinforced with welded wire fabric over a vapor barrier on 2 in. thick rigid insulation on 8 in. of compacted granular structural fill and a base course of 8 in. of compacted gravel.

SUPERSTRUCTURE

Floor Construction

Typical Floor Construction

A 5 ¼ in. light weight concrete composite metal deck slab reinforced with welded wire fabric on wide flange steel beams spanning between steel girders and columns. The weight of the structural steel is estimated to be 13 psf for the typical framing.

Roof Construction

Typical Roof Construction

The roof construction would be galvanized, corrugated 1 ½ in. deep, Type 'B' metal roof deck spanning between wide flange steel beams and girders. At locations of roof supported mechanical equipment, a concrete slab will be provided similar to the typical supported slab. The weight of the structural steel is estimated to be 13 psf.

Low Roof Structure

The roof would be a continuation of the adjacent floor and would be similar to the typical floor construction of 5 ¼ in. light weight concrete composite metal deck slab reinforced with welded wire fabric on wide flange steel beams spanning between steel girders and columns. This roof will be supporting the mechanical units. The units would be screened by a screen comprised of structural steel posts and beams. The weight of the structural steel is estimated to be 15 psf.

Gymnasium Roof Framing

The roof construction would be acoustic, galvanized, corrugated 3 in. deep, Type 'NA' metal roof deck at the Gymnasium and 3 in. deep Type 'N' metal roof deck at the Auditorium, spanning between long span steel joists. The weight of the steel joists and structural steel framing is estimated to be 13 psf.

VERTICAL FRAMING ELEMENTS

Columns

Columns will be hollow structural steel columns. Typical columns would be HSS 8 x 8 columns and the columns at the double story spaces at the Gymnasium and Auditorium would be HSS 12 x 12.

Lateral Load-Resisting System

The proposed school structure will be divided into two parts separated by way of an expansion joint.

The typical lateral load resisting system for both parts of the structure would be ordinary concentric braced frames comprised of HSS structural steel members.

MECHANICAL SYSTEMS NARRATIVE – OPTION FR5

1. CODES

All work installed under Division 230000 shall comply with the City of Amherst Building Code and all state, county, and federal codes, laws, statutes, and authorities having jurisdiction.

2. DESIGN INTENT

The work of Division 230000 is described within the narrative report. The HVAC project scope of work shall consist of providing new HVAC equipment and systems as described here within. All new work shall consist of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the Heating, Ventilating and Air Conditioning work and all items incidental thereto, including commissioning and testing.

3. BASIS OF DESIGN: (MASS CODE)

Massachusetts Code values are listed herein based on ASHRAE Weather Data Tables.

Outside: Winter -1°F, Summer 86°F DB 73°F WB

Inside: 70°F +/- 2°F for heating 75°F, +/- 2°F (50% RH +/- 5%) for air conditioning area. Unoccupied temperature setback will be 60°F +/- 2°F for heating 80°F, +/- 2°F (60% RH +/- 5%) for air conditioning area.

Outside ventilation air shall be provided at rates in accordance with ASHRAE guide 62.1-2010 and the International

Mechanical Code as a minimum. All occupied areas will be designed to maintain 800 PPM carbon dioxide maximum.

4. SYSTEM DESCRIPTION:

A. Central Heating Plant:

LEED for Schools Credit EP2 & EC1

Heating for the entire building including rooftop units will be through the use of a high efficiency oil-fired non-condensing boiler plant. A new boiler plant with (3) 2200 MBH input boilers and (2) end suction base mounted pumps with a capacity of 660 gpm each. Each boiler plant will supply heating hot water to all heating apparatus located throughout the adjacent building areas through a two-pipe fiberglass insulated schedule 40 black steel piping system. New hot water piping shall be installed to serve new HVAC systems. The boiler plants shall supply a maximum hot water temperature of 160 deg F on a design heating day and the hot water supply water temperature will be adjusted downward based on an outside temperature reset schedule to improve the overall operating efficiency of the power plants.

Primary and standby end suction base mounted pumps will be provided with variable frequency drives for variable volume flow through the water distribution system for improved energy efficiency.

Combustion air for each boiler will be directly ducted to each boiler through a galvanized ductwork distribution system. Venting from each boiler shall be through separate double wall aluminized stainless steel (AL29-4C) vent system and shall discharge between 6 feet to 12 feet above the roof level depending on the location of building intake air locations.

B. Central Cooling Plant:

LEED for Schools Credit EP2 & EC1

A high efficiency central chilled water cooling plant consisting of (1) 30 ton outdoor air cooled chillers, w/ (2) 80 GPM chilled water pumps in a primary and standby arraignment. Each pump will be controlled by VFDs. Accessories, controls and steel and copper piping distribution system shall be provided to serve chilled water cooling to induction units located throughout the building.

C. Classroom Heating, Ventilation, and Air Conditioning (Including Art, Music, SPED and general classrooms:

LEED of Schools Credit EP2, EC1, EC5, IEQP1, IEQC1, 2, 3.1, 3.2, 5, 6.2 & 7.1

Displacement Ventilation System

It is proposed that displacement diffusers shall be used to provide air condition and ventilation to the Classroom areas. Heating will be provided by ceiling mounted radiant panels along the perimeter walls which will be fed from the central boiler plant.

Supply airflow to each classroom will be modulated by a VAV (variable air volume) terminal box with temperature and CO2 demand controls that will deliver supply airflow to the displacement ventilation diffusers located in the classroom. CO2 demand controls shall modulate the VAV terminal box position to maintain 800 PPM within the classrooms and shall communicate to the rooftop unit to modulate the outside air damper and return air damper positions.

New rooftop air handling units with supply and return fan with VFDs, energy recovery wheels, hot water heating coil with modulating control valve, DX cooling, hot gas reheat system, and MERV 13 filtration will be provided to serve the induction system. Supply air will be provided to the space through new galvanized steel supply duct distribution system. Return air will be drawn back to the units by ceiling return air registers located within the classroom and will be routed back to the rooftop unit by a galvanized sheet metal return air ductwork distribution system. A wall mounted combination thermostat / humidity / CO2 sensor shall be provided for each space and shall control radiant panels located in the ceiling along the perimeter walls.

It is estimated that the following rooftop air handling equipment will be required to serve these Classroom areas:

Four (4) air handling units each with a capacity of 10,000 CFM (45 Tons Cooling, 430 MBH Heating).

One (1) air handling unit with a capacity of 5,000 CFM (25 Tons Cooling, 220 MBH Heating).

D. Gymnasium

LEED for Schools Credit EP2, EC1, EC5, IEQP1, IEQC1, 2, 3.1, 3.2, 5, 6.2 & 7.1

The gymnasium will be provided with one (1) roof mounted air handling unit. The unit will have a capacity of approximately 6,000 CFM and will include supply and return fans with VFDs, energy recovery wheels, 400 MBH hot water heating coil with modulating control valve, 30 tons of DX cooling hot gas reheat system and MERV 13 filtration.

Supply air will be provided to the space through new galvanized steel supply duct distribution system located high within the space and exposed with duct mounted diffusers. Return air will be drawn back to the units by low wall mounted return air registers located within the space and will be routed back to the unit by a galvanized sheet metal return air ductwork distribution system.

Supplemental hot water fin tube radiation heating or wall mounted runtal style radiator system will be provided along exterior walls.

CO2 demand ventilation will be utilized to reduce outside air based on population. As levels of carbon dioxide drop generally relating to a reduction in population the outside air damper will modulate to reduce outside air flow and allow recirculation while always maintaining a maximum of 800 ppm, CO_2 level within the space.

E. Administration, Guidance Areas and Media Center:

LEED for Schools Credit EP2, EC1, EC5, IEQP1, IEQC1, 2, 3.1, 3.2, 5, 6.2 & 7.1

Spatial heating, ventilation, and air-conditioning for the Administration, Guidance, and Media Center areas will be

served by ducted horizontal ceiling mounted 2-pipe heating, ventilation, and cooling active chilled beam induction units. Ventilation air to these areas will be provided by (2) 100% outside air rooftop air handling units. The Administration Area unit will have an approximate capacity of 2,000 CFM and be equipped with supply and return fans, VFDs, energy recovery wheels, 100 MBH heating hot water coil with modulating control valve, 10 ton capacity DX cooling, hot gas reheat system, and MERV 13 filtration. The media center will have an approximate capacity of 2,500 CFM, 120 MBH heating hot water coil with modulating control valve, 12 ton Dx cooling with hot gas reheat system. All other unit components will be typical to the administration unit.

F. Cafeteria/Stage:

LEED for Schools Credit EP2, EC1, EC5, IEQP1, IEQC1, 2, 3.1, 3.2, 5, 6.2 & 7.1

The cafeteria and stage area will be provided with one (1) new rooftop air handling unit. The unit will be approximately 5,000 CFM and will include supply and return fans with VFDs, energy recovery wheels, 350 MBH heating hot water coil with modulating control valve, 25 ton DX cooling system, and MERV 13 filtration. Supply air will be provided to the space through new galvanized steel supply duct distribution system located high within the space and exposed with duct mounted diffusers. Return air will be drawn back to the units by low wall mounted return air registers located within the space and will be routed back to the rooftop unit by a galvanized sheet metal return air ductwork distribution system.

Supplemental hot water fin tube radiation heating or wall mounted runtal style radiator system will be provided along exterior walls.

CO2 demand ventilation will be utilized to reduce outside air based on population. As levels of carbon dioxide drop generally relating to a reduction in population the outside air damper will modulate to reduce outside air flow and allow recirculation while always maintaining a maximum of 800 ppm, CO_2 level within the space.

G. Kitchen:

The kitchen area shall be provided with a new roof mounted 5,000 CFM kitchen exhaust fan and a roof mounted heating, ventilation and air conditioning unit approximately 5,000 CFM, 20 ton DX, 480 MBH heating hot water coil and shall serve as a make-up air system.

A variable volume kitchen exhaust hood control system consisting of kitchen exhaust stack temperature and smoke density sensors, supply and exhaust fan variable speed drives, and associated controller will be provided by the kitchen equipment vendor. This system installation shall be field installed and coordinated with the ATC and Electrical Contractors.

H. Computer Rooms:

Computer rooms which require additional cooling loads or year round cooling above that of which the proposed displacement ventilation systems can achieve, shall be provided with Ductless Cooling split unit systems. Approximately (2) units with associated outdoor air cooled condensers will be utilized, refer to Mechanical Load letter for further sizing information. Ventilation will be provided through the associated or adjacent classroom unit. Heating will be provided through ceiling mounted radiant panels.

I. IT Data Rooms:

IT Data Rooms shall be air conditioned by dedicated variable refrigerant flow Ductless Cooling unit systems, refer to Mechanical Load letter for further sizing information.

J. Loading, Custodial Support Areas:

1. The loading area and custodial support areas of the building shall be heated by indoor hot water unit heaters. The units each have an approximate capacity of 400CFM and 20 MBH heating coils. (Approximately 10 units throughout)

2. Roof mounted exhaust fans will be utilized for general areas including toilet rooms, janitor closets and art rooms, refer to Mechanical Load letter for further sizing information (approximately 8 exhaust fans).

K. Lobby, Corridor, and Entry Way Heating:

Lobby, corridor and entry ways shall be heated by a combination of new hot water radiant panels, cabinet unit heaters and fin tube radiation heating equipment.

5. TESTING, ADJUSTING, BALANCING AND COMMISSIONING

All new HVAC systems shall be tested, adjusted, balanced and commissioned as part of the project scope.

ESTIMATED MECHANICAL AND ELECTRICAL LOADS – OPTION FR5

Description:

Under this option the building will utilize No.2 fuel oil as its fuel source for the boiler plant. The heating plant will provide heating hot water with 35% propylene glycol solution mixture to the rooftop units as well as the radiant heating panels and terminal heating units within the building. The rooftop units will be equipped with energy recovery wheels, hot water coils and direct expansion cooling sections. The chilled water plant will consist of an outdoor roof mounted air cooled chiller, the chilled water will also be provided with a 35% propylene glycol solution mixture.

Boiler Plant:

Unit Tag	Mode	Fuel Source	Heating Capacity	Voltage / HP / Amp
B-1	Non-Condensing	No.2 Fuel Oil	2200 MBH	460V / 1-1/2HP / 2.8Amp
B-2	Non-Condensing	No.2 Fuel Oil	2200 MBH	460V / 1-1/2HP / 2.8Amp
B-3	Non-Condensing	No.2 Fuel Oil	2200 MBH	460V / 1-1/2HP / 2.8Amp

Hot Water Pumps:

Unit Tag	GPM	Motor Type	Control Type	Pump Type	Voltage / HP
P-1	660	Premium Efficiency	VFD	End Suction	460V / 20.0HP
P-2	660	Premium Efficiency	VFD	End Suction	460V / 20.0HP

Chiller Plant:

Unit Tag	Mode	Tonnage	Cooling Capacity	Voltage / MOP
CH-1	Air Cooled	30	360 MBH	460V / 200MOP

Chilled Water Pumps:

Unit Tag	GPM	Motor Type	Control Type	Pump Type	Voltage / HP
P-3	80	Premium Efficiency	ECM	Inline	460V / 2.0HP
P-4	80	Premium Efficiency	ECM	Inline	460V / 2.0HP

Classrooms/Sped Rooms:

Unit Tag	CFM	Cooling Capacity	Heating Capacity	Motor Qty/HP
RTU-1	10,000	45 Tons	430 MBH	(2) 10.0HP & (1) 3/4HP
RTU-2	10,000	45 Tons	430 MBH	(2) 10.0HP & (1) 3/4HP
RTU-3	10,000	45 Tons	430 MBH	(2) 10.0HP & (1) 3/4HP
RTU-4	10,000	45 Tons	430 MBH	(2) 10.0HP & (1) 3/4HP

Art/Music Rooms:

Unit Tag	CFM	Cooling Capacity	Heating Capacity	Motor Qty/HP
RTU-5	5000	25 Tons	220 MBH	(2) 5.0HP & (1) 3/4HP

Gym:

Unit Tag	CFM	Cooling Capacity	Heating Capacity	Motor Qty/HP
RTU-6	6000	30 Tons	400 MBH	(2) 5.0HP & (1) 3/4HP

Media Center:

Unit Tag	CFM	Cooling Capacity	Heating Capacity	Motor Qty/HP
RTU-7	2500	12 Tons	120 MBH	(2) 4.0HP & (1) 1/4HP

Café/Stage:

Unit Tag	CFM	Cooling Capacity	Heating Capacity	Motor Qty/HP
RTU-8	5000	25 Tons	350 MBH	(2) 5.0HP & (1) 3/4HP

Administration Area:

Unit Tag	CFM	Cooling Capacity	Heating Capacity	Motor Qty/HP
RTU-9	2000	10 Tons	100 MBH	(2) 4.0HP & (1) 1/4HP

Kitchen:

Unit Tag	CFM	Cooling Capacity	Heating Capacity	Motor Qty/HP
H&V-1	5000	20 Tons	480 MBH	(2) 7.5HP

General Exhaust:

Unit Tag	CFM	Motor Qty/HP	Area Served
EF-1	800	(1) 1.0HP	Storage/Toilet/Jan
EF-2	800	(1) 1.0HP	Storage/Toilet/Jan
EF-3	800	(1) 1.0HP	Storage/Toilet/Jan
EF-4	800	(1) 1.0HP	Storage/Toilet/Jan
EF-5	1200	(1) 2.0HP	Art Rooms
EF-6	1200	(1) 2.0HP	Art Rooms
EF-7	5000	(1) 5.0HP	Kitchen Hood
EF-8	1500	(1) 2.0HP	Main Elec Room

Split Cooling Units:

Unit Tag	CFM	Cooling Capacity	Heating Capacity	Area Served
DCU-1	600	2 Tons	N/A	IDF Room
DCU-2	600	2 Tons	N/A	IDF Room
DCU-3	900	4 Tons	N/A	Head End Room
DCU-4	800	3 Tons	N/A	Computer Room
DCU-5	800	3 Tons	N/A	Computer Room

Unit Heaters:

Unit Tag	CFM	Motor Qty/HP	Area Served
UH-1	500	(1) 1/4HP	Vestibule
UH-2	500	(1) 1/4HP	Vestibule
UH-3	500	(1) 1/4HP	Vestibule
UH-4	500	(1) 1/4HP	Vestibule
UH-5	500	(1) 1/4HP	Storage Rm
UH-6	500	(1) 1/4HP	Storage Rm
UH-7	800	(1) 1/4HP	Storage Rm
UH-8	1200	(1) 1/2HP	Storage Rm
UH-9	1200	(1) 1/2HP	Mechanical Rm
UH-10	1200	(1) 1/2HP	Receiving Area

ELECTRICAL NARRATIVE REPORT – OPTION FR5

The following is the Electrical System Narrative, which defines the scope of work and capacities of the Power and Lighting system as well as the Basis of Design. The electrical systems shall be designed and constructed for *LEED for Schools 2009* where indicated on this narrative.

1. CODES

All work installed under Division 26 shall comply with the Massachusetts State Building Code and all local, county, and federal codes, laws, statutes, and authorities having jurisdiction.

2. DESIGN INTENT

The work of Division 26 is as described in this Narrative. All work is new and consists of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the Electrical work and all items incidental thereto, including commissioning and testing.

3. DESIGN PARAMETERS

High Voltage:	277/480 Volt
Low Voltage:	120/208 Volt
Phase:	3-Phase, 4-Wire
Amperage:	2,000 Amps
KW:	1,150 KW

4. BUILDING SYSTEMS

Sequence of Operations and Interactions:

Classroom and corridor lighting will be controlled via "addressable relays", which is achieved through programming. The control of the relays will be by automatic means such as a vacancy sensor in each classroom. Lighting controls will be in conformance with IECC 2012. The controllability shall be in conformance with LEED IEQ 6.1.

Exterior lighting will be controlled by photocell "on" and "timed" for "off" operation. Exterior lighting will have dimming capability and designed in accordance with IESS standards, and in compliance with LEED Light Pollution Reduction Credit.

Emergency lighting and exit lighting will be run through life safety panels to be on during normal power conditions, as well as, power outage conditions. The emergency lighting system will have control so that lights are "on" only when the building is occupied.

5. DESCRIPTION OF THE SYSTEMS

BB. Electrical Distribution System:

The service capacity will be sized for 2,000 amperes at 277/480 volt, 3 phase, 4 wire. New lighting, power panels, and mechanical panels will be provided to accommodate respective loads. The equipment will be located in dedicated rooms or closets.

We anticipate secondary metering with the transformer supplied by the utility company.

We are proposing an underground secondary service of 2,000 Amps, 277/480 volt, 3 phase, 4 wire.

Our	A. HVAC	Boilers:				kVA
		B-1		1 – ½ HP		2.5
		B-2		1 – ½ HP		2.5
		B-3		1 – ½ HP		2.5
		Hot Water Pumps:				
		P-1		20 HP		19.8
		P-2		20 HP		(redundant)
		Chiller Plant:				
		Ch-1		30 Tons		45
		Chilled Water Pumps:				
		P-3		2 HP		2.5
		P-4		2 HP		(redundant)
		Roof-top Units:				
		RTU-1		45 Tons, (12) 7.5 HP & (1) ¾ HP = 85.6		
		RTU-2		45 Tons, (12) 7.5 HP & (1) ¾ HP = 85.6		
		RTU-3		45 Tons, (12) 7.5 HP & (1) ¾ HP = 85.6		
		RTU-4		45 Tons, (12) 7.5 HP & (1) ¾ HP = 85.6		
		RTU-5		25 Tons, (2) 5 HP & (1) ¾ HP = 50.0		
		RTU-6		30 Tons, (2) 5 HP & (1) ¾ HP = 57.5		
		RTU-7		12 Tons, (2) 4 HP & (1) ¼ HP = 26.25		
		RTU-8		25 Tons, (2) 5 HP & (1) ¾ HP = 50.0		
		RTU-9		10 Tons, (2) 4 HP & (1) ¼ HP = 23.25		

Kitchen Unit:					kVA
H&V-1			20 Tons (2) 7.5 HP	=	46.75
Exhaust Fans:					
EF-1			1 HP	=	1.3
EF-2			1 HP	=	1.3
EF-3			1 HP	=	1.3
EF-4			1 HP	=	1.3
EF-5			2 HP	=	2.5
EF-6			2 HP	=	2.5
EF-7			5 HP	=	5.7
EF-8			2 HP	=	2.5
Split Cooling Units:					
DCU-1			2 Tons	=	3
DCU-2			2 Tons	=	3
DCU-3			2 Tons	=	6
DCU-4			2 Tons	=	4.5
DCU-5			2 Tons	=	4.5
Unit Heaters:					
UH-1			1/4 HP	=	.6
UH-2			1/4 HP	=	.6
UH-3			1/4 HP	=	.6
UH-4			1/4 HP	=	.6
UH-5			1/4 HP	=	.6
UH-6			1/4 HP	=	.6
UH-7			1/4 HP	=	.6
UH-8			1/2 HP	=	.7
UH-9			1/2 HP	=	.7
UH-10			1/2 HP	=	.7
			Sub-Total	=	717.95

B. Plumbing/Fire Protection							
		Water Coolers	6	@	1/4 HP	=	2.0
		Circular Pumps	2	@	1/3 HP	=	1.0
		Water Heaters	2	@	1 HP	=	3.0
					Subtotal	=	6.0

C. Elevator			@	30 HP	=	33.3
D. Exterior Lighting					=	5.0
E. Interior Lighting	122,714 s.f.		@	1.0W/s.f.	=	122.7
F. General Power	122,714 s.f.		@	2.0 W/s.f.	=	245.4
G. Kitchen Equipment					=	20.0

Connected Load Summary				A.	=	717.95
				B.	=	6.0
				C.	=	33.3
				D.	=	5.0
				E.	=	122.7
				F.	=	245.4
				G.	=	20.0
				Total	=	1150.35

1150.35 kVA @ 277/480V, 3 phase, 4 wire = 1384.3 amperes

1384.3 amperes @ 125% derating factor = 1730.4 amperes

A standard 2,000 ampere 277/480V, 3 phase, 4 wire service was selected. The main circuit breaker will be solid state and rated 80% of continuous load.

Secondary service will consist of (5) sets of #600 KCM copper in (5) 4" conduits plus (1) 4" spare.

A. Interior Lighting System:

Classroom lighting fixtures consist of pendant mounted direct/indirect LED luminaries and dimming drivers. The fixtures will be pre-wired for dimming control where natural daylight is available and also for multi-level switching. Office lighting fixtures will consist of similar fixtures to classrooms. Offices on the perimeter with windows will have daylight dimming controls similar to classrooms.

In general, lighting power density will be 30-40 percent less than IECC 2012. The power density reduction relates to LEED Credit EAC1.

Lighting levels will be approximately 30 foot candles in classrooms and offices. The daylight dimming foot candle level will be in conformance with LEED Credit IEQ 6.1.

Gymnasium lighting will be comprised of high bay LED fixtures with integral dimming drivers. The fixtures will be provided with protective wire guards and integral occupancy sensors. The light level will be designed for approximately 50 foot candles.

Corridor lighting will be comprised of recessed LED linear direct fixtures and recessed LED downlight fixtures. The corridor light level will be designed for approximately 20 foot candles. Corridor lighting will be on time clock control and only "on" during occupied hours. The light level will be switched to 50 percent when classrooms are in occupied period.

Cafeteria lighting will be a combination of LED pendant mounted direct/indirect fixtures and LED pendant decorative fixtures with integral dimming drivers. The light levels will be designed for approximately 30 foot candles.

Kitchen lighting will consist of recessed LED acrylic lensed gasketed troffers with aluminum frame doors with three T5 lamps and electronic ballasts. Light levels will be approximately 50 foot candles.

Art/music rooms will consist of pendant linear direct slot LED fixtures with an acrylic frosted lens pendant mounted between acoustical clouds. LED supplemental track lighting will be provided for display of art work with proper color rendering. Light levels will be approximately 30 foot candles.

Each area will be locally switched and designed for multi-level controls. Each classroom, office space, and toilet room will have a vacancy sensor to turn lights "off" when unoccupied. Daylight sensors will be installed in each room where natural light is available for dimming of light fixtures. The control system shall be in accordance with LEED IEQC 6.1.

The entire school will be controlled with an automatic lighting control system for programming lights "on" and "off". The system will interface with the building automation system (BAS) for scheduling purposes.

B. Emergency Lighting System:

An exterior 200 KW diesel fired emergency generator with sound attenuated enclosure and state code belly tank will be provided. Light fixtures and LED exit signs will be installed to serve all egress areas such as corridors, intervening spaces, toilets, stairs, and exit discharge exterior doors.

The generator will be sized to include fire safety systems, boilers and circulating pumps, refrigeration equipment, communications systems, etc.

A 2,000 ampere switchboard section with kirk key interlock shall be provided as an alternate for roll-up generator.

C. Site Lighting System:

Fixtures for area lighting will be pole mounted cut-off 'LED' luminaries in the parking area and roadways. Pole heights will be 20 feet. The exterior lighting will be connected to the automatic lighting control system for photocell "on" and timed "off" operation. The site lighting fixtures will be dark sky compliant. The illumination level will be 0.5fc for parking areas in accordance with Illuminating Engineering Society. Building perimeter fixtures will be 'LED' wall mounted cut-off over exterior doors for exit discharge. Lighting design will be in conformance to LEED for Schools Credit SSc8.

D. Wiring Devices:

Each classroom will have a minimum of two duplex receptacles per teaching wall and two double duplex receptacles on dedicated circuits at classroom computer workstations. The teacher's workstation will have a double duplex receptacle also on a dedicated circuit.

Office areas will generally have one duplex outlet per wall. At each workstation a double duplex receptacle will be provided.

Corridors will have a cleaning receptacle at approximately 25 foot intervals.

Exterior weatherproof receptacles with lockable enclosures will be installed at exterior doors.

A system of computer grade panelboards with double neutrals and surge protective devices will be provided for receptacle circuits.

E. Uninterruptible Power Supply (UPS):

One 24 KW, three phase centralized UPS system will be provided with battery back-up.

The system will provide conditioned power to sensitive electronic loads, telecommunication systems, bridge over power interruptions of short duration and allow an orderly shutdown of servers, communication systems, etc. during a prolonged power outage.

The UPS system will also be connected to the standby generator.

F. Fire Alarm System:

A fire alarm and detection system will be provided with 60 hr. battery back-up. The system will be of the addressable type where each device will be identified at the control panel and remote annunciator by device type and location to facilitate search for origin of alarms. The fire alarm control panel will contain voice evacuation amplifiers and microphone units.

Smoke detectors will be provided in assembly areas, corridors, stairwells, and other egress ways.

The sprinkler system will be supervised for water flow and tampering with valves.

Speaker/strobes will be provided in egress ways, classrooms, assembly spaces, open areas, and other large spaces. Strobe only units will be provided in single toilets and conference rooms.

Manual pull stations will be provided at exit discharge doors and at each egress stairwell
not located at grade level.

The system will be remotely connected to automatically report alarms to the fire department via an approved method by the fire department.

G. Distributed Antenna System (DAS) for Public Safety Communications:

The DAS system consists of bi-directional amplifiers, donor antennas, coverage antennas, coax cable, coax connectors, splitters, combiners, and couplers. The components provide coverage for public safety 2-way radio systems to operate within the building.

H. Lightning Protection System:

A lightning protection system will be provided.

The lightning protection equipment will include air terminals, conductors, conduits, fasteners, connectors, ground rods, etc.

6. TESTING REQUIREMENTS

The Electrical Contractor shall provide testing of the following systems with the Owner and Owner's Representative present:

- Lighting and power panels for correct phase balance.
- Emergency generator.
- Lighting Control System (interior and exterior).
- Fire Alarm System.
- Uninterruptible Power Supply
- Security System.
- Lightning Protection System.

Testing reports shall be submitted to the Engineer for review and approval before providing to the Owner.

7. OPERATION MANUALS AND MAINTENANCE MANUALS

When the project is completed, the Electrical Contractor shall provide operation and maintenance manuals to the Owner.

8. RECORD DRAWINGS AND CONTROL DOCUMENTS

When the project is completed, an as-built set of drawings, showing all lighting and power requirements from contract and addendum items, will be provided to the Owner.

9. COMMISSIONING

The project will be commissioned per Section 018100 of the specifications.

10. SECURITY SYSTEM

A. <u>CCTV:</u>

A Closed Circuit TV system will consist of computer servers with image software, computer monitors, and IP based closed circuit TV cameras. The head end server will be located in the head end MDF room and will be rack mounted. The system can be accessed from any PC within the facility or externally via an IP address. Each camera can be viewed independently. The Storage Appliance Network (SAN) will store this information for 30 days at 30 frames per second.

The location of the cameras is generally in corridors and exterior building perimeter. The exterior cameras are 180 degree, multi-head type.

The system will fully integrate with the access control system to allow viewing of events from a single alarm viewer. Camera images and recorded video will be linked to the access system to allow retrieval of video that is associated with an event.

B. Intrusion System:

An intrusion system will consist of security panel, keypads, motion detectors, and door contacts. The system is addressable which means that each device will be identified when an alarm occurs. The system is designed so that corridors will have dual tech sensors along with grade level window spaces and door contacts at each exterior door.

The system can be partitioned into several zones; therefore, it is possible to use the Gym area while the remainder of the school remains alarmed.

The system will include a digital transmitter to summons the local police department in the event of an alarm condition

The intrusion system will be connected to the automated lighting control system to automatically turn on lighting upon an alarm.

C. Card Access:

A card access system includes a card access controller, door controllers, and proximity readers/keypads with key-fobs. Proximity readers will be located at various locations. Each proximity reader will have a distinctive code to identify the user and a log will be kept in memory. The log within the panel can be accessed through a computer.

The alarm condition will also initiate real time recording on the integrated CCTV System. The system may be programmed with graphic maps allowing the end-user to quickly identify alarm conditions and lock/unlock doors.

The system is modular and may be easily expanded to accommodate any additional devices.

D. Door Entry System:

A combination audio and video intercom system will be provided at main doors. Intercom stations and master intercom stations will have audio and video systems. The system will integrate with the card access system for door unlocking.

E. Site Utilities:

The incoming services including electric, telephone, cable tv, fiber, and fire alarm will enter building underground.

TECHNOLOGY NARRATIVE REPORT – OPTION FR5

The following is the Technology System narrative, which defines the scope of work and capacities of the Communications system infrastructure and Security system as well as the Basis of Design.

1. CODES

A. All work installed under Section 270000 shall comply with the Massachusetts Building Code, IBC 2009 Appendix 115AA - Stretch Energy Code, and all local, county, and federal codes, laws, statues, and authorities having jurisdiction.

2. DESIGN INTENT

A. All work is new and consists of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the Technology and Security work and all items incidental thereto, including commissioning and testing.

3. TECHNOLOGY

A. The data system infrastructure will consist of fiber optic backbone cabling horizontal wiring will consist of Category 6A UTP Plenum rated cabling for both data and telephone systems for gigabit connectivity. The telephone infrastructure will accommodate PBX, or VOIP based voice systems. The existing NEC SV8100 VOIP phone system can be utilized and expanded on for the new building.

B. Each classroom will have four data outlets for student computers. Two data, one voice with video, and audio connections to a wall mounted projector will be provided at the teacher's station with interconnectivity to a interactive whiteboard. A wall phone outlet with 2-way ceiling speaker will be provided for communications with administration. Wireless access points will be provided in all classrooms and other spaces in addition to (2) CAT6A.cables to access points multimode fiber will also be provided.

C. A central paging system will be provided and integrated with the telephone system.

D. A wireless GPS/LAN based master clock system will be provided with 120V wireless remote clocks that act as transceivers.

E. The Main Distribution Frame (MDF) will contain all core network switching and IP voice switch. Intermediate Distribution Frames (IDFs) will serve each floor/wing of the school. A fiber optic backbone will be provided from each IDF to MDF. The backbone will be designed for 10 Gbps Ethernet.

TESTING REQUIREMENTS

B. The Technology and Security Contractors shall provide testing of the following systems with the Owner and Owner's representative present:

- Telephone and data cabling
- Fiber optic backbone cabling
- Paging system
- Wireless clock system
- A/V wiring for classrooms

Testing reports shall be submitted to the Engineer for review and approval before providing to the Owner.

4. OPERATION MANUALS AND MAINTENANCE MANUALS:

A. When the project is completed, the Technology Contractor shall provide operation and maintenance manuals to the Owner.

5. RECORD DRAWINGS AND CONTROL DOCUMENTS:

A. When the project is completed, an as-built set of drawings, showing all lighting and power requirements from contract and addendum items, will be provided to the Owner.

6. COMMISSIONING

A. The project shall be commissioned per Commissioning Section of the specifications

PLUMBING NARRATIVE REPORT – OPTION FR5

The following is the Plumbing system narrative, which defines the scope of work and capacities of the Plumbing system as well as the Basis of Design. The Plumbing Systems shall be designed and constructed for ***LEED for Schools*** where indicated on this narrative.

1. CODES

A. All work installed under Section 220000 shall comply with the MA Building Code, MA Plumbing Code and all state, county, and federal codes, laws, statutes, and authorities having jurisdiction.

2. DESIGN INTENT

P. All work is new and consists of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the Plumbing work and all items incidental thereto, including commissioning and testing.

3. GENERAL

J. The Plumbing Systems that will serve the project are cold water, hot water, sanitary waste and vent system, grease waste system, and storm drain system.

K. The Building will be serviced by Municipal water and Municipal sewer system.

L. All Plumbing in the building will conform to Accessibility Codes and to Water Conserving sections of the Plumbing Code.

4. DRAINAGE SYSTEM

A. Soil, Waste, and Vent piping system is provided to connect to all fixtures and equipment. System runs from 10 feet outside building and terminates with stack vents through the roof.

Q. A separate Grease Waste System starting with connection to an exterior concrete grease interceptor running thru the kitchen and servery area fixtures and terminating with a vent terminal through the roof. Point of use grease interceptors are to be provided at designated kitchen fixtures. The grease interceptor is provided under Division 33 scope.

R. Storm Drainage system is provided to drain all roofs with roof drains piped through the building to a point 10 feet outside the building.

S. Drainage system piping will be service weight cast iron piping; hub and spigot with gaskets for below grade; no hub with gaskets, bands and clamps for above grade 2 in. and larger. Waste and vent piping 1-1/2 in. and smaller will be type 'L' copper.

5. WATER SYSTEM

A. New 4 inch domestic water service from the municipal water system will be provided. A meter and backflow preventer, if required, will be provided.

B. Cold water distribution main is provided. Non-freeze wall hydrants with integral back flow preventers are provided along the exterior of the building.

C. Domestic hot water heating will be provided with an oil fired water heater with a rated input of 450,000 BTUH with 245 gallons of storage. System is to be equipped with thermostatically controlled mixing devices to control water temperature to the fixtures.

D. A pump will re-circulate hot water from the piping system. Water temperature will be 120 deg. to serve general use fixtures. A 140 deg. F hot water will be supplied to the kitchen dishwasher.

E. Water piping will be type 'L' copper with wrought copper sweat fittings, silver solder or press-

7. FIXTURES

LEED for Schools Credit WEp1 & WEc3

A. Furnish and install all fixtures, including supports, connections, fittings, and any incidentals to make a complete installation.

B. Fixtures shall be the manufacturer's guaranteed label trademark indicating first quality. All acid resisting enameled ware shall bear the manufacturer's symbol signifying acid resisting material.

C. Vitreous china and acid resisting enameled fixtures, including stops, supplies and traps shall be of one manufacturer by Kohler, American Standard, or Eljer, or equal. Supports shall be Zurn, Smith, Josam, or equal. All fixtures shall be white. Faucets shall be Speakman, Chicago, or equal.

D. Fixtures shall be as scheduled on drawings.

1. Water Closet: High efficiency toilet, 1.28 gallon per flush, wall hung, vitreous china, siphon jet. Manually operated 1.28 gallon per flush-flush valve.

2. Urinal: High efficiency 0.13 gallon per flush urinal, wall hung, vitreous china. Manually operated 0.13 gallon per flush-flush valve.

3. Lavatory: Wall hung/countertop ADA lavatory with 0.5 GPM metering mixing faucet programmed for 10 second run-time cycle.

4. Sink: Elkay ADA stainless steel countertop sink with Chicago 201A faucet and 0.5 GPM aerator.

5. Drinking Fountain: Halsey Taylor hi-low wall mounted electric water cooler, stainless steel basin with bottle filling stations.

6. Janitor Sink: 24 x 24 x 10 Terrazo mop receptor Stern-Williams or equal.

8. DRAINS

A. Drains are cast iron, caulked outlets, nickaloy strainers, and in waterproofed areas and roofs shall have galvanized iron clamping rings with 6 lb. lead flashings to bond 9 in. in all directions. Drains shall be Smith, Zurn, Josam, or equal.

9. VALVES

A. Locate all valves so as to isolate all parts of the system. Shutoff valves 3 in. and smaller shall be ball valves, solder end or screwed, Apollo, or equal.

10. INSULATION

A. All water piping shall be insulated with snap-on fiberglass insulation Type ASJ-SSL, equal to Johns Manville Micro-Lok HP.

11. CLEANOUTS

A. Cleanouts shall be full size up to 4 in. threaded bronze plugs located as indicated on the drawings and/or where required in soil and waste pipes.

12. ACCESS DOORS

A. Furnish access doors for access to all concealed parts of the plumbing system that require accessibility. Coordinate types and locations with the Architect.

FIRE PROTECTION NARRATIVE REPORT – OPTION FR5

The following is the Fire Protection system narrative, which defines the scope of work and capacities of the Fire Protection system as well as the Basis of Design.

1. CODES

A. All work installed under Section 210000 shall comply with the MA Building Code and all state, county, and federal codes, laws, statutes, and authorities having jurisdiction.

2. DESIGN INTENT

A. All work is new and consists of furnishing all materials, equipment, labor, transportation, facilities, and all operations and adjustments required for the complete and operating installation of the Fire Protection work and all items incidental thereto, including commissioning and testing.

3. GENERAL

A. In accordance with the provisions of the Massachusetts Building Code, a school building of greater than 12,000s.f. must be protected with an automatic sprinkler system.

4. DESCRIPTION

A. The new building will be served by a new 8 inch fire service, double check valve assembly, wet alarm valve complete with electric bell, and fire department connection meeting local thread standards.

B. System will be an automatic sprinkler system with control valve assemblies to limit the sprinkler area controlled to less than 52,000 s.f. as required by NFPA 13-2013. Three sprinkler zones will be provided for First Floor and two for the Second Floor.

C. Control valve assemblies shall consist of a supervised shutoff valve, check valve, flow switch and test connection with drain.

D. All areas of the building, including all finished and unfinished spaces, combustible concealed spaces, all electrical rooms and closets will be sprinklered.

E. All sprinkler heads will be quick response, pendent in hung ceiling areas and upright in unfinished areas.

5. BASIS OF DESIGN

A. The mechanical rooms, kitchen, classrooms, and storage rooms are considered Ordinary Hazard Group 1; all other areas are considered light hazard.

B. Required Design Densities:

Light Hazard Areas	0.10 GPM over 1,500 s.f.
Ordinary Hazard Group 1	0.15 GPM over 1,500 s.f.

C. Sprinkler spacing (max.):

Light Hazard Areas:	225 s.f.
Ordinary Hazard Areas:	130 s.f.

T. A hydrant flow test will be required to determine Municipal water supply capacities.

6. PIPING

A. Sprinkler piping 1-1/2 in. and smaller shall be ASTM A-53, Schedule 40 black steel pipe. Sprinkler/standpipe piping 2 in. and larger shall be ASTM A-135, Schedule 10 black steel pipe.

7. FITTINGS

A. Fittings on fire service piping, 2 in. and larger, shall be Victaulic Fire Lock Ductile Iron Fittings conforming to ASTM A-536 with integral grooved shoulder and back stop lugs and grooved ends for use with Style 009-EZ or Style 005 couplings. Branch line fittings shall be welded or shall be Victaulic 920/920N Mechanical Tees. Schedule 10 pipe shall be roll grooved. Schedule 40 pipe, where used with mechanical couplings, shall be roll grooved and shall be threaded where used with screwed fittings. Fittings for threaded piping shall be malleable iron screwed sprinkler fittings.

8. JOINTS

A. Threaded pipe joints shall have an approved thread compound applied on male threads only. Teflon tape shall be used for threads on sprinkler heads. Joints on piping, 2 in. and larger, shall be made up with Victaulic, or equal, Fire Lock Style 005, rigid coupling of ductile iron and pressure responsive gasket system for wet sprinkler system as recommended by manufacturer.

9. DOUBLE CHECK VALVE ASSEMBLY

A. Double check valve assembly shall be MA State approved, U.L./F.M. approved, with iron body bronze mounted construction complete with supervised OS & Y gate valves and test cocks. Furnish two spare sets of gaskets and repair kits.

B. Double check valve detector assembly shall be of one of the following:

1. Watts Series 757-OSY
2. Wilkins 350A-OSY
3. Conbraco Series 4S-100
4. Or equal

10. SPRINKLERS

A. All sprinklers to be used on this project shall be Quick Response type and shall be stamped with date of manufacture and temperature rating. Temperature ratings shall be determined by the location of the heads per NFPA 13-2013, section 8.3.2.5, and shall be minimum 155 degrees F. throughout except in special areas around heat producing equipment, skylights, and attics in which case use temperature rating to conform with hazard as specified in NFPA 13-2013.

B. Furnish spare heads of each type installed located in a cabinet along with special sprinkler wrenches. The number of spares and location of cabinet shall be in complete accord with NFPA 13-2013.

C. Sprinklers shall be manufactured by Tyco, Victaulic, Viking, or equal.

D. Upright sprinkler heads in areas with no ceilings shall be Tyco Model "TY-FRB".

E. Sidewall and pendent wet heads shall be Tyco Model "TY-FRB".

F. Concealed heads shall be Tyco Model "RFII" with white cover plates.

G. Sidewall and pendent dry sprinkler heads shall be Tyco Model "DS-1".

PROPOSED TOTAL PROJECT BUDGET / CONSTRUCTION COST ESTIMATE (UNIFORMAT II) – OPTIONFR5

A.M. Fogarty & Assoc., Inc.
175 Derby St., Suite 5, Hingham, MA 02043
TEL: (781) 749-7272 • FAX: (781) 740-2652
ptim@amfogarty.com
"Construction Cost Consultants"

STUDY
Wildwood Elementary School
Amherst, MA

2-Feb-16

Designer: JCJ Architecture
Drawings Dated:

Drawings Dated: Jan. 21, 2016

OPTION FR5	GSF		COST PER S.F.	**TOTAL**
NEW CONSTRUCTION - BLDG COST	122,714	**GSF**	$263.03	**$32,277,605**
DEMOLITION	82,000	**GSF**	$6.75	**$553,500**
HAZARDOUS WASTE REMOVAL	82,000	**GSF**	$10.00	**$820,000**
SITE COST				**$3,765,735**
	TOTAL DIRECT COST			$37,416,839
CM AT RISK CHPTR 149A				
DESIGN CONTINGENCY		12%		$4,490,021
CM CONTINGENCY		2%		$838,137
ESCALATION (bid fall 2017)		5%		$2,095,343
GENERAL CONDITIONS	20	MOS	$115,000	$2,300,000
GENERAL REQUIREMENTS		2%		$942,807
BUILDING PERMIT		1%		$480,831
P&P BOND & INSURANCE		2%		$961,663
PROFIT		3%		$1,485,769
	TOTAL CONSTRUCTION COST			$51,011,411
	COST PER SF			**$415.69**

Prepared by: A. M. Fogarty & Associates, Inc.
WILDWOOD ELEM SCHOOL STUDY 1 - 162/2/201610:24 AM

PERMITTING REQUIREMENTS

A. Notice of Intent – Amherst Conservation Commission and MassDEP – Driveway and utility alterations within 100 feet of a pond/land under water body buffer at Strong Street and connection of drainage to existing municipal drainage system (alteration of bank).

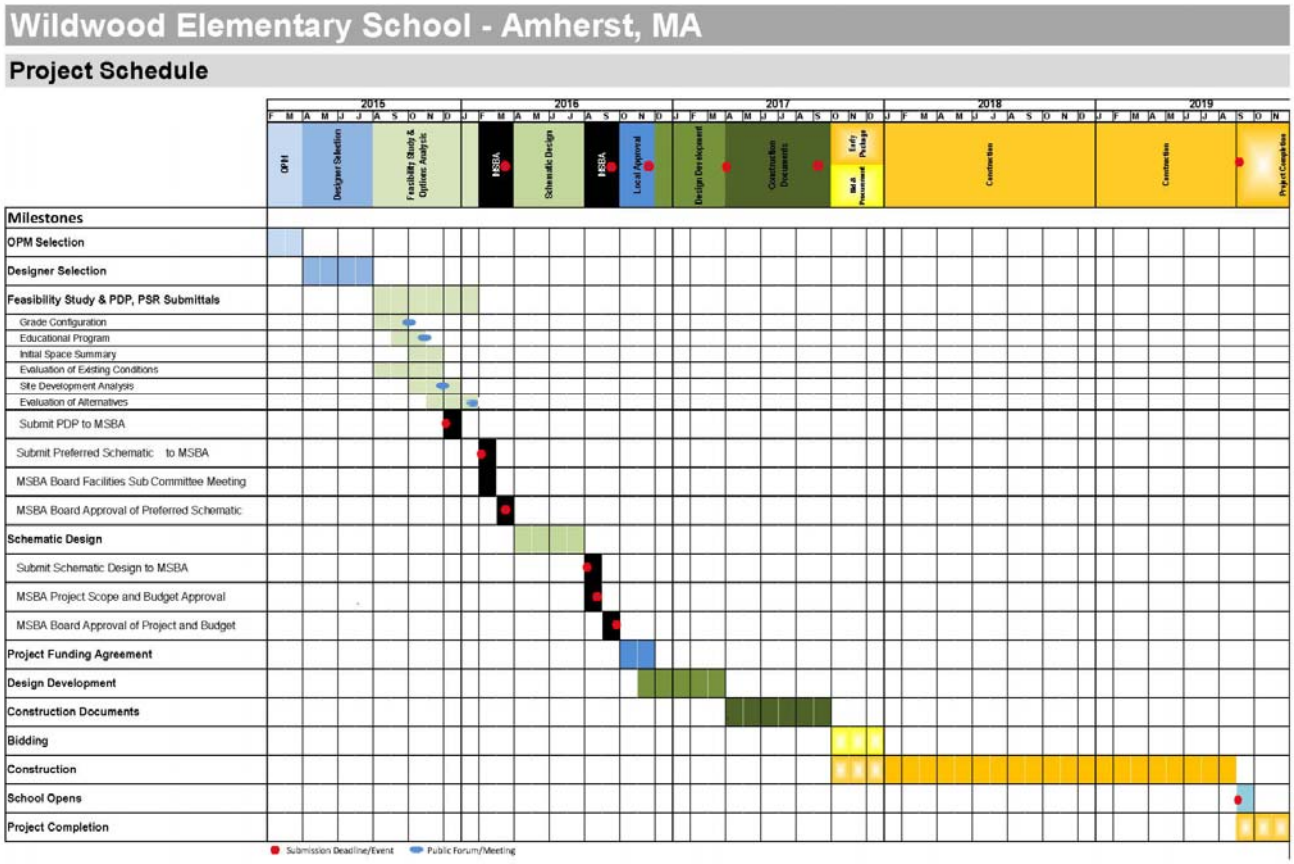
B. Site Plan Review – Amherst Planning Board – Major site construction project.

C. Zoning Board of Appeals – Amherst Zoning Board of Appeals – Relief from potential Zoning requirements such as 30% maximum lot coverage.

D. Water Main/Service Connections – Amherst Department of Public Works – Review of existing water main relocation and connection to proposed building.

E. Sewer Piping/Service Connections – Amherst Department of Public Works – Review of existing sewer relocation and connection to proposed building.

PROPOSED PROJECT DESIGN AND CONSTRUCTION SCHEDULE



Feasibility Study Phase

November 20, 2015

JOSLIN LESSER Project Management

COST ESTIMATES

On the following page is the Summary of Preliminary Design Pricing for the Final Evaluation of Options. The data provided in Table 1 is based on the designer's cost estimator AM Fogarty's Feasibiliy study cost estimate. The OPM provided an independent cost estimate through their professional cost estimator, PM&C and the two cost estimates were reconciled. Uniformat Level 2 data for both cost estimates is included in the Appendix.

Summary of Preliminary Design Pricing for Final Evaluation of Options

Option	Total Gross (sf)	SF of Renovated Space ($/sf)	SF of New Construction ($*/sf)	Site, Building Takedown, Haz Mat Etc. ($*)	Estimated Total Construction ** ($*)	Estimated Total Project Costs ($)
Code Upgrade	82,000 sf	82,000 sf	- sf	$ 1,251,200	$ 15,202,162	$20,318,703 (1)
(Repair)		$ 170.00 $/sf	$ - $/sf		$ 185.39 $/sf	
W7	122,714 sf	- sf	122,714 sf	$ 6,355,957	$ 52,250,288	$66,628,860 (1)
(New)		$ - $/sf	$ 373.99 $/sf		$ 425.79 $/sf	
W10	126,000 sf	82,000 sf	44,000 sf	$ 5,530,297	$ 47,790,229	$ 61,053,786
(Add/Reno)		$ 284.99 $/sf	$ 429.34 $/sf		$ 379.29 $/sf	
W12 * **	**122,714 sf**	**- sf**	**122,714 sf**	**$ 6,347,660**	**$ 51,675,907**	**$ 64,594,884**
(New)		**$ - $/sf**	**$ 369.38 $/sf**		**$ 421.11 $/sf**	
FR5	122,714 sf	- sf	122,714 sf	$ 7,006,461	$ 51,011,411	$65,080,264 (1)
(New)		$ 1.00 $/sf	$ 358.60 $/sf		$ 415.69 $/sf	

* Marked up construction costs

** Does not include construction contingency

*** District's preferred option

(1) Estimated project costs include added costs for swing space

AMHERST ELEMENTARY SCHOOL - Amherst, MA — Options and Criteria Evaluation Matrix

● Favorable ⊙ Netural ○ Unfavorable

	Criteria	Grade Reconfiguration 2-6			
	Note: All design options will meet current building codes.	W10	W7	W12	FR5
		Renovation / Addition	New Construction	New Construction (Phased)	New Construction (Alternate site - Fort River)
Building and Site Facts					
1	Student enrollment population	750	750	750	750
2	Size of site (acres)	14.34	14.34	14.34	11.46
3	Site acquisition or additional legal requirements	N	N	N	N
4	Estimated project capital cost	$60,893,000	$66,015,000	$67,176,167	$65,464,000
Cost and Schedule					
1	Accommodates transition without need for swing space	●	○	●	○
2	Allows all students to move in to new school 2019	○	●	○	●
3	Minimizes construction duration	○	●	○	●
Educational					
1	Meets goals of Ed Program for independent schools	○	●	●	●
2	Provides flexibility for future growth	○	⊙	●	⊙
3	Promotes teacher collaboration	⊙	⊙	●	⊙
Community					
1	Provides accessibility to community used space	○	●	●	●
2	Allows interior space for informal parent gathering	○	⊙	⊙	⊙
3	Allows independent use of community spaces	○	●	●	●
Building					
1	Allows for a contextually sensitive design	○	●	●	⊙
2	Minimizes impact on students during construction	○	●	⊙	●
3	Addresses all building deficiencies	⊙	●	●	●
4	Maximizes daylight and solar orientation	⊙	●	●	⊙
5	Provides easy access to commons spaces for all students	⊙	●	●	●
6	Provides "small school" experience	○	⊙	⊙	⊙
Site					
1	Maximizes efficient utilization of site (minimizes bldg. footprint	○	⊙	●	⊙
2	Involves additional site costs (utilities, mitigation, etc.)	⊙	⊙	⊙	⊙
3	Optimizes safety and efficiency of parent/bus drop off	⊙	⊙	●	○
4	Maximizes student outdoor activities/education	⊙	⊙	●	●

PREFERRED SOLUTION

4

SECTION 3.3.4

3.4.4 - Preferred Solution

- Executive Summary
- Educational Program
- Updated Space Summary
- Space Summary Variations
- Sustainability Scorecard
- Sustainability Goals Letter
- Conceptual Floor and Site Plans
- Estimate of Total Project Budget / Construction Cost

3.3.5 LOCAL ACTIONS AND APPROVALS

3.3.4 – Preferred Solution

- Executive Summary
- Educational Program
- Updated Space Summary
- Space Summary Variations
- Sustainability Scorecard
- Sustainability Goals Letter
- Conceptual Floor and Site Plans
- Estimate of Total Project Budget / Construction Cost

3.3.4 – EXECUTIVE SUMMARY

The Amherst School Committee voted to have the 750 student school broken into two wings, each comprised of students in grades 2-6. To achieve that vision, the district developed maps that would divide the town into two contiguous enrollment zones from the current catchment maps, which have three enrollment zones which are not fully contiguous. Fortunately, multiple options that maintain a balance of socioeconomic equity (a research-based practice that is a goal of the Amherst School Committee) were identified as possibilities. The recommendation to the School Committee was to revisit the maps after the project's support by the MSBA and the Town of Amherst is confirmed to vote on the one that best serves the community. This would also allow more time for enrollment patterns to develop so that the plan would best address any changes to past patterns that might change by 2020. The maps were presented to the Amherst School Committee on December 22, 2015 and are included in the Appendix of this document. Once the decision on grade configuration was made, considerable study and evaluation of the proposed design schemes, estimated costs, constructions schedules and evaluation of swing space options, the School Building Committee decided the Preferred Solution is W12.

W12 is a grade 2-6 (750) Option as a new building located on the Wildwood site. This Option assumes that the new school would be a two story, 122,714sf building with a footprint of approximately 72,000sf (remainder of the square footage would be second floor classroom space). This option would allow both the pedestrian and vehicular circulation to be reworked on site and all of the play areas to be updated. This Option allows the Wildwood students to remain in the existing space through the duration of the first phase of construction then to move into the new portion of the building as the second classroom wing is constructed. The Preferred Solution supports the goals identified in the Visioning Sessions and the Educational Program. In working with the District through numerous workshops and design reviews, this building plan was developed to address all of the identified goals of the project. The important issues included seven Guiding principles – they are:

1. Student Engagement
2. Learning Communities
3. Adaptability and Flexibility
4. Teacher Collaboration and Expertise
5. Sustainability
6. A Place You Want To Be/Teach
7. Community Engagement

These Guiding principles have been incorporated into the Preferred Solution and embody and reinforce the Priority Design patterns that were discussed at the various workshops. The small neighborhood organization within each wing reinforces the "small school" concepts and the centralized location of the Community oriented spaces provide easy, controlled access for the public. The variety of spaces and the distribution of the various room types supports the idea of collaborative learning environments from the standpoints of students and staff. This organizational framework has been structured to build upon in the subsequent upcoming phases and as the Town considers the Preferred Solution further, the Design Team will clearly look to continue to incorporate all of the Guiding Principles as details within the building design.

A criteria matrix which outlines the design criteria evaluated and the associated ratings for each of the concepts is included in the Appendix. In summary, the Committee's consensus was that Option W12 best met the project criteria and best supported the educational vision outlined in the Town's overall plan for its schools. . To achieve that vision, the district developed maps that would divide the town into two contiguous enrollment zones from the current

catchment maps, which have three enrollment zones which are not fully contiguous. Fortunately, multiple options that maintain a balance of socioeconomic equity (a research-based practice that is a goal of the Amherst School Committee) were identified as possibilities. The recommendation to the School Committee was to revisit the maps after the project's support by the MSBA and the Town of Amherst is confirmed to vote on the one that best serves the community. This would also allow more time for enrollment patterns to develop so that the plan would best address any changes to past patterns that might change by 2020. The maps were presented to the Amherst School Committee on December 22, 2015 and are attached to this document.

UPDATED EDUCATIONAL PROGRAM

After receiving comments from the MSBA on the Preliminary Design Program, responses were submitted and the Educational Program was updated to reflect the adjustments that were made. The Amherst School Committee voted to have the 750 student school broken into two wings, each comprised of students in grades 2-6

The Updated Educational Program (dated February 11, 2016) is included on the following pages.

Educational Program

Amherst Public Schools
February 11, 2016

Amherst Public Schools District Mission

The mission of our schools is to provide all students with a high quality education that enables them to be contributing members of a multiethnic, multicultural, pluralistic society. We seek to create an environment that achieves equity for all students and ensures that each student is a successful learner, is fully respected, and learns to respect others.

Table of Contents

Guiding Principles

The development of guiding principles for the Wildwood School Project is driven by the notion of creating a school environment where students, teachers and families truly want to be and to engage in teaching and learning. Further, the Wildwood School is a place where students, teachers, families, and community members work towards a common purpose: equitable and high quality educational and social experiences for all students.

Excitement and Engagement

- Students are engaged and excited about their learning
- The learning is authentic, meaningful, and relevant
- All students' needs are met through differentiated approaches
- Students are provided with opportunities to grapple and struggle with new ideas and concepts in effort to foster a growth mindset
- Student voices are heard and learning is visible throughout the school
- Students engage in continual self-assessment

Building Community

- Community-building is a priority within the classroom, across grade levels, within the school, and across the Amherst community
- Students will have a "small school" experience and feel connected and known by peers and adults in the school

Adaptability and Flexibility

- The infrastructure will be flexible and built for the future
- The spaces in the building will support *all* learners to engage in deep thinking and learning
- The building will be green with an eye toward climate justice

Collaboration and Sharing Expertise

- The physical building will support teacher collaboration (i.e., collaborative work spaces and accessible storage of shared materials and resources)
- Teachers will have ample opportunities to share best practices
- Students will learn how to collaborate and there will be ample opportunities to practice teaming skills

21st Century Learning Goals

The following list of priority "21st Century Learning Goals" for Amherst elementary school students were developed by the Educational Working Group (EWG). The EWG represented parents of elementary students, community members and officials, district administrators, and teachers. Five teams of 4-5 participants worked together to create their own set of Learning Goals, after which each team presented to the larger group, with each member subsequently voting on their priority Learning Goals.

Empathy, Citizenship, and Ethics

- Flexibility and community; social and self-awareness

Curiosity, Creativity, and Risk-Taking

- Self-directed learning; imagination

Collaboration

Cultural Awareness and Expression

- Multi-cultural Literacy and Global Awareness

Effective Oral and Written Communication

Grade & School Configuration Policies

Located in the Pioneer Valley of Western Massachusetts, the Town of Amherst is a diverse, inclusive community offering numerous educational and cultural opportunities. Host to Amherst College, Hampshire College, and the University of Massachusetts Amherst, the Town enjoys transparent, professional, and high-level government services, quality education, support for open space and agriculture, and respect for its history.

The Amherst Public Schools currently educate approximately 1,200 students in grades PreK-6. More than the vast majority of Massachusetts school districts, our diverse student body reflects state demographic averages.

Race	% of District	% of State
Black / African American	8.6	8.7
Asian	13.9	6.3
Hispanic	20.6	17.9
Native American	0.3	0.2
White	48.7	63.7
Native Hawaiian / Pacific Islander	0.2	0.1
Multi Race, Non-Hispanic	7.8	3.1
English Language Learners	15.2	8.5
Students with Disabilities	17.6	17.1
Free & Reduced Lunch	41.2	38.3

Currently, district students are educated in three K-6 elementary schools: Fort River, Wildwood, and Crocker Farm which also houses five integrated preschool classrooms for students throughout the town. The infrastructure of the three schools differs significantly. While Crocker Farm is the oldest, a renovation/addition completed in 2002 makes this school an excellent space for teaching and learning. By contrast, Wildwood and Fort River, built in 1970 and 1973, respectively, have many educational and infrastructure challenges that affect teaching and learning. Built as “open classrooms,” noise issues led to the erection of partial walls, resulting in the current “quad” set-up, with each quad comprised of four classrooms sharing a boys’ and a girls’ bathroom. Unfortunately, since the walls do not extend to the ceiling, noise from one classroom easily reaches another. Additionally, serious moisture issues are pervasive at both schools, with staff members and parents/guardians expressing concerns about indoor air quality.

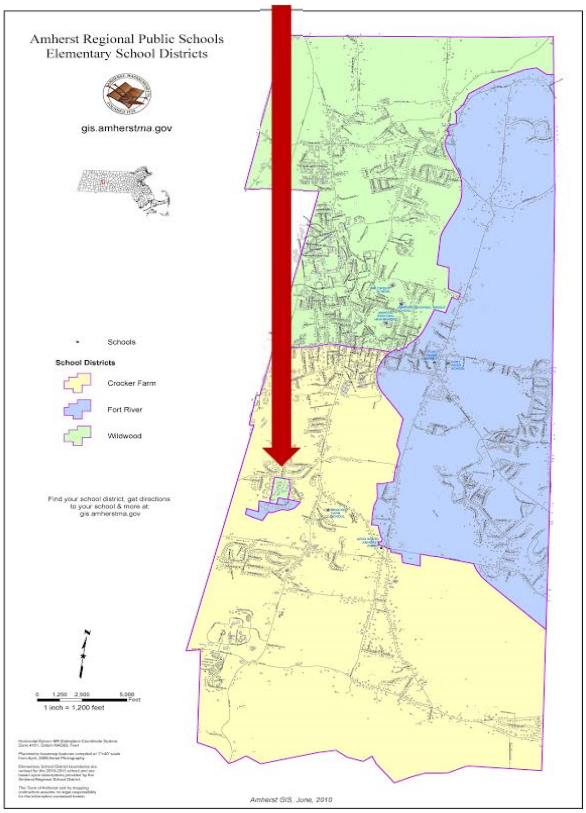
The stark differences between the learning environments of these three schools can be seen in teachers’ responses to selected items from the 2014 statewide Teaching, Empowering, Leading, and Learning (TELL) survey. In response to “The physical environment of classrooms in this school supports teaching and learning”:

- 96% of Crocker Farm teachers agreed
- 24% of Wildwood teachers agreed
- 9% of Fort River teachers agreed (ranking 990th out of 992 Massachusetts schools that completed the survey)
- 83% of Massachusetts elementary school teachers agreed

In response to "Teachers and staff work in a school that is environmentally healthy":

- 87% of Crocker Farm teachers agreed
- 25% of Wildwood teachers agreed
- 18% of Fort River teachers agreed
- 72% of Massachusetts elementary school teachers agreed

In 2010, the district closed Mark's Meadow School (another K-6 elementary school), redistricting the entire town to the remaining three schools, which resulted in more than 30% of students transferring schools. The new attendance zones were created to normalize the population of income-eligible students across the three schools, in response to the School Committee's desire to have equitable schools across the district. However, in achieving socioeconomic equity, the map of attendance zones did not prioritize geographic distance from schools for some students (see map below). Therefore, many students living in apartments on East Hadley Road now attend different elementary schools than do their neighbors in an adjacent complex.



For a few years after the redistricting, the percentages of income-eligible students remained fairly consistent across the three schools. In the past two years, however, these percentages have shifted, with Crocker Farm now at 35%, Fort River at 44%, and Wildwood at 43%. We have also seen a shift in the overall student population at these three schools. While Crocker Farm is on the verge of being over-enrolled and Wildwood's enrollment is relatively stable, Fort River is now under-enrolled (see table below) due to a consistent decline in students over the past 10 years. Based on current projections gathered from rolling forward current classes along with census data for younger students, we expect these trends to continue.

	FY '08	FY '09	FY '10	FY '11	FY '12	FY '13	FY '14	FY '15	FY '16
WW Resident	416	403	368	471	440	426	402	394	401
WW Choice						6	5	18	24
FR Resident	476	458	434	400	391	357	345	346	333
FR Choice						19	23	20	14
CF Resident	322	331	341	371	383	394	421	407	404
CF Choice						4	14	15	13

Another challenge with the district's existing organization is that it does not allow for ongoing inter-school collaboration. Teachers spend roughly six hours each school year collaborating on curriculum and instruction with colleagues from other schools. Given our district Theory of Action, which states, "If all teachers engage in an ongoing cycle of disciplined collaboration, focused on the examination and continuous improvement of student learning and instructional practice, engagement and achievement will increase for all students," the current model is woefully inadequate in this area. Innovations and creative ideas at one school do not have a consistent vehicle to transfer to the other two schools, hampering not only district growth but also implementation of district initiatives.

Also, relevant to grade level configuration is the movement towards project-based, authentic learning as a cornerstone of our district identity. To increase student engagement and help students see how content relates to the real world, we are partnering with Expeditionary Learning, a national organization with its Northeast Regional Headquarters located in Amherst. As part of this initiative, many teachers are reading *Leaders of Their Own Learning*, a text that describes how non-standardized assessment can be used in authentic ways that influence teaching and learning and improve the student experience. One key principle of this education philosophy is that learning is an active endeavor, with students working on projects both individually and in small groups, a practice which requires multiple work-stations and flexible classroom configurations. Unfortunately, this type of project-based learning cannot be properly implemented at either Wildwood or Fort River, where the lack of acoustic privacy and breakout rooms make it quite difficult for students to work in groups without distracting each other.

These are not the only challenges at Wildwood and Fort River. Both sites have accessibility issues for students and adults with mobility challenges. For instance, to reach the bathroom, students in the "interior" quad classrooms must walk through one or two "exterior" quad classrooms. Besides being problematic for students with mobility challenges, this is disruptive to learning and also takes up physical classroom space, since walking lanes need to be maintained for traffic flow to the bathrooms. Another challenge is the placement/location of the school libraries, which are open to two major hallway areas and are adjacent to the instrumental music rooms, which generate significant noise. Limited natural light is present in the interior quad areas and none exists in many of the breakout rooms where students receive Title I and Special Education services.

Our district has recently seen a significant increase in ELL students with little to no English speaking skills, from 5 two years ago to 33 currently, primarily due to programs at the University of Massachusetts Amherst. While we would like to create an "ELL Newcomer" program, these students are currently spread across our three schools, so no grade level at any school has enough students in this category to merit creating this program. Although we try to teach these students as best we can while also maintaining our commitment to all ELL students — including those who are progressing in their language development — these two distinct ELL populations require distinct instructional models, which are difficult to balance for our dedicated ELL teachers.

Listed below are advantages to transitioning the district to a two-school model, with all Preschool-1st grade students attending Crocker Farm and all 2nd through 6th grade students attending the building that results from this project:

- Ensure that every classroom has an appropriate space for active, engaged student learning that aligns with our philosophy of education and equity
- Ensure that every learning environment is appropriate for all students, including those with special needs and/or ELL students (both of whom are often the most vulnerable to learning environments that have frequent noise or movement distractions)
- Ensure that regular collaboration between groups of educators with similar positions can occur on a consistent basis so that best practices can be shared and transferred to multiple classrooms, providing a similar experience for all students
- Ensure that all students, regardless of disabilities or mobility challenges, are able to attend an ADA-compliant school
- Develop a system that guarantees socioeconomic equity for all schools without subdividing Section 8 housing complexes to achieve this goal
- Provide annual operational savings that can be used to either increase programming in the school and/or reduce the cost of our district to the town
- Ensure a newcomer ELL program could be developed in a cost-neutral way, since all similarly-aged students who would benefit from this program would attend the same school
- Stabilize the variability of the enrollment in our schools
- Develop an early childhood center, with a program focused solely on young children, particularly in the areas of social-emotional connections and early literacy
- Close two outdated elementary schools that no longer support the form of education that is consistent with student needs in the 21st century and that have significant mold and air quality issues

Given that a grades 2-6 school would be larger than any of our current schools, the school could be separated into two distinct wings, each with its own administrative, teaching, and mental health teams. The initial community feedback placed significant value on students feeling connected to a smaller group of children and adults; this organization of the intermediate school will be able to provide that experience. The school would not only benefit from the economies of scale that occur with a larger building, such as shared spaces for the library, makerspace, and physical education and shared custodial staff, but would also allow for collaboration between the two wings, while maintaining the small school experience valued by students, staff, and parents/guardians. The projected student enrollment of this school would be 750, consistent with the MSBA's guidance.

Crocker Farm's enrollment would drop from its current 415 students to 350 students, resolving the overcrowding issues while allowing for additional early childhood classroom spaces. We currently have five preschool classrooms that serve the entire Amherst community at Crocker Farm, which does not meet the needs of the community based on the wait list for the program. This model will allow us to add two additional preschool classrooms, primarily focused on providing early learning experiences for our low-income student population where cost and transportation are often barriers to enrollment. The district has engaged LEARN, a regional collaborative with expertise in early childhood education, to facilitate visioning work with teachers, parents/guardians,

and administrators for the reconfigured early childhood center so that its own unique identify can be formed.

On January 19, 2016, the Amherst School Committee, by the count of 4-1, voted this grade reconfiguration and the closing of an elementary school. The building that would be vacated would be returned to the Town of Amherst for its use. The district has created draft maps for the redistricting that would be required under this plan and presented them to the Amherst School Committee in December, 2015; given that enrollment shifts in the community, a recommendation was made to the School Community would be to vote on a new enrollment map two years prior to the reconfiguration, likely in the fall of 2018, when enrollment information is most current.

Class Size Policies

The Amherst School Committee recognizes the relationship between class size, effective teaching, and student achievement and that this relationship varies across grade levels, among subjects and by methods of instruction. Class sizes that rise above acceptable levels affect both educational quality and the School District's ability to attract and retain the best possible teachers. Therefore, class size will be determined by several variables including grade level, subject area, particular needs of the pupils in the classroom, nature of the learning objectives, availability of classroom space, instructional methods, availability of support staff, and budgetary constraints.

The annual guidelines for Elementary School class sizes will specify the range in class size for each grade. The District's preferred ranges for Elementary School class sizes are as follows:

Kindergarten and First Grade - 17 to 21 students
Second and Third Grades - 19 to 23 students
Fourth through Sixth Grades - 20 to 24 students

The School Committee recognizes that the annual guidelines for Elementary School class sizes (and actual class sizes) may be different from these preferred ranges; however, the goal for the class size guidelines will be to keep Elementary School class sizes as low as possible within these preferred ranges, particularly in the youngest grades.

In addition, the district has recently implemented a co-teaching special education model at all of the elementary schools. The class size of co-taught classrooms is slightly less than in other classes to best accommodate students with special needs and leave room for students with special needs who may enroll after the beginning of the school year.

School Scheduling Method

The Amherst Public Schools have developed a schedule to design sufficient time for each core content area while maintaining a whole child approach, recognizing the value that social-emotional instruction, specials, and recess have for elementary students. In addition, we provide contractual preparation time for all professional staff members. The current weekly time allotments are as follows:

Literacy: 550-700 minutes *Mathematics: 300-350 minutes*

Science/Tech/Engineering: 90-120 minutes
Social Studies: 90-120 minutes
Social Curriculum: 50-100 minutes
Art: 40 minutes
Music: 40 minutes
Physical Education, Health, and Wellness: 60 minutes
Instructional Technology: 40 minutes
Library: 40 minutes
Integrated Arts (grades 5 & 6): 40 minutes

Instrumental Music (option for older elementary students): 75 minutes

The Amherst School Committee supports the provision of an adequate number of specials teachers in the district. These programs support the commitment the community holds to provide a well-rounded program of studies to elementary students. The specialists have additional hours beyond their specials teaching responsibilities to integrate with classroom teachers and other staff members to provide an integrated approach to teaching and learning. While this is a formal part of the schedule for students in grades 5-6, the integrated arts is occurring across all grade levels.

The instrumental music program is robust. Strings lessons are available in 3rd grade and wind lessons are available starting in 4th grade. Finding space for both the small group lessons as well as the ensembles is a significant challenge. It is not currently possible to schedule enough small group rooms to accommodate the needs of the program, so entryways into teacher work rooms are used for these lessons. More information about the space needs of arts programs can be found below in the Teaching Methodology and Structure section.

If the World Language program is reintroduced into the district, time allotments will likely shift to accommodate this priority.

Teaching Methodology and Structure

Below is an overview of the general elementary curriculum and methods used by our talented staff members.

Math

The Amherst Elementary Math program consistently provides opportunities to engage and challenge all students through the use of multiple modalities while supporting a model of growth mindset. To implement the 2011 Massachusetts State Frameworks, teachers have access to and use Everyday Math, Drexel open response problems, number talks, and technology. Teachers help students to lead math congresses and to share mathematical ideas and thinking.

To set the stage for this work, the district has employed three math coaches charged with working with grade level teams on a two week rotation throughout the year. On week one the coach visits each classroom during math instruction supporting class lessons and gathering student work. On week two, the coach facilitates a meeting with grade level teachers and special education teachers.

In the math team meeting, educators discuss state standards and how to engage all students. By starting with the state standard, the team can decide the learning target of the lesson. By assessing student work, the team can then focus on differentiating benchmarks to meet the needs

of diverse learners within the student-centered classroom. The team looks at the work offered in the lesson and thinks about the cognitive demand presented in each task. The goal is to provide material that has the types and level of thinking required of students in order to successfully engage with and solve a task. The objective of each lesson is to present students with a variety of experiences in math class where tasks consistently encourage high-level student thinking, synthesis and application. Teachers choose tasks that will engage students in a productive struggle, but yet are attainable. Additionally, these tasks also provide opportunities for student reflection and additional opportunities for learning.

To encourage teachers in their own professional development with Growth Mindset, High Cognitive Demand, and the Standards, the math coaches are leading grades 3-6 in three half-day math labs. For each lab, teachers are given time to explore and creatively plan a math lesson. This design encourages collaboration and team growth within grade levels and the ability to share best practices.

To give every student the opportunity to access in-class activities teachers develop a well-rounded math curriculum. This includes opportunities for numeracy work, core instruction, practice activities, extension activities, small group work, partner work, math projects and the use of spiral reviews. To foster the mathematical practice standards, teachers lead students in computational and conceptual conversations that stress problem solving, the use of multiple representations through mathematical modeling, and sharing of their ideas. Teachers differentiate lessons by addressing the gaps in student learning and offering adjusted activities that provide an enhanced study of the math concepts. For students who have been identified with intervention needs, a math enhancement block is available daily. Students with IEPs have their needs met with a combination of co-teaching and pullout services to support their learning.

Amherst elementary teachers are striving to create a culture of mathematicians who have the wherewithal to think through complex problems, to engage in a cycle of inquiry, and to persevere through a challenge when the answers do not come quickly. As educators engage in a collaborative process with student mathematicians, they strive to nurture lifelong habits of successful math learners. Those habits develop the ability to reason about problems, to offer different perspectives, to construct and justify arguments, as well as to have an internal awareness of when an answer does not make sense. The students as well as educators are committed to these overarching learning targets every day and work towards creating a math environment where there are opportunities for growth, understanding, rigor and shared achievements.

Literacy

Based on the Massachusetts Curriculum Frameworks, the English Language Arts Program serves to help all children develop communication skills in writing and reading to develop a lifelong interest in literacy. Using a balanced, multi-faceted approach to literacy instruction, teachers integrate direct instruction with authentic reading and writing experiences so that students learn how to use literacy strategies and skills and have opportunities to apply what they are learning. Teachers strive to find balance for every child by being flexible and selecting appropriate strategies based on their individual needs. Students receive at least 90 minutes of daily instruction in ELA.

Through a balanced approach that includes instruction using the reading and writing workshop model, explicit phonics instruction, and word study, students develop:

- Phonemic and phonological awareness and letter-sound knowledge
- Alphabetic knowledge, blending, sound/symbol correspondence, structural analysis, contextual clues, and high frequency words
- Comprehension strategies in order to evaluate, synthesize, analyze, connect, infer and inquire
- Vocabulary
- Process writing, spelling, and grammar

In addition, students read both orally and silently and are read to from a variety of high quality increasingly complex fiction and nonfiction texts at both independent and instructional levels. Students participate in small group instruction and read a variety of reading materials from trade books, leveled books with controlled vocabulary, and decodable books. Students write daily to support and extend their knowledge of the structure of language and construct meaning. Technology is incorporated into the ELA classroom to support the reading and writing process, including iPads for younger students working on phonemic awareness.

Formal and ongoing informal assessments such as The Benchmark Assessment System, spelling inventories, and phonemic inventories allow teachers and specialists to intervene early with appropriate instruction to students who are not progressing. Grade level data meetings are held twice a year to examine student data and identify students in need of Tier 1 and 2 interventions. Students receive Tier 2 targeted literacy interventions during a 30 minute Enhancement block. Interventionists use Aimsweb assessments to monitor student progress. We use a wide range of Tier 2 interventions that are based on students' specific learning profiles.

Science

The elementary (K-6) science curriculum used in the Amherst Public Schools was designed to align with the 2001 Massachusetts Science and Technology/Engineering Standards and is undergoing revision and realignment to better correlate with the 2013 Draft Revised MA STE Standards. These updated standards are based on the Next Generation Science Standards, which emphasize authentic inquiry and hands-on learning, including: asking questions, defining problems, developing and using models, planning and carrying out investigations, analyzing and interpreting data, using mathematics and computational thinking, and obtaining, evaluating, and communicating information.

Most units of study used in the district are kit-based. These kits are kept in large bins and need to be stored out of the way of the instructional area, in a designated and securable space. Science instruction at all levels requires access to water (as both a scientific "supply" and for the purposes of clean up and health/safety), so convenient access to sinks is essential. Due to the use of liquids in hands-on investigations, activities, and demonstrations, waterproof (non-carpeted), nonslip floor surfaces are important, especially in areas of the room where science activities will take place (e.g., flooring materials, some of which are not adequate for proper science instruction. Many science investigations also require workspaces larger than the traditional-sized student desks found in most classrooms. Large, seamless desktops/workspaces are strongly preferred to minimize dropping and spilling of supplies, to facilitate ease of producing

handwritten work, and to facilitate student collaboration. Set up and use of science materials/equipment at countertops or other large, seamless work spaces is preferred but limited due to current instructional facilities. Lastly, the district is committed to making science learning experiences accessible to every student. This takes the form of differentiation of materials as well as the use of appropriate accommodating equipment, furniture, and the like.

A makerspace that would provide an additional instructional room to support students' use of materials and interactions with the science curriculum would support student engagement in the sciences. Makerspaces, whether focusing on STEM, STEM, robotics, science, or making, are effective, because they bring students to the foreground and gives them a chance to be creative instead of forcing them to learn specific concepts in specific ways like handouts. They are playgrounds for future designers and scientists. Makerspaces develop problem solving skills, the scientific process, and creativity more than typical classrooms. They provide hands-on project-based learning with minimal teacher intrusion and more potential for self-directed learning. A makerspace covers a multitude of skills and subjects, but it takes materials and good teachers to make it flourish.

Designating a classroom as a makerspace is an important component in establishing a healthy, vibrant, tenable makerspace program. First, makerspaces are full of materials--from high-tech pieces of equipment like 3-D printers and robots, to low-tech items like recycled household items--and these require space for both use and storage. In order for a makerspace to function well, students must have easy access to the supplies they need, and they must be given adequate space in which to work. This enables greater exploration of the materials and decreases safety concerns related to crowding. Makerspace materials include items of high monetary value, as well as those to which students should not have access without a teacher's supervision, and a designated makerspace ensures that there can be a location where such materials are stored in a secure manner. The physical makerspace itself should encourage creative thinking and tinkering, and these are hampered when students lack elbow room to explore in an open-ended way. An inviting, effective makerspace should have ample countertops, standing tables, traditional tables, non-traffic floor space, and a connection to the outdoors (visual and/or physical) which allow students to explore the materials in a meaningful way.

Safety is always a concern when working at a school. The makerspace will not be more hazardous than a classroom or an art room unless there will be more advanced components like 3D printers, CNC routers, and laser cutting machines. If those will be added, then there can be a corner for them with the option to section them off from the rest of the room if a staff member is not able to directly supervise. Since it's an elementary school, I do not advise students to have access to those devices, at least while they are in use.

Staff will have to be trained how to use the equipment and specific safety rules should be in place like wear goggles when operating, never touch a machine, and always have a staff member helping you. For the majority of the equipment like robotics and engineering materials, the safety concern is extremely low.

The elementary science curriculum incorporates two outdoor components. The first of these is outdoor garden beds. There are approximately two garden beds per grade level at each school,

and each school has an outdoor shed equipped with hoses, shovels, and other tools for use in the gardens. At present, some teachers use the garden to plant seeds and observe plant growth in connection with related units of study. The garden curriculum is currently under development, with the goal of creating hands-on lessons and activities that capitalize on the connections between garden-related content and the state learning standards for each grade level. The second outdoor component involves visual and physical connection to the natural world. The visual connection (allowing for daily observations of the outdoors regardless of weather conditions/season) is made possible by the placement of numerous windows in instructional spaces. The physical connection is facilitated by easy access to the outdoors via conveniently located doors, and allows students and teachers the opportunity to engage in scientific thinking and skills practice in an authentic, engaging, and relevant manner.

Social Studies

Students engage in a history/social sciences curriculum that wherever possible integrates with the informational skills components to support the development of analytic thinking and application skills. It is important that there is wall space available for maps and educational posters/displays as well as ample storage capacity for books and other content materials. We also integrate the arts into this content area; for example, the Enchanted Circle Theater, a local organization, collaborates with teachers to infuse the arts into 5th grade Social Studies, which promotes learning and engagement. The concept of social justice, while taught across content areas, is particularly connected to social studies. Ensuring that history is studied through multiple perspectives with a focus on multicultural content and pedagogy is a critical element of our program.

Social/Emotional Learning

We utilize multiple tools to ensure that students are supported in the social/emotional realm. Second Step is our core curriculum used for teaching social emotional skills. We employ a tiered model of support and core values to promote positive behavior in all contexts of our school. In addition, many classrooms use the Zones of Regulation program and other Sensory Smart tools that might influence how we design learning spaces that can support all learners in this domain.

World Language

The Amherst Public Schools previous had a World Language Program at the elementary level. The School Committee passed a policy (IHAH) in 2010 to introduce this program to our schools. They wrote, “This policy is in line with the Amherst Elementary School District goals of academic achievement, social justice, and the preparation and encouragement of every student to become a participating, responsible citizen within a global society. Spanish is currently by far the most often non-English language spoken in the homes of Amherst Elementary School children, and therefore Spanish is the language that provides the best opportunity to meet these goals.”

While the program was enjoyed by students, it had staff split between the three schools to cover the instruction, which led to significant scheduling challenges that prevented the programs from fully realizing its potential. The World Language policy was suspended due to a budget shortfall in 2013. If operational savings occur from the result of this building project, exploring the restoration of this program is a priority.

The Integrated Arts
Over the past few years, the Amherst Integrated Arts Initiative has been a critical part of the work of the district. It is our belief that the arts play a central role in the education of our students. In a collaborative process, our specialist team developed a definition and foundational goals for the initiative:

The Amherst Integrated Arts Initiative* is an approach to teaching in which students construct and demonstrate understanding through interdisciplinary experiences. Students engage in a creative process that connects multiple disciplines and meets evolving objectives through these experiences.
**This includes visual, literary, performing, movement/kinesthetic, and the technical arts*

Common Threads in Arts Integration

- Collaborative Work
- Community Building
- Creative Process
- Equity and Empowerment
- Skill Development
- Interdisciplinary Curriculum

Foundational Learning Goals for AIAI:

- Students and teachers regularly engage in exciting collaborative learning experiences
- The initiative offers opportunities for building community and enriching students' lives in and beyond school
- Students and teachers consciously develop their personal creative process through regular practice
- The initiative promotes equity by honoring and celebrating our diverse community to inspire and empower students
- Students will have opportunities to develop and practice skills in discrete disciplines, including the visual, performing, movement/kinesthetic, literary and technology arts
- Students and teachers have opportunities to engage in meaningful interdisciplinary work.

Art Program
Students in kindergarten through 6th grade receive 40 minute art sessions once per week. Additionally, students in 5th and 6th grades have weekly Arts Immersion classes, a choice-based district-wide initiative to provide students with an immersive and interdisciplinary experience in each of the Specials areas.

Currently, the art room has ample space for a maximum of 24 students to discover, plan, and create art. Advantages currently include proper separation between workspaces and storage spaces, natural light, and placement of the art room near the main entrance of the school. The room has a large storage closet, a poorly-ventilated kiln, and ample but inefficiently structured shelving and closet units. The sliding doors of the closets are heavy and dangerous for small children to use.

New or renovated art rooms must be equipped to provide all students with a rigorous, varied, and exciting art education in a variety of high-quality media and with many possibilities for interdisciplinary connection. Ample storage spaces must be provided for flat works on paper or canvas as well as three-dimensional mixed-media sculpture. A clay storage area and well-ventilated kiln and glazing area are required, separate from the areas storing paper or flammable liquids. The room must have ample natural light as well as wall space for a projector, whiteboard, and many bulletin board surfaces for displaying exemplary student work and additional relevant works of art. Sinks of varying height (suited to a variety of age ranges) must be provided - four sinks would be ideal. Cabinets, countertops, drying racks, and storage cubbies must be provided to store the work of hundreds of students as well as all of the supplies to serve the whole school. Any art room must also have ample storage space in its own large storage closet with shelving (metal is safest), sturdy work tables, large storage closets, teacher preparation areas, class meeting spaces with a whiteboard and projector or smartboard, an area for several computers with internet access, a printer, and plenty of natural light. Ideally, each classroom would also have a door to the outside for outdoor art activities.

In the event that we design two art rooms (this would be necessary only under the reconfiguration option), our students would be well-served by two differentiated art spaces: one for two-dimensional media and one for three-dimensional media, placed close to one another for maximum collaboration between the two art teachers and for collaborative or mixed-media projects. The two-dimensional art room would require many wide, short shelves or drawers for storing flat work, as well as sturdy shelves for holding bottles of paint. Depending on curricular interests, this room might also house a graphic design area, which must be in a separate area from the painting and printmaking supplies. The three-dimensional art room would require an exceptionally large set of storage cubbies/cabinet areas within the classroom itself (in addition to its storage closet) to store student work. There must be a clay area, a well-ventilated kiln and glaze area, a plaster area, and a wide, flat shelving unit for storing sketches and plans for three-dimensional projects. The three-dimensional room would be used for exploring ceramics, wire and metal sculpture, mixed-media, papier-mâché, plaster, wood, carving, mosaics, fiber arts (including knitting, weaving, batik, sewing, and quilting). The two-dimensional room would be used for exploring drawing in many media (pencil, charcoal, oil pastel, crayon, etc.), painting (several types), printmaking, collage, cartooning, animation, illustration, and graphic design and/or photography.

Currently, the art teacher experiences limitations in being able to adequately display the many wonderful assignments that students create. While there is some display area in the hallway, the outdated nature of the two small cabinets and multiple bulletin boards do not draw proper attention to the projects. Therefore, ample display areas for both two- and three-dimensional student work is needed. These display spaces should be in hallways, in the lobby, offices, and in other central and community areas throughout the school. These should be lockable, easy to clean, and well-lit.

Another distinct element of the art program is that art specialists collaborate with grade level teachers to integrate curricular standards with creative endeavors. For example, when the 3rd graders study the Wampanoag, the art and grade level teachers present various visual models of

these historic dwellings. Then, the art teacher guides students through the process of creating their own wetu. Another grade level studies animal adaptations; the art teacher works with students to create diorama models that include habitat as well as clay animals of their chosen animal. These displays are part of a celebration in which parents are invited.

Finally, the arts rooms need to be fully wired for technology to support student learning in this domain.

Physical Education Program

Students have a 40 minute physical education session each week. A primary goal of the program is to promote our students to become active people throughout the lives; therefore, students are exposed to many different activities so they can find many that they enjoy. There is a mix of team sports and fitness activities throughout the program. Younger students learn core skills to enable greater participation in team and collaborative games. Older students learn about how to position themselves in space during a game, how to move to the correct spot, and the strategy used to achieve a goal. Team activities are included throughout to support the social aspects of physical education. The physical education teachers also work with small groups of students (often students with special needs) in addition to the weekly classes to support their success in the physical education curriculum and their ability to participate in games at recess and in the community.

Ideal space in a new school would include a traversing wall to allow for more gross motor activities without needing to use belays. In addition, the ability to divide the gym would allow for concurrent activities to occur during inclement weather.

Music / Performing Arts Programs

Students have a 40 minute classroom music session each week. The program has many components that enrich the lives of students and the school community. At its core, the classes feature large group activities where students learn to work together, play instruments, and engage in song and dance. In addition, a social curriculum is integrated into the program. Cultural diversity is featured through the music that is chosen. An aim is to ensure that students become culturally literate in the musical traditions from around the world.

The mechanics of music, such as music theory and the ability to read and play notes and rhythms, is another core feature of the program. The program is inclusive for all students, including those with intensive special needs.

Current challenges include a music room with poor acoustic spaces at Wildwood. In addition, the music program involves many movement activities, so the size of the space is particularly important. The music program also integrates into classroom activities through the year.

Amherst also has a robust instrumental music program. Students have an opportunity to learn string instruments in 3rd grade and wind instruments starting in 4th grade. There are small group lessons and large ensembles that meet weekly to support student development and provide an experience in musical performance. Finding sufficient small group rooms for lessons is a particular challenge.

The music programs contribute to the community in the school. At assemblies, graduations, and other events, aspects of the programs are integral to bring the community together. Parents/guardians typically enjoy seeing the performances that their students participate in throughout the school year. A large space for performances, such as a cafetorium, is a particular need.

Technology Infrastructure, Instruction Policies & Program Requirements

Labs, Classrooms, Library (Media Center, etc.)

Wildwood School currently has a robust, though multi-generational, technology infrastructure. The district has long recognized the impact technology can have on education and has provided what resources it can to support that vision. Technology currently at Wildwood is summarized as follows:

Infrastructure:

All classrooms are currently wired with Cat 5 ethernet. Unfortunately, the bulk of the wiring was installed before 1998. The majority of classrooms have only a single cluster of 6 drops. This wiring is beginning to show its age, with an increasing number of failures, either due to wiring issues, or failing or damaged jacks. The Ortronics wall plates and jacks used are proprietary and don't use the keystone standard. This limits options when repairing failed jacks. It is often necessary replace the entire faceplate and all 6 jacks with standard replacements. The single location also limits classroom layout. When multiple locations are desired, either additional drops need to be installed, or existing runs are pulled back and relocated. All drops were wired back to the "book room" closet, the MDF, which contains a rack, patch panels, a UPS and switches.

During the summer of 2012, when implementing a district-wide, standardized IP phone system, the Information Systems department, with the assistance of the maintenance department, created two additional wiring closets, or IDF. A wall mounted cabinet was installed containing a UPS, patch panel and switch. Intercom handsets were replaced with IP telephones, which required installation of a Cat 5e network drop. At that time, two additional Cat 5e drops were added below the phone location to provide additional flexibility.

All the current switches are capable of providing some 802.11af or 802.11at power over Ethernet. Many locations currently prove extremely challenging to add or replace network cabling due to building design.

Prior to the summer of 2012, the wireless infrastructure for the schools was inconsistent and provided incomplete, spotty coverage. Wireless access points were consumer grade devices which required individual management. In 2012, the Information Systems Department implemented a system-wide enterprise grade wireless infrastructure. The technology at that time was 802.11n and supported both 2.4 and 5 GHz radios. Access points were placed to provide almost complete coverage to the building. During the summer of 2015, some of the 802.11n access points were replaced with 3x3 802.11ac access points to support newer technology, higher speeds and greater density.

The network operating system is Windows-based utilizing Active Directory. Most of the servers reside in the nearby Middle School, with additional servers at both the Amherst-Pelham Regional High School and Pelham Elementary. Users can login to any computer at any building in the district. The Middle School and Wildwood are connected via private underground fiber. There are currently 12 strands of multimode cable and 6 strands of single mode. The single mode cable is currently being used to provide a gigabit connection between locations.

Classroom Instructional Technology

Almost all grade-level classrooms offer the following instructional technology:

- 1-2 modern (<5 year old) desktop computers per classroom for student/staff use running Windows 7
- Digital projector
- Document camera
- At the teacher's request, a Mimio Teach Interactive solution is provided

Additionally, teachers were given the option of replacing a desktop computer with a laptop for their use. District-wide, more than 70% of the teachers have chosen this option.

Networked laser printers are placed strategically in the quads and shared among classrooms. There are also larger capacity network laser printers in both the library and computer laboratory. There is a networked color laser printer in the computer lab. The district employs two simple devices that allow any printer to support Airprint and Google cloud print to support iOS, Chrome and Android Devices.

Mobile Technology

Chromebook carts were installed during the summer of 2015 in every 4th-6th grade classroom. All 3rd-6th grade students received both network and Google Apps for Education accounts. There are currently 4 mobile carts containing 25 modern laptops each shared among classrooms and the library. There is also a 20 unit mobile cart containing 20 modern laptops for use by special education programs. There is a 25 unit iPad cart containing iPad 2s available for use by any classroom or program. There are 2 iPads assigned to each K-2 classroom. A number of special education staff have iPads assigned for use with students. ELL teachers will receive iPads before the end of October 2015.

Library

The library contains 11 modern computers, 1 used for check out, the remainder for student and staff use. There is a shared network laser printer in the library. A SmartBoard interactive whiteboard and projector are available and utilized in one corner of the library. The layout of the library severely limits its utility. It is open on three sides with multiple means of ingress and egress. The limited wall space means limited available electrical outlets and network drops. No walls means all traffic in the main hallways bordering the long sides of the library is distracting and disruptive to instruction. Students access the library for weekly 40 minute specials classes as well throughout the day to select and return books and to work on integrated projects with classroom teachers. The librarians also work with the technology teachers and classroom teachers on integrated projects as part of the arts integration initiative.

Computer Lab

The lab is equipped with 25 current generation desktops. The teacher station is connected to a data projector, document camera and interactive whiteboard. Two shared network printers are located in the lab, one black and white and one color. Unused mobile carts are stored in the lab, leading to a cramped, crowded space. The lab was created by combining two small adjacent instructional spaces. The dividing wall was demolished to approximately 3 feet. Raceway was installed around the perimeter of the two sections containing power and network cabling. Unfortunately no changes were made to the HVAC system to accommodate the 25 computers, monitors, people, printers and projector, so the space can become uncomfortably hot. The lab was originally designed as a Television Studio, so there is still a large cable distribution cabinet located in the space. The pipe leading to the Middle School terminates in the computer lab, so one wall there is a 4" pipe coming from the floor into an 18"x18" box. The connecting fiber cable enters Wildwood from this pipe into the box, then exits the box, runs around the room to the adjacent book closet MDF where it is terminated in the rack.

Instructional Model

The majority of technology education happens at the elementary level for students. However, due to the inclusion of tech instruction in the specials rotation, tech instruction time is limited and integration and collaboration is limited. Technology teachers maximize the available time and bring a variety of technology instruction to students including, but not limited to keyboarding, network and internet safety, word processing, spreadsheets and presentations, programming and robotics.

Inclusion in the specials rotation results in the implementation of the "drag and drop" model of technology instruction. Teachers bring the class to the computer lab, drop them off, and then take their prep time. Technology teachers typically see classes once a week for 40 minutes. With the current model, this really means about 35 minutes due to time required to get settled and logged in. Time at the end of class is needed to logoff and gather things. Since this occurs during teacher prep time, tech teachers rarely have time to collaborate with classroom teachers to fully integrate technology. Despite this, they work with the students to identify current classroom topics and tailor the activities accordingly. The tech teachers do integrate with library, art, music and some PE.

Chromebook carts were introduced into each 4th-6th grade classroom for the fall of 2015. All 3rd-6th grade students were given network and Google apps accounts which represents a significant shift for the elementary schools. The goal is to increase the use of technology in the classroom and to integrate into classroom instruction. Technology teachers now have the option to go to the classroom for tech instruction time.

Goals for the future include classroom teachers providing grade level curriculum maps and collaboration time. Changing the mindset regarding technology and removing technology instruction from the specials rotation is necessary to more fully embrace the idea of a 21st century education. The existing model is outdated. Additional technology professional development time for classroom teachers is also needed to increase their familiarity, comfort and skill level. It would also result in better utilization of building resources.

There is an Acceptable Use Policy for students and staff in the district. Parents are asked to review the Acceptable Use Policy with their children, sign and return the district form to the main office. There is a simplified Acceptable Use Guidelines which summarizes the Acceptable use policy for students. All students receive instruction in the Acceptable Use Policy during the first two months of the school year.

Teacher Planning and Room Assignment Policies

The following information describes both the current organization of room assignments as well as the ideal configuration in a new or renovated space.

Both Fort River and Wildwood Schools were built with the "open classroom" concept in the early 1970's. Once the district realized the limitations of that model, partial walls were erected, making the large spaces into "quads". The majority of quads have four classroom spaces filling one large space. One upside of this approach is that it promotes collaboration and a sense of being connected to adjacent classrooms. The downsides are numerous, such as the lack of acoustic privacy which interferes with teaching and learning; the lost classroom space due to the fact that "hallways" are needed through classrooms to get to the student bathrooms; the lack of natural light in the indoor quad classrooms; etc. Crocker Farm, while having beautiful classrooms with natural light and acoustic privacy, has a traditional organization of rows of classrooms down long hallways.

The ideal classroom arrangement would be combining the best aspects of both models. Classroom neighborhoods, containing multiple spaces with acoustic privacy but in close proximity, would create the community feeling that is essential for students and teachers. It would promote the collaboration that is central to our district's core beliefs on how to improve outcomes for students. Having small group rooms in the neighborhood also would promote our sense of inclusion and would allow for flexible grouping consistent with our co-teaching model that is being implemented. The classroom spaces in each neighborhood would offer flexibility for project-based learning that is also at the core of our instructional vision for the district. Flexible furniture would also attend to the variability of student needs in our student population.

In terms of the larger spaces, a cafetorium would support many aspects of the school community. This type of multi-use space does not exist at Fort River or Wildwood, which prevents dramatic performances or all-school assemblies from being visually accessible to all students or parents/guardians. In addition, it is currently not possible to "block off" parts of our elementary school buildings for community use. Ideally, core spaces such as the gym and cafetorium could be utilized after hours without the core learning spaces being accessible. If the reconfiguration option is chosen two connected "cafetoriums" (one for each wing) would be ideal.

The building would be designed with multiple learning spaces that are not relegated solely to the classrooms. Having clearly delineated interactive spaces in hallways where small groups of students can work with visual access from the classroom is a key component of ensuring that spaces throughout the entire school can be utilized as learning environments. Chalkboard and display walls will allow for students to feel ownership of the school while also providing additional small group teaching and working spaces.

Special Education Programs

Our student body is highly diverse in all aspects related to identity and demonstrates varied interests, strengths, and challenges. In the previous school year, 17.6% of our students were identified as having special needs. Our firm belief is that supporting this group of students in academic and social-emotional areas is our ethical responsibility and is beneficial to all students. We partner with the Special Education Parent Advisory Council to run parent events, to receive feedback on our programming, and to assist our district on interview teams and with the hiring process. In addition, two members of the executive board of our SEPAC were on the Educational Working Group with David Stephen.

We host robust in-district programs for students with more significant disabilities because we believe that retaining these students in district with their community peers is beneficial not only to the students with special needs, but to all students in the district. At the current time, only two students are being serviced in an out-of-district placement.

Academic Individualized Mainstream Support (AIMS) Program – specialized programming for students who have a high functioning Autism Spectrum Disorder or other neurological conditions with pragmatic language, executive functioning, socialization and sensory regulation difficulties. This program offers individualized, comprehensive, and intensive intervention to address these areas.

Intensive Learning Needs Program – specialized program for students who present with highly complicated learning profiles and educational needs that require a significant degree of program coordination and service. These students may have one or more disabilities in any of the following areas: Autism, Communication Impairment, Developmental Delay, Health Impairment, Intellectual Impairment, Neurological Impairment, Physical Impairment, Sensory Impairment, and / or Specific Learning Disabilities. This program provides support and services to students with significant needs within the least restrictive setting while focusing on the individual needs of the students.

Building Blocks Therapeutic Program – specialized programming for students whose primary needs are social, emotional, and/or behavioral. This program is designed for students whose needs require a smaller, structured therapeutic setting for all or part of the day. A high staff to student ratio is maintained with individualized programming to meet the needs. Services and support are provided on an individual basis and are designed to assist students in developing effective coping mechanisms and problem-solving strategies towards becoming more fully integrated with their typical peers when appropriate.

In addition to our specialized programs, we offer a wide range of services for our students with special needs who are not in district programs. A number of instructional strategies are being implemented to implemented this year is co-teaching.

Co-teaching is a service delivery system in which two or more teachers share instructional responsibility for a single group of students, primarily in a single classroom or workspace, for specific content or objectives with mutual ownership, shared resources and joint accountability (although each individual's level of participation may vary). Research conducted over the last 30

years shows that students with disabilities who are educated in general education classrooms are more likely than their peers who are educated in separate classrooms to:

- Acquire reading and math skills,
- Graduate from high school,
- Go on to post-secondary education,
- Have better communication skills,
- Obtain meaningful social relationships, and
- Be welcomed and contributing members of their communities.

Instructional benefits of co-teaching include:

- Strategies integrated into classroom routines
- Skills generalized to authentic tasks
- Immediate application of strategies
- Opportunity for daily practice
- Strategies used across the curriculum
- Problem-solving built into lessons
- Improved instruction for all students
- Instructional fragmentation is minimized
- Co-teacher/special service educator understands the expectation for academics and behavior
- Co-teaching provides support and staff development

Historically, there has been a small amount of co-teaching taking place within our schools. When this has occurred, co-teaching has most often best described the staffing pattern rather than the instructional model. Professional development for faculty and staff is essential so that co-teaching pairs learn the differing models of instruction and the necessary skills. This year, we have implemented co-teaching in all of our schools, at all levels. While the research clearly demonstrates the efficacy of this instructional strategy, it is important that we continue to gather feedback from the students learning in this environment to assess their experience. One challenge to our implementation of co-teaching is the physical spaces available at Fort River and Wildwood. The open classrooms lack acoustic privacy, which is critical to many students. In addition, the infrastructure does not easily allow for multiple work spaces in a room, which makes flexible grouping a significant hurdle. In a renovated or new building, we plan to prioritize creating flexible spaces that are consistent with our educational philosophy of inclusion and appropriate responses to student variability.

The core related service providers—Speech/Language, Occupational and Physical Therapists, along with Behavior Specialist/BCBA (Board Certified Behavior Analyst)— provide required and essential services to students identified with 504 Plans and Individual Educational Plans that include both consultation and direct service in general education and pull-out educational settings. In addition, these professionals, as well as the Vision Specialist, the Teachers of the Hard of Hearing, Autism Specialists and the Assistive Technology Specialist provide screening, evaluation, consultation and collaboration with various teams of professionals serving students. In many cases, the professional therapist works alongside a para-educator with an individual or small group of students while some students may work with the therapist alone. On a regular, but less frequent basis, the professional therapists provide co-treatment to address a combination of

skills in a small group experiential or functional learning scenario, such as the Occupational Therapist and Physical Therapist with game skills or the Speech Language Pathology and Occupational Therapist with a unit study-based activity. The therapists consult directly with classroom or special education teachers to make connections to general education curriculum when possible. In addition to service, teams of related service providers, such as the Occupational Therapists or OT/ST, provide training to the school faculty in utilizing specialized techniques, like S'cool Moves or Zones of Regulation, which benefit the student body as a whole. Related service providers are integrated into professional practice teams at Wildwood and the other elementary schools. Several providers also supervise and support the professional development of graduate students during internship placement at Wildwood. Specific Speech Language, Occupation, and Physical Therapy staff are dedicated to the district-wide Intensive Learning Needs program. The core related service providers are an integral part of the Wildwood Resource Team. This larger group of providers, teachers of special education, guidance counselors and school psychologists review and develop practices and programs for the benefit of the students they serve through regular meetings and sub-committee assignments.

ELL Program

The Amherst Public Schools' population of English language learners in the elementary age range includes approximately 193 students who speak languages including but not limited to: Cambodian, Chinese, Japanese, Korean, Portuguese, and Spanish. Over 40 languages are spoken by our students. Each school has well-trained professional staff who are well-versed in techniques of teaching English as a Second Language and Sheltered English Instruction as well as being familiar with students' cultural, linguistic, and academic experiences. ELLs are supported by 9.5 ELL teachers and 2 aides. Additionally, interpreters are employed to provide clarification in the native language for the English Language Learners who cannot perform coursework in English.

ELL teachers provide instruction both in the mainstream grade-level classroom (push-in/inclusion) and in the ELL classroom (pull-out). The type of instruction is determined by a student's English proficiency.

ELL small group spaces should be located adjacent to or within grade level classroom neighborhoods to promote flexible grouping and reduced instructional time lost to travel. They also need acoustic privacy as students learning a new language have more challenges with understanding content with auditory distractions. As technology to support ELL students is rapidly developing, ensuring that ELL spaces are fully wired is an instructional necessity.

Our elementary district has recently seen a significant increase in "Level 1" ELL students, who have little to no English language skills. Two years ago, the district had 5 Level 1 ELL students; there are currently 33 Level 1 ELL students. This increase is primarily due to the expansion of international programs at the University of Massachusetts Amherst. While we would like to create an "ELL Newcomer" program, these students are currently spread across our three schools, so no grade level at any school has enough students in this category to merit creating this program. Although we try to teach these students as best we can while also maintaining our commitment to all ELL students — including those who have been progressing in their language

development for several years — these two distinct ELL populations require distinct instructional models, which are difficult to balance for our dedicated ELL teachers. The reconfiguration model will allow for the creation of this Newcomer Center since students can be easily grouped by grade level across the district in the same building.

Transportation Policies

The Town of Amherst, in conjunction with the Amherst Public Schools, provides transportation. In addition to the state requirements for the transportation of students, as outlined in Chapter 71, Section 68 of the laws of the Commonwealth, Amherst students who reside one and one half miles or more from the school they are entitled to attend shall be provided daily transportation to and from school. Exceptions to this mileage limit may be made by the Superintendent whenever the route to school is determined to be a dangerous way. The School District provides transportation to the special education and special education pre-school students.

The busses service the local elementary school, and due to time and scheduling constraints, the middle and high school students are dropped off between 7:25 am and 7:35 am so that the elementary runs can occur directly after that dropoff. The faculty/staff provide supervision to students during arrival and dismissal times. Past practice has been to limit rider time to less than 35 minutes per route. The limited size of the school site and the limited street access points cause traffic and safety issues for both busses and pedestrian students. Parents picking up students park along the West side of the building which is clearly marked. A crossing guard is provided at the juncture Strong Street and East Pleasant Street for walkers.

Dismissal time is 3:05 pm. Busses typically do not arrive until 2:50 pm.

Loading of students occurs with a release of older students first and younger students last.

All students are introduced to bus conduct and proper behavior on, in and around the bus at bus stops, arrivals and departures.

Bus evacuations are conducted by all schools in accordance with the law.

Lunch Programs

The primary goal of the Amherst Food Service Program is to serve delicious and healthy meals to as many children as possible. This goal has become increasingly important as the percentage of income-eligible families in Amherst has risen substantially over the past several years. The Amherst Public Schools contract with Whitsons, a food service management company, to administer its food service program.

The Amherst Food Service program participates in the National School Lunch and Breakfast program. Lunch runs from 11:25 A.M. - 12:45 P.M. and serves students in kindergarten through sixth grade. Wildwood serves approximately 170 lunches and 58 breakfasts each day. The kitchen is staffed by one manager and two support personnel.

There are two serving lines that lead to a single register. The serving line space is not very flexible and has limited the opportunities to provide promotional activities like guest chefs and the inclusion of a salad bar. The natural light in the cafeteria is limited as well, primarily because of two partitions that divide the cafeteria into three grade specific eating areas.

Functional & Spatial Relationships and Key Programmatic Adjacencies

How the learning areas work together with our educational priorities

The current Wildwood School was opened in 1970 as a model for the open-classroom educational approach. While at one time there were 600 students served, currently 420 come to school each day. Amherst and the surrounding towns are experiencing a downward trend in enrollment. In addition, Wildwood houses a specialized district-wide special education program and an increased ELL population. Within the past five years, Wildwood absorbed students from a closed elementary school as well as additional/different students from re-districting of the student population.

The guiding principles of excitement and engagement, building community, adaptability and flexibility, collaboration and sharing expertise with a foundation of sustainability make this school “A Place Where You Want to Be.” Creating a sustainable building coincides with the community’s sense of social equity and climate justice.

I. Relationships between classrooms and programs
   a. The school needs student-centered learning spaces that allow for flexibility in use to address the needs of diverse learners and adapt to changes in instructional programs
   b. Connections between clustered classrooms should be fostered in order to support cohorts of teacher and students in building a sense of community and ownership
   c. The school accommodates a variety of inclusion, pull-out and reverse inclusion services for students of varying learning needs. The school would need classroom, grade level or grade cluster neighborhoods that allow for sharing of break-out spaces and “maker spaces”
   d. The school needs spaces that promote student access to the curriculum following Universal Design for Learning. This includes break-out spaces, maker spaces, and science lab for upper-grade classrooms

II. Spaces inside and outside of classrooms
   a. The playgrounds are well-used both during school and as a community resource.
   b. The surrounding trails and curated spaces provide a starting point for indoor/outdoor connections.

III. Specialized instruction/Inclusion
   a. The school houses a successful Intensive Learning Program that provides effective and safe learning environments for students with wide-ranging interests and abilities, the physical design of which is integral to the success of the program
   b. The school would need areas that support regulation through the use of fitness or chill-zones.

IV. After school/Community Use
   a. The Monday thru Friday after-school programs are in need of space to engage in sports, play, eating, homework, reading instruction, and tutorials

b. It is important for the community-at-large to have access for family resources, parent-guardian organizations and other groups such as resource center/meeting room

V. Shared spaces
   a. A priority design element is to provide gathering spaces for classrooms, grade levels and the whole school
   b. The community has identified the Arts and Technology, along with PE, Music and Library as integral to elementary education. These each require shared classrooms, storage, and workspaces
   c. A critical element of the new or renovated school is the "small school experience and building community" which are supported through a safe and inviting entry space in which families of diverse backgrounds and community members with diverse interests feel welcomed

Security & Visual Access Requirements

The Wildwood School, as all schools in the Amherst MA, requires a safe environment for the Staff, Students and Public.

- A facility that is locked at all times. An access control system for staff members that allow their staff identification badge to grant access to the building
- A receptionist monitoring main access point(s)
- Visual Security of the main entrance utilizing a video monitoring system that will be monitored at the school secretary's desk.
- Visitors to the building should be granted access via door release after communicating with the secretary via video and audio intercom
- Video surveillance and recording of all areas on the interior and exterior of the building
- Safe, well-lit parking for staff
- Safe, well-lit parking for visitors in close proximity to the building
- Safe vehicular student drop-off and pick-up areas (without crossing traffic)
- Safe pathways for pedestrians and bicyclists coming from varied directions to the school
- Safe bus access systems that do not interfere with drop-off and pick-up traffic
- Safe recess grounds and play fields that can be properly supervised by staff and protected from vehicle traffic
- Safe access for kitchen, facility and shipping / receiving separate from school traffic to the main entrance
- Safe and appropriate access to the perimeter of the building and play fields
- High ratio of staff to students while on outside activities
- All staff trained in a district safety procedures and protocols

Acknowledgments

Educational Visioning
A working group of educational and community leaders and parents/guardians was formed to develop many aspects of this Educational Plan, including the Guiding Principles and 21st Century Learning Goals, among others. The membership included:

Katherine Appy, Amherst School Committee Chair
Wendy Bergoffen, Parent/Guardian
Ron Bohonowicz, Director of Facilities and Maintenance for the Schools and the Town
Alyssa Brewer, Amherst Select Board Chair
Jackie Churchill, Community Member
Chris Eggemeier, Classroom Teacher
Bobbie Finocchio, Principal
Terri Geffert, ELL Teacher
Maria Geryk, Superintendent
Monica Hall, Director of Equity and Professional Development
Rick Hood, Amherst School Committee Member
Mary Lambert, Math Coach
Laura Kent, Parent/Guardian
Rebecca Klaus, ELL Teacher
Stephen Lott, Classroom Teacher
Michael Morris, Assistant Superintendent
Irv Rhodes, Community Member
Derek Shea, Principal
Nicole Singer, Art Teacher
Nicole Sproehnle, Parent/Guardian
Nancy Stewart, Parent/Guardian
Marylou Theilman, Amherst Finance Committee
Betsy Todd, Special Education Teacher
Gioia Woods, Classroom Teacher
Nick Yaffe, Principal
David Ziomek, Interim Town Manager

In addition, many other Amherst Public School staff members and administrators contributed to this document in their area of expertise in the curricular sections.

PREFERRED SOLUTION SPACE SUMMARY

After receiving comments from the MSBA on the Preliminary Design Program, responses were submitted and the Space Summary was updated to reflect the adjustments that were made. The Space Summary is included on the following pages. There were several categories in the Space Summary that were adjusted to reflect design developments, direct comments from the MSBA on the Preliminary Space Summary (that was originally submitted as part of the PDP), and new discussions by the Committee relative to the proposed organization within the proposed building. These changes are highlighted here:

Core Academic Spaces –	The PDP reflected 38 Classrooms @ 950SF
	The PSR now shows 32 Classrooms at 950SF and 6 Classrooms at 1050SF
	The PSR now shows the ELL Spaces as part of this category (not the SPED)
Special Education -	The PDP reflected 4 ELL Rooms in this category
	The PSR moves these 4 ELL spaces to the Core Academic Spaces category
Art & Music -	The PDP reflected 4 Ensemble Rooms at 200SF each
	The PSR shows 3 Ensemble Rooms at 175SF each
Media Center -	The PDP reflected the size of the Media Center as 3600Sf
	The PSR shows the size of the Media Center to be 3645SF

Total Building Net Floor Area – has increased (from PDP to PSR) by 520SF to 79,690SF

Total Building Gross Floor Area – has increased (from PDP to PSR) by 906SF to 123,620SF.

Proposed Space Summary- Elementary Schools

2-6 for 750

Wildwood Elem.	Existing Conditions			PROPOSED									MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
				Existing to Remain/Renovated			New			Total						
ROOM TYPE	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	Comments
CORE ACADEMIC SPACES			**26,445**			**0**			**39,000**			**39,000**		**33**	**31,350**	
(List classrooms of different sizes separately)																
General Classrooms - Grade 2-6	930	24	22,320				950	32	30,400			30,400	950	33	31,350	900 SF min - 1,000 SF max
General Classrooms - Grade 2-3							1,050	6	6,300			6,300				
Storage							50	6	300			300				
ELL Room							500	4	2,000			2,000				
Kindergartens	1,180	3	3,540									0				
Computer Room	585	1	585									0				
SPECIAL EDUCATION			**3,756**			**0**			**9,800**			**9,800**			**8,050**	
(List rooms of different sizes separately)																
Self-Contained SPED	1,023	1	1,023									0	950	5	4,750	8% of pop. in self-contained SPED
Self-Contained SPED	859	1	859									0				
Self-Contained SPED	195	4	780									0				
Self-Contained SPED - toilet	22	4	88				50	4	200			200	60	5	300	
Resource Room	146	4	584				250	8	2,000			2,000	500	4	2,000	1/2 size Gen'l. Clrm.
Small Group Room / Reading	211	2	422				250	4	1,000			1,000	500	2	1,000	1/2 size Gen'l. Clrm.
Self-Contained SPED							950	4	3,800			3,800				(AIMS, ILC - 2 rooms, Building Blocks)
OT/PT Room							750	2	1,500			1,500				
Speech Room							150	4	600			600				
School Psychologist							150	2	300			300				
School Adjustment Counselor							200	2	400			400				
ART & MUSIC			**3,678**			**0**			**5,075**			**5,075**			**5,075**	
Art Classroom - 25 seats	1,039	2	2,078				1,000	2	2,000			2,000	1,000	2	2,000	assumed schedule 2 times / week / student
Art Workroom w/ Storage & kiln	373	1	373				150	1	150			150	150	2	300	
Music Classroom / Large Group - 25-50 seats	1,227	1	1,227				1,200	2	2,400			2,400	1,200	2	2,400	assumed schedule 2 times / week / student
Music Practice / Ensemble			-				175	3	525			525	75	5	375	
HEALTH & PHYSICAL EDUCATION			**5,339**			**0**			**6,300**			**6,300**			**6,300**	
Gymnasium	3,637	1	3,637				6,000	1	6,000			6,000	6,000	1	6,000	6000 SF Min. Size
Gym Storeroom	118	2	236				150	1	150			150	150	1	150	
Boys Lockers	733	1	733									0				
Girls lockers	733	1	733									0				
Health Instructor's Office w/ Shower & Toilet			-				150	1	150			150	150	1	150	
MEDIA CENTER			**5,686**			**0**			**4,045**			**4,045**			**4,045**	
Media Center / Reading Room	4,904	1	4,904				3,645	1	3,645			3,645	4,045	1	4,045	
Media Center Office	391	1	391				200	1	200			200				
Media Center Workroom	391	1	391				200	1	200			200				
DINING & FOOD SERVICE			**7,364**			**0**			**8,600**			**8,600**			**9,412**	
Cafeteria / Dining	1,180	4	4,720				4,000	1	4,000			4,000	5,625	1	5,625	2 seatings - 1SSF per seat
Stage			-				800	1	800			800	1,000	1	1,000	
Chair / Table / Equipment Storage			-				350	1	350			350	450	1	450	
Kitchen	1,256	1	1,256				1,800	1	1,800			1,800	2,050	1	2,050	1600 SF for first 300 + 1 SF/student Add'l
Cooler	65	1	65				200	1	200			200				
Freezer	65	1	65				200	1	200			200				
Dishwashing Room	260	1	260				200	1	200			200				
Dry Storage	223	1	223				400	1	400			400				
Kitchen Staff toilet	190	1	190				50	1	50			50				
Staff Lunch Room	585	1	585				600	1	600			600	288	1	288	20 SF/Occupant
MEDICAL			**453**			**0**			**650**			**650**			**610**	
Medical Suite Toilet	37	1	37				2	75	150			150	60	1	60	
Nurses' Office / Waiting Room	416	1	416				1	200	200			200	250	1	250	
Examination Room / Resting			-				3	100	300			300	100	3	300	
ADMINISTRATION & GUIDANCE			**3,236**			**0**			**2,875**			**2,875**			**2,885**	
General Office / Waiting Room / Toilet	1,120	1	1,120				275	2	550			550	525	1	525	
Teachers' Mail and Time Room			-				100	1	100			100	100	1	100	
Duplicating Room			-				150	1	150			150	150	1	150	
Records Room	176	1	176				110	1	110			110	110	1	110	
Principal's Office w/ Conference Area	197	1	197				200	2	400			400	375	1	375	
Principal's Secretary / Waiting			-				125	1	125			125	125	1	125	
Assistant Principal's Office	149	1	149				120	1	120			120	120	1	120	
Supervisory / Spare Office	162	1	162				120	1	120			120	120	1	120	
Conference Room	421	1	421				250	2	500			500	250	1	250	
Guidance Office	149	2	298				150	2	300			300	150	3	450	
Guidance Storeroom			-				35	0	-			0	35	1	35	
Teachers' Work Room	713	1	713				400	1	400			400	525	1	525	
CUSTODIAL & MAINTENANCE			**1,865**			**0**			**2,145**			**2,145**			**2,350**	
Custodian's Office			-				120	1	120			120	150	1	150	
Custodian's Workshop			-				300	1	300			300	375	1	375	
Custodian's Storage	118	6	708				425	1	425			425	375	1	375	
Recycling Room / Trash			-				400	1	400			400	400	1	400	
Receiving and General Supply	608	1	608				300	1	300			300	350	1	350	
Storeroom	549	1	549				400	1	400			400	500	1	500	
Network / Telecom Room			-				200	1	200			200	200	1	200	
OTHER			**3,377**			**0**			**1,200**			**1,200**			**0**	
Boiler Room	843	1	843						-			0				
Janitor's Closets	116	4	464						-			0				
Student toilets - Boys	140	4	560						-			0				
Student toilets -Girls	140	4	560						-			0				
Transgender toilets -Students									-							
Transgender toilets -Staff									-							
Staff toilets	116	4	464						-			0				
Public toilets	243	2	486						-			0				
Maker Space							1,200	1	1,200			1,200				
Total Building Net Floor Area (NFA)			**61,199**			**0**			**79,690**			**79,690**			**70,077**	
Proposed Student Capacity / Enrollment															**750**	
Total Building Gross Floor Area (GFA)[2]			82,000									**123,520**			**108,750**	
Grossing factor (GFA/NFA)			**1.34**									**1.55**			**1.55**	

[1] **Individual Room Net Floor Area (NFA)** Includes the net square footage measured from the inside face of the perimeter walls and includes all specific spaces assigned to a particular program area including such spaces as non-communal toilets and storage rooms.

[2] **Total Building Gross Floor Area (GFA)** Includes the entire building gross square footage measured from the outside face of exterior walls

Architect Certification

I hereby certify that all of the information provided in this "Proposed Space Summary" is true, complete and accurate and, except as agreed to in writing by the Massachusetts School Building Authority, in accordance with the guidelines, rules, regulations and policies of the Massachusetts School Building Authority to the best of my knowledge and belief. A true statement, made under the penalties of perjury.

Name of Architect Firm: JCJ Architecture

Name of Principal Architect: James E. LaPosta, Jr., FAIA

Signature of Principal Architect:

Date: January 25, 2016

SUSTAINABILITY SCORECARD

On December 17, 2015, the Design Team held an EcoCharrette to facilitate an initial discussion relative to the Sustainability Goals of the Town of Amherst as it undertakes this school project. The overarching goal of this workshop was to determine what sustainability elements were important and realistic within the scope of the proposed Wildwood project. The minutes of this meeting are included in the Appendix of this Report.

LEED v4 for BD+C: New Construction and Major Renovation

Project Checklist

Project Name: Wildwood Elementary School

Date: 2016-01-29

Y	?	N			
1			Credit	Integrative Process	1

5	2	8	Location and Transportation		15
			Credit	LEED for Neighborhood Development Location	15
1			Credit	Sensitive Land Protection	1
		2	Credit	High Priority Site	2
1	1	3	Credit	Surrounding Density and Diverse Uses	5
1	1	2	Credit	Access to Quality Transit	4
1			Credit	Bicycle Facilities	1
		1	Credit	Reduced Parking Footprint	1
1			Credit	Green Vehicles	1

7	3	2	Sustainable Sites		12
Y			Prereq	Construction Activity Pollution Prevention	Required
Y			Prereq	Environmental Site Assessment	Required
1			Credit	Site Assessment	1
2			Credit	Site Development - Protect or Restore Habitat	2
1			Credit	Open Space	1
	3		Credit	Rainwater Management	3
1		1	Credit	Heat Island Reduction	2
1			Credit	Light Pollution Reduction	1
		1	Credit	Site Master Plan	1
1			Credit	Joint Use of Facilities	1

7	1	4	Water Efficiency		12
Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
2			Credit	Outdoor Water Use Reduction	2
4	1	2	Credit	Indoor Water Use Reduction	7
		2	Credit	Cooling Tower Water Use	2
1			Credit	Water Metering	1

12	5	14	Energy and Atmosphere		31
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
3	3		Credit	Enhanced Commissioning	6
6	2	8	Credit	Optimize Energy Performance	16
1			Credit	Advanced Energy Metering	1
		2	Credit	Demand Response	2
		3	Credit	Renewable Energy Production	3
		1	Credit	Enhanced Refrigerant Management	1
2			Credit	Green Power and Carbon Offsets	2

5	6	2	Materials and Resources		13
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
	3	2	Credit	Building Life-Cycle Impact Reduction	5
1	1		Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
1	1		Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
1	1		Credit	Building Product Disclosure and Optimization - Material Ingredients	2
2			Credit	Construction and Demolition Waste Management	2

9	7	0	Indoor Environmental Quality		16
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
Y			Prereq	Minimum Acoustic Performance	Required
2			Credit	Enhanced Indoor Air Quality Strategies	2
2	1		Credit	Low-Emitting Materials	3
1			Credit	Construction Indoor Air Quality Management Plan	1
1	1		Credit	Indoor Air Quality Assessment	2
1			Credit	Thermal Comfort	1
1	1		Credit	Interior Lighting	2
	3		Credit	Daylight	3
1			Credit	Quality Views	1
	1		Credit	Acoustic Performance	1

4	2	0	Innovation		6
3	2		Credit	Innovation	5
1			Credit	LEED Accredited Professional	1

2	0	2	Regional Priority		4
1			Credit	Regional Priority: Site development - protect or restore habitat, 2 points min.	1
1			Credit	Regional Priority: Outdoor water use reduction, 2 points min.	1
		1	Credit	Regional Priority: Specific Credit	1
		1	Credit	Regional Priority: Specific Credit	1

52	26	32	TOTALS	Possible Points:	110

Certified: 40 to 49 points, Silver: 50 to 59 points, Gold: 60 to 79 points, Platinum: 80 to 111

SUSTAINABILITY GOALS LETTER

The Designer acknowledges the sustainability goals of this proposed project.

JCJARCHITECTURE

JCJ80
CELEBRATING 80 YEARS

JCJ.COM

38 PROSPECT STREET
HARTFORD, CT 06103
TEL 860.247.9226
FAX 860.524.8067
HARTFORD@JCJ.COM

AN EMPLOYEE OWNED COMPANY

January 31, 2016

Ms. Katie Loeffler
Project Coordinator
Massachusetts School Building Authority
40 Broad Street, Suite 500
Boston, MA 02109

Re: Town of Amherst
Wildwood Elementary School
Amherst, Massachusetts
Preferred Schematic Report
Designer Sustainability Statement
JCJ Project No. H15040.00

Dear Ms. Loeffler:

This is an acknowledgement that Amherst Public School District has identified a goal of 2% additional reimbursement from the MSBA High Efficiency Green School Program. As their Designer, I have submitted a completed LEED-S version 4 scorecard showing all prerequisites and 52 attempted points, which will meet that goal.

The scope of work for this project will include the construction elements and performance tasks to achieve this goal, an all subsequent documents, including but not limited to, specifications, drawings, and cost estimates will match the scope o work indicated in the submitted scorecard.

Please contact our office with any questions.

Very truly yours,

James E. LaPosta, Jr., FAIA, LEED AP, MCPPO
Chief Architectural Officer / Principal

C: Katherine Appy, Chair, Amherst School Committee
Michael Morris, Assistant Superintendent, Amherst Public Schools
Ron Bohonowicz, Director of Facilities and Maintenance, Amherst Public Schools
Thomas Murphy, Owner's Project Manager, Joslin, Lesser + Associates, Inc.
Douglas K. Roberts, AIA, LEED AP, MCPPO, Designer, JCJ Architecture
James Hoagland, AIA, LEED AP, Designer, JCJ Architecture
File H15040.00 / 26

Preferred Schematic Sustainability Narrative

The Wildwood Elementary School project in Amherst MA will pursue LEED for Schools v 4 certification. The project team would like to attempt the certification at silver level allowing the district to apply for the additional 2% reimbursement. The strategies and assumptions presented in the attached project scorecard will allow the project to attempt 50+ points, as required for the LEED for Schools v4 Silver level.

During the preliminary sustainability charrette the project team and participants analyzed both available sustainability certification options: NE-CHPS as well as LEED-S, and it has been concluded that the LEED for Schools v4 would be more beneficial for the project.

LEED for Schools v4 certification is divided into 7 major categories: Integrative Process, Location and Transportation, Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources and Indoor Environmental Quality. There are 2 supplementary categories: Innovation in Design as well as Regional Priority.

Integrative Process

The project implemented the integrative design process from the very beginning. The project team met with all other stakeholders in December 2015 at the preliminary sustainability charrette to outline the project sustainability goals, as well as to identify the opportunities to achieve synergies across the disciplines and building systems. The next steps include a preparation of a simple energy modeling analysis as well as water budget analysis during the schematic design phase.

Location and Transportation

The team analyzed the proposed sites and both the existing Wildwood site as well as the Fort River sites meet the basic LEED requirements. It seems as both sites could potentially allow the project to earn between 4-7 points in the LT category. The suburban location limits the amount of public transportation available for the project as well as the availability of basic services. The project is located in a close proximity to single family residential neighborhoods. The project provides school bus transportation to the majority of the student population. The public transport to both sites should be improved – currently neither site is within a quarter mile walking distance from a public bus stop.

The project is interested to pursue the bicycling and green vehicles credits. The project will maximize alternative transport opportunities within the site, by providing preferred parking spaces for low emitting vehicles and drop off area for carpools, install an electric vehicle charging station as well as transition to green buses ans other school-owner vehicles. Bicycle racks will be provided for students and staff and changing facilities will include showers. The project will promote walking and biking to school among students. The School District intends to share facilities with the public for complimentary uses to increase the sustainability of the new project.

Sustainable Sites

The project plans to undertake a number of sustainability strategies in compliance with the LEED for Schools rating system. Many of them will not only enhance the sustainability of the project but also provide quality outdoor spaces/features for the children as well as reduce the impact on the local infrastructure.

The site design will maximize the open space and vegetated areas in order to improve the children's experience as well as protect the natural habitat. Site employed strategies will include stormwater runoff reduction, joint use of facilities as well as avoidance of light pollution by propose lighting design. The site lighting will be reduced, and will

include full cut-off pole lighting, reduced lighting at site perimeter, interior lighting will be automatically shut down after hours. In order to reduce the heat island effect, the project plans to install a white roof. The team is also considering a small green roof for educational purposes as well as herb and vegetable garden for students.

Water Efficiency

The designed vegetation will complement the existing one on site, the selected species will be native or adapted, low maintenance and draught tolerant. This will minimize the need to use harmful chemicals, expenses associated with maintenance as well as unnecessary potable water use for irrigation purposes. The project does not intend to install permanent irrigation system.

Indoor plumbing fixtures will be low flow, including ultra-low flow faucets, low flow showers, low flow kitchen sinks, pint urinals, dual flush toilets and low flow single flush toilets, depending on the location – to be discussed with the school. Children will be educated about the reduced water use practices through signage.

Energy and Atmosphere

The building intends to reduce energy usage and associated carbon emissions through architectural and systems design. The compact structure will be optimally sited to take advantage of passive design opportunities. It will include advanced building envelope, highly efficient mechanical systems, daylight harvesting opportunities, significantly reduced lighting power density and lighting controls.

The project team will prepare tools that can be used by school during operations phase for analyzing and optimizing energy usage. The integrative design process implemented by the project team will maximize opportunities and synergies between building elements as well as allow for optimizing design and provide operational savings.

The building will be fully commissioned and it's recommended to purchase renewable energy credits to offset its energy usage by renewable sources. It is recommended to prepare a feasibility analysis for the installation of renewable energy on the project site.

Materials and Resources

The project will be designed and constructed to minimize its impact on the environment. The construction waste will be diverted from landfill. Selected building materials will come from renewable sources, will be regionally sourced to promote local economy and limit CO2 emissions associated with transport, will contain recycled components. Additionally a strong focus will be placed on the content of building materials – ingredients will be analyzed and optimized. The project team will prepare recommendations for recycling opportunities during operational phase.

Indoor Environmental Quality

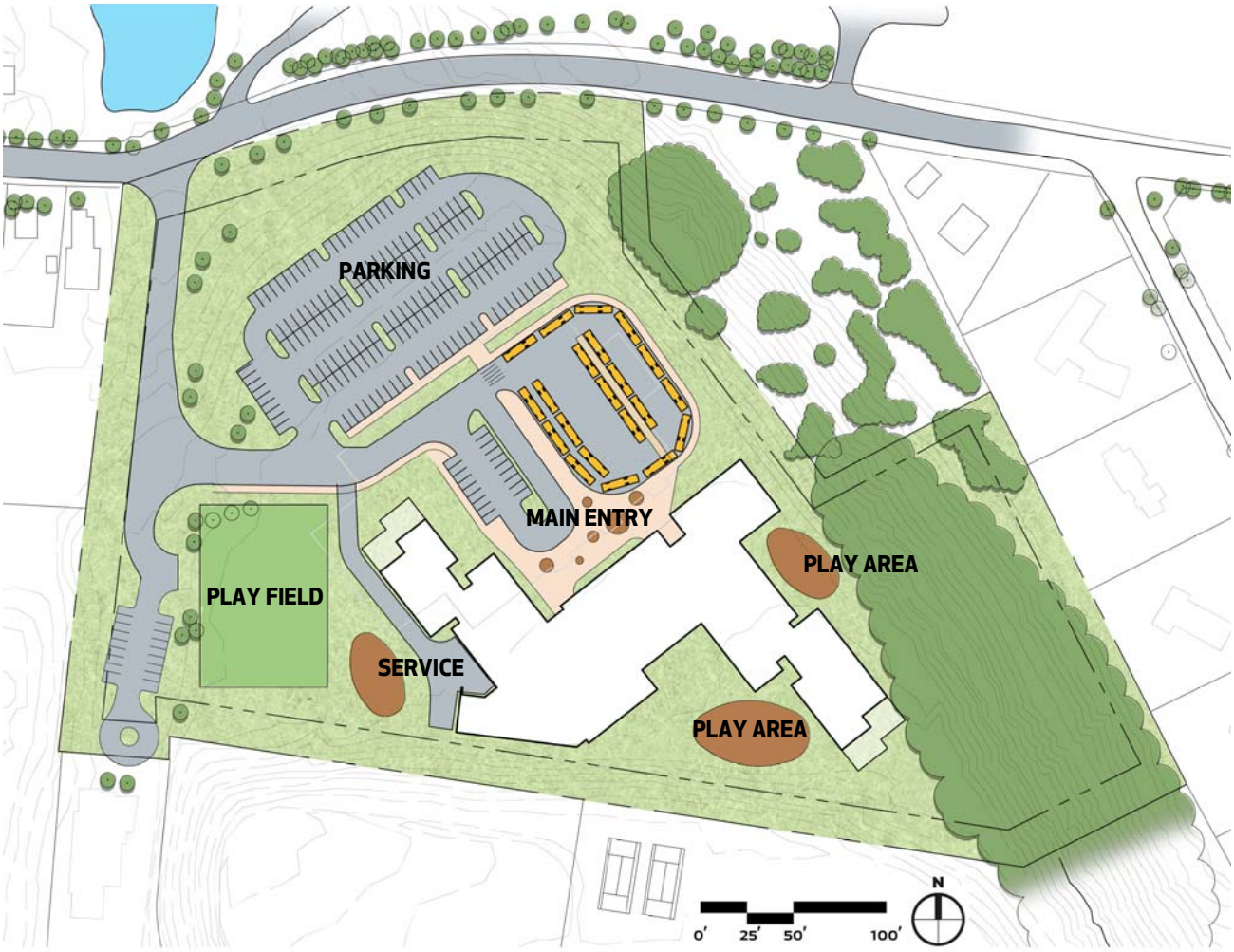
The main goal of the project team is to design and construct a healthy and comfortable building which will maximize learning opportunities for the children. Required analysis will be performed to ensure selection of best available solutions for the intent of the building.

All building materials and products will be low emitting and tested in accordance with the LEED recommended standards. Lighting and HVAC will be optimized to enhance the occupant comfort. Spaces will be daylit and children will be provided with views of the surrounding nature. Implemented construction practices will improve indoor air quality.

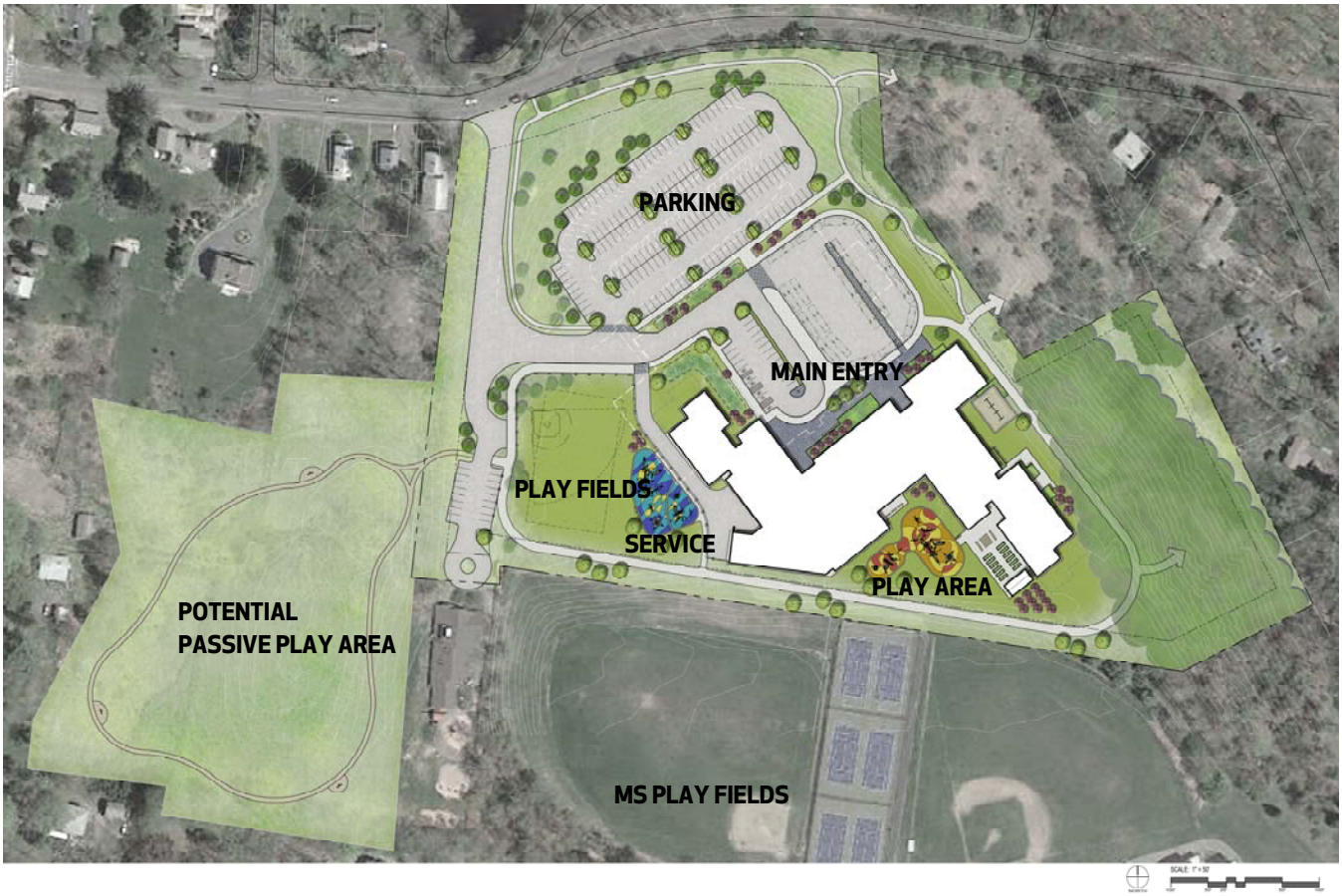
Innovation in Design

The project will utilize a number of innovative solutions including low mercury lighting, educational displays and signage, green cleaning, design for health, improved physical activity and learning opportunities for the children. The team will also propose strategies to be implemented in the operations phase that will increase sustainability of the project, like green cleaning, green building tours, organic landscaping or growing food on-site.

PREFERRED SOLUTION – SITE PLAN

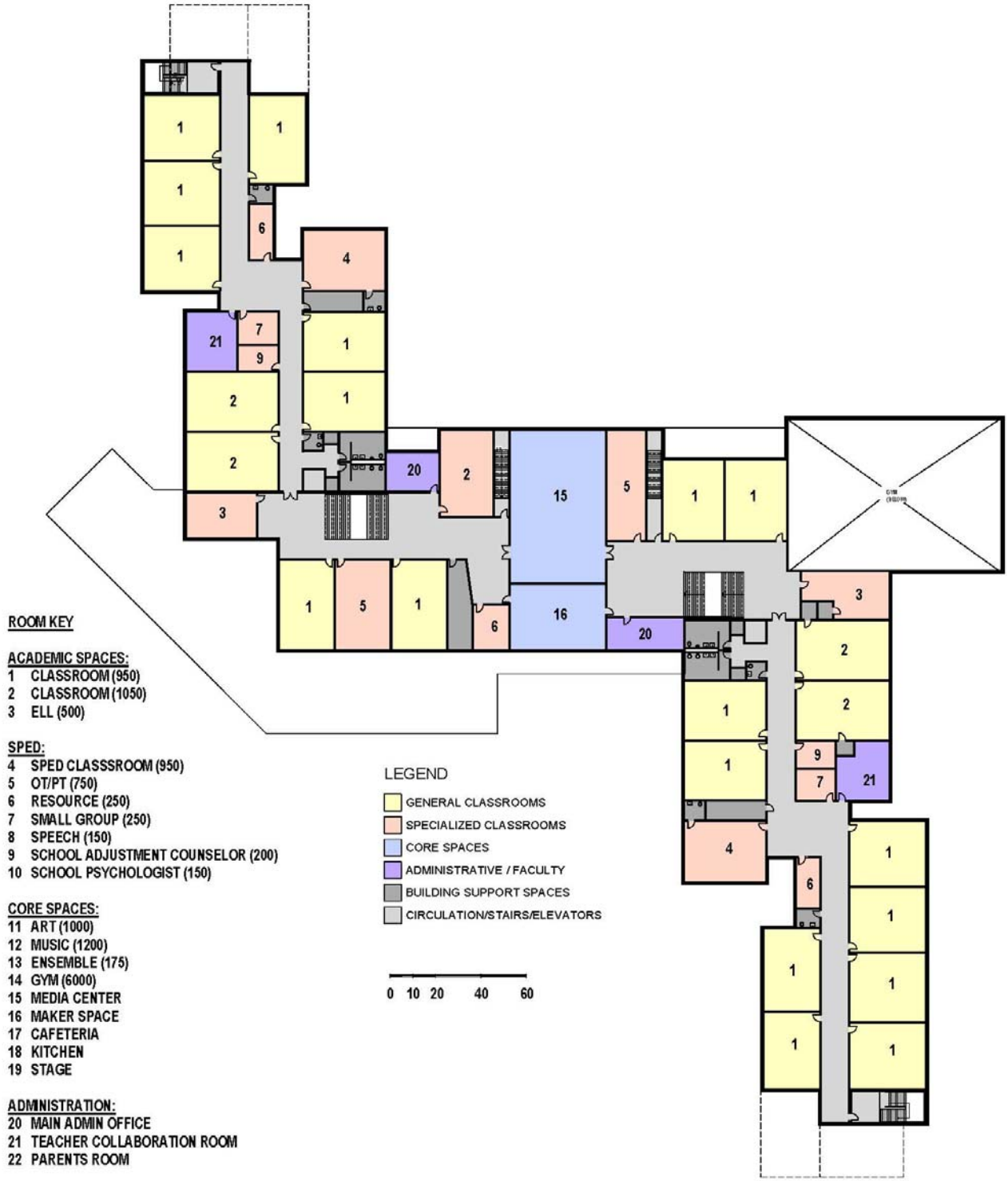


PREFERRED SOLUTION – SITE PLAN



PREFERRED SOLUTION – FIRST FLOOR PLAN

PREFERRED SOLUTION – SECOND FLOOR PLAN



BUDGET OVERVIEW

The Total Project Budget is as follows:

Estimated Construction Cost	$53,700,000
Estimated Soft Costs	$13,425,000
Estimated Total Project Budget	$67,125,000

Estimated Funding Capacity
The Town of Amherst has the capacity to borrow the proposed debt for the project, pending a debt exclusion vote as described below.

Other Town projects
The Town is currently evaluating there other major capital projects: replacement of the Fire Department Headquarters currently in downtown Amherst, replacement of the Department of Public Works headquarters, and an addition to the Jones Library, the main library in town. At this time, there are no cost estimates for these three projects. The Town has a long-term capital plan and allocates 8% of the tax levy to cover capital, including debt service. It is likely that two of the four (including Wildwood) capital projects will require a debt exclusion and the other two will fit within the Town's capital allocation. Town officials and boards are currently discussing the options for funding these projects. Debt exclusion votes for any of the other three projects would likely occur after a debt exclusion vote on the Wildwood Project.

Local Approval Process
The Town of Amherst expects to place the debt exclusion vote on the November 2016 ballot. The Town Meeting project authorization is anticipated to be scheduled directly following the November ballot.

Estimated Impact to Local Property Tax
It is estimated that the project cost will have an average annual impact on the local property tax of approximately $230 on the median Amherst home, using the Feasibility Study cost estimate data and anticipated interest rates.

Budget Statement
Please see Appendix

Budget Statement for Preferred Schematic - Expenditures

As reported on the school district's most recent three end of year information, please updated to the 3 latest fiscal year periods and complete the fields below.

	2012-2013		2013-2014		2014-2015		Change from Previous Year		Post-Constuction Budget		New Facility vs. Current	
	FY2013		FY2014		FY2015				*Based on FY15			
Category	**Staff (FTE)**	**Budget**	**Staff (FTE)**	**Budget**	**Staff**	**Budget**	**Staff (FTE)**	**Budget**	**Staff**	**Budget**	**Staff (FTE)**	**Budget**
Salaries												
Administration												
Admin. Secretary (SE, Supt, ELL, T&L, Fac	12.41	484,655	14.16	499,730	13.46	554,759	-0.70	55,029	13.46	554,759	0.00	-
Assistant Principal	2.00	168,072	3.00	266,103	3.00	258,559	0.00	(7,544)	2.00	168,559	-1.00	(90,000)
Business Office	3.06	171,173	2.72	176,275	3.14	179,755	0.42	3,480	3.14	179,755	0.00	-
Curriculum Director/Coord.	1.02	110,606	1.02	164,137	1.20	120,628	0.18	(43,509)	1.20	120,628	0.00	-
Custodians/Maintenance Staff	15.10	759,606	15.06	774,493	15.50	787,396	0.44	12,903	12.50	697,396	-3.00	(90,000)
Executive Secretary	0.42	32,105	0.42	30,676	0.42	30,313	0.00	(363)	0.42	30,313	0.00	-
Facilities Manager	0.35	32,725	0.35	32,914	0.35	33,894	0.00	980	0.35	33,894	0.00	-
Guidance	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Adjustment Counselor	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Guidance Counselors	4.00	277,804	3.00	224,067	3.00	227,901	0.00	3,834	3.00	227,901	0.00	-
Guidance Director	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Legal	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Nurse	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Other (HR, SSO, Grants, IT	5.28	437,097	6.08	430,091	5.57	501,589	-0.51	71,498	5.57	501,589	0.00	-
Principal	4.00	352,182	3.00	290,649	3.00	307,264	0.00	16,615	3.00	307,264	0.00	-
Special Education Admin	1.40	121,333	1.07	105,377	1.07	107,274	0.00	1,897	1.07	107,274	0.00	-
Superintendent/Asst. Superintendent	0.42	61,740	0.42	62,223	0.84	119,994	0.42	57,771	0.84	119,994	0.00	-
Transportation	0.00	66,877	0.00	73,221	0.00	56,517	0.00	(16,704)	0.00	56,517	0.00	-
Treasurer	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Total Administration	**49.46**	**3,075,975**	**50.31**	**3,129,956**	**50.56**	**3,285,843**	**0.25**	**155,887**	**46.56**	**3,105,843**	**-4.00**	**(180,000)**
Instruction - Teaching Services												
Arts	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Business	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Communications	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Coping Instructor	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Culinary Arts	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
ELL	10.40	740,251	9.96	773,513	10.04	762,390	0.08	(11,123)	10.04	762,390	0.00	-
English Language	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Family Consumer Services	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Foreign Language	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Health Services	3.09	203,769	3.09	204,836	3.09	205,768	0.00	932	3.09	205,768	0.00	-
History & Social Science	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Instructional Assistant/Paraprofessionals (van monitors)	99.77	1,792,341	91.94	1,764,709	94.11	1,817,288	2.16	52,579	94.11	1,817,288	0.00	-
Library/Media	3.00	217,901	3.00	224,198	3.00	226,896	0.00	2,698	3.00	226,896	0.00	-
Mathematics	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
MCAS	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Music	2.45	154,312	2.45	157,391	2.45	147,951	0.00	(9,440)	2.45	147,951	0.00	-
Other (FC, classroom teachers, PD, stipends	93.85	5,593,507	86.35	5,455,930	91.26	5,451,785	4.91	(4,145)	86.26	5,156,785	-5.00	(295,000)
Physical Education	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Reading	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
School Adjustment Counselor	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Science									0.00	-		
Biology	0.00	-	0.00		0.00		0.00	-	0.00	-	0.00	-
Botany	0.00	-	0.00		0.00		0.00	-	0.00	-	0.00	-
Chemistry	0.00	-	0.00		0.00		0.00	-	0.00	-	0.00	-
Geology	0.00	-	0.00		0.00		0.00	-	0.00	-	0.00	-
Physics	0.00	-	0.00		0.00		0.00	-	0.00	-	0.00	-
Special Education	38.95	2,992,756	39.05	2,956,392	39.64	3,219,993	0.59	263,601	39.64	3,219,993	0.00	-
Substitute Teachers	0.00	208,274	0.00	170,580	0.00	216,980	0.00	46,400	0.00	216,980	0.00	-
Technology	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Vocational Tech.	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-	0.00	-
Total Instruction - Teaching Services	**251.51**	**11,903,111**	**235.84**	**11,707,549**	**243.59**	**12,049,051**	**7.74**	**341,502**	**238.59**	**11,754,051**	**-5.00**	**(295,000)**
Total Salaries Administration & Instruction	**300.97**	**14,979,086**	**286.15**	**14,837,505**	**294.14**	**15,334,894**	**7.99**	**497,389**	**285.14**	**14,859,894**	**-9.00**	**(475,000)**
Employee Benefits												
All employee-related fringe (health insurance, retirement etc)		**3,762,307**		**3,943,711**		**3,899,061**		**(44,650)**		**3,824,061**		**(75,000)**
Materials & Services												
Materials												
Audio-Visual Materials		-		815		2,861		2,046		2,861		-
Culinary Arts Materials		-		-		-		-		-		-
General Office Supplies		60,957		55,184		90,831		35,647		90,831		-
Information technology		-		-		-		-		-		-

Budget Statement for Preferred Schematic - Expenditures

Category	2012-2013 FY2013 Staff (FTE)	2012-2013 FY2013 Budget	2013-2014 FY2014 Staff (FTE)	2013-2014 FY2014 Budget	2014-2015 FY2015 Staff	2014-2015 FY2015 Budget	Change from Previous Year Staff (FTE)	Change from Previous Year Budget	Post-Constuction Budget *Based on FY15 Staff	Post-Constuction Budget *Based on FY15 Budget	New Facility vs. Current Staff (FTE)	New Facility vs. Current Budget
Hardware		308,087		273,215		372,001		98,786		372,001		-
Software		90,670		81,695		70,536		(11,159)		70,536		-
Library Materials		20,949		37,530		24,342		(13,188)		24,342		-
Non info-tech equipment		3,156		5,302		5,166		(136)		5,166		-
Testing Materials & Supplies (instructional supplies)		197,176		328,210		466,271		138,061		466,271		-
Textbooks		1,433		129		462		333		462		-
Vocational Program Materials		-		-		-		-		-		-
Total Materials		**682,428**		**782,080**		**1,032,470**		**250,390**		**1,032,470**		**-**
Services												
Athletics		-		-		-		-		-		-
Attendance		-		-		-		-		-		-
Food Service		70,000		46,942		57,249		10,307		22,249		(35,000)
Health Services		7,007		8,040		9,318		1,278		9,318		-
Other Student Activities		-		-		-		-		-		-
Psychological Services		-		-		-		-		-		-
School Security		-		-		-		-		-		-
Student Transportation		502,234		521,234		475,539		(45,695)		640,539		165,000
Total Services		**579,241**		**576,216**		**542,106**		**11,585**		**672,106**		**130,000**
Total Material & Services		**1,261,669**		**1,358,296**		**1,574,576**		**261,975**		**1,704,576**		**130,000**
Facility Costs & Capital Improvements												
Facility Costs												
Custodial Supplies		33,569		40,574		50,736		10,162		50,736		-
Electricity		195,945		193,514		194,271		757		194,271		-
Heating Oil		160,736		180,738		202,513		21,775		202,513		-
Maintenance										-		
Building Security Maintenance		-		26,826		82,679		55,853		82,679		-
Elevator		-		-		-		-		-		-
Equipment Maintenance		19,117		23,286		20,469		(2,817)		20,469		-
Exterminating		-		-		-		-		-		-
Facility Maintenance		57,863		60,404		91,768		31,364		91,768		-
Fire Alarm		-		-		-		-		-		-
Fire Extinguisher Inspection		-		-		-		-		-		-
Generator		-		-		-		-		-		-
HVAC Maintenance		-		-		-		-		-		-
Other (Insurance)		118,050		106,347		85,974		(20,373)		85,974		-
Site Maintenance (Grouds)		11,973		16,800		9,862		(6,938)		9,862		-
Technology		3,212		2,380		3,176		796		3,176		-
Trash Removal		12,977		12,703		12,084		(619)		12,084		-
Natural Gas		37,794		42,198		42,579		381		42,579		-
Snow Removal		-		-		-		-		-		-
Telephone		10,693		10,414		9,845		(569)		9,845		-
Water/Sewer		16,772		16,255		18,356		2,101		18,356		-
Total Facility Costs		**678,701**		**732,439**		**824,312**		**91,873**		**824,312**		**-**
Captial Improvements												
Captial Improvements		**51,013**		**57,841**		**60,494**		**2,653**		**60,494**		**-**
Total Facility Costs & Capital Improvements		**729,714**		**790,280**		**884,806**		**94,526**		**884,806**		**-**
Debt Service												
Short-term		-		-		-		-		-		-
Long-term		295,013		237,958		235,500		(2,458)		235,500		-
Total Debt Service		**295,013**		**237,958**		**235,500**		**(2,458)**		**235,500**		**-**
Total Budget & Staff	**300.97**	**21,027,789**	**286.15**	**21,167,750**	**294.14**	**21,928,837**	**7.99**	**806,782**	**285.14**	**21,508,837**	**(9.00)**	**(420,000)**
***Total Not Reported - no category (ctr services, articles)**		602,689		515,701		161,095						

Source EOY report, amherst district - general fund and town capital articles

January 2014

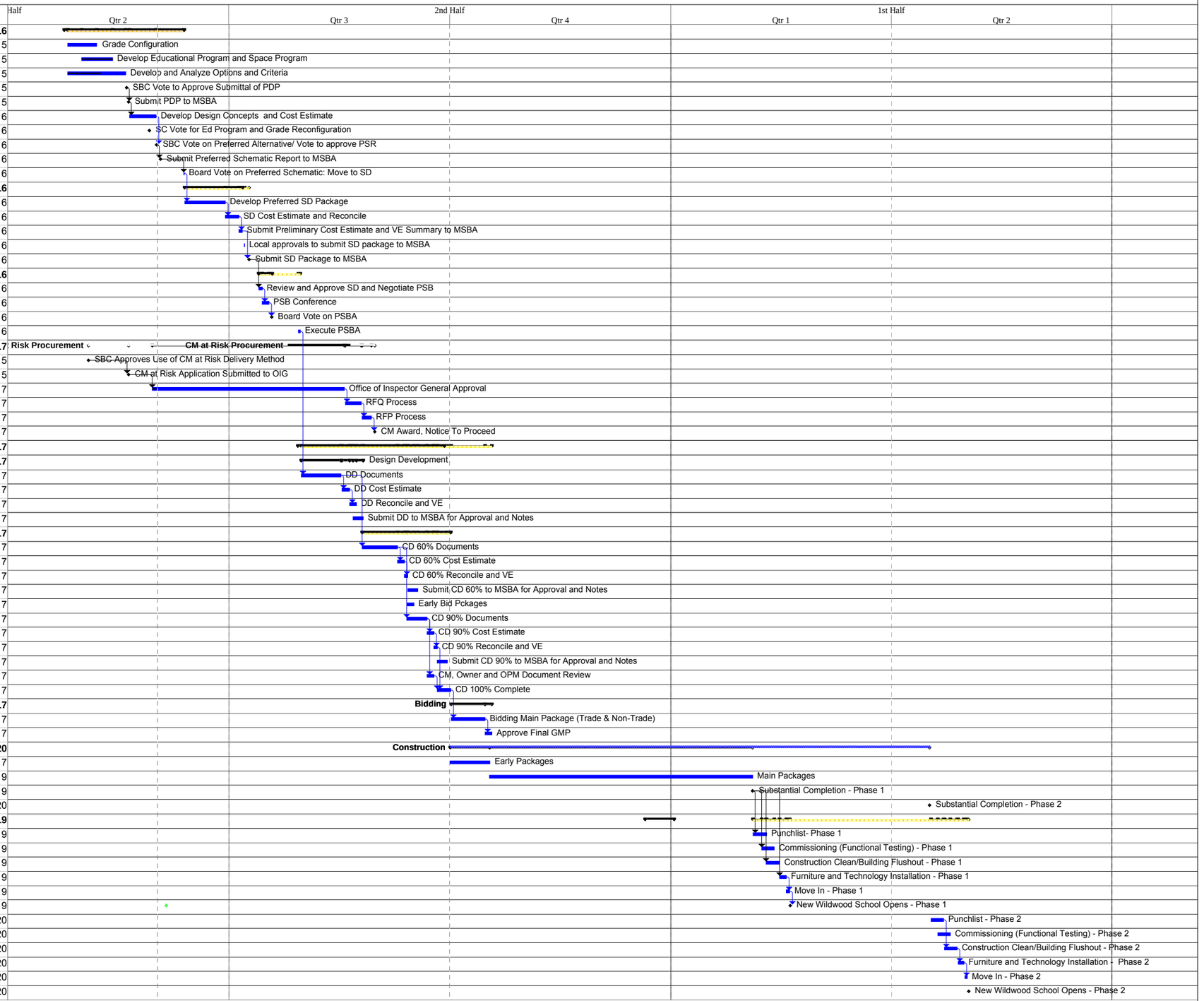
Budget Statement for Preferred Schematic - Revenue

As reported on the school district's most recent three End of Year Pupil and Financial Reports schedule 1, please update to the 3 latest fiscal year periods and report sources of revenue in the fields below.

	FY13 End of Year Financial Report							FY14 End of Year Financial Report							FY15 End of Year Financial Report						
	Regular Day	Special Education	C74 Occupational Day	Adult Education	Other Programs	Un-distributed	Total	Regular Day	Special Education	C74 Occupational Day	Adult Education	Other Programs	Un-distributed	Total	Regular Day	Special Education	C74 Occupational Day	Adult Education	Other Programs	Un-distributed	Total
A. Revenue from Local Sources																					
Assessments received by Regional Schools	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
E&D Fund Appropriations	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tuition from Individuals	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tuition from Other Districts in Comm.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tuition from Districts in Other States	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Previous Year Unexpended Encumbrances (Carry Forward)	-	-	-	-	-	29	29	-	-	-	-	-	24	24	-	-	-	-	-	-	-
Transportation Fees	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Earnings on Investments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rental of School Facilities	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other Revenue	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Medical Care and Assistance	-	365,793	-	-	-	-	365,793	-	349,893	-	-	-	-	349,893	-	294,988	-	-	-	-	294,988
Non Revenue Receipts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Revenue From Local Sources	**-**	**365,793**	**-**	**-**	**-**	**29**	**365,822**	**-**	**349,893**	**-**	**-**	**-**	**24**	**349,917**	**-**	**294,988**	**-**	**-**	**-**	**-**	**294,988**
B. Revenue from State Aid	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
School Aid (Chapter 70)	-	-	-	-	-	5,864,398	5,864,398	-	-	-	-	-	5,895,073	5,895,073	-	-	-	-	-	5,925,198	5,925,198
Mass School Building Authority - Construction Aid	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pupil Transportation (Ch. 71, 71A,71B,74)	-	-	-	-	-	31,578	31,578	-	-	-	-	-	7,746	7,746	-	-	-	-	-	6,250	6,250
Charter Tuition Reimbursements & Charter Facilities Aid	170,999	-	-	-	-	49,115	220,114	244,869	-	-	-	-	55,360	300,229	268,173	-	-	-	-	66,205	334,378
Circuit Breaker	-	-	-	-	-	229,859	229,859	-	-	-	-	-	229,998	229,998	-	-	-	-	-	302,891	302,891
Foundation Reserve	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Revenue From State Aid	**170,999**	**-**	**-**	**-**	**-**	**6,174,950**	**6,345,949**	**244,869**	**-**	**-**	**-**	**-**	**6,188,177**	**6,433,046**	**268,173**	**-**	**-**	**-**	**-**	**6,300,544**	**6,568,717**
C. Revenue from Federal Grants																					
ESE Administered Grants	514,625	3,000	-	-	-	135,035	652,660	220,252	-	-	-	-	67,198	287,450	381,229	-	-	-	-	95,106	476,335
Direct Federal Grants	-	-	-	-	-	17,262	17,262	-	-	-	-	-	20,092	20,092	-	-	-	-	-	19,656	19,656
Total Revenue Federal Grants	**514,625**	**3,000**	**-**	**-**	**-**	**152,297**	**669,922**	**220,252**	**-**	**-**	**-**	**-**	**87,290**	**307,542**	**381,229**	**-**	**-**	**-**	**-**	**114,762**	**495,991**
D. Revenue from State Grants																					
ESE Administered Grants	-	-	-	-	-	154,167	154,167	-	-	-	-	-	91,516	91,516	-	-	-	-	-	69,490	69,490
Other State Grants	-	-	-	-	-	111,745	111,745	-	-	-	-	-	78,491	78,491	-	-	-	-	-	87,009	87,009
Total Revenue From State Grants	**-**	**-**	**-**	**-**	**-**	**265,912**	**265,912**	**-**	**-**	**-**	**-**	**-**	**170,007**	**170,007**	**-**	**-**	**-**	**-**	**-**	**156,499**	**156,499**
E. Revenue - Revolving & Special Funds																					
School Lunch Receipts	-	-	-	-	-	394,517	394,517	-	-	-	-	-	383,617	383,617	-	-	-	-	-	413,109	413,109
Athletic Receipts	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tuition Receipts - School Choice	180,500	39,124	-	-	-	-	219,624	195,600	59,676	-	-	-	-	255,276	269,250	68,823	-	-	-	-	338,073
Tuition Receipts - Other	-	-	-	-	76,201	-	76,201	-	-	-	-	123,330	-	123,330	-	-	-	-	79,706	-	79,706
Other Local Receipts	-	-	-	-	-	17,370	17,370	-	-	-	-	-	12,439	12,439	-	-	-	-	-	16,000	16,000
Private Grants	-	-	-	-	28,904	-	28,904	-	-	-	-	40,545		40,545	-	-	-	-	14,486	-	14,486
Total Revenue Revolving & Special Funds	**180,500**	**39,124**	**-**	**-**	**105,105**	**411,887**	**736,616**	**195,600**	**59,676**	**-**	**-**	**163,875**	**396,056**	**815,207**	**269,250**	**68,823**	**-**	**-**	**94,192**	**429,109**	**861,374**
Total Revenue All Sources	**866,124**	**407,917**	**-**	**-**	**105,105**	**7,005,075**	**8,384,221**	**660,721**	**409,569**	**-**	**-**	**163,875**	**6,841,554**	**8,075,719**	**918,652**	**363,811**	**-**	**-**	**94,192**	**7,000,914**	**8,377,569**

AMHERST WILDWOOD SCHOOL
PRELIMINARY PROJECT SCHEDULE
JANUARY 27, 2016

ID	Task Name	Start	Duration	Finish
1	**Feasibility Study**	**Mon 7/27/15**	**178 days**	**Wed 3/30/16**
2	Grade Configuration	Mon 8/3/15	44 days?	Thu 10/1/15
3	Develop Educational Program and Space Program	Tue 9/1/15	46 days	Tue 11/3/15
4	Develop and Analyze Options and Criteria	Mon 8/3/15	86 days	Mon 11/30/15
5	SBC Vote to Approve Submittal of PDP	Thu 12/3/15	0 days	Thu 12/3/15
6	Submit PDP to MSBA	Mon 12/7/15	0 days	Mon 12/7/15
7	Develop Design Concepts and Cost Estimate	Wed 12/9/15	39 days	Mon 2/1/16
8	SC Vote for Ed Program and Grade Reconfiguration	Tue 1/19/16	0 days	Tue 1/19/16
9	SBC Vote on Preferred Alternative/ Vote to approve PSR	Tue 2/2/16	0 days	Tue 2/2/16
10	Submit Preferred Schematic Report to MSBA	Thu 2/11/16	0 days	Thu 2/11/16
11	Board Vote on Preferred Schematic: Move to SD	Wed 3/30/16	1 day	Wed 3/30/16
12	**Schematic Design**	**Fri 4/1/16**	**86 days**	**Fri 7/29/16**
13	Develop Preferred SD Package	Fri 4/1/16	60 days	Thu 6/23/16
14	SD Cost Estimate and Reconcile	Fri 6/24/16	20 days	Thu 7/21/16
15	Submit Preliminary Cost Estimate and VE Summary to MSBA	Fri 7/22/16	5 days	Thu 7/28/16
16	Local approvals to submit SD package to MSBA	Tue 8/2/16	1 day	Tue 8/2/16
17	Submit SD Package to MSBA	Thu 8/11/16	0 days	Thu 8/11/16
18	**Project Scope and Budget**	**Thu 9/1/16**	**20 days**	**Wed 9/28/16**
19	Review and Approve SD and Negotiate PSB	Thu 9/1/16	5 days	Wed 9/7/16
20	PSB Conference	Thu 9/8/16	10 days	Wed 9/21/16
21	Board Vote on PSBA	Wed 9/28/16	0 days	Wed 9/28/16
22	Execute PSBA	Tue 11/22/16	4 days	Fri 11/25/16
23	**CM at Risk Procurement**	**Tue 11/1/16**	**92 days**	**Wed 3/8/17**
24	SBC Approves Use of CM at Risk Delivery Method	Tue 9/15/15	0 days	Tue 9/15/15
25	CM at Risk Application Submitted to OIG	Mon 12/7/15	0 days	Mon 12/7/15
26	Office of Inspector General Approval	Mon 1/25/16	74 days	Fri 2/24/17
27	RFQ Process	Mon 2/27/17	25 days	Fri 3/31/17
28	RFP Process	Mon 4/3/17	15 days	Fri 4/21/17
29	CM Award, Notice To Proceed	Fri 4/28/17	0 days	Fri 4/28/17
30	**Pre-Construction**	**Mon 11/21/16**	**217 days**	**Tue 9/19/17**
31	**Design Development**	**Mon 11/28/16**	**92 days**	**Tue 4/4/17**
32	DD Documents	Mon 11/28/16	60 days	Fri 2/17/17
33	DD Cost Estimate	Mon 2/20/17	12 days	Tue 3/7/17
34	DD Reconcile and VE	Wed 3/8/17	10 days	Tue 3/21/17
35	Submit DD to MSBA for Approval and Notes	Wed 3/15/17	15 days	Tue 4/4/17
36	**Contract Documents**	**Mon 4/3/17**	**131 days**	**Mon 10/2/17**
37	CD 60% Documents	Mon 4/3/17	53 days	Wed 6/14/17
38	CD 60% Cost Estimate	Thu 6/15/17	10 days	Wed 6/28/17
39	CD 60% Reconcile and VE	Thu 6/29/17	5 days	Wed 7/5/17
40	Submit CD 60% to MSBA for Approval and Notes	Thu 7/6/17	15 days	Wed 7/26/17
41	Early Bid Pckages	Wed 7/5/17	2 wks	Tue 7/18/17
42	CD 90% Documents	Tue 7/4/17	30 days	Mon 8/14/17
43	CD 90% Cost Estimate	Tue 8/15/17	10 days	Mon 8/28/17
44	CD 90% Reconcile and VE	Tue 8/29/17	5 days	Mon 9/4/17
45	Submit CD 90% to MSBA for Approval and Notes	Tue 9/5/17	15 days	Mon 9/25/17
46	CM, Owner and OPM Document Review	Tue 8/15/17	10 days	Mon 8/28/17
47	CD 100% Complete	Tue 9/5/17	20 days	Mon 10/2/17
48	**Bidding**	**Wed 10/4/17**	**60 days**	**Tue 12/26/17**
49	Bidding Main Package (Trade & Non-Trade)	Wed 10/4/17	10 wks	Tue 12/12/17
50	Approve Final GMP	Wed 12/13/17	10 days	Tue 12/26/17
51	**Construction**	**Mon 10/2/17**	**710 days**	**Fri 6/19/20**
52	Early Packages	Mon 10/2/17	60 days	Fri 12/22/17
53	Main Packages	Fri 12/22/17	388 days	Tue 6/18/19
54	Substantial Completion - Phase 1	Wed 6/19/19	0 days	Wed 6/19/19
55	Substantial Completion - Phase 2	Fri 6/19/20	0 days	Fri 6/19/20
56	**Closeout**	**Fri 11/9/18**	**42 days**	**Mon 1/7/19**
57	Punchlist- Phase 1	Thu 6/20/19	4 wks	Wed 7/17/19
58	Commissioning (Functional Testing) - Phase 1	Mon 7/8/19	4 wks	Fri 8/2/19
59	Construction Clean/Building Flushout - Phase 1	Wed 7/17/19	4 wks	Tue 8/13/19
60	Furniture and Technology Installation - Phase 1	Wed 8/14/19	2 wks	Tue 8/27/19
61	Move In - Phase 1	Wed 8/28/19	5 days	Tue 9/3/19
62	New Wildwood School Opens - Phase 1	Wed 9/4/19	0 days	Wed 9/4/19
63	Punchlist - Phase 2	Mon 6/22/20	4 wks	Fri 7/17/20
64	Commissioning (Functional Testing) - Phase 2	Mon 7/6/20	4 wks	Fri 7/31/20
65	Construction Clean/Building Flushout - Phase 2	Mon 7/20/20	4 wks	Fri 8/14/20
66	Furniture and Technology Installation - Phase 2	Mon 8/17/20	2 wks	Fri 8/28/20
67	Move In - Phase 2	Mon 8/31/20	5 days	Fri 9/4/20
68	New Wildwood School Opens - Phase 2	Tue 9/8/20	0 days	Tue 9/8/20



Inactive Milestone · Manual Task · Manual Summary Rollup · Start-only · External Tasks
Inactive Summary · Duration-only · Manual Summary · Finish-only · External Milestone · Manual Progress

LOCAL ACTIONS AND APPROVALS

SECTION 3.3.5

3.3.5 – Local Actions and Approvals

- Certified Copies of School Building Committee Meeting Minutes
- List of SBC meeting dates , Agendas, Materials Presented
- List of School Committee meeting dates , Agendas, Materials Presented
- List of Community Forum meeting dates , Agendas, Materials Presented
- Signed Local Actions and Approval Certification

3.3.5 LOCAL ACTIONS AND APPROVALS

3.3.5 – Local Actions and Approval Certification

- Certified Copies of School Building Committee Meeting Minutes
- List of SBC meeting dates, agendas, materials presented
- List of School Committee meeting dates, agendas, materials presented
- List of Community Forum meeting dates, agendas, materials presented
- Signed Local Actions and Approval Certification

3.3.5 – LOCAL ACTIONS AND APPROVAL CERTIFICATION

The Town of Amherst has undergone an extensive and completely transparent review process for the proposed building project. The material has been reviewed by variety of Committees through the Town's open meeting guidelines and local meeting requirements. The following pages include copies of minutes from School Building Committee meetings and relevant School Committee meetings that have occurred in the time after the Preliminary Design Program was submitted to the MSBA. All of the meetings that occurred prior to the PDP submittal can be found in that document.

THE PUBLIC SCHOOLS OF AMHERST, MASSACHUSETTS

OFFICE OF THE SUPERINTENDENT
170 CHESTNUT STREET
AMHERST, MA 01002

413-362-1810 (PHONE)
413-549-6108 (FAX)

January 28, 2016

Ms. Diane Sullivan
Senior Capital Program Manager
40 Broad Street
Boston, Massachusetts 02109

Dear Ms. Sullivan:

The Town of Amherst Wildwood Elementary School Building Committee ("WSBC") has completed its review of the Feasibility Study Preliminary Design Program for Wildwood Elementary school project (the "Project"), and on February 2, 2016 the WSBC voted to approve and authorize the Owner's Project Manager to submit the Feasibility Study related materials to the MSBA for its consideration. A copy of the SBC meeting minutes, which includes the specific language of the vote and the number of votes in favor, opposed, and abstained, are attached.

Since the MSBA's Board of Directors invited the District to conduct a Feasibility Study on October 10, 2014, the WSBC held ten (10) meetings regarding the Project, and the Amherst School Committee held eight (8) meetings in which the Project was presented and discussed. All meetings were in compliance with the state Open Meeting Law. These meetings include:

Meeting Date	Time	Group	Location	Topic
4/8/2015	3:30PM	Wildwood School Building Committee	Amherst Middle School , PD Center	Introduction of JLA, Overview of Project Schedule, Designer Selection Process and Next Steps
7/22/2015	2:00PM	Wildwood School Building Committee	Amherst Middle School , PD Center	Introduction of JCJ, Schedule Overview and Communications Protocol
8/27/2015	6:00PM	Amherst School Committee	Amherst High School Library	Introduction of Project Team, Schedule and Process Overview
9/15/2015	4:00PM	Wildwood School Building Committee	Amherst Middle School , PD Center	Proposed Schedule, Communication Protocol and Construction Delivery Method
9/21/2015	6:00PM	Amherst School Committee	Amherst High School Library	Project Update, Schedule and Process Review
10/15/2015	4:00PM	Wildwood School Building Committee	Amherst Middle School , PD Center	Visioning Workshop Update, Site Assessment Update
10/20/2015	6:00PM	Amherst School Committee	Amherst High School Library	Education Plan Review

11/17/2015	4:00PM	Wildwood School Building Committee	Amherst Middle School , Library	Review of Existing Conditions Report, Concept Diagrams and Site Assessment Update
11/17/2015	6:00PM	Amherst School Committee	Amherst High School Library	Education Plan Review
12/3/2015	4:00PM	Wildwood School Building Committee	Amherst Middle School , PD Center	Review of Updated Concepts, Approve Submittal of PDP to MSBA
12/22/15	4:00PM	Wildwood School Building Committee	Amherst Middle School , Library	Review of Preliminary Concept Schemes and Security/ Sustainability Update
12/22/15	6:00PM	Amherst School Committee	Amherst High School Library	Education Plan Review
01/11/16	7:30PM	Amherst Select Board*	Amherst Town Hall, Town Room	Review of Preliminary Construction Cost Budgets and Concept Schemes Update
01/13/16	4:00PM	Wildwood School Building Committee/ Amherst School Committer	Amherst High School Library	Review of Preliminary Construction Cost Budgets and Concept Schemes Update
01/14/16	3:30PM	Amherst School Committee	Amherst High School Library	Deliberation of Preliminary Construction Cost Budgets and Concept Schemes Update
01/19/16	6:00 PM	Amherst School Committee	Amherst High School Library	Review of Preliminary Construction Cost Budgets and Concept Schemes Update
01/21/16	4:00PM	Wildwood School Building Committee	Amherst High School Library	Review/Discussion of Updated Design Concepts and Preliminary Construction Cost Budgets
02/02/16	4:00PM	Wildwood School Building Committee	Amherst Middle School , Library	Review of Updated Concepts, Approve Submittal of PSR to MSBA

In addition to the WSBC and School Committee meetings listed above, the District held four (4) community meetings, including one in conjunction with the School Committee which was posted in compliance with the state Open Meeting Law, at which the Project was discussed. Each meeting included ample time to receive comments from the public. *There are no meeting minutes for the Community Meetings and other public presentations of design options.

Meeting Date	**Time**	**Group**	**Location**	**Topic**
9/29/2015	3:30PM and 7:00PM	Community Meeting*	Middle School Auditorium	Introduction of Project Team and Schedule, Review of Educational Program
10/26/2015	3:30PM and 7:00PM	Community Meeting* + School Committee	High School Auditorium	Review of Educational Program
12/08/2015	7:00PM	Community Meeting*	High School Auditorium	Review of Design Update
01/12/16	7:00PM	Community Meeting*	High School Auditorium	Review of Design Update

The presentation materials for each meeting, meeting minutes, and summary materials related to the Project are available locally for public review at: http://wildwood.projects.joslinlesser.com/

To the best of my knowledge and belief, each of the meetings listed above complied with the requirements of the Open Meeting Law, M.G.L. c. 30A, §§ 18-25 and 940 CMR 29 *et seq.*

By signing this Local Action and Approval Certification, I hereby certify that, to the best of my knowledge and belief, the information supplied by the District in this Certification is true, complete, and accurate.

By:

Title: Chief Executive Officer

Date: 2-3-16

By signing this Local Action and Approval Certification, I hereby certify that, to the best of my knowledge and belief, the information supplied by the District in this Certification is true, complete, and accurate.

By:

Title: Superintendent of Schools

Date: 2/2/16

By signing this Local Action and Approval Certification, I hereby certify that, to the best of my knowledge and belief, the information supplied by the District in this Certification is true, complete, and accurate.

By:

Title: Chair of the School Committee

Date: 2/2/16

Wildwood School Building Committee
Meeting Minutes

December 22, 2015

I. Call to order

Tom Murphy called to order the regular meeting of the Wildwood School Building Committee at 4:08 pm on December 22, 2015 in the Amherst Regional Middle School Library.

II. Roll call

Morris following persons were present: Katherine Appy, Ron Bohonowicz, Holly Bowser, Maria Geryk, Laura Kent, Sean Mangano, Gilford Mooring, Michael Morris, Ludmilla Pavlova, Sandy Pooler, Narayan Sampath, Dave Ziomek, Tom Murphy of JLA, Jim LaPosta, Doug Roberts and Jim Hoagland of JCJ. Other Town/School representatives Rick Hood, Vira Douangmany Cage, Claire McGinnis. From the public was Kathryn Corson, Mike Hanke, Maria Kopicki, and Vincent O'Connor.

III. Schedule Update

Tom Murphy, JLA/NV5, distributed schedules showing upcoming meetings along with a design criteria matrix for committee members reference. He noted that an SBC meeting was added to the calendar on Jan. 16 at 4:00 PM. A Community Forum meeting will be held that evening at 6:30 PM. He also noted that a project update to the Select Board on Jan 11, 2016 and a SBC meeting on Feb. 2, 2016 were also added to the schedule.

IV. Meeting Minutes Approval

Murphy presented the minutes from the last meeting, noting that one minor edit had been made. Pavlova made a motion to approve the minutes, Mooring seconded the motion. The minutes were unanimously approved with two abstentions. (10-0-2)

V. Sustainability and Security Meeting Update

Doug Roberts, JCJ, presented a summary update to the Committee of two meetings recently held with Working Groups.

Sustainability:

Roberts noted that the Sustainability Working Group, composed of SBC members along with other Town and School representatives discussed both LEED and NECHPs processes for complying with the MSBA requirements and used the LEED checklist as the basis for the meeting. One of the goals of the project was to achieve the level necessary for an additional 2% reimbursement, an incentive offered by the MSBA. The initial evaluation indicated that the Wildwood site yielded more immediate points than the Fort River site. A formal LEED Checklist will be developed for inclusion in the Preferred Schematic Report (PSR) to the MSBA and will be forwarded to the SBC after its completion. In response to a questions it was noted that projects generally do not experience a measurably higher construction cost to meet LEED criteria but that the current version of LEED is new and baseline requirements have been raised so the potential costs associated with sustainability goals will continue to be analyzed throughout the design process. As a response to another question the design team noted that a basic analysis of the roof area available for solar panels could be available in February.

Security:

Roberts summarized the Security meeting, indicating that the security consultant noted that based on the conversations during the meeting he thought Amherst was well ahead of many communities with regard to security protocols currently in place and security processes. This initial meeting was more focused on general goals and practices. Further meetings with the group will be scheduled as the design of the building evolves.

VI. Design Concepts

Jim LaPosta and Jim Hoagland of JCJ presented the latest design schemes, showing several options for grade configuration and sites. It was noted that the presentation included schemes showing either 670 and 750 student options could be interchangeable since the footprints for each of those building types were substantially similar.

One option presented showed the renovation of the existing Wildwood school to a 360 student school. The need to get natural light into classrooms and the need to locate the administration area to a more secure locating requires that interior circulation will need

to be reconfigured throughout the building and interior courtyards created. However some of the assembly and service type spaces could remain in the current configuration. The plans will be developed in more detail for a future presentation and to develop a cost estimate. It was noted that this option required "swing space", which means that the students would need to be relocated to another facility during construction.

Another option creating a 360 student school was a scheme constructing a new Wildwood School behind the current school building. There was ample land available to accommodate a one and two story structure along with the site circulation and parking required. This option would not require swing space, which is advantageous since no viable swing space has been determined to date.

A scheme for a larger school, 670 or 750 students, built on the existing Wildwood site, partially over the existing school footprint was also presented. The concept showed a main common area core with 2 classroom wings. The massing was arranged in a way that would allow for 2 distinct building areas for the two distinct schools with some shared common spaces. It also showed two separate drop-off areas, one for each wing, in addition to a single bus drop-off area. This design feature would need to be evaluated against the amount of additional paving required for such an arrangement instead of a single drop-off area.

Another Wildwood Scheme showed a similar 2 wing configuration but was laid out to allow the construction of the main core mass along with a single classroom wing adjacent to the existing Wildwood School with a second classroom wing over the existing footprint of the existing school. This scheme would propose a phased construction schedule, which would allow the construction of the core and a classroom wing, Wildwood student moving into the new facility, demolition of the existing school and ensuing construction of the new classroom wing, then allowing Fort River student to move into the new, twin school. This scheme would eliminate the need for swing space.

A final scheme showed a similar massing concept on the Fort River site. The plan showed the location of the new structure over the existing Fort River footprint, which would require swing space. The design team added that they have been working on multiple configurations, trying to find an arrangement that worked on the site without requiring swing space but that given the zoning, code and wetland restrictions such a scheme did not seem feasible.

Committee members offered numerous comments regarding the pros and cons of each of the schemes. The designers noted that they will look into a phased construction scheme at the Wildwood site that renovated a portion of the existing school rather than constructed a new, second wing. The design team also noted that they would be

developing a scheme and cost estimate for what could be characterized as a code upgrade to the existing Wildwood School building. This would likely not meet all of the programmatic requirements of the building nor resolve the acoustic issues but this option was a requirement of the MSBA process and could likely be used as a baseline for cost comparisons.

The design team noted that all of the schemes would be developed to sufficient level that a cost estimator could develop estimates for each scheme. It was anticipated that these would be ready for the next SBC meeting on Jan. 13, 2016.

VII. Public Comment

A. Michael Hanke stated that though the geographic location may not be a critical determining factor, since both sites are centrally located he thought that the 2 wings or 2 schools on a single site had a lot of plusses. He added that the administration blocks could be in two different areas to maintain a distinction between the two schools. He noted that the plans showed a very intimate environment for each of the classroom wings and advocated for this approach.

B. Maria Kopicki asked when detailed costs estimates would be released to the public and asked if sufficient time is in the schedule to evaluate costs prior to the Jan. 21 scheduled SBC vote to select the preferred approach. She also advocated that any scheme developed keep accessibility and sustainability/environment as primary concerns.

C. Kathy Corson asked if a scheme was selected that replaced the Fort River school on the Wildwood site would the abatement and demolition of the Fort River building be included in the cost estimates. It was noted that the Fort River building is not a part of this project and if such a scheme were selected the scope of work to the Fort River building/site would be a Town decision.

VIII. Adjournment

A motion was made and seconded with unanimous approval to adjourn the meeting at 6:45 PM.

Minutes submitted by: Thomas Murphy

REGULAR Meeting of the Amherst School Committee
December 22, 2015
Library, Amherst Regional High School

IN ATTENDENCE

Katherine Appy, Chair
Vira Douangmany-Cage
Phoebe Hazzard
Rich Hood
Kathleen Traphagen (arr. 6:04 p.m.)

Maria Geryk, Superintendent
Mike Morris, Assistant Superintendent
Sean Mangano, Finance Director
Faye Brady, Student Services Director
Derek Shea, Crocker Farm Elem Principal
Jean Fay, APEA President
Laura Kent, SEPAC Co-President
Daniel McMurrer, McBassi & Company, Inc.
Tom Murphy, JLA Project Manager
Jim Hoagland, JCJ Architecture
Doug Roberts, JCJ Architecture
Community members & Press
Kimberly Stender, Recorder

1. Welcome **6:00 p.m.**

Ms. Appy called the meeting to order at 6:00 p.m. She reviewed the agenda and requested that the topic of staff surveys be moved to "A" and the Wildwood School Building Project be moved to "B" on the agenda. She explained that Mr. McMurrer was present to speak about the survey process but had to depart shortly. All were in favor of this change. Mr. Hood moved to approve the minutes of November 17, 2015 Ms. Hazzard seconded and the minutes were approved unanimously.

2. Announcements & Public Comment **6:01 p.m.**

There were no announcements. Vince O'Connor (community member) spoke to a moratorium on charter schools and MCAS testing; the recent agreement between the Town of Amherst and UMASS regarding finances to support first responder services; the responsibility of the Superintendent to request funding from the UMASS Chancellor to support educational services; the importance of sharing the staff survey results with the community; the responsibility of the school committee to authorize the Superintendent to request JCPC funding for a new Fort River School. Katherine Corsun (parent) shared her ideas regarding improved communication between administration and parents/guardians, PGOs and pre-school parents regarding the Wildwood School building Project (fix broken links on district website, calendar updates, and visits to apartment complexes). She suggested that PGOs create a parent survey. She believes that not asking parents, to help with a letter writing campaign to support Senate House Bill 326 was a missed opportunity. Ms. Corsun suggested that results of the McBassi & Company, Inc. staff survey be shared with the ARPS community.

3. Superintendent's Update **6:12 p.m.**

Mr. Morris reported that through the MSBA's due diligence process and review of the 97 SOIs that were received for consideration ion 2015, the MSBA has determined that the Fort River Elementary School SOI will not be invited into the MSBA's Eligibility Period at this time.

4. New & Continuing Business **6:13 p.m.**

A. Staff Surveys Related to Wildwood School Building Project

DOCUMENT: Draft Contract Between McBassi & Company, Inc. and Amherst School Committee

Mr. McMurrer explained the purpose of his work and the design, process and data pertaining to an elementary staff survey. He stressed the importance of an anonymous and confidential survey which would be completed within the constraints of the Wildwood School Building Project timeline. He informed the committee about methods which would ensure that responses are limited to one per person. He also suggested an open ended section for comments, suggestions

and concerns. He believes that because confidentiality will be stressed to all respondents, honest replies will be generated thus ensuring the integrity of the data. Ms. Traphagen suggested a parallel survey be created for parents/guardians. Ms. Douangmany-Cage inquired as to who would create and approve the survey questions. Mr. McMurrer explained that McBassi & Company, Inc. would create the questions and Ms. Appy and school committee members could edit and approve the survey questions. Ms. Douangmany-Cage suggested that community members, like Ms. Corsun and Ms. Kent, participate in this process. Ms. Appy explained that the community and school committee requested a staff survey because staff does not have the same access to school committee as community members. Staff input is critical at this point in the process and staff asked for the opportunity to express their concerns and opinions. Ms. Appy believes in the integrity of DiBassi & Company, Inc. and is confident they will create an independent survey within the short timeframe which will yield trusted information. She suggested that PGOs could create and administer surveys and provide results to the school committee. Ms. Traphagen stressed the importance of an anonymous parent/guardian survey. Mr. McMurrer explained he could use the same framework for both surveys and create similar questions for each as they pertain to parents or staff. A discussion around confidentiality and limits per household responses was discussed and Mr. McMurrer was confident the issues raised would not pose a problem in the process. Mr. Hood reminded that those involved in crafting the surveys must be available over the holiday break. Ms. Hazzard added that this element would add transparency to the process. Mr. McMurrer reminded the group that both survey drafts must be created by January 1, 201 6 so the survey could be administered on Monday, January 4, 2016. After it was suggested that a teacher be included in the group that was going to vet the survey questions. Ms. Geryk and Mr. Morris suggested that Ms. Fay be involved in this decision. Ms. Fay reminded the school committee members that she was not a teacher but rather a paraeducator. Ms. Fay wanted to make sure that the survey was inclusive of everyone in the educational community, which includes teachers, paraeducators, clericals, custodians, food service, and transportation. She reminded the committee that everyone is an educator. Mr. McMurrer stated that although his business partner generally decides financial matters pertaining to contracts, he believed that both surveys could be created, administered and the data analyzed for the $2,500.00 stated in the draft contract. Ms. Traphagen made a motion to accept the draft contract between McBassi & Company, Inc. and Amherst School Committee exactly as it appears with the exception to the following: WHEREAS both parties hereby agree that ASC shall hire McBassi to conduct two (2) surveys: the first for elementary teachers and school staff and the second for Amherst PreK-6 Grade parents and guardians. Mr. Hood seconded and the motion passed unanimously.

B. Wildwood Building Committee Update 6:41 p.m.

DOCUMENTS: Implications of Enrollment Options/WWSBP; DRAFT Reconfiguration Maps 12.22.15; Analysis of Pros and Cons of Consolidated Option (PreK-1, 2-6) VERSUS 3x PreK-6

Mr. Murphy presented information from workshop reviews regarding sustainability (Leadership in Energy and Environmental Design for Schools LEEDS) and security. Mr. Hoagland reviewed Wildwood options 1, 2, 5 and 7 and Fort River option 3 in terms of code upgrades, 3-D conceptual designs, transportation/parking logistics, main entrance locations, size of classrooms, locations of gymnasiums, media centers, admin offices, introduction of natural light in classrooms, playground areas, swing space, and flood plain (FR). He explained the purpose of larger spaces (media center, gyms, etc) separating wings of schools. These spaces could be used as community spaces on weekends and evenings while classroom wings were locked and secure. Ms. Hazzard asked to see more information regarding the twin school design and believed the public would as well. Ms. Douangmany-Cage inquired about safety of students, staff and visitors throughout the construction process especially during drop-off and pick-up times. Mr. Morris assured her that safety is paramount and children would be supervised and engaged in organized activities in the gym or other area (Hawthorne Farm) before and after school. Ms. Geryk suggested that perhaps parent volunteers could supervise students at these times during the

construction process. Ms. Douangmany-Cage reminded the group that noise and dust generated by construction could pose a problem for some. Mr. Hoagland explained that construction would most likely be a one year process and oftentimes educators use a construction site as project-based learning involving math, science and writing. Ms. Traphagen inquired if cost estimates for each option will available later in the presentation. Mr. Murphy stated that these would be available at the January 13, 2016 public forum at 6:30 p.m. Mr. Morris suggested that the public forum and the School Building Committee meeting also scheduled for January 13, 2016 at 4pm be posted as a school committee meeting so members can participate without violating quorum. Ms. Traphagen and Mr. Hood expressed the need to meet prior to the January 19, 2016 school committee meeting to discuss all design options and cost estimates. Ms. Appy thought this was a prudent idea. Mr. Morris reviewed the DRAFT Reconfiguration Maps 12.22.15 document and thanked Doug Slaughter for his help. Mr. Murphy presented very preliminary cost estimates for each plan: 1). $31-$35 million for complete renovation of existing Wildwood School; 2). $51-$53 million for twin building design; 3). $53-$57 million for 750 student school. Because Ms. Traphagen could not recall Ms. Geryk's recommendation, Ms. Geryk re-iterated her recommendation which was originally presented at the October 20, 2015 Amherst School Committee meeting.: The Superintendent recommends that the Educational Program be accepted with a reconfiguration of Crocker Farm to be a PreK-Grade 1 school and a new school to educate all Grades 2-6 students. Ms. Geryk offered to provide more details around her recommendation to the school committee in the next ten days and will also share this information with the ARPS community. Ms. Traphagen requested that a complete and detailed timeline be created as soon as possible. Mr. Morris will clarify this schedule and language for the school committee and community members. Ms. Douangmany-Cage requested that the two color block schedule documents be combined into one clarifying document. Mr. Hood presented the Analysis of Pros and Cons of Consolidated Option (PreK-1, 2-6) VERSUS 3x PreK-6 document he created and asked for feedback. A discussion followed regarding educational equity, opportunity and equality for all students. Mr. Morris implored that the district can improve education for all students. Mr. Shea addressed the group and was concerned that the opportunity to expand and improve the PreK program is being overlooked. All children should have a PreK experience as this would be the most equitable opportunity. Mr. Hood inquired about the potential override scenarios attached to each building design option and how the Amherst Select Board and Finance Director will compare the new school to other capital projects. Mr. Morris stated that Mr. Pooler will share taxpayer implications in the very near future. Ms. Traphagen inquired if JCJ factored in demolition costs for a vacant Fort River School. Mr. Murphy explained that this was not a concern because the building is property of the school district. The town and district could decide how this building could be re-purposed. Ms. Douangmany-Cage asked for estimated expenses for all options as well as information pertaining to summer construction schedule, potential trailer classrooms and relocation of students and staff into swing spaces during construction.

A. FY Budget Projections **8:23 p.m.**

DOCUMENT: Amherst Public Schools FY17 Summary; Amherst Schools Charter Tuition

Mr. Mangano informed the committee that FY 17 Budget Binders will be available at the January 19, 2016 meeting. He reviewed the documents and asked for questions. There were none. Ms. Appy suggested that the Senate House Bill 326 letter pertaining to charter schools be discussed at the January 12, 2016 Regional School Committee meeting.

B. Field Trips **8:32 p.m.**

DOCUMENTS: Crocker Farm Elementary & Pre-K Field trips 2014-2015 school year; Crocker Farm, Fort River and Wildwood Elementary & Pre-K field trips

In respect to time, Ms. Traphagen and Ms. Appy requested that this topic be tabled until the January 19, 2016 meeting. All members agreed.

C. New Restraint Regulations

DOCUMENTS: The amended regulations set out below were approved by the Board of Elementary and Secondary Education on December 16, 2014, and take effect on January 1, 2016; Massachusetts Restraint and Seclusion Regulations and Procedures: General Training for Public School District Employees; Restraint Regulations and Procedures Training questions

Dr. Brady explained the documents and asked for questions. There were none. She informed the committee that this policy will be reviewed by the Policy Subcommittee on Monday, January 11, 2016 at 5:00 p.m.

D. Wellness Policy **8:36 p.m.**

DOCUMENT: Amherst Public Schools, Pelham Elementary School, and Amherst-Pelham Regional District Policy Manual Policy ADF: Wellness

Ms. Geryk and Dr. Brady explained the reasoning behind the change in policy language brought forth by the Pelham School Committee at their December 2, 2015 meeting pertaining to food served at classroom celebrations. She made mention of the highlighted sections of the policy in the agenda packet. Pelham School Committee member Ms. Marriott (who also sits on the Wellness Committee) suggested that food no longer be served at classroom celebrations for health/allergy and equity reasons. She proposed alternatives such as extra recess, favorite book reads, etc to this treat-based (cupcakes, cake, candy) tradition. In addition to eliminating unhealthy treats that could also compromise a child's health, she also spoke to the equity issue around classroom celebrations. She stated that not every parent/guardian can provide birthday treats for the entire classroom and this could create an uncomfortable situation for a parent and child. Ms. Appy suggested that the language be changed but be flexible as the policy will be reviewed periodically. Ms. Hazzard stated that food is a source of joy and provides a sense of connectedness amongst cultures and community. She suggested that the policy be flexible enough to support this. Ms. Appy suggested that the group discuss this at the January 19, 2016 meeting and perhaps vote on the language change.

E. Accept Gifts **8:44 p.m.**

There were no gifts to accept.

C. **School Committee Planning** **8:44 p.m.**

Ms. Stender will create a Doodle Poll to find a time for school committee members, Ms. Geryk, Mr. Morris, Mr. Murphy, Mr, Roberts, Mr. Hoagland, and Mr. LaPosta to meet on either Thursday, January 14, 2016 or Friday, January 15, 2016 to review the results of the McBossi staff survey and the proposed cost estimates for the Wildwood School Building Project. Once a date and time is confirmed Ms. Stender will post the meeting and invite Amherst Media to film. The January 19, 2016 agenda will include a discussion regarding field trips and a wellness policy vote. Ms. Appy suggested that the Senate House Bill 326 letter pertaining to charter schools be discussed at the January 12, 2016 Regional School Committee meeting.

D. Adjournment **8:46 p.m.**

Ms. Traphagen made a motion to adjourn at 8:46 p.m. Ms. Hazzard seconded and the motion passed unanimously.

Respectfully submitted,
Kimberly Stender

JOINT Wildwood School Building Committee & Amherst School Committee

Meeting Minutes

January 13, 2016

I. Call to order

Morris and Appy called to order the meeting of the JOINT Wildwood School Building Committee and the Amherst School Committee at 4:08 PM on January 13, 2016 at the Amherst Regional High School Library.

II. Attendance

The following persons were present: Tom Murphy of JLA, Monica Hall, Mike Morris, Katherine Appy, Ron Bohonowicz, Holly Bowser, Ludmilla Pavlova, Sean Mangano, Guilford Mooring, Maria Geryk, Anna Bartolini, Sasha Figueroa, Laura Kent, Sandy Pooler, Nancy Stewart, David Ziomek, Doug Roberts of JCJ, Jim LaPosta of JCJ, Rick Hood, Phoebe Hazzard, Vera Douangmany Cage, Claire McGinnis, Narayan Sampath and Nick Yaffe

III. Approval of minutes from last meeting

Morris asked to for a vote to approve the minutes from the last meeting on December 22nd. There was one suggestion to edit. Murphy asked for a motion to approve. Pavlova made a motion to approve the minutes, Bohonowicz seconded. The minutes were approved with one abstention from Stewart.

IV. Open issues

a) Agenda

1. Morris began the meeting with an overview of the agenda and discussed what business could be approved by each Committee also commenting that public comment would be held until the end of the meeting.

2. Appy thanked Dan McMurrer from McBassi and Company, who administered the faculty/staff and parent/guardian surveys.

b) Family/Staff Survey

1. McMurrer presented the family/staff survey results to the Committee. A detailed description on what information was included and what was asked of the participants was covered. Group results were compared to each other for

each topic. At the end of the presentation a summary was provided on the four building options.

2. A number of comments were made by parents/guardians regarding the survey design. McMurrer provided an explanation as to why the design was chosen and how some of those decisions were made. He also reviewed the timeline as to when the survey was created and made available to the public.

3. There was a delay in the teacher survey which went out on 1/6 due to union negotiations. Douangmany Cage shared that she was unaware of any negotiations that were made during this period.

c) Invoices

1. Morris asked to review and approve the invoices. Murphy reviewed the invoices and asked for a motion to approve. Mooring made a motion to approve the invoices, Appy seconded. The invoices were unanimously approved with no abstentions.

d) Acknowledgments

1. Morris acknowledged Pooler's work and thanked him for his service with the project, the Building Committee, and within the town since he will be leaving his position with the town at the end of the week. Pooler introduced McGinnis as his replacement.

e) Updates

1. Comments for the PDP should be received sometime this week or next. There was a delay due to the holidays. Morris made a quick overview for the project schedule of upcoming events and meetings.

2. LaPosta reviewed updated design options and site drawings, the current views and prospective site overview.

    a. There are three renovation options of the current Wildwood for 360 students. One is a code upgrade which would only bring the school up to code. Nothing would be done to correct the quad layout and the gym size would remain the same. The educational plan would not be able to be applied to this option. There was a question on whether swing space would be reimbursed by the MSBA. It would not.

b. A full renovation is the second option. The quads would be fixed and the office and library would be relocated or changed. The building structure would essentially remain intact. Most of the walls would be replaced, lights, plumbing etc. It would be a new building with new finishes but the same shell. This can only be done without students being present. There will be a need for swing space.

c. The third option would be to build a new Wildwood at the current Wildwood site. No swing space would be required as the current school would be in use as the new structure is built. Once the students are transitioned into the new building the current building would be demolished.

d. There are two options for 750 student model for grades 2-6 in the district. The first option is a renovation and addition to the current Wildwood building. Corridors would be added and the quad layout would be resolved. There would also be an additional floor and an addition to the gym to accommodate the number of students. This would require some phasing so it would be the longest of the construction durations.

e. The second option is a new construction for the 750 model. This would require major swing space. The building would be built flexibly to allow for changes of classroom and space use and have maker spaces The current Wildwood site may not fit this construction. This option is also possible for the current Fort River site but again swing space will be necessary. There is also a concern regarding the flood plains on that site.

f. There are three options for a 670 student model for grades K-6. The first option is an add/renovation would be made to the current structure with consideration for kindergarten classes. There would only a single main entry. This option will require a multi-step phasing but swing space will not be necessary.

g. The second option is a new building for the 670 student model (this option will also work for the 750 student, grades 2-6 model with additional classrooms). This option will be built in phases, with two wings, two entrances, two art rooms, and two music rooms. Does not require swing space. The new building would be built for students by the wings and once the first is completer then students will be transitioned to it, while construction continues for the second wing.

Once the second wing is completed, students will transition to the new wing and demolition of the current Wildwood School will begin. This same model can be developed for the 750 student model as well.

h. This option can be used at the current Fort River site with some marginal differences but the flood plain issues remain the same.

3. The Design Evaluation Matrix was provided and presented by Murphy. It will be sent to Building Committee members and that if anyone wants to add comments or feedbacks please send them to Murphy and it will be discussed at the next meeting.

f) The Next Steps

1. Murphy reviewed next steps in the process. There was a question if the demolition costs were included in the cost estimates for each building option; they were. There was question on making a 2-6 model flexible enough to accommodate Kindergarten students in the future if necessary.

2. Morris mentioned that the forum would be later that day.

V. Public Comment

a) There was question regarding demolition costs of the off-site building and swing space costs and what would those figures look like, or the costs that accompany those plans.

b) More clarification was requested on systems costs as well as the code upgrade costs.

c) There was a statement made regarding other major projects in the town. A copy will be sent to the Committee.

d) There were questions regarding whether renovations would be necessary for Crocker Farm since all Preschool, Kindergarten and first grade in the district would be housed there.

e) There was another request to clarify the costs. Are play spaces, parking, etc. included in the estimates?

VI. Adjournment

Morris adjourned the meeting at 5:42 PM.

Morris asked for a motion to adjourn, Ron moved, Ludmilla seconded. The motion to adjourn was unanimously approved to adjourn at 5:42 PM.

Appy asked for a motion to adjourn, Hood moved, Hazzard seconded, and it was unanimously approved to adjourn at 5:42 PM.

Minutes submitted by: Sasha Figueroa

JOINT Meeting of the Amherst School Committee & School Building Committee
Wednesday, January 13, 2016
Library, Amherst Regional High School

IN ATTENDANCE
Katherine Appy, Chair
Vira Douangmany-Cage
Phoebe Hazzard
Rick Hood

ABSENT
Kathleen Traphagen

Maria Geryk, Superintendent
Mike Morris, Assistant Superintendent
Sean Mangano, Finance Director
Faye Brady, Student Services Director
Monica Hall, Equity & PD Director
Ron Bohonowicz, Facilities Director
Mark Jackson, ARHS Principal
Jean Fay, APEA President
Nick Yaffe, Wildwood School Principal
Jim LaPosta, JCJ Architecture
Doug Roberts, JCJ Architecture
Tom Murphy, JLA Project Manager
Daniel McMurrer, McBassi & Co.
Kimberly Stender, Recorder

1. **Call to Order** **4:08 p.m.**
   Ms. Appy called the meeting to order at 4:08 p.m. She thanked Mr. McMurrer for his work on the survey. She invited the public to attend the community forum at later that evening at 6:30 p.m. and the next Amherst School Committee meetings on Thursday, January 14, 2016 at 3:30 p.m. and on Tuesday, January 19, 2016 at 5:45 p.m.

2. **Project Update** **4:15 p.m.**
   A. Survey Results
   DOCUMENT: 2016 Amherst Elementary School Building Survey McBassi & Co.
   Mr. McMurrer presented the survey as a Powerpoint and explained the process and guidelines. He answered questions from the building committee and school committee regarding survey respondents, and margin of error. Ms. Douangmany-Cage asked about the memorandum of understanding signed by the school committee and the APEA.

   B. Updated Concept Schemes & Costs Budget Review **4:42 p.m.**
   DOCUMENT: Preliminary Design Option and Projected Costs
   Mr. LaPosta reviewed the meeting schedule and reviewed the design options with projected costs associated with each design. Mr. Hood and Ms. Hazzard inquired about swing space requirements. Ms. Douangmany-Cage pointed out that the existing option pertaining to code updates was not included in the survey. Ms. Hazzard inquired about the difference in classroom sizes (Kindergarten and 1-6).

3. **Adjournment** **5:42 p.m.**
   Ms. Appy called for a motion to adjourn. Mr. Hood made a motion to adjourn at 5:42 p.m. Ms. Douangmany-Cage seconded and the motion passed unanimously.

   Respectfully submitted,
   Kimberly Stender

Regular Meeting of the Amherst School Committee
Wednesday, January 13, 2016
Library, Amherst Regional High School

IN ATTENDANCE
Katherine Appy, Chair
Vira Douangmany-Cage
Rick Hood
Kathleen Traphagen

ABSENT
Phoebe Hazzard

Maria Geryk, Superintendent
Mike Morris, Assistant Superintendent
Sean Mangano, Finance Director
Faye Brady, Student Services Director
Monica Hall, Equity & PD Director
Ron Bohonowicz, Facilities Director
Mark Jackson, ARHS Principal
Miki Gromacki, ARHS Assistant Principal
Jean Fay, APEA President
Nick Yaffe, Wildwood School Principal
Jim LaPosta, JCJ Architecture
Doug Roberts, JCJ Architecture
Tom Murphy, JLA Project Manager
Community & Press
Kimberly Stender, Recorder

1. **Call to Order & Welcome** **6:32 p.m.**
   Ms. Appy called the meeting to order at 6:32 p.m. She invited the public to attend the next Amherst School Committee meetings on Thursday, January 14, 2016 at 3:30 p.m. and on Tuesday, January 19, 2016 at 5:45 p.m. Mr. Morris welcomed the group to the community forum and reviewed the agenda. He stated that all reports will be available on the Amherst Elementary School Building Project Facebook page.

2. **Amherst Elementary School Building Project Presentation** **6:41 p.m.**
   DOCUMENT: Preliminary Design Option and Projected Costs
   Mr. LaPosta reviewed the meeting schedule and reviewed several design options. He presented the projected costs associated with each design. He also addressed MSBA grade configuration options, reimbursement rates (50%-55%) and swing space.

3. **Public Comment** **7:22 p.m.**
   Mr. Morris invited community members to share their opinions. Ms. Geryk, Mr. LaPosta, Mr. Murphy, Mr. Roberts and Mr. Morris answered questions and provided clarifying information. Ludmilla Pavlova inquired about swing space and new construction options. Marla Ginate inquired about the methods used in long term population and enrollment forecasting. Bonnie McCracken asked if there were co-located schools within a 75 mile radius which community members could visit to view structure and design. Joya Dressa expressed concern for children of color in the larger common spaces of a new school. She also inquired about outcomes for children of color and if these will change over time. Michael Burkart, Town Meeting member, announced he was a proponent of community schools but did not think this particular project was a community school. He stated he would vote against this project during town meeting. Ms. Geryk announced her recommendation for grade configuration: Grades Pre-K, Kindergarten and Grade 1 would be housed in Crocker Farm Elementary School and Grades 2-6 would be housed in a new school building. She stated that the community and ARPS must address every child and equalize demographics and resources. She stressed the importance of equitable early childhood education as a way to close the achievement gap. Ms. Geryk also stated that re-districting would occur in

five years if the community does not agree to adopt the PreK-Grade 1 and Grade 2-6 models. Kurt Wise took issue with the Superintendent's comment regarding re-districting. He believes that "equal does not mean equity" and that the solution must be the best outcome. He added that the community could find funding to re-build both Fort River and Wildwood Schools as co-located schools are not always the best solution. He urged people to look at https://saveamherstssmallschools.wordpress.com/ for more information. A Wildwood student spoke about the importance of keeping the Wildwood community intact as he wants ride the same bus and attend the same school with his siblings and friends. Kathleem Traphagen asked how a new school building would be divided up by grade. Ms. Geryk replied that ideally one wing would house Grades 2-6 (Fort River) and the other wing would house Grades 2-6 (Wildwood). Amilcar Shabazz inquired about the financials for design upgrades. He asked if all designs involving swing space be ruled out of the final decision. Len Lucien asked if both Wildwood and Fort River Schools could be gutted. Lumilla Pavlova explained the UMASS construction process and construction codes involving gutting process. Vince O'Connor cited flexible districting be an option and equity issues be addressed. He stated that schools should be the most important capital project in town and not the new fire station, public works building or library. Katie Ladowski stated that the main focus should be racial equity rather than speculations regarding barriers a design option may create. Russ Vernon-Jones believes that K-6 Grade schools make the most sense and stressed meeting the needs of every student to ensure their success. Jean Fay requested that the open responses of the educator/staff survey be made available to the public. Marylou Theilman (Amherst Finance Committee) read a statement taken from the draft minutes of their last meeting (a copy of the statement can be found at the end of this document. Vira Douangmany-Cage recalled two cases of mistaken identity at Crocker Farm School and stated her concerns regarding heightened security, surveillance calendars and police presence at a large school. Carleen Basler asked why parents/guardians of color were not more responsive on the survey or present at the community forum. Kurt Wise asked why the conversation is driven by financials and could Powerball provide the needed funding for school renovations.

4. Adjournment **8:39 p.m.**

Ms. Appy called for a motion to adjourn. Mr. Hood made a motion to adjourn at 8:39 p.m. Ms. Douangmany-Cage seconded and the motion passed unanimously.

Respectfully submitted,
Kimberly Stender

Theilman's comments for the Amherst Finance Committee taken from the draft minutes of their last meeting.

After an extensive discussion about such things as project costs, sequencing, affordability, effects on other town capital needs, potential trade-offs with the operating budget, and possible voter overrides, the Finance Committee concluded its role would best be served by emphasizing the following principles/processes:

- Oversight as to the relationship of all the projects as a whole, as opposed to the financial viability of each project on its own, will be a continued focus of the Finance Committee.
-
- Based on the current assumptions as to project costs to-date, affordability is a key concern, especially as to whether or not the Town can meet its on-going capital and operational needs, and at the same time complete all four projects without introducing a significant debt-exclusion override.
-
- Accordingly, the Finance Committee will request that each project proposal clearly include basic financial analyses relative to cost.
-
- The Finance Committee will seek input into these projects, starting by sharing its thoughts at the upcoming meeting of the Joint Capital Planning Committee (JCPC).
-
- To address these financial concerns, the Finance Committee may request that representatives of each project attend future committee meetings.
-
- Finally, the Finance Committee will stress that, although these four projects are the most visible and known major capital projects to-date, the Town needs to keep in mind other potential needs as well, such as the long standing backlog of roads repair and the ongoing capital needs of Town departments.

Special Meeting of the Amherst School Committee
Thursday, January 14, 2016
Library, Amherst Regional High School

IN ATTENDANCE

Katherine Appy, Chair
Vira Douangmany-Cage
Phoebe Hazzard
Rick Hood
Kathleen Traphagen

Maria Geryk, Superintendent
Mike Morris, Assistant Superintendent
Kathy Mazur, Human Resources Director
Faye Brady, Student Services Director
Derek Shea, Crocker Farm Principal
Nick Yaffe, Wildwood School Principal
Doug Roberts, JCJ Architecture
Tom Murphy, JLA Project Manager
Community & Press
Kimberly Stender, Recorder

1. **Call to Order & Welcome** **3:33 p.m.**

   Ms. Appy called the meeting to order at 3:33 p.m. She extended public comment by 15 minutes if necessary and limited speaker statements to 3 minutes. Ms. Appy requested time for members to deliberate and converse with one another in order to prepare for the vote scheduled for January 19, 2016.

2. **Public Comment** **3:39 p.m.**

   Ms. Appy invited community members to speak. Simon Rain thanked the school committee for the survey and for meeting with community members. He thanked Mr. Morris for sending the surveys to pre-schools. He stated that special education students benefit most in a small school setting. He added that the pre-school should not be involved in the re-configuration conversation. Vince O'Connor state that the most important thing is to have a project approved by the public and perhaps a large school is not the best solution. He urged the committee to pay attention to the public opposition of a large school. He stated that the best plan would be to build a new Wildwood and eventually replace Fort River. Fort River students could be re-located to Wildwood as Fort River is being re-built. Laura Kent praised the Crocker Farm Pre-School staff for supporting special needs students and providing them with a transforming experience. She believes that all children should have the opportunity to attend pre-school as it would provide an equitable experience. Catherine Corsun stated her primary concern is to support the education system in Amherst. She requested that the open-ended survey responses by parents and staff be made public. She expressed disappointment with the lack of survey responses from underrepresented groups. She believed the survey did produce reliable information regarding respondents' opinions to maintain a K-6 educational structure in three elementary schools. Caridad Martinez expressed concern that the survey failed to elicit responses from Latino parents. She expressed concern with the dense population which would exist in a large school. She believes this would exasperate discipline and hyper-vigilance and position the education system to become oppressive primarily for students of color. She asked why smaller, neighborhood schools existed when the population of Amherst was overwhelmingly white and affluent and now that socio-economic demographics have changed and students of color are dominant, a megaschool is being considered. She concluded by stating that equity issues must be addressed. Laura Quilter stated that based upon the traditional legal definition of equity and pedagogical research a large school would not benefit all students especially those who are socio-economically disadvantaged, students of color, or require ELL and special education support. Kurt Wise expressed concerns with the survey's questions and structure. Carleen Basler stated

that the greatest asset is the pre-school program as this could potentially close the achievement gap. She was concerned that Latinos did not respond to the survey. She spoke about the emotional fallout students face if re-districting occurs. She asked committee members to vote for a 2-6 Grade model with an early childhood center at Crocker Farm School.

3. **New & Continuing Business** **4:00 p.m.**
Ms. Appy thanked Ms. Geryk, Mr. Morris. Mr. Shea, Ms. Finocchio, and Mr. Yaffe for their commitment throughout this process. She distributed packets containing letters of recommendation from district administrators to all committee members. Ms. Geryk provided her recommendation for reconfiguration: Pre-K, Kindergarten and Grade 1 would be housed at Crocker Farm Elementary School and Grades 2-6 would be housed in one new school building. Ms. Appy thanked her colleagues for taking the responsibility as elected officials to consider what is best for all students. Ms. Appy invited the committee members to express their opinions regarding grade configuration. Ms. Hazard, Ms. Appy and Mr. Hood read prepared statements (which appear below). Ms. Douangmany-Cage did not read a prepared statement but expressed her viewpoint. Ms. Traphagen asked several clarifying questions.

Ms. Hazzard: This is a major and difficult decision that lies before us. We have an opportunity to receive money that would allow us to, in some form, build a new school building. I think this is a great thing. Faced with this great opportunity, there's a lot of disagreement about how we should best proceed. But I think it's important to recognize that, if we look at the big picture, we are in a great place. We live in a beautiful town with an amazing and diverse community that cares passionately about our children and their education. We love our schools, which is in many ways why the decision that lies before us is so challenging. We have something that we love that so deeply affects the most important, precious people in our lives, and we don't want to lose it. That said, I also believe that there is no option before us that would spell disaster. If any of these options were chosen, we could make it work and we could make it good. The strength of a school, whatever its size or configuration, is hugely impacted by the quality of the management and leadership. We have an amazing leadership team and staff that I believe will bring their strengths to whatever school is built to make it great for our kids. In exploring the options before us, I have felt strongly from the beginning I must support an option includes Fort River. To leave one building in poor condition without a clear time frame or clear financial plan for rebuilding when we have an option to do otherwise is, in my mind, inequitable and irresponsible. In considering a two-wing K-6 school or a two-wing 2-6 school with Crocker Farm as a pre-k-1 grade building, I have tried very hard to look deeply at the implications of these two options. I have talked to parents and read many, many letters and emails, attended forums, considered research, spoken with administrators and members of our staff who work with the more vulnerable members of our community, and gotten perspectives from educational leaders and educators in outside communities. I have found that there are weighty arguments, strong opinions, and research to support elements of both models.

Strengths of K-6:

- Community
- Continuity without disruption of transitions
- Relationships over an extended period of time
- Feeling known and valued (children and parents)
- Pride and ownership in their school and their identity as members
- Being able to look around and see people who know and care about you — former and future teachers, a known group of peers
- Older children mentor younger children, younger children bring out the positive mentoring side of older children
- Consistency, predictability as they proceed through grades

- Siblings can be part of the same community
- Some families can walk or bike to their school for their full elementary experience
- This kind of long-term "family" supports children to grow and thrive into confident, competent young people

This is work that our elementary schools do so well, it is deeply valued in our community.

Strengths of reconfiguration:

- While a majority of our students are experiencing the benefits of our system, there are children in our community who are not able to access it as successfully.
- All kids are going to the same place, access to the same resources-programmatic opportunities of having all resources in the same building (language? arts? after school programs, maker spaces, technology, etc.)
- Kids don't have to be districted according to their socio-economic level
- Children don't have to be sent to a different school because their school is full, as is happening and will continue to happen in the Crocker Farm district
- Class sizes can be more balanced, giving all kids reasonable sized classes
- Children with special education needs would have all the needed resources in the same building, allowing better opportunity for access, flexibility if a child's needs for services change as they get older, able to be in the same school as everybody else including siblings and neighbors
- ELL kids can access the same resources, which can be more differentiated according to their needs
- We see our community as the larger community — the whole town
- Concept of equity in terms of access, participation, and benefit — while we are striving to do it in our k-6 schools, we can do it better with the reconfiguration option.

Academically,

- Better opportunity for teacher collaboration within a grade level which is beneficial to teaching and learning, harder to communicate from youngest grades to older with a building transition
- Again, programmatic opportunities when all resources are in the same place seems very exciting

Early childhood center

- Piece that I have been exploring more depth, talking to people with experience in similar configurations
- Great potential for creating an educational setting really designed for the developmental and academic needs of this age group, combined expertise of specialists, resources, playgrounds, especially designed for these needs
- Concern about a school with a large number of young children all in the same building (7-8 grades) — I've talked to people who work in similar settings, felt only positive about ability to manage kids and build community in this kind of setting
- Preschoolers coming at 3 years identified with special education needs no longer have to transition in the middle of their earliest educational journey- two more years in that setting could be a very positive boost to these students who are some of our most vulnerable
- Preschool can be expanded — something we really should look at in terms of how we could do this so it actually would allow access to preschool for those children who currently aren't able to attend and arriving in kindergarten without the kind of preparation of their peers, thus seeing an achievement gap already looming at the age of five.

So, on one hand I see the k-6 model, widely loved and supported by the families and teachers in our community. On the other hand I see a new model, unfamiliar to us and garnering significantly less vocal

support, that I believe would do a better job moving us towards allowing all students to access the best education that can. So, the question I ask is: can we build those incredibly important strengths of the k-6 model into a reconfigured model? Can we build strong communities where children and families feel known and valued, where they feel pride and ownership and deep connections with the adults and children around them? Can we find ways for to foster positive mentoring relationships between older and younger children? Can we manage transitions well so that children are able to cross the bridge the a different school without it being negative and disruptive? Can long-term relationships be formed enough to do the important work of fostering positive development that our schools now do so well? Are there ways we can ameliorate the challenges of a family having multiple elementary children in different schools? Can we manage the transportation issues that arise of having children travel farther? As I said before, I believe so much depends on management and leadership. Any of these options could be done well or poorly. I believe that our schools are so well loved because education and equity in this town are approached with such intention and passion. I hear people say they don't want decisions to be based on finances but really what's educationally best for the students. That's amazing. We value our children's education so much. That's a huge reason I moved to Amherst. I believe our education team has every ability to build into this reconfiguration the strengths of community that are so critical to our schools. As a school committee, are we prepared to embrace an unpopular decision if we believe it is truly best for the students? If we do, we have our work cut out for us in terms of helping our community take on a major paradigm shift. This is the challenge before us.

Ms. Appy: When I was elected to school committee 5 years ago, the community was rightly demanding that we address glaring inequalities in educational outcomes --- more specifically the achievement gap, something that plagues the entire nation. Many community members have pointed out that this is a fundamental social justice issue and it should factor into all our discussions---whether we are talking about test results, collaborative teaching and best practices, regionalization, and now---debates about how to renovate or rebuild our school buildings. I strongly believe that the proposal best designed to advance educational equity is the one that brings together our pre-k through 1st grade students in one place, and does the same for all our 2nd through 6th graders. The evidence is clear that these configurations have the best shot of enabling our youngest students to build the strongest educational base as they move through our system. We know that early childhood education is the cornerstone of a successful academic experience. By the time kids get to kindergarten the gap exists between those that had the opportunity to attend pre-school and those who did not. There are now many 5 year olds in Amherst who must already play catch-up. What we must understand is that the creation of an early childhood center will open the door of opportunity for many Amherst children who have previously been denied because of the limitation of space. Further, the new system will keep children together rather than busing them in kindergarten based on their needs. It will also allow for pre-school educators to fully collaborate with all kindergarten teachers. As school committee members, it is our job to put students first. Not just some students, not just the students from whose families we hear from the most, but students who historically don't have the advocacy they need. That's what we are here for as elected officials. We have learned, through presentations, articles and feedback from our professional educational leaders that the best way to address the achievement gap is to have socio-economic balance in our school buildings, small and balanced class sizes and pre-school for as many children in our district as possible. These are the things that can make a real difference in our students educational lives. I have heard a lot about community schools in this process. I want to make clear that we don't have community schools as long as there are pockets of students being bused away from their neighbors, a population of students that have been long ignored. Currently, our town has students that are bused away from their neighborhood and their closest elementary school based on their lower socio-economic status or their special learning needs. I want us to imagine what we would hear if my neighborhood for example, two streets away from Wildwood, was bused to Crocker Farm to balance the socio-economic status in each school. The children who are currently bused out of their catchment area know why they are being sent to other schools. What is the

message to them? What is the message to all our students? How is that OK? We as a community HAD the opportunity to fix this problem of inequity when the district closed Marks Meadow school. At the time, perhaps it was felt that the change would be too much. We have that opportunity again. It is incumbent on us as elected officials to make the hard but fair decision that will be best for all our students. The 2 through 6 twin reconfiguration is the fairest option. I know that there are those that worry about the extra transition. But children experience transition all the time. Many have been redistricted every few years. And all students go to a new classroom with different students and a new teacher, every year. Kids are resilient. If they move to a new building, implemented in a thoughtful way, with their friends and classmates, I think it matters less. I have also heard that people value the K through 6 range and I understand that, and 2nd through 6th grade also provides a great range of ages and levels of development. Change in a traditional arrangement often makes people uncomfortable. Moving toward progress is hard and deliberate. But we shouldn't stick with an old system just because that's the way it's been done for a long time. Especially as we have growing evidence showing that equal access to pre-school education is CRUCIAL to closing the achievement gap. Traditional school's structure was developed in a fairly arbitrary way a very long time ago. There are many districts that now structure their schools based on developmental stages rather than an old outdated industrial age design. Again, we have this opportunity before us. If we stay with the K-6 model in the new building, we are going to continue to redistrict students and teachers and continue to bus students away from their friends and neighbors based on their families socio-economic status or the child's special learning needs. That isn't right and it isn't fair. A vote for the reconfiguration is a vote for social justice.

Mr. Hood: I will be voting for the consolidated plan, with a PreK-1 early childhood center at Crocker Farm and new 2-6, 2-wing configuration school to be built on the location decided by the building committee.When I started on the school committee in 2010, my youngest child was already 3 years beyond high school. My interest in being on the school committee was due to my interest in public education, not that my kids were still in Amherst schools. And that interest in public education was and remains entirely based the concept that public schools should be a place where equal opportunity is king. Where is equal opportunity more important than with our children? Nowhere.The word equity gets used a lot. Equity does not mean equality. Our kids will never be equal; each has unique gifts and challenges. Equity means equal opportunity. Equal opportunity means that resources and encouragement are there for every child. It means that every child is shown those opportunities and encouraged to partake, and that the resources are available to do so. In looking at the various options for building or renovating our schools, the key word for me is resources. There is only one configuration that provides the maximum resources for providing equal opportunity and that is the consolidated plan. While not a guarantee of anything, and implementation is everything, the consolidated plan has a much higher likelihood of being able to increase learning opportunities for our children. An early childhood center at Crocker Farm will make it much more likely that all our children will be able to learn to read at a younger age, critical to future learning. A 2-6 school housed all in one building will make it much more likely that programs for older elementary students can be available, rather than available in one building, but not another. I have been in favor of this 2-school plan from the first time I heard about it, long ago, way before the Superintendent made it her recommendation. Since then I have listened very hard to all the pros and cons for this option. The cons to this option include: giving up the continuity of the K-6 schools we are all so familiar with. Yes it is a wonderful thing to have a Principal and teachers of a school know your child from Kindergarten through 6th grade, though for grades 2 through 6 this will still be the case. Another con is that it is more likely that families will have children in more than one school. Another con is that older kids will not be able to mentor the very young children, though that is still available for 2 through 6. Another con is that for those who do live close to their school, the neighborhood school will be lost; certainly a big deal for those families. The one con I have heard that I just do not buy at all is the size of the school. First of all, the size of the proposed 2-6 school is not that much larger than what used to be the populations of Wildwood and Fort River years ago. Secondly and most importantly the 2-wing design mitigates any size problem in a huge way and also encourages the same communities that already

exist to continue and thrive. It is easy to imagine a future where we still have three reasonably sized communities just as we do now: an early childhood community at Crocker Farm, a 2-6 community in one wing of the new school and a 2-6 community in the other wing, with the same teachers, administrators and staff that we know and love. I have listened very, very hard to the cons of this plan I have heard from the community, and they just do not outweigh the opportunity provided by having an early childhood center at Crocker Farm and a new 2-wing 2-6 school. Change is always difficult and this is no exception. Especially when we like what we have, we fear that any change might take that away. But we have to remember that today not all kids are achieving at their full potential. It is my duty to do all that I can to make sure that they have every opportunity to do so. I have to vote for opportunity; otherwise the whole reason for my serving on the school committee to begin with would be for nothing.

Ms. Douangmany-Cage stated that this was a very difficult decision as she has followed this conversation for some time. She stated it became clear to her at Town Meeting when members failed to vote to replace a school boiler. She feared that Fort River would be neglected for the sake of Wildwood. She believed the parent and staff survey was biased. Ms. Douangmany-Cage stated that affluent parents have access to transportation and flexible work schedules so they could attend events if their children were separated between two schools. These parents could also choose to send their children out of district. Ms. Douangmany-Cage thought the best solution would be to renovate Wildwood first and then address the concerns of Fort River. She rejected the survey choice of design options and the supporting documents from the superintendent and district administrators. Ms. Douangmany-Cage recognized the work of the ARPS Family Center as they provide transportation, childcare and food at school events. She stated that elected officials must be trustworthy, transparent and considerate of timing. Ms. Douangmany-Cage is disappointed that the results of the survey and opinions of the respondents are being defied. In closing, she requested that more information pertaining to the memorandum of agreement between the school committee and APEA linked to the survey be made available to her.

Ms. Traphagen did not express her opinion regarding grade configuration. However she requested clarification on several topics which would help guide her decision. Ms. Traphagen asked which authority decides classroom wing configuration. She would like Fort River to remain in the discussion. She stressed that all students should feel safe in a school and be known by all staff. Ms. Traphagen stated that in a 2-6 Grade model, students, families and staff are afforded five years to build strong relationships. She is concerned that if families are split between two schools, those who struggle will have yet one more barrier to overcome. She inquired how re-districting would solve equity issues, especially those impacting families living in the apartment complexes, if there is a PreK-1 early learning center and a 2-6 school. Ms. Traphagen inquired about the estimated cost of code updates if Crocker Farm becomes an early learning center. She requested data around the number of 4 year-olds not enrolled in a pre-school program and 5 year-olds who are entering Kindergarten with no pre-school experience. Ms. Traphagen is concerned about the number of potential transitions placed on early childhood students as they enter Grade 2.

4. **Adjournment** **5:12 p.m.**

   Ms. Appy reminded members of next steps and then called for a motion to adjourn. Mr. Hood made a motion to adjourn at 5:12 p.m. Ms. Hazzard seconded and the motion passed unanimously.

   Respectfully submitted,
   Kimberly Stender

Regular Meeting of the Amherst School Committee
Tuesday, January 19, 2016
Library, Amherst Regional High School

IN ATTENDANCE

Katherine Appy, Chair
Vira Douangmany-Cage (arr. 5:48 p.m.)
Phoebe Hazzard
Rick Hood
Kathleen Traphagen

Maria Geryk, Superintendent
Mike Morris, Assistant Superintendent
Sean Mangano, Finance Director
Kathy Mazur, Human Resources Director
Rachel Bowen, Ass't Human Resources Director
Faye Brady, Student Services Director
JoAnn Smith, Student Services Administrator
Jean Fay, APEA President
Nick Yaffe, Wildwood School Principal
Derek Shea, Crocker Farm Principal
Jasmine Robinson, Crocker Farm 3rd Gr Teacher
Carol Ross, Media/Climate Communications
Jim LaPosta, JCJ Architecture
Tom Murphy, JLA Project Manager
Community & Press
Kimberly Stender, Recorder

1. **Call to Order & Welcome** **5:46 p.m.**

Ms. Appy called the meeting to order at 5:46 p.m. The agenda was reviewed. Ms. Appy requested that public comment be extended to a full 30 minutes if necessary. There were no objections to this request. Ms. Robinson presented her sabbatical request. Ms. Geryk made mention of Ms. Robinson's recent receipt of the Roger L. Wallace Excellence in Teaching award. Mr. Morris stated he was in full support of this request as Ms. Robinson's work provides a great resource and examines a critical need in the district. Mr. Hood moved that the Amherst School Committee accept the proposal and grant the sabbatical to Ms. Robinson for the 2016-2017 academic year. Ms. Hazard seconded. Ms. Robinson explained the vital scope of her work and her post-sabbatical plans and workshops. The motion passed unanimously. Mr. Hood moved to approve the minutes from the meetings on December 22, 2015; January 13, 2016 (4:00 p.m.); January 13, 2016 (6:30 p.m.); and January 14, 2016. Ms. Hazzard seconded and the motion passed unanimously.

2. **Announcements & Public Comment** **6:01 p.m.**

There were no announcements. Prior to public comment Ms. Appy reminded the audience to speak about issues and not about people. Jean Fay stated that no matter the decision of the school committee regarding the school building project, educators will continue to provide the best education for the whole child. Julie HawkOwl stated her greatest concern is social equity and how underrepresented people may become lost in the education system. Nurah Jaradat spoke to her experience as a child at Marks Meadow School. Joanna Morse shared teacher feedback from the survey and implored the school committee to listen to educators' viewpoints. Sarah McKee expressed her financial and educational concerns regarding a larger school. Jim Oldham read teacher feedback from the survey and expressed his concerns regarding equity. Manulani Sherlock spoke about trust and equity issues regarding the schools. Caridad Martinez asked to see measurable evidence regarding equity initiatives. Sovann-Malis Loeung questioned the reconfiguration proposal in regards to equity and transportation concerns. Kathleen Anderson stated that the best way to achieve equity in schools is to hire educators who mirror the current

student demographics. Laura Quilter read teacher feedback from the survey and recommended the small school model. Mary Wentworth stated that the imminent vote is pre-mature and inappropriate because a change of this magnitude has yet to be absorbed by the public. Taryn LaRaja stated that students who are of most need academically should be grouped together by classrooms in one school so teachers can collaborate. Andy Churchill stated that an early childhood center is very important because it addresses issues of equity and closing the achievement gap. Derek Shea cited Sean Riordan's work at Stanford University which states that public schools are equalizers and early childhood centers are critical to ensuring equity. Vince O'Connor proposed that if Fort River School is closed land would become available to build the new Department of Public Works center or UMASS student housing. Kiana Conor stated that transitions may be difficult for young students in a large school and families would be split between different schools.

3. Superintendent's Update 6:48 p.m.

Mr. Morris clarified questions which were raised at the January 14, 2016 meeting. He addressed at length DESE codes for the new school(s); early childhood center bathroom upgrade costs; district pre-school enrollment; social justice leadership outreach; code of ethics; commitment of educators to students; structural inequities; construction factors and swing space; transportation concerns; closing the achievement gap as it pertains to the PreK model; English Language Learners program; and Special Education programs. He spoke at length about the reasoning that led to Superintendent Geryk's recommendation for the most equitable elementary school model. He stressed the difficulty and importance of the school committee's decision and vote.

4. New & Continuing Business 7:07 p.m.

A. Amherst Elementary School Building Project

Ms. Appy called for a vote. Ms. Douangmany-Cage announced that Open Meeting Law was violated because the agenda was improperly posted on the Town of Amherst website. After a lengthy discussion, it was decided that the agenda was indeed posted on both the Town of Amherst and district websites and adhered to past practice and Open Meeting Law. Ms. Appy concluded that based on the discussion a vote was in order. Mr. Hood moved to vote tonight on the Amherst Elementary School Building Project. Ms. Traphagen seconded and the motion passed with one opposition (Douangmany-Cage). School committee members referenced the document which listed three proposed motions. Mr. Hood read the 750 Students Proposed Motion: "We move to change the grade configuration of the Amherst elementary schools to have Crocker Farm become a PreK-1 school and for the result of the MSBA process to be a 750 student, grade 2-6 school building, with two autonomous, roughly 375 student schools with their own principal, teacher teams, and specialists, thereby closing Fort River School, assuming a project scope and budget agreement and funding agreement are enacted. We request that the grade configuration section of the educational plan be updated to align with this official vote of the Amherst School Committee." Ms. Traphagen seconded the motion. Ms. Douangmany-Cage called for a point of order and asked why the vote was taking place in this manner (eliminating motions by vote). A lengthy discussion followed. Throughout the discussion process there were several points of order and incomplete motions that received no seconds. Ms. Traphagen requested that the words "Fort River School" be struck from the motion and that "one elementary school building" be added. She read the motion with the amendment (in bold): "We move to change the grade configuration of the Amherst elementary schools to have Crocker Farm become a PreK-1 school and for the result of the MSBA process to be a 750 student, grade 2-6 school building, with two autonomous, roughly 375 student schools with their own principal, teacher teams, and specialists, thereby closing **one elementary school building**, assuming a project scope and budget agreement and funding agreement are enacted. We request that the grade

configuration section of the educational plan be updated to align with this official vote of the Amherst School Committee." Ms. Hazzard seconded the motion. The motion passed with one abstention (Douangmany-Cage). Ms. Traphagen moved to add additional wording and read the existing motion with amendments (in bold): "We move to change the grade configuration of the Amherst elementary schools to have Crocker Farm become a PreK-1 school and for the result of the MSBA process to be a 750 student, grade 2-6 school building, with two autonomous, roughly 375 student **Grades 2-6** schools with their own principal, teacher teams, and specialists, thereby closing one elementary school building, assuming a project scope and budget agreement and funding agreement are enacted. We request that the grade configuration section of the educational plan be updated to align with this official vote of the Amherst School Committee." Mr. Hood seconded and the motion passed with one abstention (Douangmany-Cage). Ms. Appy asked that the committee return to the amended motion to vote. Ms. Traphagen read the motion: "We move to change the grade configuration of the Amherst elementary schools to have Crocker Farm become a PreK-1 school and for the result of the MSBA process to be a 750 student, grade 2-6 school building, with two autonomous, roughly 375 student, Grades 2-6 schools with their own principal, teacher teams, and specialists, thereby closing one elementary school building, assuming a project scope and budget agreement and funding agreement are enacted. We request that the grade configuration section of the educational plan be updated to align with this official vote of the Amherst School Committee." Ms. Hazzard seconded the motion. Ms. Appy opened discussion. Ms. Douangmany-Cage read a letter from a community member regarding how the over-stimulated learning environment in a mega-school would negatively impact the learning of some special education students. She added that the fallout of this could lead to lawsuits against the district. Ms. Douangmany-Cage praised the voices of those who spoke in opposition of the school project. Ms. Douangmany-Cage then stated that she, as a minority voice on the school committee, could not deliver what the committee wants to do which is to vote for a large school. She spoke to the proliferation of area charter schools and about the exodus of students from the district to these charter schools. She spoke about the distrust of community members toward the administration. Mr. Hood stated that it was important for committee members to share their thoughts at the January 14, 2016 meeting in preparation for tonight's meeting. He was at a loss as to why people who are normally for equity would oppose this configuration proposal. He stated that people do not seem to be paying attention to the model of two smaller schools which would be hooked together in one school. Ms. Traphagen read a quote from the teacher survey. She stated she would like to include Fort River in this process now and that there is no perfect option. Ms. Traphagen stated that the vote for re-configuration is not a popular vote but it is the right vote. She then spoke at length about structural inequities; and potential periodical re-districting. She also mentioned the eloquent letter from Wildwood Elementary School Principal Nick Yaffe to create and sustain supportive school communities. Ms. Traphagen spoke to transitions and socio-economic balances. She mentioned the conversation she had with her son who attends ARHS about ways to create the conditions for school community. Ms. Traphagen spoke to the public's distrust of the administration and the opposition to re-configuration. She expressed the need for an early education learning center in the community and an extended day for these students. She sees the need for managing class sizes and supporting teacher collaboration throughout grade transitions. She feels strongly that the district must improve transparency to represent all voices in future discussions. She urged the community to see the opportunity to build a new school for what it is and move forward past Town Meeting.

School Committee members read prepared statements (see below):

Mr. Hood: At the last school committee meeting on January 14, I explained that I was in favor of the "consolidated plan" - a new building with twin wings housing grades 2 through 6, and a Pre-K through1 early childhood education school at Crocker Farm - and I gave the reasons why I favored that plan. But I did not address the survey results and why I was supporting something that was clearly not the choice of the majority of parents and educators who took that survey. I want to try to address that now. I am particularly concerned that educators will feel they are not being listened to. Fifty percent of educators took the survey, including 70% of classroom teachers. My comments are meant primarily for educators, though the same comments apply for parents as well. I read the survey results and all the comments very carefully. I feel that I have listened hard and understood, but I disagree. That disagreement surely raises the question *"why does Rick think he knows better than the majority of educators do"?* My answer is that I do *not* know better than educators do, it is that my viewpoint is different. I believe my viewpoint is much longer term than most educators, and parents. With such a major structural change, I have to think about 5,10,15 and 30 years from now. That also includes taking a fresh look, without preconceptions; such as if we had no elementary schools now, what would we build? Educators are primarily thinking about today, not 5 or 10 years from now – which is as it should be, since their day to day job is focused on the students in their classroom today, not years from now. I was not expecting most educators to be in favor of going through such a major change, away from something they know so well, to something that has no implementation plan to look at yet, but in my view has structural advantages in the long term. In the survey comments I was looking for issues I had not heard about or thought of before. I did not find anything new in those comments. But there was valuable input. One comment, which was mentioned multiple times, was to add grade 2 to the PreK-1 school. That is surely not on the table because it would not fit at Crocker Farm, but it is worth talking about, since most early childhood programs go through grade 2. But then, that suggestion also goes against the "continuation" argument, where 2-6 is a pretty decent stretch of continuation – not as long as K-6, but fairly long – 3-6 would be less so. What the best balance is between the case for early childhood education, and the case for grade continuation, is certainly debatable, and an indication of the pros and cons that have had to be weighed. Equal opportunity is not everyone's highest priority. Many think it is better to have differences between schools and thus choice. Many think it is best to have three separate K-6 schools and allow choice between them, which may work well for those who have the ability to choose. I am in the equal opportunity camp, not the choice camp. I was clear about that when I ran for this position both times I ran for school committee. A school configuration that has all same-grade students in the same building has an ability to better provide equal opportunity to programs and educators needed for those grades, whether reading instruction in Pre-K through 1, or specials in the upper grades. Educators who listed equity as their highest priority favored options C and D, the consolidated options. We have had equity issues for many years under a multi-school K-6 model, under many different administrations. I believe that if we have an opportunity to help change that now with reconfiguration, we should take that opportunity. It is not impossible to do better under a K-6 configuration, but it is much more likely under the consolidated plan for the reasons I mention. Educators also include the Principals, and they are all in favor the consolidated plan, some more so than others. For those who may wonder if they were arm-twisted for support, I would argue that they are a lot stronger people than that. And while I might understand how they would not publicly voice *disagreement* with a plan the administration supports, I cannot see them publicly voicing *support* unless they really believed in it. Having said that, I know that they are very concerned about educator morale and I believe that leading educators through this change, should we vote to approve it, will be top priority for them. In my opinion we have the best school building leadership in the state, and I have faith in their abilities to help lead teachers and staff through such a change. While I know that this explanation won't cause those who disagree with where I come out on this to suddenly agree with me, I hope it at least helps to explain why I think there is this difference of opinion.

Ms. Hazzard: Today we must vote on a very difficult, contentious, and emotional decision: how to configure our elementary schools given the funding commitment we have received from the state. I have exhaustively considered the implications of each option, as well as our role as a school committee as we

make our selection. Last Thursday, I spoke at length about what I see as the strengths of preserving k-6 schools through a two-wing k-6 building while leaving Crocker Farm as it is, as well as the strengths of reconfiguring the elementary schools into a building with two 2-6 wings, each with a separate administration and staff, with Crocker Farm becoming an early childhood center, grades pre k-1. In weighing the pros and cons of each of these models through much research and consideration, I went back and forth, at different times arguing passionately on each side. I would like to speak to the survey results from teachers, staff, and parents, which clearly indicate mixed feelings about these options, with a majority leaning towards a twin k-6 school. I deeply respect the experiences, knowledge and expertise of teachers and staff as the trained educators who make our schools what they are every day, as well as the parents who know the personal experiences of their children in the Amherst schools. I think people's arguments for maintaining a k-6 structure hold a lot of weight — this is by far the option that is closest to what we know and love, while not leaving Fort River out of the equation, and it would cause the least upheaval. It is definitely a good "compromise" option. However, as I have delved into the issues at stake, I have come to understand more clearly how, while our k-6 schools are providing a great education to many students, there are children in our community who are not able to access it as successfully. As one of our esteemed principals said in a meeting a few weeks ago, we are at a crossroads. In choosing how we approach this new building, we have the potential to provide more children, particularly those on the margins of our community, with better access.

If we keep the k-6 model, the following will continue to be true:

- Kids will continue to be districted and bused to different schools according to their socio-economic status.
- If the district is to stay committed to balancing socio-economic demographics across the schools, children will continue to have to be redistricted every 5 or so years.
- Crocker Farm will continue to be over crowded, and some students in the Crocker Farm district will continue to be sent on to a different school because there isn't space.
- Class sizes will continue to be difficult to balance, with up to 24 students or down to 14.
- Special education students will continue to be sent to programs that may be at a school different than that for which they are districted, separating them from siblings and neighbors. They will continue to have to face the question of whether to switch schools again if their needs should change.
- It will continue to be challenging to meet the differing needs of ELL students depending on their proficiency levels
- As a result of limited space, the preschool will continue to turn away many children who may not otherwise attend preschool programs, a well-known first step in the looming achievement gap.

I believe the administration has made a compelling argument that, given the opportunity to change these inequities, we should choose the option that can do so.

I have read and heard many passionate arguments for preserving k-6 in the interest of:

- Having strong, small communities
- Maintaining continuity without disruption of transitions
- Allowing children to feel known and valued through strong relationships over an extended period of time
- Fostering mentoring opportunities for older and younger children
- Building connections between neighbors through schools
- Allowing for walkability/bikeability to elementary school.

I believe most of these priorities could be addressed with intention and effectiveness in option C, a pre k-1 and 2-6 model. Two 2-6 wings will be small schools with separate administrations and staff. They will

be strong communities where children will feel known and valued and parents can feel engaged and part of a community. School wings of 3-4 sections per grade will allow children to know the other teachers and students in their grade level. Grades 2-6 allows five years to establish strong, lasting relationships with opportunities for mentoring. Families can make connections with their neighbors through their school because all children of the same age will be going to the same location. There are losses and challenges, but I believe the administrators and staff have the expertise to creatively address and surmount them. Many people have mentioned reading buddies with kindergarteners and older students as an incredibly important and positive experience for their children. In a new configuration, it is paramount that opportunities for mentoring and positive age crossover be created. There will be one more transition, but it will be with all of a child's peers, and an intentional and effective bridging process can be planned to mitigate the effects of this transition. Siblings may be separated for some of their elementary experience, which is hard on parents. Schools must work together to ease this difficulty for families. Transportation must be addressed so that bus rides are reasonable and pick up and drop off are manageable. These are challenges that can be intelligently addressed. Furthermore, an early childhood building could become an educational setting specifically designed for the developmental and academic needs of that age group, with the much-desired opportunity for the pre-k students to become integrated members of the school community. The potential for improved teacher collaboration at all levels along with shared resources and expanded programming available to all students has great potential benefits for learners of all abilities. I fully recognize that this option has passionate proponents and opponents, and it is not the popular choice. Personally, it is very difficult for me to select an option that has met with so much controversy, and to say I have agonized over this decision is to put it mildly. Change is extremely hard. As a friend of mine said, "The idea of losing Wildwood gives me a stab in the heart." However, our job as a school committee is to take the wide view and the long view, and to deeply consider what provides the best access, participation, and benefit to the most students for many years to come. We live in a community of families with incredibly diverse needs and backgrounds, and to ignore some in favor of others goes against our ethical responsibility as leaders. As we go forward, I urge the administration to fully embrace the values and priorities that have been so strongly expressed by our community and make every effort to make them the beating heart of our new schools. I urge the school committee to help the community understand this major paradigm shift, and I urge the community to join together to make these schools the schools they want for their children. I am voting for option C because I don't think it's the compromise option. I think it is the best option for the most children, and I am so excited about how great our schools can be.

Before speaking, Ms. Appy thanked members for their thoughtfulness and hard work around this incredibly difficult topic.

Ms. Appy: Our district mission statement charges us to support policies that advance educational equity and opportunity for all students. To me, this requires us to ensure that all students have equal access, full participation, and maximum benefit from our school system. I am convinced that these guiding principles are best served by the proposed reconfiguration of our system into a pre-k,k and 1 early childhood center and a co-located twin school building for 2nd through 6th grade. Every convincing proposal to address the achievement gap has always included some key things, including small class sizes, best teaching practices with the opportunity for teachers to learn from one another and the vital importance of early childhood education. An early childhood center in Amherst with an expanded pre-school would go a long way to helping our town and our community make huge strides toward closing the achievement gap. I also think it gives our second graders the best chance to arrive in their new schools with the skills and confidence they need in order to succeed. I want to remind people concerned about the size of the new building that it will be divided into two distinct schools each smaller then Wildwood is right now. While at the same time giving students and staff 5 years of continuing relationship and access to a state of the art building to support the very best teaching and learning. I fully recognize that there are some in the community who disagree with my position and this may well be one of those issues around which we cannot build a

perfect consensus-- right now. It is my hope, however, that as we go forward with our new schools that a great majority will embrace this as a positive change. I truly believe that this is our best opportunity to meet the myriad needs of our students and work toward our goal of access, full participation and maximum benefit for all.

Ms. Appy called for a vote on the motion: "We move to change the grade configuration of the Amherst elementary schools to have Crocker Farm become a PreK-1 school and for the result of the MSBA process to be a 750 student, grade 2-6 school building, with two autonomous, roughly 375 student, Grades 2-6 schools with their own principal, teacher teams, and specialists, thereby closing one elementary school building, assuming a project scope and budget agreement and funding agreement are enacted. We request that the grade configuration section of the educational plan be updated to align with this official vote of the Amherst School Committee." School Committee members voted and the motion passed with one opposition (Douangmany-Cage). Ms. Appy called for a 5 minute break to allow the audience to leave the library before returning to the remaining agenda topics.

B. Fees **8:27 p.m.**

DOCUMENT: FY2016 Fee Review and Proposed Changes for FY2017

Mr. Mangano reviewed the document and explained that the Preschool hourly rate would increase by $0.25; lunch fees would increase by $0.25; and milk fees would increase by $0.10. Mr. Hood moved to approve the fee schedules. Ms. Hazzard seconded and the motion passed unanimously.

C. FY 17 Budget Presentation **8:30 p.m.**

DOCUMENT: FY 17 Budget

Ms. Geryk reminded the committee that this presentation is an overview of the budget and proposed cuts will not be addressed until February. Mr. Mangano reviewed the budget and answered questions from members. He agreed to provide detailed cuts to committee members approximately one week prior to the February 9, 2016 meeting. He reminded the committee that the February 9, 2016 meeting will contain a budget public hearing and the school committee will vote the budget at the March 15, 2016 meeting.

D. School Choice Forum **8:50 p.m.**

Ms. Geryk explained that the reason for school choice is to round out classrooms. Mr. Vince O'Connor requested a table spanning the past five years indicating the number of choice slots at each grade level; the number of applications received; the number of choice students enrolled; and the impact of costs associated with choice students. He also requested documentation regarding the legal provision that students who move from Amherst due to certain circumstances are allowed to remain in the Amherst Public Schools. Ms. Caridad Martinez requested exit interview data. Ms. Douangmany-Cage requested that school choice process information be available on the website.

E. Memorandum of Agreement **8:59 p.m.**

DOCUMENTS: Contract Between McBassi & Company, Inc. and Amherst School Committee; Memorandum of Agreement between Amherst School Committees and Amherst-Pelham Education Association

Ms. Appy explained Ms. Fay's concern regarding the survey and staff negotiations. She then explained the timeline involving counsel and the APEA representative which lead to her signing the MOA as Chair. Ms. Appy read in its entirety the "Duties of the Chair" section as stated in Policy BDB: Officers and Duties. Ms. Douangmany-Cage inquired about additional attorney fees associated with MOA and requested clarification from Ms. Tate regarding another instance involving OML and the Attorney General. A discussion followed. Ms.

Traphagen suggested that Mr. Hood, as Vice Chair, contact Ms. Tate via email to gain her perspective. Ms. Douangmany-Cage requested that the discussion end.

F. Wellness Policy

DOCUMENT: Amherst Public Schools, Pelham Elementary School, and Amherst-Pelham Regional District Policy Manual Policy ADF: Wellness

Ms. Geryk explained the reasoning behind the language change per the Pelham School Committee. Ms. Traphagen inquired about the omission of physical activity in relation to discipline section. A brief discussion followed. Ms. Appy suggested the policy be brought back to the Policy Sub-Committee on Monday, January 25, 2016 for further discussion. All agreed to table the vote.

G. Accept Gifts **9:21 p.m.**

There were no gifts to accept.

5. School Committee Business **9:21 p.m.**

Ms. Geryk suggested that the following topics be included on the agenda for the February 9, 2016 meeting: Amherst Elementary School Building Project Update, FY 16 2nd Quarter Update, FY17 Budget Public Hearing, School Choice vote, field trips, recess/detentions, Wellness Policy, and Amherst Media Makers Space.

6. Adjournment **9:25 p.m.**

Ms. Appy called for a motion to adjourn. Ms. Traphagen made a motion to adjourn at 9:25 p.m. Mr. Hood seconded and the motion passed unanimously.

Respectfully submitted,
Kimberly Stender

Wildwood School Building Committee
Meeting Minutes

January 21, 2016

I. Call to order

Morris called to order the regular meeting of the Wildwood School Building Committee at 4:06 PM on January 21, 2016 at the Amherst Regional Middle School Library.

II. Roll call

The following persons were present: Jim Hoagland of JCJ, Nancy Stewart, Holly Bowser, Sean Mangano, Tom Murphy of JLA, Katherine Appy, Guilford Mooring, Claire McGinnis, Mike Morris, Ron Bohonowicz, Maria Geryk, Sasha Figueroa, Jim LaPosta of JCJ, Ana Bartolini, Laura Kent, Monica Hall, Ludmilla Pavlova, David Ziomek, Nick Yaffe, and Irv Rhodes by phone.

III. Approval of minutes from last meeting

Murphy asked for a motion to approve the minutes from the last meeting. Bowser moved, Nancy seconded the motion, and it was approved with one abstention from McGinnis.

IV. Open issues

a) Agenda

1. Morris made a brief overview of the agenda mentioning that there would be public comment in the beginning.

b) Public Comment

1. There was one statement read to the committee regarding the concerns of the vote for the grade reconfiguration and what the course of action would be should enrollment numbers change other than what has been project, if a K-6 system is re-implemented in the future, or if a 750 student school cannot be managed successfully.

c) Update

1. Appy reviewed the motion of the Amherst School Committee on 1/19/16 which was to vote for the 2-6 twin school 750 student model, with a recommendation that each wing have its own principal, and making Crocker

Farm into an early childhood center housing PreK-1st grade, effectively closing one school.

2. Geryk clarified the original recommendation that was given to the Amherst School Committee was not specific. After feedback provided by Committee members, an amendment was made. She also thanked everyone involved.

3. Bartolini had questions regarding the specific vote for 2-6 grade configuration option instead of other grade configuration options. Morris mentioned that the initial maps that were shared during the December 22nd meeting determined that a 2-6 configuration was the best option, especially in regards to redistricting. Morris and Geryk's recommendation was done so in preparation for possible enrollment changes. There was a question on whether special education, AIMs, building blocks and other programs would be shared in the 2-6 model or if they would it be separated. Morris replied, all programs would be centralized that would serve both wings. Kent mentioned the importance of sharing details about those resources and spaces. Morris explained that each program would have a physical location but most of the students would be accessing those programs in their everyday/core classes. This was designed to include all students into classes with their peers. This opportunity allows for more occasions for this transition to flow naturally.

4. There was a question on how many preschools classes would be added with opportunity for income flexibility/sliding scale/free slots as needed. The district is also exploring a training or work group to create a vision for the new early childhood center at Crocker Farm. The goal is to close the learning gap between students. A commitment was made for two additional preschool classes.

5. There is also conversation on adding transportation to students with special needs in preschool.

6. There was question on limiting the design of the schools with their specific recommendation of two distinct schools within one building. There will also be opportunity for flexibility for changes in the future with the design of the admin structure. There was a suggestion to make the structure as such that would allow for flexibility for a K-6 model should that that be necessary in the future.

7. Murphy went through the schedule review, design review, design evaluation matric review and next steps. Murphy asked Committee members to email him should they have any comments regarding the evaluation matrix.

8. LaPosta also reviewed the design options for the 750 option for the 2-6 model. He detailed each option closely in relations to topography and site location, and floor plans for each option design, and phasing. There were four options.

9. There was some discussion on the concerns of swing space to which there are attractive ones available. These options will be presented at the next meeting so that the committee will be able to view and discuss it as an option.

10. Next steps are to share feedback on the evaluation matrix with Murphy. Emails with cost and time estimates will also be sent to the Committee to review, and Murphy will also send it out with information on the timeline.

V. Adjournment

Morris asked for a motion to adjourn. Appy made a motion, Mooring seconded the motion and it was unanimously approved to adjourn the meeting at 6:16 PM.

Minutes submitted by: Sasha Figueroa

Wildwood School Building
Meeting Minutes

February 2, 2016

I. Call to order

Morris called to order the regular meeting of the Wildwood School Building Committee at 4:04 PM on February 2, 2016 at the Amherst Regional Middle School Library.

II. Roll call

The following persons were present: Mike Morris, Dave Ziomek, Katherine Appy, Anna Bartolini, Maria Geryk, Claire McGinnis, Sean Mangano, Jim LaPosta of JCJ, Tom Murphy of JLA, Doug Roberts of JCJ, Guilford Mooring, Ron Bohonowicz, Monica Hall, Ludmilla Pavlova, Irv Rhodes (via phone), Nancy Stewart, Holly Bowser, Nick Yaffe, and Sasha Figueroa.

III. Approval of minutes from last meeting

Murphy asked for a motion to approve the meeting minutes from January 21, 2016. Pavlova made a motion to approve the minutes, Morris seconded the motion and it was unanimously approved with no abstentions.

IV. Agenda

a) Murphy reviewed the agenda as well as the criteria for reviewing the preferred designs, also mentioning cost estimates were included in the agenda packet.

V. Public Comment

a) Ariella Schwell suggested that the new school be built with flexibility for future decisions regarding grade configuration and also discussed the importance of having the preschool entry age be 3 years old.

b) Maria Kopecki requested for the test results on the mold and air quality issues at the current Fort River and Wildwood schools and made comments about the draft PSR document.

VI. New Business

a) Morris asked for an overview of the design concepts which was provided by LaPosta.

b) LaPosta reviewed the deadline for submission of the preferred schematic design which is February 11th along with a brief schedule overview. There was also a brief summary of the MSBA process of reviewing the project budget.

c) LaPosta mentioned that the vote for the preferred schematic design will not affect the level of flexibility in regards to moving classrooms or for changing classroom sizes. Should there be such a change the MSBA may or may not reimburse costs. An explanation will be required and the MSBA will then review and discuss with the design team and the district and either approve or deny reimbursement costs. LaPosta also stressed that the change will have to reflect a need that is current and not a possible or future need.

d) Pavlova asked for a document that explained spatial design on a conceptual level that contains ideal expectations of the administration, school committee, and building committee with plain language that relates to educators, for example, information containing why more space would be needed for the district's special educations programs.

e) Bowser questioned when construction would start. Murphy responded with late Fall of 2017.

f) Murphy reviewed the preliminary project budget, detailing how costs are estimated, what data could change, and what expectations can be made when the budget is reviewed by the MSBA.

g) There was discussion of the contingency costs, which were estimated to be 12% of total costs.

h) Yaffe made a motion to approve the preferred schematic W12 design. Geryk seconded the motion.

i) Yaffe also commented on this being the preferred option because of the phasing option it provides that would also bring opportunity for community building.

j) Appy was also in favor of the phasing option W12 provides as a preferred method of building. She commented on swing space being costly and inefficient and also how the add/reno option did not provide the same separate two wings option as the W12 option. She also stated that the Amherst School Committee was clear on recommending the two wing option.

k) Bohonowicz questioned whether the vote would have any effect on the flexibility of classrooms. Morris clarified that the vote was to identify a

specific building option as preferred and not specifically on construction or design detail.

l) Geryk also agreed with Yaffe regarding phasing and the transition for students. She also commented on the distinct two wing design and location as consistent with the guiding principles that were made initially

m) Mangano added that W12 also has opportunity of expansion.

n) Bartolini expressed her favor for W12 and shared support that had been given from other teachers.

o) Stewart thanked Bohonowicz for providing the swing space analysis and cost estimates that helped her make an informed decision.

p) Bowser asked questions regarding the swing space analysis and also wanted to explore the Fort River design on the Wildwood site.

q) Pavlova expressed her favor with the W12 that she believes a is safer than the add/reno option. She also stressed the need for an energy efficient building.

r) Bohonowicz mentioned that the W12 option is the best option of the ones that were provided.

s) Ziomek supports Nick's motion and added that the Wildwood site was preferable because it is close to the secondary schools.

t) Morris also supports the W12 option.

u) The W12 option was approved with 13 votes and 2 abstentions by Bowser and Mooring.

VII. Votes

a) After a discussion of the contents of the draft Preferred Schematic Report which was previously posted for Committee members' review Morris asked for a motion to approve that the Preferred Schematic Report (PSR), with information pertaining to the preferred solution added, be submitted to the MSBA. Mooring made a motion to approve the submission of the PSR to the MSBA. Mangano seconded the motion and it was approved with one abstention from Pavlova.

b) Murphy asked for a motion to approve the invoices. Ziomek made a motion to approve the invoices. Appy seconded the motion and they were unanimously approved with no abstentions.

c) The final Preferred Schematic Report document will be submitted to the Committee prior to submission to the MSBA.

VIII. Adjournment

Morris asked for a motion to adjourn the meeting. Geryk made a motion to adjourn, Appy seconded the motion and it was unanimously approved and was adjourned at 5:31 PM.

Minutes submitted by: Sasha Figueroa

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project meeting report

Date: **December 22, 2015**

JCJ Project No.: **H15040.00**

Project Name: **Wildwood Elementary School**

Purpose: **WSBC Security Work Group – Meeting #1**

Present:	*Ron Bohonowicz*	*ARPS*	*bohonowiczr@arps.org*
	Jean Fay	*ARPS*	*fayj@arps.org*
	Sasha Figueroa	*ARPS*	*figueroas@arps.org*
	Mark Jackson, Principal	*ARHS*	*jacksonmk@arps.org*
	Lieutenant David R. Knightly	*APD*	*knightlyjr@hotmail.com*
	Kathryn Mazur	*ARPS*	*mazurk@arps.org*
	Michael Morris	*ARPS*	*morrism@arps.org*
	Captain Jeffrey Olmstead	*AFD*	*olmsteadj@amherstma.gov*
	Officer Michael E. Roy	*AFD*	*roym@amherstma.gov*
	Derek Shea, Principal	*CFES*	*shead@arps.org*
	David Slovin	*ARPS*	*slovind@arps.org*
	Thomas P. Murphy	*JLA/NV5*	*thomas.murphy@nv5.com*
	Al Palumbo	*DVS*	*apalumbo@dvssecurity.com*
	Jim Hoagland, AIA	*JCJ Architecture*	*jhoagland@jcj.com*
	Douglas Roberts, AIA	*JCJ Architecture*	*droberts@jcj.com*

This meeting was held at 10:30AM on December 22, 2015 in the Wildwood Elementary School Conference Room located at 71 Strong Street, Amherst, MA. The purpose of the meeting was to discuss the preliminary security goals for the Amherst Elementary School Building Project (Project). The following items were discussed:

Item ID	Description / Notes	Action by	Due Date
12.21.01	***Project Goals and Objectives:*** A round table discussion identified the following security goals for the Project: a. Sensitive security design should not impact the learning environment. b. The school should be inviting without being a citadel.	None	Not Applicable

c. Success of protocols and systems requires staff education and training with the first responders.
d. One size doesn't fit all … security should be tailored to meet Amherst's needs and requirements.
e. Design should incorporate quick exits from large areas during a security event.

12.21.02 ***Safety and Security Issues:***

The following items were discussed: None Not Applicable

a. Site Requirements:

1. *Optimal Surveillance*: 360º vehicle access of building perimeter is preferred.
2. *First Responders*: Single unit to respond with average response time of +/- 6 minutes. Amherst PD (APD) maintains video access at each school and provides key fobs/master keys with each cruiser.
3. *Site/Building Signage*: Signs prohibiting the use of the fields by dogs required. Classroom numbers to be visible from the exterior.
4. *Landscape Strategies*: Provide strong connection between the building and the site for curriculum/recess purposes. Provide safe and secure fenced play areas adjacent to the school while providing a separate public pathway through the site. Create landscape buffers with clear lines of sight between site perimeter and the building.
5. *Parking*: Provide separate bus lanes, visitor and staff parking located to support community use of the fields after hours. Package deliveries at the Main Entrance and the Kitchen to be reviewed as delivery areas tend to be vulnerable areas.
6. Completion of a traffic study will be required to review traffic patterns (involving the 28,000 students at UMass, etc.).

b. Main Entrance Design:

1. *Visitor Protocol*: Controlled access for visitors during school hours through the Main Office. Provide bullet proof/laminated glass at main entrances.

c. Classroom / Instructional Spaces:

1. *Visibility/Sidelights*: It was agreed visibility between corridors and classrooms is desired while safe zones are outside of the sight lines.
2. *Lockset Hardware*: The District uses the Schlage Primus key system.
3. *Lockdown and Shelter-in-Place Protocols*: The District has a well-established and rehearsed lockdown and shelter-in-place protocols. Design large spaces with safe zones and seating areas with audio access.
4. *Security Captains and Teachers*: It is highly recommended representative security captains and teachers provide input on the security design measures and specifically the classroom design.

d. Other Items:

1. *Building and Site Access Points*: It was agreed to limit the number of each.
2. *Building Plans*: APD has access to electronic building floor plans in each cruiser.
7. *Communications*: PA system should be integrated with the fire alarm system and facility design should include bi-directional antenna to provide 100% cell phone coverage within the facility. MA state building code requires enhanced communications with first responders.
3. *Community Use*: Plan should incorporate internal hard barriers to permit the simultaneous use of the classrooms while the common areas are used by the community as a polling station and after

hours by the community.

4. *Emergency Shelter*: It was agreed the new facility will not be designated an emergency shelter as Amherst's Emergency Preparedness Plan recognizes regional facilities.
5. *Knox Box Requirements*: One, fixed location to be determined once a floor plan has been approved.
6. *Natural Threats*: School design should consider natural threats of snow loads on low-sloping roofs, skylights and tornados.
7. *Security Systems*: While it was agreed electronic systems tend not be preventative in nature, magnetic contacts at exterior doors and windows, motion detectors in classrooms and corridors and strategically placed exterior and interior video surveillance cameras with centralized monitoring will be considered. It was recommended the security infrastructure should have a robust backbone to support future expansion.

Next Meeting: Next meeting to be determined once the School Building Committee selects a Preferred Schematic Design.

These meeting notes represent our summary of this meeting, and will become part of the project record and form the basis upon which we will proceed. If any participant in the meeting wishes to comment or modify these minutes, please notify the undersigned prior to the next scheduled meeting.

JCJ Architecture
Douglas K. Roberts, AIA, LEED AP
Principal / Managing Director

Attachments

C: Participants
James E. LaPosta, Jr., FAIA, LEED AP, JCJ
File H15040.00 / 18.2

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project meeting report

Date: **December 17, 2015**

JCJ Project No.: **H15040.00**

Project Name: **Wildwood Elementary School**

Purpose: **WSBC Sustainability Work Group – Meeting #1**

Present:	*Ron Bohonowicz*	*ARPS*	*bohonowiczr@arps.org*
	Holly Bowser	*Town of Amherst*	*bowserh@amherstma.org*
	Bonnie Finocchio	*FRES*	*finocchiob@arps.org*
	Sean Mangano	*ARPS*	*manganos@arps.org*
	Michael Morris	*ARPS*	*morrism@arps.org*
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	Daniel Sarro	*GGD*	*dan_sarro@g-g-d.com*
	Agnes Vorbrodt, LEED BD+C	*VvS Architects*	*agnes@ava-greenconsultant.com*
	Douglas Roberts, AIA, LEED AP	*JCJ Architecture*	*droberts@jcj.com*

This meeting was held at 11:00AM on December 17, 2015 in the Superintendent's Conference Room, Amherst Regional Public Schools located at 170 Chestnut Street, Amherst, MA. The purpose of the meeting was to discuss sustainability goals for the Amherst Elementary School Building Project (Project). The following items were discussed:

Item ID	Description / Notes	Action by	Due Date
12.17.01	***Introductions / Housekeeping:***		
	After participant introductions and housekeeping items, Doug Roberts indicated the sustainability team, regardless of which standard followed, will consist of members from the District and the Designer with representatives from the Construction Manager and Commissioning Agent to be added in the future.	None	Not Applicable

12.17.02 ***Sustainability Standard:***

After discussion of the two sustainability standards recognized by MSBA allowing the District to be eligible for an additional 2% of reimbursement, it was agreed to develop the Project using the Leadership in Energy & Environmental Design for Schools (LEED-S) version 4, Silver level certification (50 credits minimum) with six (6) EA "Optimize Energy Performance" credits. The group concluded the Northeast Collaborative for High Performance Schools (NE-CHPS) standard focused on energy performance and did not have as broad a sustainability focus as LEED-S. (See attached copies of the respective scorecard templates).	None	Not Applicable

12.17.03 ***Community / District Sustainability Goals:***

The District representatives offered their insight on Community and District sustainability goals identifying the following goals: a. Amherst recognized as a Green Community in Massachusetts in 2011 with a goal of reducing energy consumption by 20%. b. Incorporate rainwater harvesting, sustainable food programs and solar power energy into the design. c. Leverage known energy efficient systems into the design while providing infrastructure to support future, to-be-determined systems. d. Integrate building systems into curriculum; develop the building as a teaching tool with visible elements for the students and community at large. e. Premium costs associated with sustainable elements incorporated into the design must have realistic returns on investment to justify the expense.	None	Not Applicable

12.17.04	***Preliminary Scorecard:***		
	Agnes Vorbrodt, VvS Architects, led the Work Group in a detailed discussion of the LEED-S v4 Scorecard to identify preliminary targets to incorporate into the design achieve the Silver Level certification. At the conclusion of the discussion, the Work Group identified 51 base credits with 27 possible credits and 32 credits that were not achievable by this Project. Based on the LEED-S preliminary scorecard, VvS Architects will prepare a preliminary NE-CHPS scorecard for the Work Group's review. (See attached).	VvS	January 15, 2016

Next Meeting: Next meeting to be determined once the School Building Committee selects a Preferred Schematic Design.

These meeting notes represent our summary of this meeting, and will become part of the project record and form the basis upon which we will proceed. If any participant in the meeting wishes to comment or modify these minutes, please notify the undersigned prior to the next scheduled meeting.

JCJ Architecture
Douglas K. Roberts, AIA, LEED AP
Principal / Managing Director

Attachments

C: Participants
James E. LaPosta, Jr., FAIA, LEED AP, JCJ
James Hoagland, AIA, LEED AP, JCJ
File H15040.00 / 18.2

LEED v4 for BD+C: Schools

Project Checklist

Project Name:

Date:

Y	?	N			
			Credit	Integrative Process	1

Y	?	N		Location and Transportation	15
			Credit	LEED for Neighborhood Development Location	15
			Credit	Sensitive Land Protection	1
			Credit	High Priority Site	2
			Credit	Surrounding Density and Diverse Uses	5
			Credit	Access to Quality Transit	4
			Credit	Bicycle Facilities	1
			Credit	Reduced Parking Footprint	1
			Credit	Green Vehicles	1

Y	?	N		Sustainable Sites	12
Y			Prereq	Construction Activity Pollution Prevention	Required
Y			Prereq	Environmental Site Assessment	Required
			Credit	Site Assessment	1
			Credit	Site Development - Protect or Restore Habitat	2
			Credit	Open Space	1
			Credit	Rainwater Management	3
			Credit	Heat Island Reduction	2
			Credit	Light Pollution Reduction	1
			Credit	Site Master Plan	1
			Credit	Joint Use of Facilities	1

Y	?	N		Water Efficiency	12
Y			Prereq	Outdoor Water Use Reduction	Required
Y			Prereq	Indoor Water Use Reduction	Required
Y			Prereq	Building-Level Water Metering	Required
			Credit	Outdoor Water Use Reduction	2
			Credit	Indoor Water Use Reduction	7
			Credit	Cooling Tower Water Use	2
			Credit	Water Metering	1

Y	?	N		Energy and Atmosphere	31
Y			Prereq	Fundamental Commissioning and Verification	Required
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Building-Level Energy Metering	Required
Y			Prereq	Fundamental Refrigerant Management	Required
			Credit	Enhanced Commissioning	6
			Credit	Optimize Energy Performance	16
			Credit	Advanced Energy Metering	1
			Credit	Demand Response	2
			Credit	Renewable Energy Production	3
			Credit	Enhanced Refrigerant Management	1
			Credit	Green Power and Carbon Offsets	2

Y	?	N		Materials and Resources	13
Y			Prereq	Storage and Collection of Recyclables	Required
Y			Prereq	Construction and Demolition Waste Management Planning	Required
			Credit	Building Life-Cycle Impact Reduction	5
			Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
			Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
			Credit	Building Product Disclosure and Optimization - Material Ingredients	2
			Credit	Construction and Demolition Waste Management	2

Y	?	N		Indoor Environmental Quality	16
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
Y			Prereq	Minimum Acoustic Performance	Required
			Credit	Enhanced Indoor Air Quality Strategies	2
			Credit	Low-Emitting Materials	3
			Credit	Construction Indoor Air Quality Management Plan	1
			Credit	Indoor Air Quality Assessment	2
			Credit	Thermal Comfort	1
			Credit	Interior Lighting	2
			Credit	Daylight	3
			Credit	Quality Views	1
			Credit	Acoustic Performance	1

Y	?	N		Innovation	6
			Credit	Innovation	5
			Credit	LEED Accredited Professional	1

Y	?	N		Regional Priority	4
			Credit	Regional Priority: Specific Credit	1
			Credit	Regional Priority: Specific Credit	1
			Credit	Regional Priority: Specific Credit	1
			Credit	Regional Priority: Specific Credit	1

0	0	0	TOTALS	Possible Points:	110

Certified: 40 to 49 points, **Silver:** 50 to 59 points, **Gold:** 60 to 79 points, **Platinum:** 80 to 110

Collaborative for High Performance Schools (CHPS)

Project Scorecard: NE-CHPS Version 3.0

School Name:

Expected Completion:		**Current Phase:**	
School District:		**Website:**	
School Address:		**City:**	**State:** **Zip:**
School Contact:		**Phone:**	**E-mail:**
Student Capacity:		**Notes:**	
Approximate Square Feet:			

Verification

Is this the final CHPS Scorecard?

Registered Principal Architect (Signature)

Project Manager (Signature)

Name, Title, Date (Please print)

Name, Title, Date (Please print)

Use this scorecard to track expected scores. Note that prerequisites have points associated with them even though they are required. This enables project teams to talk more meaningfully about the effort being put into each section of the Criteria. Prerequisite point columns are also highlighted for reference. Mark each credit as ready for review by using the appropriate column for each phase of the review.

Key: P - Prerequisite; **PS -** CHPS Plan Sheet Required; **CD -** Construction Documents Required; **A -** Attachment Required

Criteria	Title	Prerequisite	Points Possible	Points Targeted	Points Claimed	Responsible Team Member	Design Review Requirements	Ready for Design Review	Construction Review Requirements	Ready for Construction Review	Performance Review Requirements	Ready for Performance Review	Documentation
Integration and Innovation													
II 1.0	Integrated Design	P	3				CD		A				
II 1.1	Enhanced Integrated Design		2					A					
II 2.1	District Level Commitment		1					A					
II 3.1	School Master Plan		1					A					
II 4.1	High Performance Transition Plan		1					A		A			
II 5.0	Educational Display	P	1				CD			A			
II 5.1	Demonstration Area		1				CD			A			
II 6.1	Educational Integration		2					A		A			
II 7.1	Climate Change Action / Carbon Footprint Reporting		3					A		A			
II 8.0	Crime Prevention through Environmental Design	P	2					A		A			
II 9.1	Innovation		4				VARIES		VARIES		VARIES		
	Subtotal												
Operations & Metrics													
OM 1.0	Facility Staff and Occupant Training	P	3				CD			A			
OM 2.1	Post Occupancy Transition		2					A		A			
OM 3.0	Performance Benchmarking	P	2					A		A	A		
OM 4.1	High Performance Operations		4					A		A	A		
OM 5.1	Systems Maintenance Plan	P	1							A			
OM 6.0	Indoor Environmental Management Plan	P	2							A			
OM 7.1	Green Cleaning		2							A	A		
OM 8.0	Integrated Pest Management	P	1				PS			A			
OM 9.0	Anti-Idling Measures	P	1				CD			A			
OM 10.1	Green Power		2					A					
OM 11.0	ENERGY STAR Equipment and Appliances	P	2					A					
OM 12.1	Computerized Maintenance Management System		1				PS			A			
	Subtotal												
Indoor Environmental Quality													
EQ 1.0	HVAC Design - ASHRAE 62.1	P	8				PS						
EQ 1.1	Enhanced Filtration		2					CD		A			
EQ 1.2	Dedicated Outdoor Air System		3					CD		A			
EQ 2.1	Pollutant and Chemical Source Control	P	2					CD	A	A			
EQ 3.0	Outdoor Moisture Management	P	1					CD		A			
EQ 4.1	Ducted Returns		2					CD					
EQ 5.1	Construction Indoor Air Quality Management		5					CD		A			
EQ 5.2	Construction Moisture Management		1					CD		A			
EQ 6.1	Post Construction Indoor Air Quality		1					CD		A			
EQ 7.0	Low Emitting Materials	P	2				PS	CD		PS	A		
EQ 7.1	Additional Low Emitting Materials		5				PS	CD		PS	A		
EQ 8.1	Low Radon		1					CD			A		
EQ 9.1	Thermal Comfort - ASHRAE 55		4				PS	CD					
EQ 10.1	Individual Controllability		1					CD			A		
EQ 10.2	Controllability of Systems		1					CD			A		
EQ 11.0	Daylighting: Glare Protection	P	4					CD	A		A		
EQ 11.1	Daylight Availability		5				PS	CD	A		A		
EQ 12.0	Views	P	3				PS	CD					
EQ 13.1	Electric Lighting Performance		3					CD	A				
EQ 13.2	Superior Electric Lighting Performance		5					CD			A		
EQ 14.0	Acoustical Performance	P	7				PS	CD	A		A		A	
EQ 14.1	Enhanced Acoustical Performance		6				PS	CD	A		A		A	
EQ 15.1	Low-EMF Wiring		1					CD			A		
EQ 15.2	Low-EMF Best Practices		2					CD	A		A		
EQ 16.1	High Intensity Fluorescent Fixtures		1					CD			A		
	Subtotal												

Energy																		
EE 1.0	Energy Performance	P	6					CD	A									
EE 1.1	Superior Energy Performance		40					CD	A									
EE 2.1	Zero Net Energy Capable		3					CD										
EE 3.0	Commissioning	P	4					CD	A				A					
EE 3.1	Additional Commissioning Qualifications		1					CD	A				A					
EE 3.2	Building Envelope Commissioning		1					CD	A				A					
EE 3.3	Enhanced Commissioning		1					CD	A				A		A			
EE 4.0	Enviornmentally Preferable Refrigerants	P	1					CD										
EE 5.1	Energy Management System		2					CD										
EE 5.2	Advanced Energy Management System and Submetering		2					CD										
EE 6.1	Natural Ventilation and Energy Conservation Interlocks		2				PS	CD					A					
EE 7.0	Local Energy Efficiency Incentive and Assistance	P	2						A				A					
EE 8.1	Variable Air Volume Systems		1					CD										
EE 9.1	Renewable Energy Performance Monitoring		1					CD					A					
EE 10.1	Electric Vehicle Charging		1					CD					A					
	Subtotal																	
Water																		
WE 1.0	Minimum Reduction in Indoor Potable Water Use	P	5				PS	CD					A					
WE 2.1	Reduce Potable Water Use for Sewage Conveyance		4				PS	CD					A					
WE 3.0	Irrigation and Exterior Water Budget - Use Reduction		4					CD					A					
WE 4.1	Reduce Potable Water Use for Non-Recreational Landscaping		2					CD	A				A					
WE 5.1	Recuce Potable Water Use for Recreational Landscaping		1					CD					A					
WE 6.0	Irrigation Systems Commissioning	P	1						A				A					
WE 7.1	Rainwater Collection and Storage		2				PS	CD										
WE 8.1	Water Management System		2					CD					A					
	Subtotal																	
Sites																		
SS 1.0	Site Selection	P	2						A									
SS 2.1	Enviornmentally Sensitive Land		3				PS	CD	A									
SS 3.1	Minimize Site Distrubance		1				PS	CD										
SS 4.1	Construction Site Runoff Control and Sedimentation		1					CD					A					
SS 5.1	Poste Construction Stormwater Management		1				PS	CD					A					
SS 6.1	Central location		2				PS		A									
SS 7.1	Located Near Public Transportation		1						A									
SS 8.1	Joint-Use of Facilities		1					CD	A									
SS 9.1	Human-Powered Transportation		2				PS	CD					A					
SS 10.1	Reduce Heat Islands - Landscaping and Sites		1					CD										
SS 11.1	Reduce Heat Islands - Cool Roofs and Green Walls		1					CD					A					
SS 12.1	Avoid Light Pollution and Unnecessary Lighting		2					CD					A					
SS 13.1	School Gardens		1					CD	A				A					
SS 14.1	Use Locally Native Plants for Landscape		1				PS	CD										
SS 15.0	Site and Building Best Practices	P	2				PS	CD	A									
	Subtotal																	
Materials and Waste Management																		
MW 1.0	Storage and Collection of Recyclables	P	2					CD					A					
MW 2.0	Minimum Construction Site Waste Management	P	2					CD					A					
MW 2.1	Construction Site Waste Management		2					CD					A					
MW 3.1	Single Attribute - Recycled Content		2					CD				PS	A					
MW 4.1	Single Attribute - Rapidly Renewable Materials		1					CD				PS	A					
MW 5.1	Single Attribute - Certified Wood		1					CD				PS	A					
MW 6.1	Single Attribute - Materials Reuse		1					CD				PS	A					
MW 7.1	Multi-Attribute Materials Selection		2				PS	CD				PS	A					
MW 8.1	Building Reuse - Exterior		2					CD				PS	A					
MW 9.1	Building Reuse - Interior		1					CD				PS	A					
MW 10.1	Health Product Related Information Reporting		1					CD				PS	A					
MW 11.1	Locally Produced Materials		2					CD				PS	A					
	Subtotal																	
	Total		**250**															

APPENDIX

SECTION 3.3.6

3.3.6 – Appendix

- 2005 Wildwood Airborne Mold Spore Testing Report
- Construction Cost Estimates - Uniformat II
- Revised Phase I - HazMat Report

3.3.6 APPENDIX

OHI

Occupational Health & Safety, Environmental Consultants

OccuHealth, Inc.
44 Wood Avenue
Mansfield, MA 02048

Tel. (508) 339-9119
Tel. (800) 729-1035
Fax (508) 339-2893
thamilton@occuhealth.com

September 13, 2005

Mr. Peter Gervickas
Amherst-Pelham Regional School District
170 Chestnut Street
Amherst, MA 01002

RE: Airborne Mold Spore Testing
Wildwood School

Dear Mr. Gervickas:

OccuHealth, Inc. (OHI) is submitting the enclosed report on the airborne mold spore testing conducted on August 3, 18 and 27, 2005 in in the Wildwood School in Amherst, Massachusetts.

Please call me at (508) 339-9119 with any questions regarding this report. Thank you for the opportunity to be of continued service.

Regards,
OCCUHEALTH, INC.

Thomas E. Hamilton, CIH

Enclosure

AIRBORNE MOLD SPORE TESTING
WILDWOOD SCHOOL
71 STRONG STREET
AMHERST, MASSACHUSETTS

Prepared for:

MR. PETER GERVICKAS
AMHERST-PELHAM REGIONAL SCHOOL DISTRICT
170 CHESTNUT STREET
AMHERST, MA 01002

Conducted by:

OCCUHEALTH, INC.
44 WOOD AVENUE
MANSFIELD, MA 02048
(508) 339-9119

Report Date:

SEPTEMBER 13, 2005

AIRBORNE MOLD SPORE TESTING
WILDWOOD SCHOOL
71 STRONG STREET
AMHERST, MASSACHUSETTS

TABLE OF CONTENTS

Report Objective

The purpose of this report is to document the results of airborne mold spore testing conducted in the Wildwood School in Amherst, Massachusetts on August 3, 18 and 27, 2005.

EXECUTIVE SUMMARY

Introduction

OccuHealth, Inc. (OHI) was retained to conduct airborne mold spore testing at the Wildwood School located at 71 Strong Street in Amherst, Massachusetts. On August 3, 2005, OHI inspected the school and collected air samples for mold spore analysis in the Art Room, Cafeteria 2, the Library, and Quads C3 and F1. Based on the analytical results, OHI recommended cleaning Quads C, D and F and the Library.

After an initial cleaning in the four areas, OHI returned to the school on August 18, 2005 to conduct followup airborne mold spore testing. Based on the second round of analytical results, OHI recommended additional cleaning in Quads D and F and the Library. After cleaning was completed in Quad D and the Library, air samples for mold spore analysis were collected on August 27, 2005 in the two areas. Cleaning in Quad F was underway during the August 27, 2005 round of testing.

Findings

<u>August 3, 2005 Inspection</u>

OHI observed that the carpeting in the Quads and in some other areas of the school was wet on August 3, 2005. The school is of slab-on-grade construction and during summer months, condensation accumulates on the slab/carpeting whenever the school's interior temperature drops below the dew point. Surface mold was observed on furniture in the Quads.

<u>August 3, 2005 Airborne Mold Spore Testing</u>

On August 3, 2005, OHI collected air samples for mold spore analysis in the Art Room, Cafeteria 2, the Library, and Quads C3 and F1. Laboratory analysis indicates that the mold spore concentrations in the air samples collected in Cafeteria 2 and in the Art Room were acceptable. The identified mold spore genera are commonly found in indoor environments and not typically associated with health problems at the measured concentrations.

The laboratory detected elevated concentrations of *Aspergillus/Penicillium*-type mold spores in the air samples collected in the Library and Quads C3 and F1.

EXECUTIVE SUMMARY (cont.)

Recommendations forwarded after August 3, 2005 Assessment

OHI recommended heating the school to prevent the interior temperature from falling below the dew point temperature to facilitate drying of the carpeting.

Until the carpeting can be adequately dried, OHI recommended the application of a fungicide to the carpeting in the Library and the Quads to prevent additional mold growth.

At the completion of heating and drying and prior to the commencement of the school year, OHI recommended double steam extraction of all carpeting treated with the fungicide.

OHI recommended that visible mold on furniture be removed by washing with Sporicidin.

August 18 and 27, 2005 Airborne Mold Spore Testing

Based on the analytical results of the August 3, 2005 testing and after the recommended drying and cleaning were completed, OHI returned to the school on August 18, 2005 to conduct air sampling in Quads C, D and F and the Library. Laboratory analysis indicated that the mold spore concentrations in the air sample collected on August 18th in Quad C1 were acceptable. The identified mold spore genera are commonly found in indoor environments and not typically associated with health problems at the measured concentrations. No further cleaning was deemed necessary in Quad C.

The laboratory detected elevated concentrations of *Aspergillus/Penicillium*-type mold spores in the air samples collected on August 18th in the Library and Quads D4 and F1. OHI recommended additional cleaning be conducted in the three areas.

After completion of the recommended additional cleaning, air samples for mold spore analysis were collected on August 27, 2005 in Quad D and the Library. Cleaning of Quad F was underway during the August 27 sampling event.

Laboratory analysis indicates that the mold spore concentrations in the air samples collected on August 27th in Quad D and the Library were acceptable. The identified mold spore genera are commonly found in indoor environments and not typically associated with health problems at the measured concentrations. No further cleaning is required in Quad D or the Library.

Report Objective

The purpose of this report is to document the results of airborne mold spore testing conducted in the Wildwood School in Amherst, Massachusetts on August 3, 18 and 27, 2005.

1.0 INTRODUCTION

OccuHealth, Inc. (OHI) was retained to conduct airborne mold spore testing at the Wildwood School located at 71 Strong Street in Amherst, Massachusetts. On August 3, 2005, OHI inspected the school and collected air samples for mold spore analysis in the Art Room, Cafeteria 2, the Library, and Quads C3 and F1. Based on the analytical results, OHI recommended cleaning Quads C, D and F and the Library.

After an initial cleaning in the four areas, OHI returned to the school on August 18, 2005 to conduct followup airborne mold spore testing. Based on the second round of analytical results, OHI recommended additional cleaning in Quads D and F and the Library. After cleaning was completed in Quad D and the Library, air samples for mold spore analysis were collected on August 27, 2005 in the two areas. Cleaning in Quad F was underway during the August 27, 2005 round of testing.

Air sampling was conducted on August 3 and 18, 2005 by Mr. Thomas E. Hamilton, Certified Industrial Hygienist (CIH) of OHI. The August 27, 2005 sampling was conducted by representatives of the Amherst-Pelman Regional School District. This project was requested and authorized by Mr. Peter Gervickas of the Amherst-Pelham Regional School District.

2.0 AUGUST 3, 2005 INSPECTION

OHI observed that the carpeting in the Quads and in some other areas of the school was wet on August 3, 2005. The school is of slab-on-grade construction and during summer months, condensation accumulates on the slab/carpeting whenever the school's interior temperature drops below the dew point. Please refer to the recommendations presented in the Executive Summary, which were previously forwarded to the Amherst-Pelham Regional School District.

3.0 AUGUST 3, 2005 AIRBORNE MOLD SPORE TESTING

Sampling and Analytical Methodology

On August 3, 2005, OHI collected air samples for mold spore analysis in the Art Room, Cafeteria 2, the Library, and Quads C3 and F1. OHI collected an outdoor air sample for comparison.

The air samples were collected using a high volume pump with Zefon Air-O-Cell® cassettes. An Air-O-Cell® cassette is a spore and dust trap which allows for rapid detection and identification of mold spores using bright light microscopy. Viable and non-viable mold spores are collected and counted. The results can be compared to levels seen outdoors and to results from available studies.

The sample pump was calibrated to a flow rate of 15 liters per minute and the air samples were collected for 5 minutes. The sample pump utilized for the air sampling was calibrated before the sampling event using a precision rotameter. This rotameter was in turn calibrated using a primary standard.

The samples were submitted under chain-of-custody for analysis to Environmental Analysis Associates (EAA) of San Diego, California. Copies of the EAA laboratory report and chain-of-custody form are attached.

Analytical Results

The results of laboratory analysis of the air samples are depicted in Table 1 on the following page. To interpret the results, an airborne mold spore concentration of less than outdoor levels or less than 2,000 counts per cubic meter of air (cts/m^3) as a total spore count is considered low or clean for an indoor environment. For any single mold genera, airborne concentrations less than outdoor levels or less than 1,000 cts/m^3 is considered low or clean for an indoor environment.

Laboratory analysis indicates that the mold spore concentrations in the air samples collected in Cafeteria 2 and in the Art Room were acceptable. The identified mold spore genera are commonly found in indoor environments and not typically associated with health problems at the measured concentrations.

The laboratory detected elevated concentrations of *Aspergillus/Penicillium*-type mold spores in the air samples collected in the Library and Quads C3 and F1. The source of the airborne spores was likely mold growth associated with the wet condition of the carpeting in many locations in the school. Please refer to the recommendations presented in the Executive Summary.

Table 1: August 3, 2005 Airborne Mold Spore Testing Analytical Results

Sample Location	Sample Number	Total Mold Spores (cts/m^3)	Predominant Genera (cts/m^3)
Library	9675890	4,073	*Ascospores/Basidiospores* (1,975) ***Aspergillus/Penicillium*-types (1,152)** *Cladosporium* (700)
Quad F1	9675870	11,206	*Ascospores/Basidiospores* (4,334) ***Aspergillus/Penicillium*-types (5,705)** *Cladosporium* (689)
Quad C3	9675872	24,863	*Ascospores/Basidiospores* (18,651) ***Aspergillus/Penicillium*-types (3,467)** *Cladosporium* (1,867)
Cafeteria 2	9675893	15,200	*Ascospores/Basidiospores* (12,069) *Cladosporium* (1,995) *Basidiospores,* pigmented (987) *Aspergillus/Penicillium*-types (110)
Art Room	9675926	19,678	*Ascospores/Basidiospores* (16,183) *Cladosporium* (2,010) *Basidiospores,* pigmented (987) *Aspergillus/Penicillium*-types (375)
Outdoors	9675879	61,431	*Ascospores/Basidiospores* (50,469) *Cladosporium* (6,521) *Basidiospores,* pigmented (3,730) *Aspergillus/Penicillium*-types (110)

cts/m^3 = counts per cubic meter of air
Boldface type indicates elevated mold spore concentration.

4.0 AUGUST 18 AND 27, 2005 AIRBORNE MOLD SPORE TESTING

Sampling and Analytical Methodology

Based on the analytical results of the August 3, 2005 testing and after drying and an initial round of cleaning, OHI returned to the school on August 18, 2005 to conduct air sampling in Quads C, D and F and the Library. After additional cleaning, air samples for mold spore analysis

were collected on August 27, 2005 in Quad D and the Library. On both days of testing, outdoor air samples were collected for comparison.

The air samples were collected and analyzed as described in Section 2.0. Copies of the EAA laboratory reports and chain-of-custody forms are attached.

Analytical Results

The results of laboratory analysis of the air samples are depicted in Table 2 on the following page. To interpret the results, an airborne mold spore concentration of less than outdoor levels or less than 5,000 counts per cubic meter of air (cts/m^3) as a total spore count is considered low or clean for a post-cleaning indoor environment. For any single mold genera, airborne concentrations less than outdoor levels or less than 2,000 cts/m^3 is considered low or clean for a post-cleaning indoor environment.

Laboratory analysis indicates that the mold spore concentrations in the air sample collected on August 18th in Quad C1 were acceptable. The identified mold spore genera are commonly found in indoor environments and not typically associated with health problems at the measured concentrations. No further cleaning was deemed necessary in Quad C.

The laboratory detected elevated concentrations of *Aspergillus/Penicillium*-type mold spores in the air samples collected on August 18th in the Library and Quads D4 and F1. OHI recommended additional cleaning be conducted in the three areas. After completion of cleaning in the Library and Quad D, air samples for mold spore analysis were collected on August 27th in the two areas.

Laboratory analysis indicates that the mold spore concentrations in the air samples collected on August 27th in Quad D and the Library were acceptable. The identified mold spore genera are commonly found in indoor environments and not typically associated with health problems at the measured concentrations. No further cleaning is required in Quad D or the Library.

Table 2: August 18 and 27, 2005 Airborne Mold Spore Testing Analytical Results

Sample Location	Sample Number	Total Mold Spores (cts/m^3)	Predominant Genera (cts/m^3)
August 18, 2005 Sampling			
Library	9672576	**58,421**	***Aspergillus/Penicillium*-types (56,640)** *Cladosporium* (713)
Quad C 1	9672782	9,198	*Aspergillus/Penicillium*-types (4,999) *Cladosporium* (1,859) *Ascospores/Basidiospores* (1,646)
Quad D 4	9672742	**34,431**	***Aspergillus/Penicillium*-types (17,006)** *Ascospores/Basidiospores* (9,874) *Cladosporium* (4,250) *Basidiospores,* pigmented (2,030)
Quad F 1	9672691	**32,527**	***Aspergillus/Penicillium*-types (29,990)** *Cladosporium* (1,097) *Ascospores/Basidiospores* (1,042)
Outdoors	9677682	29,030	*Ascospores/Basidiospores* (20,846) *Cladosporium* (4,283) *Basidiospores,* pigmented (2,578) *Aspergillus/Penicillium*-types (494)
August 27, 2005 Sampling			
Quad D 3	9672622	3,675	*Ascospores/Basidiospores* (2,743) *Aspergillus/Penicillium*-types (549)
Library	9672656	3,441	*Ascospores/Basidiospores* (1,975) *Aspergillus/Penicillium*-types (823)
Outdoors	9672718	47,258	*Ascospores/Basidiospores* (38,400) *Basidiospores,* pigmented (4,992) *Cladosporium* (1,755) Other Hyaline Fungi (1,317)

cts/m^3 = counts per cubic meter of air
Boldface type indicates elevated mold spore concentration.

5.0 LIMITATIONS

The contents of this report are based on OccuHealth, Inc.'s best professional judgement, comparison of collected data with established industry guidelines, and information obtained from representatives of the Amherst-Pelham Regional School District.

ATTACHMENTS

Airborne Mold Spore Analysis Laboratory Reports

Chain-of-Custody Forms

A.M. Fogarty
& Assoc., Inc.
175 Derby St., Suite 5, Hingham, MA 02043
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ptim@amfogarty.com
"Construction Cost Consultants"

STUDY
Wildwood Elementary School
Amherst, MA

13-Jan-15

Designer: JCJ Architecture
Drawings Dated:

OPTION RENOVATION (CODE ONLY OPTION)

	GSF		COST PER S.F.	TOTAL
RENOVATION - CODE	82,000	**GSF**	$125.00	**$10,250,000**
RENOVATION - COMPREHENSIVE	0	**GSF**	$225.00	**$0**
ADDITION	0	**GSF**	$270.00	**$0**
NEW CONSTRUCTION	0	**GSF**	$275.00	**$0**
DEMOLITION		**GSF**	$6.75	**$0**
HAZARDOUS WASTE REMOVAL	82,000	**GSF**	$10.00	**$820,000**
SITE COST				**$100,000**

TOTAL DIRECT COST				$11,170,000
CM AT RISK CHPTR 149A				
DESIGN CONTINGENCY		10%		$1,117,000
CM CONTINGENCY		2.5%		$307,175
ESCALATION (bid spring 2017)		5%		$614,350
GENERAL CONDITIONS	8	MOS	$105,000	$840,000
GENERAL REQUIREMENTS		2%		$280,971
BUILDING PERMIT		1%		$143,295
P&P BOND & INSURANCE		2%		$286,590
PROFIT		3%		$442,781

TOTAL CONSTRUCTION COST				$15,202,162
COST PER SF				**$185.39**

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Wildwood Elementary School
Amherst, MA

February 2, 2016

STUDY ESTIMATE
GRAND SUMMARY

WILDWOOD SITE

OPTION W10 - NEW CONSTRUCTION & RENOVATION	$47,790,229
OPTION W7 - NEW CONSTRUCTION	$52,250,288
OPTION W12 - NEW CONSTRUCTION	$51,675,907

FORT RIVER SITE:

OPTION NO. FR5 - NEW CONSTRUCTION	$51,011,411

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STUDY
Wildwood Elementary School
Amherst, MA

2-Feb-16

Designer: JCJ Architecture
Drawings Dated:

Drawings Dated: Jan. 21, 2016

OPTION W10	GSF		COST PER S.F.	**TOTAL**
RENOVATION	82,000	**GSF**	$200.38	**$16,431,007**
ADDITION - BLDG COST	44,000	**GSF**	$301.87	**$13,282,217**
HAZARDOUS WASTE REMOVAL	82,000	**GSF**	$10.00	**$820,000**
SITE COST				**$3,068,387**

	TOTAL DIRECT COST			$33,601,611
CM AT RISK CHPTR 149A				
DESIGN CONTINGENCY		12%		$4,032,193
CM CONTINGENCY		2%		$752,676
ESCALATION (bid fall 2017)		5%		$1,881,690
GENERAL CONDITIONS	32	MOS	$115,000	$3,680,000
GENERAL REQUIREMENTS		2.5%		$1,098,704
BUILDING PERMIT		1%		$450,469
P&P BOND & INSURANCE		2%		$900,937
PROFIT		3%		$1,391,948

	TOTAL CONSTRUCTION COST			$47,790,229
	COST PER SF			**$379.29**

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STUDY
Wildwood Elementary School
Amherst, MA

2-Feb-16

Designer: JCJ Architecture

Drawings Dated:

Drawings Dated: Jan. 21, 2016

OPTION W7	GSF		COST PER S.F.	**TOTAL**
NEW CONSTRUCTION - BLDG COST	122,714	**GSF**	$271.91	**$33,367,252**
DEMOLITION	82,000	**GSF**	$6.75	**$553,500**
HAZARDOUS WASTE REMOVAL	82,000	**GSF**	$10.00	**$820,000**
SITE COST				**$3,247,568**

	TOTAL DIRECT COST			$37,988,321
CM AT RISK CHPTR 149A				
DESIGN CONTINGENCY		12%		$4,558,598
CM CONTINGENCY		2%		$850,938
ESCALATION (bid fall 2017)		5%		$2,127,346
GENERAL CONDITIONS	24	MOS	$115,000	$2,760,000
GENERAL REQUIREMENTS		2%		$965,704
BUILDING PERMIT		1%		$492,509
P&P BOND & INSURANCE		2%		$985,018
PROFIT		3%		$1,521,853

	TOTAL CONSTRUCTION COST			$52,250,288
	COST PER SF			**$425.79**

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STUDY
Wildwood Elementary School
Amherst, MA

2-Feb-16

Designer: JCJ Architecture

Drawings Dated:

Drawings Dated: Jan. 21, 2016

OPTION W12	GSF		COST PER S.F.	**TOTAL**
NEW CONSTRUCTION - BLDG COST	122,714	**GSF**	$264.26	**$32,428,434**
DEMOLITION	82,000	**GSF**	$6.75	**$553,500**
HAZARDOUS WASTE REMOVAL	82,000	**GSF**	$10.00	**$820,000**
SITE COST				**$3,167,701**

	TOTAL DIRECT COST			$36,969,635
CM AT RISK CHPTR 149A				
DESIGN CONTINGENCY		12%		$4,436,356
CM CONTINGENCY		2%		$828,120
ESCALATION (bid fall 2017)		5%		$2,070,300
GENERAL CONDITIONS	30	MOS	$115,000	$3,450,000
GENERAL REQUIREMENTS		2%		$955,088
BUILDING PERMIT		1%		$487,095
P&P BOND & INSURANCE		2%		$974,190
PROFIT		3%		$1,505,124

	TOTAL CONSTRUCTION COST			$51,675,907
	COST PER SF			**$421.11**

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STUDY
Wildwood Elementary School
Amherst, MA

2-Feb-16

Designer: JCJ Architecture
Drawings Dated:

Drawings Dated: Jan. 21, 2016

OPTION FR5	GSF		COST PER S.F.	**TOTAL**
NEW CONSTRUCTION - BLDG COST	122,714	**GSF**	$263.03	**$32,277,605**
DEMOLITION	82,000	**GSF**	$6.75	**$553,500**
HAZARDOUS WASTE REMOVAL	82,000	**GSF**	$10.00	**$820,000**
SITE COST				**$3,765,735**

	TOTAL DIRECT COST			$37,416,839
CM AT RISK CHPTR 149A				
DESIGN CONTINGENCY		12%		$4,490,021
CM CONTINGENCY		2%		$838,137
ESCALATION (bid fall 2017)		5%		$2,095,343
GENERAL CONDITIONS	20	MOS	$115,000	$2,300,000
GENERAL REQUIREMENTS		2%		$942,807
BUILDING PERMIT		1%		$480,831
P&P BOND & INSURANCE		2%		$961,663
PROFIT		3%		$1,485,769

	TOTAL CONSTRUCTION COST			$51,011,411
	COST PER SF			**$415.69**

PROJECT:	Wildwood Elementary School
LOCATION:	Amherst, MA
CLIENT:	JCJ Architects
DATE:	02-Feb-16

OPT. W10 GSF:	92,735
W10 COST/SF:	$186.02

SUMMARY **OPT W10 - RENOVATION**

No.: 16011

	OPT W10 ESTIMATE TOTAL
A. SUBSTRUCTURE	
A10 - FOUNDATIONS	
A1010 STANDARD FOUNDATIONS	$65,000
A1020 SPECIAL FOUNDATIONS	$0
A1030 SLAB ON GRADE	$81,000
A20 - BASEMENT CONSTRUCTION	
A2010 BASEMENT EXCAVATION	$0
A2020 BASEMENT WALLS	$0
B. SHELL	
B10 - SUPERSTRUCTURE	
B1010 FLOOR CONSTRUCTION	$0
B1020 ROOF CONSTRUCTION	$161,500
B20 - EXTERIOR ENCLOSURE	
B2010 EXTERIOR WALLS	$92,000
B2020 EXTERIOR WINDOWS	$656,000
B2030 EXTERIOR DOORS	$76,200
B30 - ROOFING	
B3010 ROOF COVERINGS	$1,645,800
B3020 ROOF OPENINGS	$17,000
C. INTERIORS	
C10 - INTERIOR CONSTRUCTION	
C1010 PARTITIONS	$1,333,220
C1020 INTERIOR DOORS	$660,500
C1030 FITTINGS	$409,000
C20 - STAIRS	
C2010 STAIR CONSTRUCTION	$0
C2020 STAIR FINISHES	$0
C30 - INTERIOR FINISHES	
C3010 WALL FINISHES	$442,400
C3020 FLOOR FINISHES	$926,981
C3030 CEILING FINISHES	$541,055
D. SERVICES	
D10 - CONVEYING	
D1010 ELEVATORS & LIFTS	$0
D1010 ESCALATORS & MOVING WALKS	$0
D1090 OTHER CONVEYING SYSTEMS	$0
D20 - PLUMBING	
D2010 PLUMBING	$1,066,000
D30 - HVAC	
D3010 HVAC	$2,993,000
D40 - FIRE PROTECTION	
D4010 SPRINKLERS	$410,000
D4020 STANDPIPES	$0

D4030 FIRE PROTECTION SPECIALTIES	$0
D4090 OTHER FIRE PROTECTION SYSTEMS	$0
D50 - ELECTRICAL	
D5010 ELECTRICAL SERVICE & DISTRIBUTION	$369,000
D5020 LIGHTING & BRANCH WIRING	$697,000
D5030 COMMUNICATION & SECURITY	$697,000
D5090 OTHER ELECTRICAL SYSTEMS	$1,115,200

Wildwood Elementary School - OPT W10 Renovation	OPT W10 ESTIMATE TOTAL
E. EQUIPMENT & FURNISHINGS	
E10 - EQUIPMENT	
E1010 COMMERCIAL EQUIPMENT	$400,000
E1020 INSTITUTIONAL EQUIPMENT	$0
E1030 VEHICULAR EQUIPMENT	$0
E1090 OTHER EQUIPMENT	$69,250
E20 - FURNISHINGS	
E 2010 FIXED FURNISHINGS	$651,901
E2020 MOVABLE FURNISHINGS	$0
F. SPECIAL CONSTRUCTION & DEMOLITION	
F10 - SPECIAL CONSTRUCTION	
F1010 SPECIAL STRUCTURES	$0
F1020 INTEGRATED CONSTRUCTION	$0
F1030 SPECIAL CONSTRUCTION SYSTEMS	$0
F1040 SPECIAL FACILITIES	$0
F1050 SPECIAL CONTROLS & INSTRUMENTATION	$0
F20 - SELECTIVE BUILDING DEMOLITION	
F2010 BUILDING ELEMENTS DEMOLITION	$855,000
F2020 HAZARDOUS COMPONENTS ABATEMENT	$820,000
G. BUILDING SITEWORK	
G10 - SITE PREPARATION	
G1010 SITE CLEARING	$0
G1020 SITE DEMOLITION & RELOCATIONS	$0
G1030 SITE EARTHWORK	$0
G1040 HAZARDOUS WASTE REMEDIATION	$0
G20 - SITE IMPROVEMENTS	
G2010 ROADWAYS	$0
G2020 PARKING LOTS	$0
G2030 PEDESTRIAN PAVING	$0
G2040 SITE DEVELOPMENT	$0
G2050 LANDSCAPING	$0
G30 - SITE MECHANICAL UTILITIES	
G3010 WATER SUPPLY	$0
G3020 SANITARY SEWER	$0
G3030 STORM SEWER	$0
G3040 HEATING DISTRIBUTION	$0
G3050 COOLING DISTRIBUTION	$0
G3060 FUEL DISTRIBUTION	$0
G3090 OTHER SITE MECHANICAL UTILITIES	$0
G40 - SITE ELECTRICAL UTILITIES	
G4010 ELECTRICAL DISTRIBUTION	$0
G4020 SITE LIGHTING	$0
G4030 SITE COMMUNICATIONS & SECURITY	$0
G4090 OTHER SITE ELECTRICAL UTILITIES	$0
G90 - OTHER SITE CONSTRUCTION	
G9010 SERVICE AND PEDESTRIAN TUNNELS	$0
G9090 OTHER SITE SYSTEMS	$0
TOTAL DIRECT COST	$17,251,007

DESCRIPTION	UNIT COST	UNIT	OPT W10 QUANTITY	OPT W10 TOTAL
A. SUBSTRUCTURE				
A10 - FOUNDATIONS				
A1010 STANDARD FOUNDATIONS				
033000 CAST IN PLACE CONCRETE				
Shear Wall Footing	$125.00	LF	160	$20,000
Allow for minor	$20,000.00	LS	1	$20,000
310000 EARTHWORK				
Excavate new foundation	$10,000.00	LS	1	$10,000
Excavate new underslab piping	$15,000.00	LS	1	$15,000
				$65,000
A1020 SPECIAL FOUNDATIONS				
NOT USED				
				$0
A1030 SLAB ON GRADE				
033000 CAST IN PLACE CONCRETE				
Slab Patching				
New Seismic Foundation	$22.00	SF	1,000	$22,000
New Plumbing underslab	$22.00	SF	2,000	$44,000
072100 INSULATION				
2" Rigid Slab Insul.	$4.00	SF	3,000	$12,000
072616 BELOW GRADE VAPOR RETARDER				
Stegro vapor barrier	$1.00	SF	3,000	$3,000

DESCRIPTION	UNIT COST	UNIT	OPT W10 QUANTITY	OPT W10 TOTAL

				$81,000
TOTAL A10 FOUNDATIONS				**$146,000**
A20 - BASEMENT CONSTRUCTION				
A2010 BASEMENT EXCAVATION				
N/A				

				$0
A2020 BASEMENT WALLS				
N/A				

				$0
TOTAL A20 - BASEMENT CONSTRUCTION				**$0**
B. SHELL				
B10 - SUPERSTRUCTURE				
B1010 FLOOR CONSTRUCTION				

				$0
B1020 ROOF CONSTRUCTION				
051200 STRUCTURAL STEEL				
Reinforce Roof at New Mechan	$100,000.00	LS	1	$100,000
Galv. RTU dunnage - allow	$4,100.00	TONS	10	$41,000
8' Galv. TS roof screen support	$4,100.00	TONS	5	$20,500

				$161,500
TOTAL B10 SUPERSTRUCTURE				**$161,500**

DESCRIPTION	UNIT COST	UNIT	OPT W10 QUANTITY	OPT W10 TOTAL
B20 - EXTERIOR ENCLOSURE				
B2010 EXTERIOR WALLS				
040001 MASONRY*				
Repair Masonry Veneer	$1.00	GSF	82,000	$82,000
090007 PAINTING*				
Exterior painting	$10,000.00	LS	1	$10,000
				$92,000
B2020 EXTERIOR WINDOWS				
080001 METAL WINDOWS*				
Replace existing Windows	$8.00	GSF	82,000	$656,000
				$656,000
B2030 EXTERIOR DOORS				
080001 METAL WINDOWS*				
7' Alum. Doors (Incl. Hardware):				
Entry - dbl	$8,200.00	EA	5	$41,000
Classroom - sgl	$4,100.00	EA	7	$28,700
Auto opener - allow	$6,500.00	PR	1	$6,500
Classroom - sgl		N/A		
*Storefront at entries W /B 2020				
				$76,200
TOTAL B20 - EXTERIOR ENCLOSURE				**$824,200**

DESCRIPTION	UNIT COST	UNIT	OPT W10 QUANTITY	OPT W10 TOTAL
B30 - ROOFING				
B3010 ROOF COVERINGS				
061000 ROUGH CARPENTRY				
PT Roof blocking	$1.65	SF	82,000	$135,300
070002 ROOFING AND FLASHING*				
PVC roof w/ 6" rigid insul	$14.00	SF	82,000	$1,148,000
1/2" Gyp prot. bd w/glass mat @	$1.55	SF	82,000	$127,100
Poly vapor barrier - 100%	$0.35	SF	82,000	$28,700
Roof Flashing	$1.55	SF	82,000	$127,100
Roof walkway paver (2'x2')	$6.00	SF	2,000	$12,000
Alum.Trim :				
Perimeter coping	$30.00	LF	1,420	$42,600
Misc. flashing	$25,000.00	LS	1	$25,000
				$1,645,800
B3020 ROOF OPENINGS				
077200 ROOF ACCESSORIES				
Roof hatch	$3,500.00	EA	1	$3,500
Roof guardrail	$135.00	LF	100	$13,500
Stage vent		N/A		
Skylights		NIC		
*Mechanical equip screen is included with B1020 & B2010				
				$17,000
TOTAL B30 ROOFING				**$1,662,800**
C. INTERIORS				
C10 - INTERIOR CONSTRUCTION				

DESCRIPTION	UNIT COST	UNIT	OPT W10 QUANTITY	OPT W10 TOTAL
C1010 PARTITIONS				
040001 MASONRY*				
New 8" Seismic Partition	$24.00	SF	2,240	$53,760
Allow for CMU Partition	$20.00	SF	2,500	$50,000
050001 MISCELLANEOUS & ORNAMENTAL IRON*				
Seismic Part Clip	$1.25	GSF	82,000	$102,500
061000 ROUGH CARPENTRY				
Interior blocking	$0.30	GSF	82,000	$24,600
Misc. rough carpentry	$0.50	GSF	82,000	$41,000
081113 HOLLOW METALWORK				
Interior H.M Windows, Sidelites and Transoms (INC. GLAZING):				
Classroom sidelight (2' x 7')	$896.00	EA	35	$31,360
Misc. window/sidelight & trans	$64.00	SF	1,000	$64,000
083323 SPECIAL DOORS				
Access panels	$10,000.00	LS	1	$10,000
092116 GYPSUM WALLBOARD				
Specialty Partitions:				
Operable Classroom partition (	$90.00	SF	600	$54,000
Drywall Partitions:				
GWB assemblies	$11.00	GSF	82,000	$902,000
*Partitions include sound attenuation, tape & joint compound finish				
				$1,333,220
C1020 INTERIOR DOORS				
081113 HOLLOW METALWORK 081416 WOOD AND PLASTIC DOORS				
Interior 8' Door, Frame, Glass & Glazing				
Interior Door frame and Hardwa	$6.75	GSF	82,000	$553,500

DESCRIPTION	UNIT COST	UNIT	OPT W10 QUANTITY	OPT W10 TOTAL
080001 METAL WINDOWS*				
Aluminum (Frame, Door, Glass, Glazing and Hdw):				
Vest - dbl	$7,800.00	PR	5	$39,000
Main office -sgl	$3,600.00	EA	2	$7,200
Aluminum Storefront:				
Vestibule 10'	$82.00	SF	150	$12,300
Main office 10'	$82.00	SF	500	$41,000
083323 SPECIAL DOORS				
Dish drop window	$3,000.00	EA	1	$3,000
Kitchen OH grille	$4,500.00	EA	1	$4,500
Main office security grate		N/A		
				$660,500
C1030 FITTINGS				
050001 MISCELLANEOUS & ORNAMENTAL IRON*				
Gym equip. support & frame	$5,000.00	LS	1	$5,000
OT/PT swing support	$1,500.00	LS	1	$1,500
Misc. metals	$0.50	GSF	82,000	$41,000
062000 FINISH CARPENTRY				
Utility & closet shelving	$7,500.00	LS	1	$7,500
Typ. window sill/apron (nic cw-	$36.00	LF	1,200	$43,200
Built - in corridor benches	$300.00	LF	50	$15,000
Misc. wood trim	$0.50	GSF	82,000	$41,000
Custom Casework:				
Admin desk	$10,000.00	LS	1	$10,000
Circulation desk	$12,000.00	LS	1	$12,000
102113 COMPARTMENTS & CUBICLES				
Solid Plastic Toilet Partitions:				
Std. partition	$1,150.00	EA	6	$6,900
HC partition	$1,350.00	EA	10	$13,500
Urinal screen	$275.00	EA	4	$1,100

DESCRIPTION	UNIT COST	UNIT	OPT W10 QUANTITY	OPT W10 TOTAL
102813 TOILET & BATH ACCESSORIES				
Toilet Accessories	$0.55	GSF	82,000	$45,100
101100 MARKERBOARDS & TACKBOARDS				
5' Smart board		NIC		
Markerboards 4'6" h	$18.00	SF	1,500	$27,000
Tackboards 4'6" h	$13.50	SF	750	$10,125
Display cases - allow	$15,000.00	LS	1	$15,000
109000 MISCELLANEOUS SPECIALTIES				
Metal corridor locker (12"x15"x	$215.00	EA	375	$80,625
Kitchen staff locker - allow	$225.00	EA	10	$2,250
Wall & corner guards - allow	$5,000.00	LS	1	$5,000
Fire extinguisher and cab - allov	$450.00	EA	6	$2,700
Cubicle curtain track w/ curtain	$1,200.00	EA	1	$1,200
Misc. specialties	$10,000.00	LS	1	$10,000
101400 IDENTIFYING DEVICES				
Door signage plaque	$0.15	GSF	82,000	$12,300
				$409,000
TOTAL C10 - INTERIOR CONSTRUCTION				**$2,402,720**
C20 - STAIRS				
C2010 STAIR CONSTRUCTION				
				$0
C2020 STAIR FINISHES				
				$0

DESCRIPTION	UNIT COST	UNIT	OPT W10 QUANTITY	OPT W10 TOTAL
TOTAL C20 - STAIRS				**$0**
C30 - INTERIOR FINISHES				
C3010 WALL FINISHES				
071000 DAMPPROOF., WATERPROOF. & CAULKING*				
Joint sealants - interior	$0.55	GSF	82,000	$45,100
098400 ACOUSTICAL WALL TREATMENT				
Tectum Wall Panel:				
2" Gymnasium -allow	$20.00	SF	1,500	$30,000
Fabric Wrapped Acoustical Panels - Allow:				
Stage	$27.00	SF	500	$13,500
Café	$27.00	SF	500	$13,500
Corridor	$27.00	SF	500	$13,500
IMC	$27.00	SF		$0
090002 TILE*				
Ceramic Wall Tile :				
Toilet rm	$14.00	SF	1,300	$18,200
Janitor closet	$14.00	SF	200	$2,800
Corridor	$14.00	SF	5,500	$77,000
Kitchen	$14.00	SF	1,200	$16,800
Café - allow	$14.00	SF	500	$7,000
090007 PAINTING*				
Vinyl wall covering		NIC		
Interior painting- walls	$2.50	GSF	82,000	$205,000
				$442,400
C3020 FLOOR FINISHES				
090005 RESILIENT FLOORING*				
Quarry Tile Flooring:				
Kitchen	$16.50	SF	1,950	$32,175

DESCRIPTION	UNIT COST	UNIT	OPT W10 QUANTITY	OPT W10 TOTAL
Ceramic Tile:				
Toilet Room (sgl user)	$20.00	SF	1,300	$26,000
Janitor Closet (3 EA)	$20.00	SF	200	$4,000
Porcelain Tile:				
Entry P.T flooring	$18.00	SF	1,000	$18,000
Linoleum Flooring	$8.50	SF	68,050	$578,425
Rubber base	$0.35	SF	82,000	$28,700
Floor Prep	$1.50	SF	82,000	$123,000
095000 WOOD FLOOR				
Wood sports flooring	$17.25	SF	4,500	$77,625
096800 CARPET				
Admin/Media carpet	$5.00	SF	5,000	$25,000
124813 MATS				
Alum. Entrance Grille:				
Main entry	$28.00	SF	2	$56
Kindergarten entry	$28.00	SF	500	$14,000
				$926,981
C3030 CEILING FINISHES				
092116 GYPSUM WALLBOARD				
Gyp ceiling - toilet rm	$8.00	SF	1,200	$9,600
Typ. gyp ceiling	$10.00	SF	5,000	$50,000
Gyp soffits & light coves	$0.75	GSF	82,000	$61,500
090003 ACOUSTICAL TILE*				
ACT 1 Corridor/lobby/Classroo	$4.95	SF	71,300	$352,935
Allow for Specialty Ceilings	$50,000.00	LS	1	$50,000

DESCRIPTION	UNIT COST	UNIT	OPT W10 QUANTITY	OPT W10 TOTAL
090007 PAINTING*				
Paint gyp ceiling	$0.85	SF	6,200	$5,270
Paint gyp soffits & light coves	$5,000.00	LS	1	$5,000
Paint exposed structure - gym	$1.50	SF	4,500	$6,750

				$541,055
TOTAL C30 - INTERIOR FINISHES				**$1,910,436**
D. SERVICES				
D10 - CONVEYING				
D1010 ELEVATORS & LIFTS				

				$0
TOTAL D10 - CONVEYING				**$0**
D20 - PLUMBING				
D2010 PLUMBING FIXTURES				
Plumbing	$13.00	GSF	82,000	$1,066,000

				$1,066,000
TOTAL D20 - PLUMBING				**$1,066,000**
D30 - HVAC				
D3010 HVAC				

DESCRIPTION	UNIT COST	UNIT	OPT W10 QUANTITY	OPT W10 TOTAL
HVAC	$36.50	GSF	82,000	$2,993,000
				$2,993,000
TOTAL D30 - HVAC				**$2,993,000**
D40 - FIRE PROTECTION				
D4010 SPRINKLERS				
210001 FIRE SUPPRESSION*				
Sprinkler system - wet	$5.00	GSF	82,000	$410,000
				$410,000
TOTAL D40 - FIRE PROTECTION				**$410,000**
D50 - ELECTRICAL				
D5010 ELECTRICAL SERVICE & DISTRIBUTION				
260001 ELECTRICAL*				
Electrical	$4.50	GSF	82,000	$369,000
				$369,000
D5020 LIGHTING & BRANCH WIRING				
260001 ELECTRICAL*				
Lighting	$6.75	GSF	82,000	$553,500
Lighting Control	$1.75	GSF	82,000	$143,500
				$697,000

DESCRIPTION	UNIT COST	UNIT	OPT W10 QUANTITY	OPT W10 TOTAL
D5030 COMMUNICATION & SECURITY				
260001 ELECTRICAL*				
Security	$1.50	GSF	82,000	$123,000
Tele/data cabling, racks and swi	$6.00	GSF	82,000	$492,000
Sound Systems	$1.00	GSF	82,000	$82,000
				$697,000
D5090 OTHER ELECTRICAL SYSTEMS				
260001 ELECTRICAL*				
Fire Alarm	$3.00	GSF	82,000	$246,000
Devices	$4.00	GSF	82,000	$328,000
Clocks and PA	$2.50	GSF	82,000	$205,000
Gym/Café Sound System	$1.00	GSF	82,000	$82,000
Lighting Protection	$0.45	GSF	82,000	$36,900
Mechanical Wiring	$0.65	GSF	82,000	$53,300
Misc. Electrical	$2.00	GSF	82,000	$164,000
				$1,115,200
TOTAL D50 - ELECTRICAL				**$2,878,200**
E. EQUIPMENT & FURNISHINGS				
E10 - EQUIPMENT				
E1010 COMMERCIAL EQUIPMENT				
114000 FOOD SERVICE EQUIPMENT				
Kitchen equipment & casework	$400,000.00	LS	1	$400,000
				$400,000

DESCRIPTION	UNIT COST	UNIT	OPT W10 QUANTITY	OPT W10 TOTAL
E1090 OTHER EQUIPMENT				
113100 APPLIANCES				
Staff kitchen refrigerator	$1,000.00	EA	1	$1,000
Staff kitchen microwave	$500.00	EA	1	$500
Medical office refrigerator w/ic	$1,000.00	EA	1	$1,000
Stackable washer and dryer - kitchen		NIC		
Life Skill Rm/Care Classroom - Allow:				
Dishwasher		NIC		
Refrigerator		NIC		
Range		NIC		
Range hood		NIC		
116600 ATHLETIC & SPORTS EQUIPMENT				
Basketball backstops - electric	$9,500.00	EA	4	$38,000
Wall padding - 6'	$15.00	SF	750	$11,250
115213 PROJECTION SCREENS				
Projection screen - stage	$10,000.00	EA	1	$10,000
Projection screen - media center	$7,500.00	EA	1	$7,500
				$69,250
TOTAL E10 - EQUIPMENT				**$469,250**
E20 - FURNISHINGS				
E 2010 FIXED FURNISHINGS				
129000 MISC. FURNISHINGS				
Meco shade - manual	$0.45	GSF	82,000	$36,900
Int. office/class window shades	$0.50	LS	1	$1
123553 CLASSROOM CASEWORK				
Architectural Casework	$7.50	GSF	82,000	$615,000
				$651,901

DESCRIPTION	UNIT COST	UNIT	OPT W10 QUANTITY	OPT W10 TOTAL
E2020 MOVABLE FURNISHINGS				
				$0
TOTAL E20 - FURNISHINGS				**$651,901**
F. SPECIAL CONSTRUCTION & DEMOLITION				
TOTAL F10 - SPECIAL CONSTRUCTION				**$0**
F20 - SELECTIVE BUILDING DEMOLITION				
F2010 BUILDING ELEMENTS DEMOLITION				
Remove Gym Exterior wall	$6.25	GSF	1,600	$10,000
Misc. Shoring	$25,000.00		1	$25,000
Interior Gut and Removals	$10.00	GSF	82,000	$820,000
				$855,000
F2020 HAZARDOUS COMPONENTS ABATEMENT				
Hazardous Waste Allowance	$10.00	GSF	82,000	$820,000
				$820,000
TOTAL F20 - SELECTIVE BUILDING DEMOLITION				**$1,675,000**

PROJECT:	Wildwood Elementary School
LOCATION:	Amherst, MA
CLIENT:	JCJ Architects
DATE:	02-Feb-16

OPT. W10 GSF:	44,000	OPT. W12 GSF:	122,714
W10 COST/SF:	$371.60	W12 COST/SF:	$301.27
OPT. W7 GSF:	122,714	OPT. FR5 GSF:	122,714
W7 COST/SF:	$309.57	FR5 COST/SF:	$304.91

SUMMARY

K-5 OPTIONS (OPTIONS W10 NEW, W7, W12, WFR5)

No.: 16011

	OPT W10 NEW ESTIMATE TOTAL	OPT W7 ESTIMATE TOTAL	OPT W12 ESTIMATE TOTAL	OPT FR5 ESTIMATE TOTAL
A. SUBSTRUCTURE				
A10 - FOUNDATIONS				
A1010 STANDARD FOUNDATIONS	$717,059	$1,528,630	$1,306,700	$1,230,510
A1020 SPECIAL FOUNDATIONS	$0	$0	$0	$0
A1030 SLAB ON GRADE	$337,841	$990,793	$800,011	$776,968
A20 - BASEMENT CONSTRUCTION				
A2010 BASEMENT EXCAVATION	$0	$0	$0	$0
A2020 BASEMENT WALLS	$0	$0	$0	$0
B. SHELL				
B10 - SUPERSTRUCTURE				
B1010 FLOOR CONSTRUCTION	$548,860	$1,345,504	$1,878,650	$1,944,144
B1020 ROOF CONSTRUCTION	$850,674	$2,442,089	$2,021,584	$1,973,282
B20 - EXTERIOR ENCLOSURE				
B2010 EXTERIOR WALLS	$2,039,361	$3,697,817	$3,517,019	$3,499,576
B2020 EXTERIOR WINDOWS	$989,842	$1,965,329	$1,867,340	$1,862,418
B2030 EXTERIOR DOORS	$42,139	$119,049	$110,849	$110,849
B30 - ROOFING				
B3010 ROOF COVERINGS	$714,161	$2,052,775	$1,696,068	$1,650,292
B3020 ROOF OPENINGS	$11,450	$18,200	$18,200	$18,200
C. INTERIORS				
C10 - INTERIOR CONSTRUCTION				
C1010 PARTITIONS	$689,256	$1,852,783	$1,852,783	$1,852,783
C1020 INTERIOR DOORS	$322,850	$976,902	$976,902	$976,902
C1030 FITTINGS	$339,210	$764,314	$758,770	$758,122
C20 - STAIRS				
C2010 STAIR CONSTRUCTION	$86,100	$316,282	$261,282	$261,282
C2020 STAIR FINISHES	$9,804	$31,500	$31,500	$31,500
C30 - INTERIOR FINISHES				
C3010 WALL FINISHES	$277,200	$648,146	$713,638	$713,638
C3020 FLOOR FINISHES	$436,831	$1,186,328	$1,186,328	$1,186,328
C3030 CEILING FINISHES	$220,279	$709,131	$709,131	$709,131
D. SERVICES				
D10 - CONVEYING				
D1010 ELEVATORS & LIFTS	$109,750	$109,750	$109,750	$109,750
D1010 ESCALATORS & MOVING WALKS	$0	$0	$0	$0
D1090 OTHER CONVEYING SYSTEMS	$0	$0	$0	$0
D20 - PLUMBING				
D2010 PLUMBING	$572,000	$1,595,633	$1,595,633	$1,595,633
D30 - HVAC				
D3010 HVAC	$1,606,000	$4,480,047	$4,480,047	$4,480,047
D40 - FIRE PROTECTION				
D4010 SPRINKLERS	$293,000	$647,335	$647,335	$647,335
D4020 STANDPIPES	$0	$0	$0	$0
D4030 FIRE PROTECTION SPECIALTIES	$0	$0	$0	$0
D4090 OTHER FIRE PROTECTION SYSTEMS	$0	$0	$0	$0
D50 - ELECTRICAL				
D5010 ELECTRICAL SERVICE & DISTRIBUTION	$283,000	$637,335	$637,335	$637,335
D5020 LIGHTING & BRANCH WIRING	$374,000	$1,043,299	$1,043,299	$1,043,299
D5030 COMMUNICATION & SECURITY	$374,000	$1,043,299	$1,043,299	$1,043,299
D5090 OTHER ELECTRICAL SYSTEMS	$598,400	$1,669,278	$1,669,278	$1,669,278

Wildwood Elementary School K-5 OPTIONS	OPT W10 NEW ESTIMATE TOTAL	OPT W7 ESTIMATE TOTAL	OPT W12 ESTIMATE TOTAL	OPT FR5 ESTIMATE TOTAL
E. EQUIPMENT & FURNISHINGS				
E10 - EQUIPMENT				
E1010 COMMERCIAL EQUIPMENT	$0	$400,000	$400,000	$400,000
E1020 INSTITUTIONAL EQUIPMENT	$0	$0	$0	$0
E1030 VEHICULAR EQUIPMENT	$0	$0	$0	$0
E1090 OTHER EQUIPMENT	$101,650	$167,650	$167,650	$167,650
E20 - FURNISHINGS				
E 2010 FIXED FURNISHINGS	$337,500	$928,058	$928,058	$928,058
E2020 MOVABLE FURNISHINGS	$0	$0	$0	$0
F. SPECIAL CONSTRUCTION & DEMOLITION				
F10 - SPECIAL CONSTRUCTION				
F1010 SPECIAL STRUCTURES	$0	$0	$0	$0
F1020 INTEGRATED CONSTRUCTION	$0	$0	$0	$0
F1030 SPECIAL CONSTRUCTION SYSTEMS	$0	$0	$0	$0
F1040 SPECIAL FACILITIES	$0	$0	$0	$0
F1050 SPECIAL CONTROLS & INSTRUMENTATION	$0	$0	$0	$0
F20 - SELECTIVE BUILDING DEMOLITION				
F2010 BUILDING ELEMENTS DEMOLITION	$0	$553,500	$553,500	$553,500
F2020 HAZARDOUS COMPONENTS ABATEMENT	$0	$820,000	$820,000	$820,000
G. BUILDING SITEWORK				
G10 - SITE PREPARATION				
G1010 SITE CLEARING	$190,609	$190,799	$189,461	$714,358
G1020 SITE DEMOLITION & RELOCATIONS	$174,275	$176,968	$172,363	$207,110
G1030 SITE EARTHWORK	$170,402	$173,034	$168,532	$202,508
G1040 HAZARDOUS WASTE REMEDIATION	$0	$0	$0	$0
G20 - SITE IMPROVEMENTS				
G2010 ROADWAYS	$212,534	$299,258	$274,690	$260,765
G2020 PARKING LOTS	$0	$0	$0	$0
G2030 PEDESTRIAN PAVING	$159,842	$248,692	$188,968	$185,237
G2040 SITE DEVELOPMENT	$785,150	$785,150	$785,150	$785,150
G2050 LANDSCAPING	$247,377	$241,592	$245,022	$264,040
G30 - SITE MECHANICAL UTILITIES				
G3010 WATER SUPPLY	$101,673	$108,801	$113,742	$110,292
G3020 SANITARY SEWER	$58,050	$54,800	$61,300	$67,800
G3030 STORM SEWER	$650,000	$650,000	$650,000	$650,000
G3040 HEATING DISTRIBUTION	$0	$0	$0	$0
G3050 COOLING DISTRIBUTION	$0	$0	$0	$0
G3060 FUEL DISTRIBUTION	$19,000	$19,000	$19,000	$19,000
G3090 OTHER SITE MECHANICAL UTILITIES	$0	$0	$0	$0
G40 - SITE ELECTRICAL UTILITIES				
G4010 ELECTRICAL DISTRIBUTION	$154,725	$154,725	$154,725	$154,725
G4020 SITE LIGHTING	$144,750	$144,750	$144,750	$144,750
G4030 SITE COMMUNICATIONS & SECURITY	$0	$0	$0	$0
G4090 OTHER SITE ELECTRICAL UTILITIES	$0	$0	$0	$0
G90 - OTHER SITE CONSTRUCTION				
G9010 SERVICE AND PEDESTRIAN TUNNELS	$0	$0	$0	$0
G9090 OTHER SITE SYSTEMS	$0	$0	$0	$0
TOTAL DIRECT COST	$16,350,604	$37,988,321	$36,969,635	$37,416,839

DESCRIPTION	UNIT COST	UNIT	NC W10 NEW QUANTITY	OPT W10 NEW TOTAL	OPT W7 QUANTITY	OPT W7 TOTAL	OPT W12 QUANTITY	OPT W12 TOTAL	OPT FR5 QUANTITY	OPT FR5 TOTAL
A. SUBSTRUCTURE										
A10 - FOUNDATIONS										
A1010 STANDARD FOUNDATIONS										
033000 CAST IN PLACE CONCRETE										
Wall Footing 1' x 3':										
3000 psi, NW, (incl. placement)	$168.00	CY	141	$23,688	269	$45,192	233	$39,144	217	$36,456
Formwork	$5.50	SFCA	2,544	$13,992	4,840	$26,620	4,200	$23,100	3,902	$21,461
Rebar	$1.16	LBS	7,050	$8,178	13,450	$15,602	11,650	$13,514	10,850	$12,586
Column Footing Perm 8'x8'x2'										
3000 psi, NW, (incl. placement)	$172.00	CY	659	$113,348	1,465	$251,980	1,199	$206,228	1,105	$190,060
Formwork	$8.00	SFCA	8,896	$71,168	19,776	$158,208	16,192	$129,536	14,912	$119,296
Rebar	$1.16	LBS	49,425	$57,333	109,875	$127,455	89,925	$104,313	82,875	$96,135
Foundation Frost Wall 1'-4" x 4'-0" Deep:										
4000 psi, NW, (incl. placement)	$175.00	CY	250	$43,750	477	$83,475	410	$71,750	381	$66,675
Formwork	$11.00	SFCA	10,104	$111,144	19,296	$212,256	16,592	$182,512	15,408	$169,488
Brick Shelf	$13.50	LF	1,263	$17,051	2,412	$32,562	2,074	$27,999	1,926	$26,001
Reinforcing steel	$1.16	LBS	37,500	$43,500	71,550	$82,998	61,500	$71,340	57,150	$66,294
Int. Wall Footing 1' X 2':										
4000 psi, NW, (incl. placement)	$148.00	CY	6.00	$888	18	$2,664	9	$1,332	18	$2,664
Formwork	$5.50	SFCA	160.00	$880	460	$2,530	430	$2,365	460	$2,530
Rebar	$1.16	LBS	300	$348	900	$1,044	450	$522	900	$1,044
Ramp/Stage Int. Wall Footing 1' X 2' :										
4000 psi, NW, (incl. placement)	$148.00	CY			18	$2,664	18	$2,664	18	$2,664
Formwork	$5.50	SFCA			500	$2,750	500	$2,750	500	$2,750
Rebar	$1.16	LBS			900	$1,044	900	$1,044	900	$1,044
Ramp/Stage Foundation Wall 1' x 2' to 4' Deep:										
4000 psi, NW, (incl. placement)	$158.00	CY			37	$5,846	37	$5,846	37	$5,846
Formwork	$8.00	SFCA			2,000	$16,000	2,000	$16,000	2,000	$16,000
Reinforcing steel	$1.16	LBS			5,550	$6,438	5,550	$6,438	5,550	$6,438
Grade Beam @ brace frames	$825.00	CY	25	$20,625	60	$49,500	60	$49,500	60	$49,500
12" Elevator mat	$575.00	CY	6	$3,450	6	$3,450	6	$3,450	6	$3,450
Elevator pit wall	$920.00	CY	6	$5,520	6	$5,520	6	$5,520	6	$5,520
Elev. sump pit	$1,200.00	LS	1	$1,200	1	$1,200	1	$1,200	1	$1,200
Canopy pier	$650.00	CY	12	$7,800	12	$7,800	12	$7,800	12	$7,800
Pilasters	$775.00	CY	25	$19,375	48	$37,200	42	$32,550	39	$30,225
Equipment pads	$5,000.00	LS	1	$5,000	1	$5,000	1	$5,000	1	$5,000
072100 INSULATION										
2" Rigid ext. found. insul w/prot.bd	$2.90	SF	5,052	$14,651	9,648	$27,979	8,296	$24,058	7,704	$22,342
071000 DAMPPROOF., WATERPROOF. & CAULKI										
Foundation dampproofing	$1.90	SF	5,052	$9,599	9,648	$18,331	8,296	$15,762	7,704	$14,638

DESCRIPTION	UNIT COST	NC UNIT	W10 NEW QUANTITY	OPT W10 NEW TOTAL	OPT W7 QUANTITY	OPT W7 TOTAL	OPT W12 QUANTITY	OPT W12 TOTAL	OPT FR5 QUANTITY	OPT FR5 TOTAL
Elev. pit waterproofing	$4,100.00	LS	1	$4,100	1	$4,100	1	$4,100	1	$4,100
310000 EARTHWORK										
Unsuitable Soil Replacement:										
Excavate unsuitable soil	$12.00	CY	500	$6,000	1,000	$12,000	1,000	$12,000	1,000	$12,000
Dispose Unsuitable	$15.00	CY	500	$7,500	1,000	$15,000	1,000	$15,000	1,000	$15,000
Structural fill	$32.00	CY	500	$16,000	1,000	$32,000	1,000	$32,000	1,000	$32,000
Foundation Earthwork:										
Foundation excavation	$10.00	CY	3,089	$30,893	9,149	$91,492	7,349	$73,494	7,132	$71,320
Foundation backfill (on site mat	$8.00	CY	3,089	$24,715	9,149	$73,194	7,349	$58,796	7,132	$57,056
Foundation drain	$28.00	LF	1,263	$35,364	2,412	$67,536	2,074	$58,072	1,926	$53,928
				$717,059		$1,528,630		$1,306,700		$1,230,510
A1020 SPECIAL FOUNDATIONS										
NOT USED										
				$0		$0		$0		$0
A1030 SLAB ON GRADE										
310000 EARTHWORK										
12" Gravel base	$24.00	CY	1,030	$24,720	3,050	$73,200	2,450	$58,800	2,377	$57,048
Excavate plumbing trenches		LS	1	$10,000	1	$20,000	1	$20,000	1	$20,000
033000 CAST IN PLACE CONCRETE										
5" Slab on Grade:										
3500 psi, NW, (incl. placement)	$164.00	CY	429	$70,356	1,270	$208,280	1,021	$167,444	991	$162,524
Barrier One Admix	$62.00	CY	429	$26,598	1,270	$78,740	1,021	$63,302	991	$61,442
6x6 W 2.9 X W 2.9	$1.42	SF	27,804	$39,482	82,343	$116,927	66,145	$93,926	64,188	$91,147
Control Joint	$3.10	LF	1,390	$4,310	4,117	$12,763	3,307	$10,252	3,209	$9,949
Trowel Finish	$2.05	SF	27,804	$56,998	82,343	$168,803	66,145	$135,597	64,188	$131,585
072100 INSULATION										
2" Rigid Slab Insul.	$3.05	SF	27,804	$84,802	82,343	$251,146	66,145	$201,742	64,188	$195,773
072616 BELOW GRADE VAPOR RETARDER										
Stegro vapor barrier	$0.74	SF	27,804	$20,575	82,343	$60,934	66,145	$48,947	64,188	$47,499
				$337,841		$990,793		$800,011		$776,968
TOTAL A10 FOUNDATIONS				**$1,054,900**		**$2,519,424**		**$2,106,711**		**$2,007,478**
A20 - BASEMENT CONSTRUCTION										

DESCRIPTION	UNIT COST	NC UNIT	W10 NEW QUANTITY	OPT W10 NEW TOTAL	OPT W7 QUANTITY	OPT W7 TOTAL	OPT W12 QUANTITY	OPT W12 TOTAL	OPT FR5 QUANTITY	OPT FR5 TOTAL
A2010 BASEMENT EXCAVATION										
N/A										
				$0		$0		$0		$0
A2020 BASEMENT WALLS										
N/A										
				$0		$0		$0		$0
TOTAL A20 - BASEMENT CONSTRUCTION				**$0**		**$0**		**$0**		**$0**
B. SHELL										
B10 - SUPERSTRUCTURE										
B1010 FLOOR CONSTRUCTION										
051200 STRUCTURAL STEEL										
Floor frame (13 lbs / SF)	$3,850.00	TONS	106	$408,100	263	$1,012,550	368	$1,416,800	381	$1,466,850
Shear stud (10/100 SF)	$5.50	EA	1,620	$8,910	4,038	$22,209	5,660	$31,130	5,853	$32,192
T.S. brace frame		Incl. above								
033000 CAST IN PLACE CONCRETE										
4 1/2" NW Deck fill	$4.05	SF	16,196	$65,594	40,371	$163,503	56,596	$229,214	58,526	$237,030
Barrier One Admix	$1.00	SF	16,196	$16,196	40,371	$40,371	56,569	$56,569	58,529	$58,529
053100 STEEL DECKING										
2" x 20 Ga. comp deck	$2.35	SF	16,196	$38,061	40,371	$94,872	56,569	$132,937	58,529	$137,543
072100 INSULATION										
Spray on fireproof. - Shaft open	$12,000	LS	1	$12,000	1	$12,000	1	$12,000	1	$12,000
				$548,860		$1,345,504		$1,878,650		$1,944,144
B1020 ROOF CONSTRUCTION										
051200 STRUCTURAL STEEL										
Typ. flat roof frame (13 lbs / SI	$3,650.00	TONS	191	$697,150	561	$2,047,650	456	$1,664,400	444	$1,620,600
Galv. RTU dunnage - allow	$4,100.00	TONS	5	$20,500	10	$41,000	10	$41,000	10	$41,000
8' Galv. TS roof screen support	$4,100.00	TONS	3.5	$14,350	14	$57,400	14	$57,400	14	$57,400
T.S. brace frame		Incl. above								
Frame Entry Canopies	$3,800.00	TONS	6	$22,800	12	$45,600	12	$45,600	12	$45,600
033000 CAST IN PLACE CONCRETE										
3 1/2" NWConc. Deck fill - mec	$4.10	SF	500	$2,050	1,500	$6,150	1,500	$6,150	1,500	$6,150
053100 STEEL DECKING										

DESCRIPTION	UNIT COST	NC UNIT	W10 NEW QUANTITY	OPT W10 NEW TOTAL	OPT W7 QUANTITY	OPT W7 TOTAL	OPT W12 QUANTITY	OPT W12 TOTAL	OPT FR5 QUANTITY	OPT FR5 TOTAL
3" x 18 Ga acoust. deck - gym	$7.15	SF	2,500	$17,875	6,000	$42,900	6,000	$42,900	6,000	$42,900
1 1/2" x 20 Ga balance flat roo	$2.30	SF	26,804	$61,649	80,343	$184,789	64,145	$147,534	62,188	$143,032
1 1/2" x 20 Ga canopy roof de	$2.30	SF	1,000	$2,300	2,000	$4,600	2,000	$4,600	2,000	$4,600
072100 INSULATION										
Spray on fireproofing - Shaft op	$12,000.00	LS	1	$12,000	1	$12,000	1	$12,000	1	$12,000
				$850,674		$2,442,089		$2,021,584		$1,973,282
TOTAL B10 SUPERSTRUCTURE				**$1,399,535**		**$3,787,593**		**$3,900,233**		**$3,917,426**
B20 - EXTERIOR ENCLOSURE										
B2010 EXTERIOR WALLS										
040001 MASONRY*										
8" CMU backup - gym/kitchen/	$23.00	SF	4,056	$93,288	1,800	$41,400	3,318	$76,314	3,687	$84,801
Masonry Veneer:										
Brick Veneer - 30% of area	$28.00	SF	6,696	$187,488	12,630	$353,640	11,787	$330,036	11,690	$327,320
Precast window lintel	$65.00	LF	1,305	$84,825	2,502	$162,630	2,349	$152,685	2,331	$151,515
Precast window sill - typ.	$45.00	LF	1,305	$58,725	2,503	$112,635	2,349	$105,705	2,331	$104,895
Precast gym window sill	$45.00	LF	100	$4,500	110	$4,950	160	$7,200	160	$7,200
Canopy col. -complete (8 EA)	$350.00	VLF	80	$28,000	80	$28,000	80	$28,000	80	$28,000
Precast trim allowance		LS	1	$30,000	1	$100,000	1	$100,000	1	$100,000
Masonry flashing		LS	1	$20,000	1	$40,000	1	$40,000	1	$40,000
054000 COLD FORMED METAL FRAMING										
3" Soffit/eave framing	$5.25	SF	1,500	$7,875	4,000	$21,000	4,000	$21,000	4,000	$21,000
3" Canopy ceiling framing	$5.25	SF	1,000	$5,250	2,000	$10,500	2,000	$10,500	2,000	$10,500
1/2" Dens glass sheathing -soffi	$3.00	SF	1,500	$4,500	4,000	$12,000	4,000	$12,000	4,000	$12,000
1/2" Dens glass sheathing -ceili	$3.00	SF	1,000	$3,000	2,000	$6,000	2,000	$6,000	2,000	$6,000
8" x 18 Ga. stud @ typical wall	$9.35	SF	27,308	$255,330	42,099	$393,626	39,291	$367,371	38,965	$364,323
1/2" Dens glass sheathing-ext. v	$2.95	SF	27,308	$80,559	42,099	$124,192	39,291	$115,908	38,965	$114,947
050001 MISCELLANEOUS & ORNAMENTAL IRON										
Galv, loose lintel	$32.00	LF	50	$1,600	125	$4,000	125	$4,000	125	$4,000
*Relieving angle carried w/Structure										
071326 AIR & VAPOR BARRIERS										
Adhered air & vapor barrier - w	$5.25	SF	31,364	$164,661	60,131	$315,688	56,388	$296,037	55,954	$293,759
Adhered air & vapor barrier - sc	$5.25	SF	1,500	$7,875	4,000	$21,000	4,000	$21,000	4,000	$21,000
072100 INSULATION										
Spray foam at perm openings	$4.75	LF	6,200	$29,450	11,700	$55,575	10,962	$52,070	10,878	$51,671
3" Rigid Insul - wall	$3.45	SF	31,364	$108,206	60,131	$207,452	56,388	$194,539	55,954	$193,041

DESCRIPTION	UNIT COST	NC UNIT	W10 NEW QUANTITY	OPT W10 NEW TOTAL	OPT W7 QUANTITY	OPT W7 TOTAL	OPT W12 QUANTITY	OPT W12 TOTAL	OPT FR5 QUANTITY	OPT FR5 TOTAL
074213 PERFORMED CLADDING										
Wall Panel:										
Metal Panel - 45% area	$75.00	SF	10,046	$753,450	18,994	$1,424,550	17,681	$1,326,075	17,535	$1,315,125
8' Equip roof screen (84LF) - all	$35.00	SF	700	$24,500	2,800	$98,000	2,800	$98,000	2,800	$98,000
Canopy ceiling	$18.00	SF	1,000	$18,000	2,000	$36,000	2,000	$36,000	2,000	$36,000
092116 GYPSUM WALLBOARD										
1 Lyr 5/8" gyp @ ext. wall	$2.10	SF	25,000	$52,500	52,000	$109,200	48,000	$100,800	47,000	$98,700
090007 PAINTING*										
Exterior painting	$7,500.00	LS	1	$7,500	1	$7,500	1	$7,500	1	$7,500
101400 IDENTIFYING DEVICES (EXT. BLD MTD S										
24" Alum bldg mtd letter - allo	$345.00	EA	24	$8,280	24	$8,280	24	$8,280	24	$8,280
				$2,039,361		$3,697,817		$3,517,019		$3,499,576
B2020 EXTERIOR WINDOWS										
061000 ROUGH CARPENTRY										
P.T. - perim blocking	$6.75	LF	6,200	$41,850	11,700	$78,975	10,692	$72,171	10,878	$73,427
071326 AIR & VAPOR BARRIERS										
Flex flashing - perim	$7.50	LF	6,200	$46,500	11,700	$87,750	10,692	$80,190	10,878	$81,585
071000 DAMPPROOF., WATERPROOF. & CAULKING*										
Exterior sealants - perim.	$6.90	LF	6,200	$42,780	11,700	$80,730	10,692	$73,775	10,878	$75,058
080001 METAL WINDOWS*										
Curtain wall - 7"	$110.00	SF	1,200	$132,000	3,000	$330,000	3,000	$330,000	3,000	$330,000
Sun screen (30") - allow	$235.00	LF	100	$23,500	250	$58,750	250	$58,750	250	$58,750
Gym translucent panels - kalwal	$60.00	SF	950	$57,000	1,500	$90,000	1,500	$90,000	1,500	$90,000
*Includes glass glazing and spandrel panel										
Alum Window - dbl glazed - 20	$82.00	SF	7,841	$642,962	15,032	$1,232,624	14,097	$1,155,954	13,989	$1,147,098
109000 MISCELLANEOUS SPECIALTIES										
Alum louvers - allow	$65.00	SF	50	$3,250	100	$6,500	100	$6,500	100	$6,500
Int. light shelf		NIC								
				$989,842		$1,965,329		$1,867,340		$1,862,418

DESCRIPTION	UNIT COST	NC UNIT	W10 NEW QUANTITY	OPT W10 NEW TOTAL	OPT W7 QUANTITY	OPT W7 TOTAL	OPT W12 QUANTITY	OPT W12 TOTAL	OPT FR5 QUANTITY	OPT FR5 TOTAL
B2030 EXTERIOR DOORS										
061000 ROUGH CARPENTRY										
P.T. - perim blocking - HM ope	$4.10	LF	110	$451	396	$1,624	396	$1,624	396	$1,624
071000 DAMPPROOF., WATERPROOF. & CAULKING*										
Exterior sealants - perim. HM o	$6.25	LF	110	$688	396	$2,475	396	$2,475	396	$2,475
080001 METAL WINDOWS*										
7' Alum. Doors (Incl. Hardware):										
Entry - dbl	$8,200.00	EA	4	$32,800	8	$65,600	7	$57,400	7	$57,400
Café - dbl	$8,200.00	EA			1	$8,200	1	$8,200	1	$8,200
Courtyard - dbl	$8,200.00	EA	1	$8,200	1	$8,200	1	$8,200	1	$8,200
Roof access - sgl	$2,500.00	EA			1	$2,500	1	$2,500	1	$2,500
Auto opener - allow	$6,500.00	PR			1	$6,500	1	$6,500	1	$6,500
Classroom - sgl		N/A								
*Storefront at entries W /B 2020										
081113 HOLLOW METALWORK										
Insulated HM Doors and Frame:										
Receiving - dbl	$2,700.00	EA			1	$2,700	1	$2,700	1	$2,700
Elec/mech rm - sgl	$1,350.00	EA			1	$1,350	1	$1,350	1	$1,350
Elec/mech rm - dbl	$2,700.00	EA			1	$2,700	1	$2,700	1	$2,700
Storage - dbl	$2,700.00	EA			1	$2,700	1	$2,700	1	$2,700
Gym - dbl	$5,000.00	EA			2	$10,000	2	$10,000	2	$10,000
083323 SPECIAL DOORS										
OH Doors	$4,500.00	EA			1	$4,500	1	$4,500	1	$4,500
				$42,139		$119,049		$110,849		$110,849
TOTAL B20 - EXTERIOR ENCLOSURE				**$3,071,342**		**$5,782,195**		**$5,495,208**		**$5,472,842**
B30 - ROOFING										
B3010 ROOF COVERINGS										
061000 ROUGH CARPENTRY										
PT Roof blocking	$2.05	SF	30,304	$62,123	88,343	$181,103	72,145	$147,897	70,188	$143,885
070002 ROOFING AND FLASHING*										
PVC roof - canopy	$10.00	SF	1,000	$10,000	2,000	$20,000	2,000	$20,000	2,000	$20,000
PVC roof w/ 6" rigid insul	$14.00	SF	29,304	$410,256	86,343	$1,208,802	70,145	$982,030	68,188	$954,632
1/2" Gyp prot. bd w/glass mat @	$1.55	SF	29,304	$45,421	86,343	$133,832	70,145	$108,725	68,188	$105,691
Poly vapor barrier - 100%	$0.35	SF	29,304	$10,256	86,343	$30,220	70,145	$24,551	68,188	$23,866
Roof Flashing	$1.55	SF	29,304	$45,421	86,343	$133,832	70,145	$108,725	68,188	$105,691
Roof walkway paver (2'x2')	$6.00	SF	500	$3,000	2,000	$12,000	2,000	$12,000	2,000	$12,000
Alum.Trim :										

DESCRIPTION	UNIT COST	NC UNIT	W10 NEW QUANTITY	OPT W10 NEW TOTAL	OPT W7 QUANTITY	OPT W7 TOTAL	OPT W12 QUANTITY	OPT W12 TOTAL	OPT FR5 QUANTITY	OPT FR5 TOTAL
Typical ROOF coping	$25.00	LF	1,263	$31,575	2,412	$60,300	2,074	$51,850	1,926	$48,150
Soffit /eave panel	$25.00	SF	1,500	$37,500	4,000	$100,000	4,000	$100,000	4,000	$100,000
Misc. flashing	$2.00	SF	29,304	$58,608	86,343	$172,686	70,145	$140,290	68,188	$136,376
				$714,161		$2,052,775		$1,696,068		$1,650,292
B3020 ROOF OPENINGS										
077200 ROOF ACCESSORIES										
Roof hatch	$3,500.00	EA	1	$3,500	1	$3,500	1	$3,500	1	$3,500
Elevator vent	$1,200.00	EA	1	$1,200	1	$1,200	1	$1,200	1	$1,200
Roof guardrail	$135.00	LF	50	$6,750	100	$13,500	100	$13,500	100	$13,500
Stage vent		N/A								
Skylights		NIC								
*Mechanical equip screen is included with B1020 & B2010										
				$11,450		$18,200		$18,200		$18,200
TOTAL B30 ROOFING				**$725,611**		**$2,070,975**		**$1,714,268**		**$1,668,492**
C. INTERIORS										
C10 - INTERIOR CONSTRUCTION										
C1010 PARTITIONS										
040001 MASONRY*										
8" CMU elev. shaft wall	$24.00	SF	1,350	$32,400	1,350	$32,400	1,350	$32,400	1,350	$32,400
8" CMU - gym and misc	$22.00	SF	1,000	$22,000	4,500	$99,000	4,500	$99,000	4,500	$99,000
061000 ROUGH CARPENTRY										
Interior blocking	$0.30	GSF	44,000	$13,200	122,741	$36,822	122,741	$36,822	122,741	$36,822
Misc. rough carpentry	$0.50	GSF	44,000	$22,000	122,741	$61,371	122,741	$61,371	122,741	$61,371
072100 INSULATION										
Firestopping	$0.35	GSF	44,000	$15,400	122,741	$42,959	122,741	$42,959	122,741	$42,959
081113 HOLLOW METALWORK										
Interior H.M Windows, Sidelites and Transoms (INC. GLAZING):										
Sidelight (2' x 7')	$896.00	EA	36	$32,256	55	$49,280	55	$49,280	55	$49,280
Misc. window/sidelight & trans	$64.00	SF	750	$48,000	1,500	$96,000	1,500	$96,000	1,500	$96,000
083323 SPECIAL DOORS										
Access panels	$20,000.00	LS	1	$20,000	1	$20,000	1	$20,000	1	$20,000
092116 GYPSUM WALLBOARD										
Specialty Partitions:										
Operable Café partition	$90.00	SF			720	$64,800	720	$64,800	720	$64,800
Drywall Partitions:										

DESCRIPTION	UNIT COST	NC UNIT	W10 NEW QUANTITY	OPT W10 NEW TOTAL	OPT W7 QUANTITY	OPT W7 TOTAL	OPT W12 QUANTITY	OPT W12 TOTAL	OPT FR5 QUANTITY	OPT FR5 TOTAL
GWB assemblies	$11.00	GSF	44,000	$484,000	122,741	$1,350,151	122,741	$1,350,151	122,741	$1,350,151
				$689,256		$1,852,783		$1,852,783		$1,852,783
C1020 INTERIOR DOORS										
081113 HOLLOW METALWORK										
081416 WOOD AND PLASTIC DOORS										
Interior Door frame and Hardwa	$6.75	GSF	44,000	$297,000	122,741	$828,502	122,741	$828,502	122,741	$828,502
080001 METAL WINDOWS*										
Aluminum (Frame, Door, Glass, Glazing and Hdw):										
Vest - dbl	$7,800.00	PR	2	$15,600	4	$31,200	4	$31,200	4	$31,200
Main office -sgl	$3,600.00	EA			2	$7,200	2	$7,200	2	$7,200
Aluminum Storefront:										
Vestibule 10'	$82.00	SF	125	$10,250	500	$41,000	500	$41,000	500	$41,000
Main office 10'	$82.00	SF		$0	750	$61,500	750	$61,500	750	$61,500
083323 SPECIAL DOORS										
Dish drop window	$3,000.00	EA		$0	1	$3,000	1	$3,000	1	$3,000
Kitchen OH grille	$4,500.00	EA		$0	1	$4,500	1	$4,500	1	$4,500
Main office security grate		N/A								
				$322,850		$976,902		$976,902		$976,902
C1030 FITTINGS										
050001 MISCELLANEOUS & ORNAMENTAL IRON*										
Gym equip. support & frame	$5,000.00	LS	1	$5,000	1	$5,000	1	$5,000	1	$5,000
OT/PT swing support	$1,500.00	LS	1	$1,500	1	$1,500	1	$1,500	1	$1,500
Misc. metals	$1.50	GSF	44,000	$66,000	122,741	$184,112	122,741	$184,112	122,741	$184,112
062000 FINISH CARPENTRY										
Utility & closet shelving	$7,500.00	LS	1	$7,500	1	$7,500	1	$7,500	1	$7,500
Typ. window sill/apron (nic cw-	$36.00	LF	1,305	$46,980	2,503	$90,108	2,349	$84,564	2,331	$83,916
Built - in corridor benches	$300.00	LF	20	$6,000	60	$18,000	60	$18,000	60	$18,000
Proscenium trim @ stage front	$12,000.00	LS			1	$12,000	1	$12,000	1	$12,000
Misc. wood trim	$0.30	GSF	44,000	$13,200	122,741	$36,822	122,741	$36,822	122,741	$36,822
Custom Casework:										
Admin desk	$10,000.00	LS			1	$10,000	1	$10,000	1	$10,000
Circulation desk	$12,000.00	LS			1	$12,000	1	$12,000	1	$12,000
102113 COMPARTMENTS & CUBICLES										
Solid Plastic Toilet Partitions:	$0.22	GSF	44,000	$9,680	122,741	$27,003	122,741	$27,003	122,741	$27,003
102813 TOILET & BATH ACCESSORIES										

DESCRIPTION	UNIT COST	NC UNIT	W10 NEW QUANTITY	OPT W10 NEW TOTAL	OPT W7 QUANTITY	OPT W7 TOTAL	OPT W12 QUANTITY	OPT W12 TOTAL	OPT FR5 QUANTITY	OPT FR5 TOTAL
Toilet Accessories	$0.55	GSF	44,000	$24,200	122,741	$67,508	122,741	$67,508	122,741	$67,508
101100 MARKERBOARDS & TACKBOARDS										
5' Smart board		NIC								
Markerboards 4'6" h	$18.00	SF	1,500	$27,000	3,000	$54,000	3,000	$54,000	3,000	$54,000
Tackboards 4'6" h	$13.50	SF	750	$10,125	1,500	$20,250	1,500	$20,250	1,500	$20,250
Display cases - allow	$15,000.00	LS	1	$15,000	1	$15,000	1	$15,000	1	$15,000
109000 MISCELLANEOUS SPECIALTIES										
Metal corridor locker (12"x15"x	$215.00	EA	375	$80,625	750	$161,250	750	$161,250	750	$161,250
Kitchen staff locker - allow	$225.00	EA			10	$2,250	10	$2,250	10	$2,250
Wall & corner guards - allow	$5,000.00	LS	1	$5,000	1	$5,000	1	$5,000	1	$5,000
Fire extinguisher and cab - allov	$450.00	EA	8	$3,600	12	$5,400	12	$5,400	12	$5,400
Cubicle curtain track w/ curtain	$1,200.00	EA	1	$1,200	1	$1,200	1	$1,200	1	$1,200
Misc. specialties	$10,000.00	LS	1	$10,000	1	$10,000	1	$10,000	1	$10,000
101400 IDENTIFYING DEVICES										
Building directory - allow	$5,000.00	EA		$0		$0		$0		$0
Dedication plaque	$3,500.00	EA		$0		$0		$0		$0
Door signage plaque	$0.15	GSF	44,000	$6,600	122,741	$18,411	122,741	$18,411	122,741	$18,411
				$339,210		$764,314		$758,770		$758,122
TOTAL C10 - INTERIOR CONSTRUCTION				**$1,351,316**		**$3,593,998**		**$3,588,454**		**$3,587,806**
C20 - STAIRS										
C2010 STAIR CONSTRUCTION										
050001 MISCELLANEOUS & ORNAMENTAL IRON*										
Metal Pan Stair w/Rails:										
Monumental lobby	$55,000.00	FLT			2	$110,000	2	$110,000	2	$110,000
Egress corridor stair	$27,500.00	FLT	2	$55,000	4	$110,000	2	$55,000	2	$55,000
Stage stair (2 flt)	$4,500.00	FLT			2	$9,000	2	$9,000	2	$9,000
Interior Rails:										
Allow for interior railing	$0.65	GSF	44,000	$28,600	122,741	$79,782	122,741	$79,782	122,741	$79,782
033000 CAST IN PLACE CONCRETE										
Conc stair pan fill - full flt	$1,250.00	FLTS	2	$2,500	6	$7,500	6	$7,500	6	$7,500
				$86,100		$316,282		$261,282		$261,282
C2020 STAIR FINISHES										
090005 RESILIENT FLOORING*										

DESCRIPTION	UNIT COST	NC UNIT	W10 NEW QUANTITY	OPT W10 NEW TOTAL	OPT W7 QUANTITY	OPT W7 TOTAL	OPT W12 QUANTITY	OPT W12 TOTAL	OPT FR5 QUANTITY	OPT FR5 TOTAL
Rubber treads and risers	$1,450.00	FLTS	2	$2,900	6	$8,700	6	$8,700	6	$8,700
Rubber stair landing tile	$6.00	SF	384	$2,304	1,250	$7,500	1,250	$7,500	1,250	$7,500
090007 PAINTING*										
Paint stair & rails - full flt	$2,300.00	FLTS	2	$4,600	6	$13,800	6	$13,800	6	$13,800
095000 WOOD FLOOR										
Stage stair tread	$750.00	EA			2	$1,500	2	$1,500	2	$1,500
				$9,804		$31,500		$31,500		$31,500
TOTAL C20 - STAIRS				**$95,904**		**$347,782**		**$292,782**		**$292,782**
C30 - INTERIOR FINISHES										
C3010 WALL FINISHES										
071000 DAMPPROOF., WATERPROOF. & CAULKING*										
Joint sealants - interior	$0.55	GSF	44,000	$24,200	122,741	$67,508	122,741	$67,508	122,741	$67,508
098400 ACOUSTICAL WALL TREATMENT										
Tectum Wall Panel:										
2" Gymnasium -allow	$20.00	SF	500	$10,000	1,500	$30,000	1,500	$30,000	1,500	$30,000
Fabric Wrapped Acoustical Panels - Allow:										
Stage	$27.00	SF			500	$13,500	500	$13,500	500	$13,500
Café	$27.00	SF			500	$13,500	500	$13,500	500	$13,500
Corridor	$27.00	SF	500	$13,500	500	$13,500	500	$13,500	500	$13,500
Music class rm	$27.00	SF	500	$13,500	500	$13,500	500	$13,500	500	$13,500
Media Center	$27.00	SF	500	$13,500	500	$13,500	500	$13,500	500	$13,500
090002 TILE*										
Ceramic Wall Tile:										
Toilet rm - 7'	$14.00	SF	1,350	$18,900	622	$8,708	6,200	$86,800	6,200	$86,800
Janitor closet	$14.00	SF	150	$2,100	400	$5,600	400	$5,600	400	$5,600
Stair hall	$14.00	SF	750	$10,500	2,200	$30,800	2,200	$30,800	2,200	$30,800
Corridor	$14.00	SF	5,300	$74,200	9,500	$133,000	9,500	$133,000	9,500	$133,000
Kitchen	$14.00	SF			1,500	$21,000	1,500	$21,000	1,500	$21,000
Café - allow	$14.00	SF			1,000	$14,000	100	$1,400	100	$1,400
090007 PAINTING*										
Vinyl wall covering		NIC								
Interior painting- walls	$2.20	GSF	44,000	$96,800	122,741	$270,030	122,741	$270,030	122,741	$270,030
				$277,200		$648,146		$713,638		$713,638
C3020 FLOOR FINISHES										

DESCRIPTION	UNIT COST	NC UNIT	W10 NEW QUANTITY	OPT W10 NEW TOTAL	OPT W7 QUANTITY	OPT W7 TOTAL	OPT W12 QUANTITY	OPT W12 TOTAL	OPT FR5 QUANTITY	OPT FR5 TOTAL
033000 CAST IN PLACE CONCRETE										
Sealed Concrete - mech / elec rr	$0.95	SF	500	$475	1,500	$1,425	1,500	$1,425	1,500	$1,425
090005 RESILIENT FLOORING*										
Quarry Tile Flooring:										
Kitchen	$16.50	SF			1,950	$32,175	1,950	$32,175	1,950	$32,175
Ceramic Tile:										
Toilet Room (sgl user)	$22.00	SF	1,200	$26,400	2,650	$58,300	2,650	$58,300	2,650	$58,300
Janitor Closet	$20.00	SF	100	$2,000	300	$6,000	300	$6,000	300	$6,000
Porcelain Tile:										
Entry P.T flooring	$18.00	SF	1,000	$18,000	2,200	$39,600	2,200	$39,600	2,200	$39,600
Linoleum Flooring	$8.50	SF	36,752	$312,392	93,514	$794,869	93,514	$794,869	93,514	$794,869
Rubber base	$0.35	GSF	44,000	$15,400	122,741	$42,959	122,741	$42,959	122,741	$42,959
095000 WOOD FLOOR										
Wood sports flooring	$18.00	SF	2,448	$44,064	6,000	$108,000	6,000	$108,000	6,000	$108,000
Stage wood flooring - maple	$14.00	SF			1,100	$15,400	1,100	$15,400	1,100	$15,400
096800 CARPET										
Admin/Media carpet	$5.00	SF	2,500	$12,500	15,000	$75,000	15,000	$75,000	15,000	$75,000
124813 MATS										
Alum. Entrance Grille:										
Main entry	$28.00	SF	200	$5,600	450	$12,600	450	$12,600	450	$12,600
				$436,831		$1,186,328		$1,186,328		$1,186,328
C3030 CEILING FINISHES										
092116 GYPSUM WALLBOARD										
Gyp ceiling - toilet rm	$8.00	SF	1,200	$9,600	2,650	$21,200	2,650	$21,200	2,650	$21,200
2 Hr. gyp ceiling	$13.00	SF	300	$3,900	1,500	$19,500	1,500	$19,500	1,500	$19,500
Typ. gyp ceiling	$10.20	SF	2,000	$20,400	10,000	$102,000	10,000	$102,000	10,000	$102,000
Stage acoustical reflector - allov	$20,000.00	LS			1	$20,000	1	$20,000	1	$20,000
Gyp soffits & light coves	$0.75	GSF								
090003 ACOUSTICAL TILE*										
ACT 3 Music class rooms	$12.00	SF	2,000		2,000	$24,000	2,000	$24,000	2,000	$24,000
ACT 2 MR Kitchen	$5.50	SF			1,950	$10,725	1,950	$10,725	1,950	$10,725
ACT 1 Media ctr	$8.00	SF			4,000	$32,000	4,000	$32,000	4,000	$32,000
ACT 1 Corridor/lobby/Classroo	$4.90	SF	35,560	$174,244	91,914	$450,379	91,914	$450,379	91,914	$450,379
090007 PAINTING*										

DESCRIPTION	UNIT COST	NC UNIT	W10 NEW QUANTITY	OPT W10 NEW TOTAL	OPT W7 QUANTITY	OPT W7 TOTAL	OPT W12 QUANTITY	OPT W12 TOTAL	OPT FR5 QUANTITY	OPT FR5 TOTAL
Paint gyp ceiling	$0.85	SF	3,500	$2,975	14,150	$12,028	14,150	$12,028	14,150	$12,028
Paint gyp soffits & light coves	$5,000.00	LS	1	$5,000	1	$5,000	1	$5,000	1	$5,000
Paint exposed structure - gym	$1.50	SF	2,440	$3,660	6,000	$9,000	6,000	$9,000	6,000	$9,000
Paint exposed structure - stage	$1.50	SF			1,200	$1,800	1,200	$1,800	1,200	$1,800
Paint exposed structure - mech/	$1.00	SF	500	$500	1,500	$1,500	1,500	$1,500	1,500	$1,500
				$220,279		$709,131		$709,131		$709,131
TOTAL C30 - INTERIOR FINISHES				**$934,310**		**$2,543,605**		**$2,609,097**		**$2,609,097**
D. SERVICES										
D10 - CONVEYING										
D1010 ELEVATORS & LIFTS										
140001 ELEVATORS*										
Stage lift		N/A								
Passenger elevator - NEW	$52,000.00	STOP	2	$104,000	2	$104,000	2	$104,000	2	$104,000
050001 MISCELLANEOUS & ORNAMENTAL IRON*										
Elev. framing	$3,000.00	EA	1	$3,000	1	$3,000	1	$3,000	1	$3,000
Elev. pit ladder	$1,500.00	EA	1	$1,500	1	$1,500	1	$1,500	1	$1,500
Elev. Sump grate	$750.00	EA	1	$750	1	$750	1	$750	1	$750
Elev. Louver	$500.00	EA	1	$500	1	$500	1	$500	1	$500
				$109,750		$109,750		$109,750		$109,750
TOTAL D10 - CONVEYING				**$109,750**		**$109,750**		**$109,750**		**$109,750**
D20 - PLUMBING										
D2010 PLUMBING FIXTURES										
Plumbing	$13.00	GSF	44,000	$572,000	122,741	$1,595,633	122,741	$1,595,633	122,741	$1,595,633
				$572,000		$1,595,633		$1,595,633		$1,595,633
TOTAL D20 - PLUMBING				**$572,000**		**$1,595,633**		**$1,595,633**		**$1,595,633**
D30 - HVAC										
D3010 HVAC										
HVAC	$36.50	GSF	44,000	$1,606,000	122,741	$4,480,047	122,741	$4,480,047	122,741	$4,480,047

DESCRIPTION	UNIT COST	NC UNIT	W10 NEW QUANTITY	OPT W10 NEW TOTAL	OPT W7 QUANTITY	OPT W7 TOTAL	OPT W12 QUANTITY	OPT W12 TOTAL	OPT FR5 QUANTITY	OPT FR5 TOTAL
				$1,606,000		$4,480,047		$4,480,047		$4,480,047
TOTAL D30 - HVAC				**$1,606,000**		**$4,480,047**		**$4,480,047**		**$4,480,047**
D40 - FIRE PROTECTION										
D4010 SPRINKLERS										
210001 FIRE SUPPRESSION*										
Fire pump	$95,000.00	LS	1	$95,000	1	$95,000	1	$95,000	1	$95,000
Sprinkler system - wet	$4.50	GSF	44,000	$198,000	122,741	$552,335	122,741	$552,335	122,741	$552,335
				$293,000		$647,335		$647,335		$647,335
TOTAL D40 - FIRE PROTECTION				**$293,000**		**$647,335**		**$647,335**		**$647,335**
D50 - ELECTRICAL										
D5010 ELECTRICAL SERVICE & DISTRIBUTION										
260001 ELECTRICAL*										
Electrical	$4.50	GSF	44,000	$198,000	122,741	$552,335	122,741	$552,335	122,741	$552,335
Emergency Generator	$85,000.00	LS	1	$85,000	1	$85,000	1	$85,000	1	$85,000
				$283,000		$637,335		$637,335		$637,335
D5020 LIGHTING & BRANCH WIRING										
260001 ELECTRICAL*										
Lighting	$6.75	GSF	44,000	$297,000	122,741	$828,502	122,741	$828,502	122,741	$828,502
Lighting Control	$1.75	GSF	44,000	$77,000	122,741	$214,797	122,741	$214,797	122,741	$214,797
				$374,000		$1,043,299		$1,043,299		$1,043,299
D5030 COMMUNICATION & SECURITY										
260001 ELECTRICAL*										
Security	$1.50	GSF	44,000	$66,000	122,741	$184,112	122,741	$184,112	122,741	$184,112
Tele/data cabling, racks and swi	$6.00	GSF	44,000	$264,000	122,741	$736,446	122,741	$736,446	122,741	$736,446
Sound Systems	$1.00	GSF	44,000	$44,000	122,741	$122,741	122,741	$122,741	122,741	$122,741

DESCRIPTION	UNIT COST	NC UNIT	W10 NEW QUANTITY	OPT W10 NEW TOTAL	OPT W7 QUANTITY	OPT W7 TOTAL	OPT W12 QUANTITY	OPT W12 TOTAL	OPT FR5 QUANTITY	OPT FR5 TOTAL
				$374,000		$1,043,299		$1,043,299		$1,043,299
D5090 OTHER ELECTRICAL SYSTEMS										
260001 ELECTRICAL*										
Fire Alarm	$3.00	GSF	44,000	$132,000	122,741	$368,223	122,741	$368,223	122,741	$368,223
Devices	$4.00	GSF	44,000	$176,000	122,741	$490,964	122,741	$490,964	122,741	$490,964
Clocks and PA	$2.50	GSF	44,000	$110,000	122,741	$306,853	122,741	$306,853	122,741	$306,853
Gym/Café Sound System	$1.00	GSF	44,000	$44,000	122,741	$122,741	122,741	$122,741	122,741	$122,741
Lighting Protection	$0.45	GSF	44,000	$19,800	122,741	$55,233	122,741	$55,233	122,741	$55,233
Mechanical Wiring	$0.65	GSF	44,000	$28,600	122,741	$79,782	122,741	$79,782	122,741	$79,782
Misc. Electrical	$2.00	GSF	44,000	$88,000	122,741	$245,482	122,741	$245,482	122,741	$245,482
				$598,400		$1,669,278		$1,669,278		$1,669,278
TOTAL D50 - ELECTRICAL				**$1,629,400**		**$4,393,209**		**$4,393,209**		**$4,393,209**
E. EQUIPMENT & FURNISHINGS										
E10 - EQUIPMENT										
E1010 COMMERCIAL EQUIPMENT										
114000 FOOD SERVICE EQUIPMENT										
Kitchen equipment & casework	$400,000	LS			1	$400,000	1	$400,000	1	$400,000
				$0		$400,000		$400,000		$400,000
E1090 OTHER EQUIPMENT										
113100 APPLIANCES										
Staff kitchen refrigerator	$1,000.00	EA	1	$1,000	2	$2,000	2	$2,000	2	$2,000
Staff kitchen microwave	$500.00	EA	1	$500	2	$1,000	2	$1,000	2	$1,000
Medical office refrigerator w/ic	$1,000.00	EA	1	$1,000	1	$1,000	1	$1,000	1	$1,000
Stackable washer and dryer - kitchen		NIC								
Life Skill Rm/Care Classroom - Allow:										
Dishwasher		NIC								
Refrigerator		NIC								
Range		NIC								
Range hood		NIC								
116600 ATHLETIC & SPORTS EQUIPMENT										
Basketball backstops - electric	$9,500.00	EA	2	$19,000	6	$57,000	6	$57,000	6	$57,000
Wall padding - 6'	$15.00	SF	250	$3,750	850	$12,750	850	$12,750	850	$12,750
Motorized gym divider curtain (	$18.00	SF	1,500	$27,000	1,500	$27,000	1,500	$27,000	1,500	$27,000
Volley ball court equip.	$700.00	EA	2	$1,400	2	$1,400	2	$1,400	2	$1,400
Scoreboard	$22,500.00	EA	1	$22,500	1	$22,500	1	$22,500	1	$22,500
PT floor mats		NIC								

DESCRIPTION	UNIT COST	NC UNIT	W10 NEW QUANTITY	OPT W10 NEW TOTAL	OPT W7 QUANTITY	OPT W7 TOTAL	OPT W12 QUANTITY	OPT W12 TOTAL	OPT FR5 QUANTITY	OPT FR5 TOTAL
116143 STAGE DRAPERY										
Stage curtains	$22,000.00	LS	1	$22,000	1	$22,000	1	$22,000	1	$22,000
115213 PROJECTION SCREENS										
Projection screen - stage	$10,000.00	EA			1	$10,000	1	$10,000	1	$10,000
Projection screen - media center	$7,500.00	EA			1	$7,500	1	$7,500	1	$7,500
119000 MISC. EQUIPMENT										
Smart boards		NIC								
Metal storage shelving		NIC								
Book security equipment		NIC								
Kiln	$3,500.00	EA	1	$3,500	1	$3,500	1	$3,500	1	$3,500
				$101,650		$167,650		$167,650		$167,650
TOTAL E10 - EQUIPMENT				**$101,650**		**$567,650**		**$567,650**		**$567,650**
E20 - FURNISHINGS										
E 2010 FIXED FURNISHINGS										
129000 MISC. FURNISHINGS										
Meco shade - manual	$5.25	SF		$0		$0		$0		$0
Int. office/class window shades	$7,500.00	LS	1	$7,500	1	$7,500	1	$7,500	1	$7,500
123553 CLASSROOM CASEWORK										
Casework	$7.50	GSF	44,000	$330,000	122,741	$920,558	122,741	$920,558	122,741	$920,558
				$337,500		$928,058		$928,058		$928,058
E2020 MOVABLE FURNISHINGS		NIC								
				$0		$0		$0		$0
TOTAL E20 - FURNISHINGS				**$337,500**		**$928,058**		**$928,058**		**$928,058**
F. SPECIAL CONSTRUCTION & DEMOLITION										
TOTAL F10 - SPECIAL CONSTRUCTION				**$0**		**$0**		**$0**		**$0**
F20 - SELECTIVE BUILDING DEMOLITION										
F2010 BUILDING ELEMENTS DEMOLITIO										

DESCRIPTION	UNIT COST	NC UNIT	W10 NEW QUANTITY	OPT W10 NEW TOTAL	OPT W7 QUANTITY	OPT W7 TOTAL	OPT W12 QUANTITY	OPT W12 TOTAL	OPT FR5 QUANTITY	OPT FR5 TOTAL
Demolish existing building	$6.75	GSF			82,000	$553,500	82,000	$553,500	82,000	$553,500
				$0		$553,500		$553,500		$553,500
F2020 HAZARDOUS COMPONENTS ABATEMENT										
Hazardous Waste Allowance	$10.00	GSF			82,000	$820,000	82,000	$820,000	82,000	$820,000
				$0		$820,000		$820,000		$820,000
TOTAL F20 - SELECTIVE BUILDING DEMOLIT				**$0**		**$1,373,500**		**$1,373,500**		**$1,373,500**
G. BUILDING SITEWORK										
G10 - SITE PREPARATION										
G1010 SITE CLEARING										
311000 SITE PREPARATION & CLEARING										
Site Preparation	0.45	SF	139,420	$62,739	141,574	$63,708	137,890	$62,051	165,688	$74,560
Erosion control	3.85	LF	1,612	$6,206	1,530	$5,891	1,596	$6,145	2,185	$8,412
Construction fence - allow	9.75	LF	1,612	$15,717	1,530	$14,918	1,596	$15,561	2,185	$21,304
Construction entrance	5,000.00	EA	1	$5,000	1	$5,000	1	$5,000	1	$5,000
Strip and stack top soil -6" - allc	4.25	CY	5,164	$21,947	5,243	$22,283	5,107	$21,705	6,137	$26,082
Clear and Grub	20,000.00	LS	1	$20,000	1	$20,000	1	$20,000	1	$20,000
Remove Fuel Oil tank	25,000.00	LS	1	$25,000	1	$25,000	1	$25,000	1	$25,000
Remove utilities	25,000.00	LS	1	$25,000	1	$25,000	1	$25,000	21	$525,000
Curb cut off highway	4,500.00	EA	2	$9,000	2	$9,000	2	$9,000	2	$9,000
				$190,609		$190,799		$189,461		$714,358
G1020 SITE DEMOLITION & RELOCATIONS										
Remove Existing:										
General Site Demolition	1.25	SF	139,420	$174,275	141,574	$176,968	137,890	$172,363	165,688	$207,110
				$174,275		$176,968		$172,363		$207,110
G1030 SITE EARTHWORK										
310000 EARTHWORK										
Site Cut to Fill	12.00	CY	10,327	$123,929	10,487	$125,844	10,214	$122,569	12,273	$147,278
Site grading	3.00	SY	15,491	$46,473	15,730	$47,190	15,321	$45,963	18,410	$55,230
				$170,402		$173,034		$168,532		$202,508

DESCRIPTION	UNIT COST	NC UNIT	W10 NEW QUANTITY	OPT W10 NEW TOTAL	OPT W7 QUANTITY	OPT W7 TOTAL	OPT W12 QUANTITY	OPT W12 TOTAL	OPT FR5 QUANTITY	OPT FR5 TOTAL
G1040 HAZARDOUS WASTE REMEDIATION										
Soil classifications		NIC								
				$0		$0		$0		$0
TOTAL G10 - SITE PREPARATION				**$535,286**		**$540,800**		**$530,355**		**$1,123,976**
G20 - SITE IMPROVEMENTS										
G2010 ROADWAYS										
321000 PAVING AND CURBING										
Entry Drive:										
Bituminous Pavement	25.75	SY	3,377	$86,958	4,064	$104,648	4,048	$104,236	4,052	$104,339
12" Gravel base	26.00	CY	1,126	$29,276	1,355	$35,230	1,349	$35,074	1,351	$35,126
Granite Curbing	40.00	LF	2,195	$87,800	3,772	$150,880	3,172	$126,880	2,820	$112,800
Parking/traffic signage	5,000.00	LS	1	$5,000	1	$5,000	1	$5,000	1	$5,000
Parking line panting	3,500.00	LS	1	$3,500	1	$3,500	1	$3,500	1	$3,500
				$212,534		$299,258		$274,690		$260,765
G2020 PARKING LOTS										
Parking Area:										
Bituminous Pavement	INC ABOVE									
				$0		$0		$0		$0
G2030 PEDESTRIAN PAVING										
321000 PAVING AND CURBING										
Concrete Entry Pavement:										
5" Wide Concrete Sidewalk	7.50	SF	406	$3,045	70	$525	420	$3,150	429	$3,218
4" Concrete pavement	7.50	SF	1,594	$11,955	8,742	$65,565	3,813	$28,598	3,518	$26,385
Premium for Specialty Pavemen	5.00	SF	2,000	$10,000	8,812	$44,060	4,233	$21,165	3,947	$19,735
8" Gravel base	22.00	CY	49	$1,086	218	$4,786	105	$2,299	97	$2,144
Tactile warning paver	300.00	EA	8	$2,400	8	$2,400	8	$2,400	8	$2,400
Play Areas:										
Rubber play surface - elem	16.00	SF	5,000	$80,000	5,000	$80,000	5,000	$80,000	5,000	$80,000
Bit Play w/ Acrylic color coatin	6.50	SF	4,000	$26,000	4,000	$26,000	4,000	$26,000	4,000	$26,000
8" Gravel base	23.00	CY	222	$5,106	222	$5,106	222	$5,106	222	$5,106
Perimeter curb	45.00	LF	450	$20,250	450	$20,250	450	$20,250	450	$20,250
				$159,842		$248,692		$188,968		$185,237
G2040 SITE DEVELOPMENT										

DESCRIPTION	UNIT COST	NC UNIT	W10 NEW QUANTITY	OPT W10 NEW TOTAL	OPT W7 QUANTITY	OPT W7 TOTAL	OPT W12 QUANTITY	OPT W12 TOTAL	OPT FR5 QUANTITY	OPT FR5 TOTAL
323000 SITE IMPROVEMENTS										
Allowance:										
Misc. Retaining walls	500,000.00	LS	1	$500,000	1	$500,000	1	$500,000	1	$500,000
4' CL Perm fence	36.00	LF	1,200	$43,200	1,200	$43,200	1,200	$43,200	1,200	$43,200
CL Gate	775.00	EA	2	$1,550	2	$1,550	2	$1,550	2	$1,550
8' CL Fence	36.00	LF	500	$18,000	500	$18,000	500	$18,000	500	$18,000
Trash receptacle	1,000.00	EA	3	$3,000	3	$3,000	3	$3,000	3	$3,000
Flagpole	4,500.00	EA	1	$4,500	1	$4,500	1	$4,500	1	$4,500
Metal benches	1,200.00	EA	4	$4,800	4	$4,800	4	$4,800	4	$4,800
Bike racks	2,500.00	LS	6	$15,000	6	$15,000	6	$15,000	6	$15,000
4' Ornamental fence	85.00	LF	400	$34,000	400	$34,000	400	$34,000	400	$34,000
Basketball goal and post	1,500.00	EA	2	$3,000	2	$3,000	2	$3,000	2	$3,000
Playground Equip	150,000.00	LS	1	$150,000	1	$150,000	1	$150,000	1	$150,000
Bollards	675.00	EA	12	$8,100	12	$8,100	12	$8,100	12	$8,100
				$785,150		$785,150		$785,150		$785,150
G2050 LANDSCAPING										
329000 PLANTING										
Lawn:										
6" Loam - augment existing	18.00	CY	1,284	$23,112	1,109	$19,962	1,213	$21,834	1,789	$32,202
Rake seed and fertilize	2.50	SY	7,706	$19,265	6,652	$16,630	7,275	$18,188	10,735	$26,838
Underfield drainage layer	30,000.00	LS	1	$30,000	1	$30,000	1	$30,000	1	$30,000
Planting allowance	125,000.00	LS	1	$125,000	1	$125,000	1	$125,000	1	$125,000
Irrigation system - playing fields	50,000.00	LS	1	$50,000	1	$50,000	1	$50,000	1	$50,000
				$247,377		$241,592		$245,022		$264,040
TOTAL G20 - SITE IMPROVEMENTS				**$1,404,903**		**$1,574,692**		**$1,493,829**		**$1,495,192**
G30 - SITE MECHANICAL UTILITIES										
G3010 WATER SUPPLY										
330000 UTILITIES										
Tap existing	3,500.00	EA	2	$7,000	2	$7,000	2	$7,000		$0
4" Domestic	44.00	LF	50	$2,200	50	$2,200	50	$2,200	2	$88
6" Fire	52.00	LF	100	$5,200	100	$5,200	100	$5,200	50	$2,600
8" Main	81.00	LF	975	$78,975	1,063	$86,103	1,124	$91,044	1,226	$99,306
6" Lateral @ fire hydrant	74.00	LF	20	$1,480	20	$1,480	20	$1,480	20	$1,480
Hydrant	74.00	EA	2	$148	2	$148	2	$148	2	$148
8" Gate valve	1,150.00	EA	3	$3,450	3	$3,450	3	$3,450	3	$3,450
6" Gate valve	850.00	EA	3	$2,550	3	$2,550	3	$2,550	3	$2,550
4" Gate valve	670.00	EA	1	$670	1	$670	1	$670	1	$670
				$101,673		$108,801		$113,742		$110,292

DESCRIPTION	UNIT COST	UNIT	W10 NEW QUANTITY	OPT W10 NEW TOTAL	OPT W7 QUANTITY	OPT W7 TOTAL	OPT W12 QUANTITY	OPT W12 TOTAL	OPT FR5 QUANTITY	OPT FR5 TOTAL
G3020 SANITARY SEWER										
330000 UTILITIES										
Piping:										
Street connection	7,500.00	LS	1	$7,500	1	$7,500	1	$7,500	1	$7,500
8" PVC	65.00	LF	450	$29,250	400	$26,000	500	$32,500	600	$39,000
Grease trap	8,500.00	EA	1	$8,500	1	$8,500	1	$8,500	1	$8,500
Sanitary manhole	3,200.00	EA	4	$12,800	4	$12,800	4	$12,800	4	$12,800
				$58,050		$54,800		$61,300		$67,800
G3030 STORM SEWER										
330000 UTILITIES										
Site Drainage:										
Site Drainage Allowance	650,000.00	LS	1	$650,000	1	$650,000	1	$650,000	1	$650,000
				$650,000		$650,000		$650,000		$650,000
G3060 FUEL DISTRIBUTION										
Trench gas line	36.00	LF	500	$18,000	500	$18,000	500	$18,000	500	$18,000
Gas pad	1,000.00	LS	1	$1,000	1	$1,000	1	$1,000	1	$1,000
				$19,000		$19,000		$19,000		$19,000
TOTAL G30 - SITE MECHANICAL UTILITIES				**$828,723**		**$832,601**		**$844,042**		**$847,092**
G40 - SITE ELECTRICAL UTILITIES										
G4010 ELECTRICAL DISTRIBUTION										
330000 UTILITIES										
Transformer pad	2,000.00	EA	1	$2,000	1	$2,000	1	$2,000	1	$2,000
Generator pad	2,500.00	EA	1	$2,500	1	$2,500	1	$2,500	1	$2,500
Conc. duct bank - elec/ tele/com	75.00	LF	1,500	$112,500	1,500	$112,500	1,500	$112,500	1,500	$112,500
*Electrical poles and primary by others										
260001 ELECTRICAL*										
Spare or Empty Raceways:										
PVC Underground:										
2"	8.10	LF	1,500	$12,150	1,500	$12,150	1,500	$12,150	1,500	$12,150
4"	17.05	LF	1,500	$25,575	1,500	$25,575	1,500	$25,575	1,500	$25,575
				$154,725		$154,725		$154,725		$154,725

DESCRIPTION	UNIT COST	UNIT	NC W10 NEW QUANTITY	OPT W10 NEW TOTAL	OPT W7 QUANTITY	OPT W7 TOTAL	OPT W12 QUANTITY	OPT W12 TOTAL	OPT FR5 QUANTITY	OPT FR5 TOTAL
G4020 SITE LIGHTING										
260001 ELECTRICAL*										
Lighting Fixtures:										
Roadway Fixtures	3,400.00	EA	25	$85,000	25	$85,000	25	$85,000	25	$85,000
Pedestrian Lighting	2,650.00	EA	15	$39,750	15	$39,750	15	$39,750	15	$39,750
Specialty Lighting	20,000.00	LS	1	$20,000	1	$20,000	1	$20,000	1	$20,000
				$144,750		$144,750		$144,750		$144,750
G4030 SITE COMMUNICATIONS & SECURITY										
				$0		$0		$0		$0
G4090 OTHER SITE ELECTRICAL UTILITI		N/A								
				$0		$0		$0		$0
TOTAL G40 - SITE ELECTRICAL UTILITIES				**$299,475**		**$299,475**		**$299,475**		**$299,475**
G90 - OTHER SITE CONSTRUCTION										
G9010 SERVICE AND PEDESTRIAN TUNN		N/A								
				$0		$0		$0		$0
G9090 OTHER SITE SYSTEMS		N/A								
				$0		$0		$0		$0
TOTAL G90 - OTHER SITE CONSTRUCTION				**$0**		**$0**		**$0**		**$0**

Lord Associates, Inc.
Environmental Consulting & Licensed Site Professional Services

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PHASE I-ENVIRONMENTAL SITE ASSESSMENT (Revised)

Wildwood School
71 Strong Street
Amherst, Massachusetts

Prepared for:

Mr. Ammar Dieb
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702-6218

Prepared by:

Lord Associates, Inc.
1506 Providence Highway, Suite 30
Norwood, Massachusetts 02062

Project # 2321

February 5, 2016

Lord Associates, Inc.
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February 5, 2016

Mr. Ammar Dieb
Universal Environmental Consultants
12 Brewster Road
Framingham, MA 01702-6218

RE: Phase I Environmental Site Assessment (Revised)
Wildwood School
71 Strong Street
Amherst, Massachusetts

Dear Mr. Dieb:

Lord Associates, Inc. has completed a Phase I Environmental Site Assessment of the referenced property (the "Site"). Environmental investigations were completed with consideration to standard industry practice, the ASTM E-1527 site assessment standard entitled "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process", applicable regulations as defined by Chapter 21E of the Massachusetts General Laws, and the Massachusetts Contingency Plan (MCP, 310 CMR 40.0000). The purpose of this assessment was to identify "Recognized Environmental Conditions" as defined in ASTM E-1527-13, and to determine if additional investigation is warranted.

This assessment has identified one Recognized Environmental Condition (REC) in connection with the Site, as follows:

- One 10,000-gallon fuel oil UST is located on the Site. The tank is constructed of fiberglass and is approximately 17 years old.

Please refer to the attached report for specific details and findings of our assessment. We appreciate the opportunity to have provided our professional environmental consulting and analytical services.

Sincerely,
LORD ASSOCIATES, INC.

Ralph Tella, CHMM, LSP
President

Nathaniel L. Finsness
Senior Project Manager

Enc.: Phase I ESA

TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 Purpose

Lord Associates, Inc. (LAI) has completed a Phase I Environmental Site Assessment for the Wildwood School located at 71 Strong Street in Amherst, Massachusetts (the "Site"). The purpose of this assessment was to identify "Recognized Environmental Conditions" as defined in ASTM standard E1527-13 (the Standard), and to determine if additional investigation is warranted.

Recognized Environmental Conditions are defined as the presence or likely presence of any hazardous substances or petroleum products on the property under conditions that indicate an existing release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term Recognized Environmental Conditions is not intended to include *de minimis* conditions which generally do not present a material risk of harm to public health or the environment, and that generally would not be the subject of a notification and/or enforcement action if brought to the attention of appropriate governmental agencies.

The Phase I consisted of a Site reconnaissance and an assessment of the Site and surrounding properties for visual and/or olfactory evidence of the use, storage, and/or release of oil and/or hazardous material. The Phase I also included a review of federal, state, and local agency files regarding the history of the Site and surrounding area relative to the use, storage and/or release of oil and/or hazardous material.

Please note that an investigation for the presence of mold, asbestos and PCBs in building materials, lead-based paint, indoor air quality, or regulatory compliance is beyond the scope of work described by ASTM E 1527-13, therefore LAI did not explore those conditions.

1.2 Significant Assumptions

Factual information regarding operations, conditions, and other data provided by the Client, site contacts, third parties, and governmental agencies are assumed to be correct and complete.

1.3 Special Terms and Conditions

The Phase I ESA was conducted by LAI on behalf of the client consistent with the agreed upon Scope of Work and LAI Standard Terms and Conditions. No other special terms and conditions were established in connection with these services.

2.0 SCOPE OF SERVICES

This assessment was performed following standard industry practice and with consideration to the ASTM E-1527-13 site assessment standard entitled "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. The investigation included completion of the following tasks:

1. A field investigation was performed including a visual surficial inspection of the Site and abutting properties; and

2. The following agencies were contacted to inquire of past ownership, complaints, or violations concerning environmental issues at the Site and vicinity.

   - The Massachusetts Department of Environmental Protection (MADEP)
   - The Amherst Tax Assessor's Office
   - The Amherst Town Clerk's Office
   - The Amherst Health Department
   - The Amherst Building Department
   - The Amherst Water Department
   - The Amherst Conservation Commission
   - The Amherst Fire Prevention Office
   - Environmental Data Resources, Inc. (EDR)
   - Sanborn Fire Insurance Maps

3.0 SITE DESCRIPTION

3.1 Site Location and Parcel Legal Description

Information provided indicates that the Site consists of a single lot totaling approximately 14.34 acres of land located on the south side of Strong Street in Amherst, Massachusetts. A Site Location Map is included as **Figure 1**. The Site is designated as Map 11B, Lot 76 with the municipal Tax Assessor's Office. A Plot Plan is included as **Figure 2** and a Site Plan depicting pertinent Site features is included as **Figure 3**.

Information provided indicates the Site longitude and latitude are approximately -72.514000° west and 42.388300° north, respectively. Universal Transverse Mercatur (UTM) coordinates are approximately 4,695,670 meters north by 704,639 meters east.

3.2 Site and Vicinity General Characteristics

The Site is located on the south side of Strong Street in Amherst, Massachusetts. The Site is occupied by one single-story municipal elementary school. The Site and surrounding properties are serviced by municipal water and sewer. Neighboring properties include residential properties to the east and west, a cemetery to the north, and the municipal middle school to the south.

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3.3 Current Property Use

The Site is occupied by one single-story school building which is occupied by the Wildwood elementary school.

3.4 Description of Improvements

The Site is occupied by one one-story school building, built in 1970. The building is approximately 82,000 square feet in size and comprises roughly 17% of the total surface area of the Site. The Site building is located centrally on the Site. Paved parking lots and grassed fields surround the building.

A detailed Site description is presented in **Section 4.0**.

3.4.1 Wastewater

Wastewater generated on-Site is discharged to the municipal sewer system. No information pertaining to storm water handling and/or management was encountered during this assessment. No oil/water separators or storm drains were observed in the building. One floor drain was observed in the boiler room, routed to the municipal sewer system.

3.4.2 Water Supply

Water is supplied by the Town of Amherst, which was connected at the time of initial construction, circa 1970.

3.4.3 Wells

No potable, irrigation, injection, dry, groundwater monitoring or abandoned wells were observed or identified from the interviews or records reviewed.

3.4.4 Heating/Cooling System

The school is heated by two boilers located in the southwest corner of the building. Domestic water is heated indirectly by the boilers. A propane AST is located outside the building in this area, used to fire pilots for the boilers. Natural gas is not available to the Site.

3.4.5 Solid Waste Disposal

Solid waste dumpsters were observed on the west side and south side of the Site; no staining was observed in the vicinity of the dumpsters. There were no areas of solid waste disposal, mounds or depressions, or areas apparently filled or graded by non-natural causes suggesting solid waste disposal observed.

3.4.6 Storage Tanks

One 10,000-gallon fuel oil UST is located on the Site, to the west exterior of the boiler room. Based on information reviewed, this tank was installed during initial construction, circa 1970 and is constructed of single-walled steel. No evidence of other current or historical USTs or ASTs was identified during the inspection.

3.4.7 Transformers, Hydraulic Equipment and Other Potential Evidence of the Potential Use of Polychlorinated Biphenyls

Polychlorinated Biphenyls (PCBs) can be found in hydraulic-oil filled electrical equipment (such as motors and pumps), capacitors or transformers, building materials and fluorescent light ballasts manufactured prior to July 2, 1979.

LAI observed fluorescent light fixtures throughout the Site. The age of the fixtures could not be determined. However, it is not likely that the light ballasts were manufactured prior to 1979, as the average life span for the fluorescent fixtures is less than 15 years. Additionally, any light ballast manufactured after 1979 must be labeled "No PCB". Note that electric light ballasts that contained PCBs had less than 1.5 ounces of PCB. The reportable quantity requiring notification to the MADEP of a release is one pound. Therefore the risk presented by PCB-containing ballasts is relatively low.

Sampling for building materials is beyond the scope of ASTM E-1527. No other evidence of the potential use of polychlorinated biphenyls (PCBs) was observed on the Site during the inspections.

3.5 Current Uses of Adjoining Properties

Residential properties surround the Site to the south, east and west. In addition, town offices exists to the northeast, the town ice rink to the northwest and a church to the south. No bulk fuel storage was observed on adjacent properties. The table below summarizes current abutting land usage.

Table 1
Area Land Usage

Usage	Orientation
Strong Street with Wildwood Cemetery beyond	North
Amherst Middle School	South
Residential	East
Residential	West

4.0 USER PROVIDED INFORMATION

A summary of user provided information is provided below.

4.1 User Questionnaire

A User Questionnaire was provided to the user (Client) to assist the user and LAI in gathering information from the user that may be material to identifying RECs. LAI did not receive a response to the User Questionnaire that was provided to the user. Furthermore, the user did not provide any of the information requested in the questionnaire and required by Section 6 of the ASTM Standard E 1527-13. The lack of or inability to obtain this information represents a data gap. However, based on the findings of this report, the absence of this information is not considered a *significant* data gap.

4.2 Title Records

LAI did not review the property title.

4.3 Environmental Liens, Activity and Use Limitations

The owner has no knowledge of environmental liens, and the agency check revealed no listing for an Activity and Use Limitation in connection with the Site.

4.4 Specialized Knowledge

No specialized knowledge of Recognized Environmental Conditions was provided to LAI by the owner or client.

4.5 Commonly Known or Reasonably Ascertainable Information

No commonly known or reasonably ascertainable information regarding Recognized Environmental Conditions was provided to LAI by the owner or client.

4.6 Valuation Reduction for Environmental Issues

No information regarding the sale price of the Site in comparison to the expected value of the property was provided to LAI by the owner or client.

4.7 Owner, Maintenance Supervisor, and Occupant Information

According to the Assessor's Department, the current owner of the property is the Town of Amherst School Department.

LAI conducted an interview with Mr. Kevin Seaman, Maintenance Specialist for the School Department. Mr. Seaman provided information regarding the history of the Site and operations at the Site. According to Mr. Seaman the Site was undeveloped land prior to construction of the school in 1970.

4.8 Reason for Performing Phase I Study

A Phase I ESA is being conducted in connection with the renovation of the property.

5.0 RECORDS REVIEWS

A review of federal, state and local regulatory agency files was conducted in accordance with ASTM E-1527-13 standards to identify the use, generation, storage, treatment, disposal and/or release of oil and/or hazardous materials that may potentially impact the Site.

5.1 Municipal Offices

5.1.1 Assessor's Office

Lord Associates, Inc. visited the municipal Assessor's Office to review historical ownership information for the Site. This data was reviewed for the purposes of land use determination and should not be relied upon as a complete chain-of-title. The following table offers a summary of ownership information obtained at the assessor's office for the Site.

Table 2
Chain of Title

Grantee	Date of Acquisition	Book/Page
Town of Amherst School Department	6/15/1965	1464/123
W D Cowles Inc.	No reference	1213/346

5.1.2 Health Department

LAI made inquiries at the municipal Board of Health (BOH). No records of environmental concern were on file for the Site.

5.1.3 Building Department

A review of files was requested at the municipal Building Department to obtain information on historical building alterations. No records of environmental concern were on file for the Site.

5.1.4 Water Department

Water is supplied by the municipal Water Department; a connection date was not readily available.

5.1.5 Conservation Commission

A review of files was requested at the municipal Conservation Commission regarding environmental violations. No records of environmental concern were on file for the Site.

5.1.6 Clerk's Office

A review of files was requested at the municipal Clerk's Office regarding environmental violations. No records of environmental concern were on file for the Site.

5.1.7 Fire Prevention

LAI requested a review of information regarding the storage of hazardous materials at the Site from the municipal Fire Prevention Office. Information reviewed at the Amherst Fire Department included a permit dated September 13, 1982 for one 10,000-gallon steel UST. A second permit (#30-69) indicates that a previous permit was dated in 1969, but no specific date was available on the permit.

No records regarding update to this UST system were provided, however, Kevin Seaman of the Amherst School Department stated this UST was removed circa 1998 and replaced with one single-wall fiberglass UST of the same volume. He further stated that no evidence of soil contamination was observed at the time of UST replacement.

5.2 Sanborn/Historical Map Review

Sanborn Fire Insurance Maps were reviewed for the Site and vicinity. Sanborn Maps usually show property use and underground commercial fuel storage for the purposes of insurance companies. Sanborn Maps were not available due to the rural nature of the area.

5.3 Historical Aerial Photograph Review

Aerial photographs from 1938, 1963, 1971, 1978, 1995, 2001 and 2005 were reviewed through the Historic Aerials website (www.historicaerials.com) and a current 2013 aerial photograph was reviewed from Google Earth. The following table summarizes the aerial photographs review.

Table 3
Aerial Photographs

Aerial Year	Site Description	Area Description	
		Direction	**Description**
1938	The Site appears as agricultural land with a residential home on the southern portion of the Site.	North	Agricultural land
		South	Agricultural and residential properties
		East	Agricultural and residential properties
		West	Agricultural and residential properties
1963 1971	The Site appears as developed with a school building on the southern portion of the Site and athletic fields to the north, east and west.	North	Town offices
		South	Residential homes
		East	Residential homes
		West	Residential homes
1978 1995 2001 2005 2013	The aerial photographs differ from the previous aerial photographs in that: The Site building appears with an addition to the north and is similar to the current configuration.	North	Town offices
		South	Residential homes
		East	Residential homes
		West	Residential homes

5.4 Radius Search for Properties of Environmental Concern

A radius search was conducted of federal and state-listed sites of potential environmental concern as outlined in ASTM E-1527 guidelines. The search was performed using software developed by Environmental Data Resources (EDR) report.

Listed sites identified within the designated ASTM search radii are summarized in the following table. The ERIS report is included in **Appendix B.**

Table 4
Properties of Potential Environmental Concern

NPL (1 mi.)	RCRIS TSDF (1 mi.)	CERCLIS (0.5 mi.)	Landfill (0.5 mi.)	STATE SITES (0.5 mi.)	LUST & SPILLS (0.25 mile)	ERNS (Site/ Abutter	RCRIS (Site/ Abutter	UST (Site/ Abutter
NI	NI	NI	NI	FORMER HAWTHORNE RES 235 EAST PLEASANT ST SHWS LAST Higher 0.213 mi SW Kerosene release at residence 11/15/2013 1-19275/RAO	NI	NI	NI	**WILDWOOD CEMETERY** **70 STRONG ST** **UST** **Higher** **0.004 mi N**

Notes:

N=north, S=south, W=west, E=east
Elev. Diff: = Difference in elevation from Site in feet
NPL = National Priorities List
RCRIS = Resource Conservation and Recovery Information System
TSDF = Treatment Storage & Disposal Facilities
ERNS = Environmental Response Notification System
NI = None Identified
NFA – LSP Opinion of No Further Action
RAO = Closed in accordance with MADEP Regulations
TierII = Listed with MADEP due to oil or hazardous material in soil/groundwater (not closed)
DPS = Downgradient Property Status (contamination is from an upgradient source)
UST = Underground Storage Tank
LAST – Leaking AST
F = Final
AUL = Activity and Use Limitation
Miles adjusted= depicts the actual distance

5.5 Massachusetts Department of Environmental Protection Review

Those properties shown in bold in the preceding table were reviewed and are summarized as follows:

WILDWOOD CEMETERY
70 STRONG ST
North Abutter

One 550-gallon gasoline UST was removed in 1999. The tank was installed in 1987 and constructed of single-walled steel without cathodic protection or leak detection. No information of soil impact was available in EDR files.

5.6 Previous Reports

No previous reports were made available through sources cited in this assessment.

5.7 Physical Setting Sources

LAI reviewed information provided by the United States Geological Survey (USGS) in connection with physiographic conditions, soil and bedrock types. LAI also reviewed the MassGIS Resource Map for the area, and located natural resources during the Site Reconnaissance. According to the USGS Quadrangle Topographical Map, the elevation of the Site is approximately 340 feet above mean sea level. Topography of the Site vicinity is sloped down to the south. The direction of groundwater flow in the vicinity is estimated to the south.

Review of the MassGIS Bureau of Waste Site Cleanup Priority Resources Maps published by the MADEP, indicated the Site is not located in a potential aquifer area. Review of the National Wetlands Inventory from the U.S fish and Wildlife Service, indicated that no wetlands are located at the Site or adjacent properties.

The Soil Survey of Hampshire County indicates that soil in the vicinity of the Site is classified as Paxton-Charlton-Urban land complex with 3-15 percent slopes.

5.8 Historical Use Information

Research regarding historical land usage of the Site and surrounding properties was conducted using data obtained from historical maps, parties familiar with the Site, and municipal officials. Based on information gathered through the course of this assessment, the following history of the Site has been prepared:

- Historical information indicates that the Site is occupied by the Wildwood Elementary School. The building was constructed in approximately 1970 on previously undeveloped land.

6.0 SITE RECONNAISSANCE

6.1 Methodology and Limiting Conditions

On September 29, 2015, LAI personnel conducted on-Site inspections, which consisted of a visual examination of the Site and portions of adjacent properties and interviews with Site personnel. Areas were examined for surficial indications of releases of oil and/or hazardous materials (OHM). Approximately three feet of snow covered the ground at the time of the inspection. Snow removal had taken place on most of the paved surfaces.

LAI was accompanied by Mr. Kevin Seaman, Maintenance Specialist for the School Department, during the inspection. A Site Plan depicting significant features observed is included as **Figure 3** and photographs are included in **Appendix A** of this report.

6.2 Interior Inspection

The Site is located at the south side of Strong Street in Amherst, Massachusetts. The Site is occupied by the Wildwood Elementary School, a single-story school building, which was constructed in 1970. The boiler room is located in the southwest corner of the building, housing two oil-fired boilers, a compressor, generator, evaporation tank and chillers. A Veeder-Root monitoring and leak detection system associated with the UST was observed in the boiler room. One floor drain was observed in the boiler room, leading to the municipal sewer system, according to Mr. Seaman.

The balance of the building is occupied by classrooms, offices, kitchen and dining areas, a gymnasium, and a small maintenance shop. No evidence of a significant surface release of OHM was observed through the course of our inspection. LAI did not inspect the roof.

6.3 Exterior Inspection

The Site building is located on the eastern portion of the Site. Paved parking lots and driveways exist on the south, east, and west sides of the building. Grass exists on the northern side of the building. Athletic fields exist on the western portion of the Site. One 10,000-gallon fuel oil UST is located to the west of the boiler room, installed in 1998. One 100-gallon propane AST is also located outside the boiler room, fueling the boiler pilots.

Solid waste dumpsters were observed on the west side Site; no staining was observed in the vicinity of the dumpsters.

There were no areas of solid waste disposal, mounds or depressions, or areas apparently filled or graded by non-natural causes suggesting solid waste disposal observed.

7.0 INTERVIEWS

LAI interviewed the Mr. Kevin Seaman, Maintenance Specialist for the School Department in connection with property conditions and the potential for Recognized Environmental Conditions.

Mr. Seaman accompanied our personnel during the inspection. He was interviewed and questioned of any knowledge regarding environmental conditions or releases at the Site.

8.0 SUMMARY OF FINDINGS AND CONCLUSION

8.1 Findings

Lord Associates, Inc. has completed a Phase I Environmental Site Assessment of the Site. This assessment was performed with consideration to standard industry practice and the ASTM E-1527-13 site assessment standard entitled "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process". Our findings are presented below:

1. Information provided indicates that the Site consists of a single lot totaling approximately 14.34 acres of land located on the south side of Strong Street in Amherst, Massachusetts. The Site is designated as Map 11B, Lot 76 with the municipal Tax Assessor's Office.

2. The Site is occupied by one single-story municipal elementary school constructed in 1970. The Site and surrounding properties are serviced by municipal water and sewer. Neighboring properties include residential properties to the east and west, a cemetery to the north, and the municipal middle school to the south. The building is approximately 82,000 square feet in size and comprises roughly 17% of the total surface area of the Site. The Site building is located centrally on the Site. Paved parking lots and grassed fields surround the building.

3. Lord Associates, Inc. conducted an inspection of the Site consisting of a visual examination of the Site, immediate surrounding features, and abutting properties. The building is heated by fuel oil stored in one 10,000-gallon fiberglass UST to the southwest exterior of the building. This UST was installed circa 1998 and is fitted with a Veeder Root leak detection system.

4. Municipal file reviews were performed. No evidence of current or historical aboveground fuel oil tanks (ASTs) were identified during the inspection. A 10,000-gallon fuel oil UST was listed with the Fire Department, but their records had not been updated to reflect UST replacement in 1998.

5. Information listed in the EDR database report indicates that one 550-gallon gasoline UST was formerly located at the Wildwood Cemetery, located across Strong Street to the north, but this tank was removed in 1989. No other significant properties of environmental concern were identified in the vicinity of the Site.

6. Historical information indicates that the Site has been occupied by the Wildwood Elementary School since original construction in 1970. The Site was undeveloped prior to the school.

8.2 Conclusions

This assessment has identified one Recognized Environmental Condition (REC) in connection with the Site, as follows:

- One 10,000-gallon fuel oil UST is located on the Site. The tank is constructed of fiberglass and is approximately 17 years old.

Any exceptions to, or deletions from, ASTM Practice E1527 are described in **Section 9** of this report. Please note that an investigation for the presence of mold, asbestos and PCBs in building materials, lead-based paint, indoor air quality, or regulatory compliance is beyond the scope of work described by ASTM E 1527-13, therefore LAI did not explore those conditions.

9.0 RESTRICTIVE CONDITIONS

9.1 Limitations & Deviations

LAI recognizes the following limitations and/or deviations from the Standard with respect to this Phase I Environmental Site Assessment:

- LAI did not interview past owners of the Site;
- LAI did not interview owners of neighboring property;
- LAI did not review Title Records for the Site; and
- LAI did not conduct an evaluation of the purchase price of the Site compared to the fair market value.

9.2 Significance of Data Gaps

As described above, the deviations from the Standard constitute data gaps. However, it is our opinion that these data gaps do not raise reasonable concerns that would affect the ability to identify conditions indicative of a release or threatened release or Recognized Environmental Conditions (RECs) based upon other information collected during the course of the Phase I Environmental Site Assessment.

- Although the past owner and owners of neighboring property were not interviewed, site and surrounding area history does not indicate prior use involving oil and/or hazardous materials.
- In Massachusetts, all environmental liens and Activity and Use Limitations are identified on the MADEP sites database, which has been searched.
- Based on Site History, there is no reasonable indication that property value has been affected due to environmental concerns.

10.0 LIMITATIONS

No warranty, whether expressed or implied, is given with respect to this report or any opinions expressed herein. It is expressly understood that this report and the opinions expressed herein are based upon Site conditions, as they existed only at the time of assessment. Nothing in this report constitutes a legal opinion or legal service, and should not be relied upon as such.

The data reported and the findings, observations, and opinions expressed in the report are limited by the Scope of Work. The Scope of Work was performed based on budgetary, time, and other constraints imposed by the Client, and the agencies and persons reviewed.

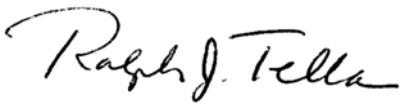
In preparing this report, Lord Associates, Inc. has relied upon and presumed accurate certain information about the Site and adjacent properties provided by governmental agencies, the client and others identified in the report. Except as otherwise stated in the report, Lord Associates, Inc. has not attempted to verify the accuracy or completeness of any such information.

This report has been prepared on behalf of and for the exclusive use of the client, and those immediate entities involved with the proximate financing of this project, solely for use in the environmental evaluation of the Site. Any reuse or reliance on this report by any other third party shall be done only with the written consent of LAI.

11.0 SIGNATURES AND ENVIRONMENTAL PROFESSIONAL STATEMENT

LAI declares that, to the best of our professional knowledge and belief, we meet the definition of *Environmental Professional* as defined in §312.10 of 40 CFR 312. LAI has the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. LAI has developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

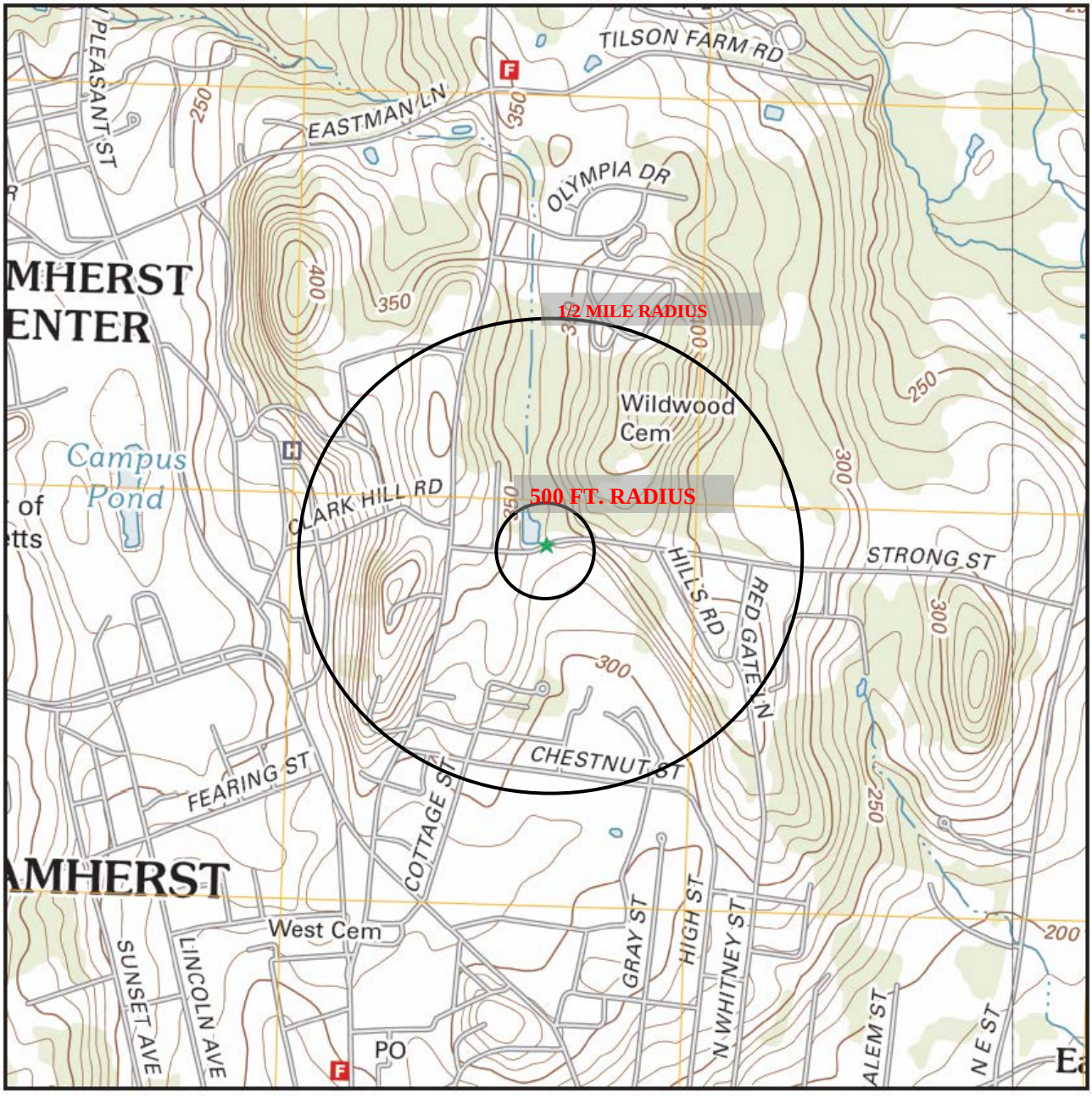
This report is dated this February 24, 2015 and is signed by individuals who are duly authorized to do so.



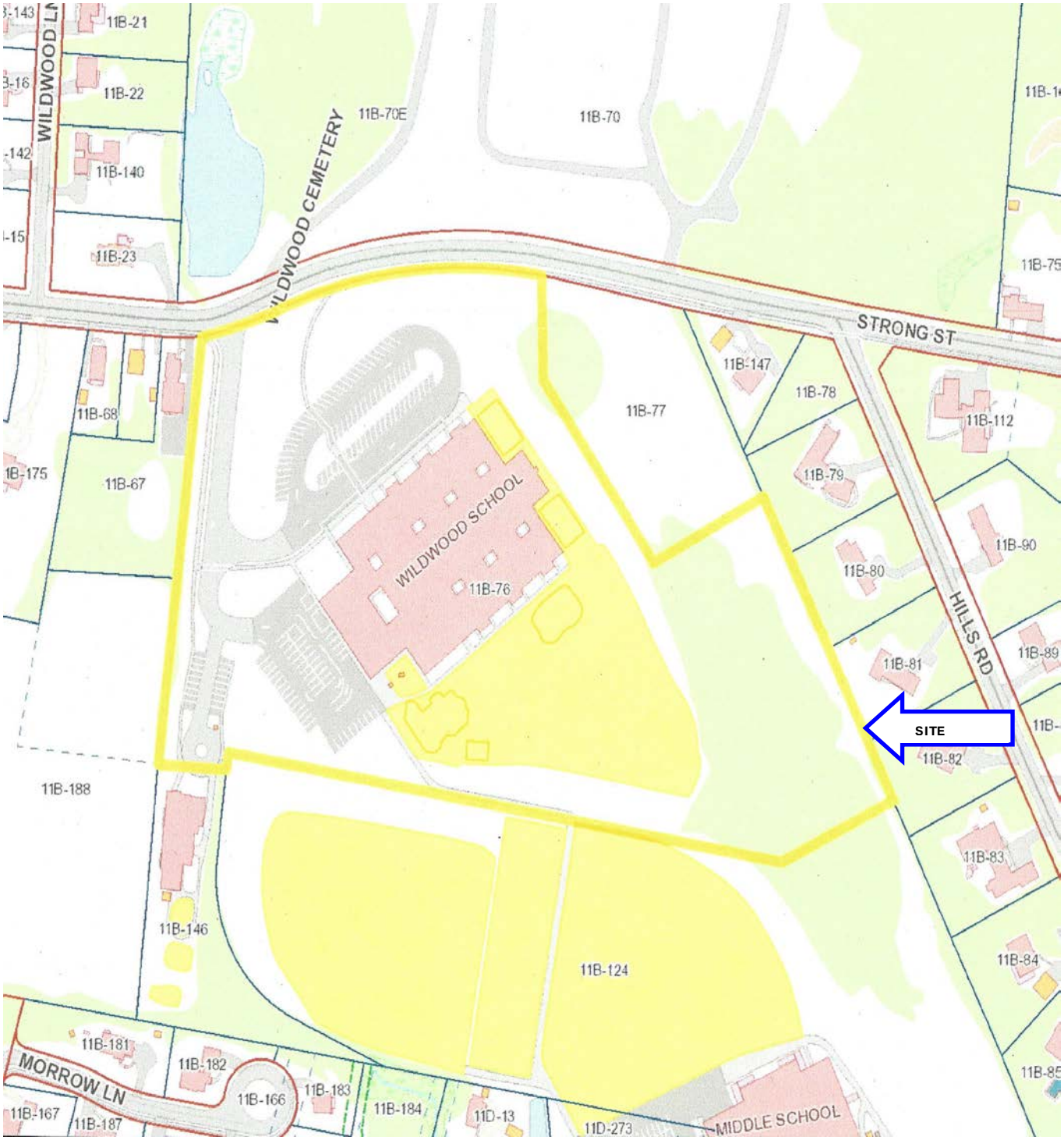
Ralph Tella, CHMM, LSP
President

Nathaniel L. Finsness
Senior Project Manager

APPENDIX A



LORD ASSOCIATES, INC. 1506 Providence Highway, Suite 30 Norwood, MA 02062-4647 (781) 255-5554	**REFERENCE:** USGS TOPOGRAPHIC MAPS CONTOUR INTERVAL: 3 METERS	NORTH	**FIGURE 1: LOCATION MAP** **71 STRONG STREET** **AMHERST, MASSACHUSETTS**



LORD ASSOCIATES, INC.

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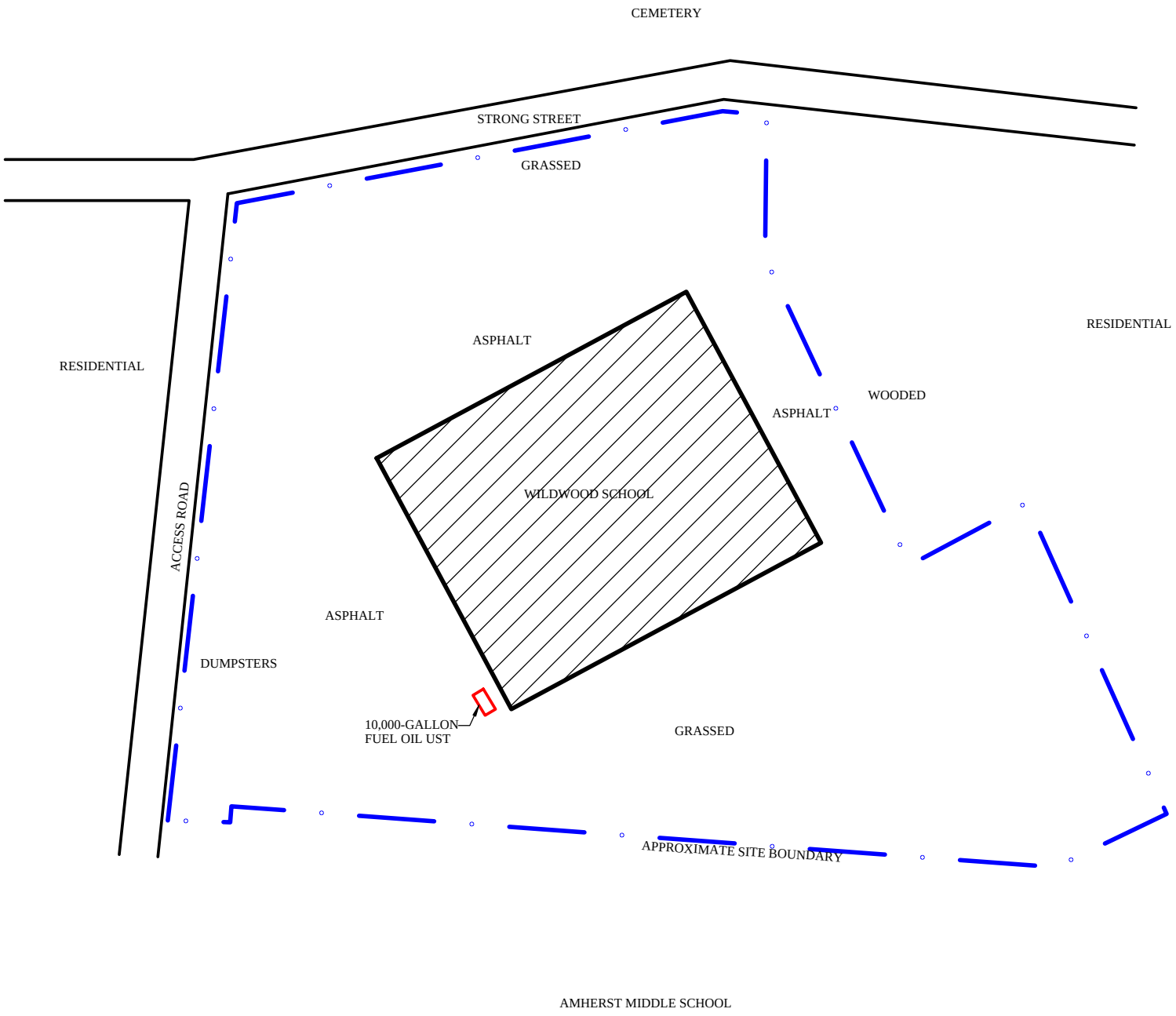
(781) 255-5554

REFERENCE:
AMHERST
ASSESSORS MAPS

NORTH

FIGURE 2: ASSESSOR'S MAP

71 STRONG STREET
AMHERST, MASSACHUSETTS



LORD ASSOCIATES

1506 TURNPIKE STREET SUITE 30
NORWOOD MA 02062
781-255-5554
WWW.LORDENV.COM

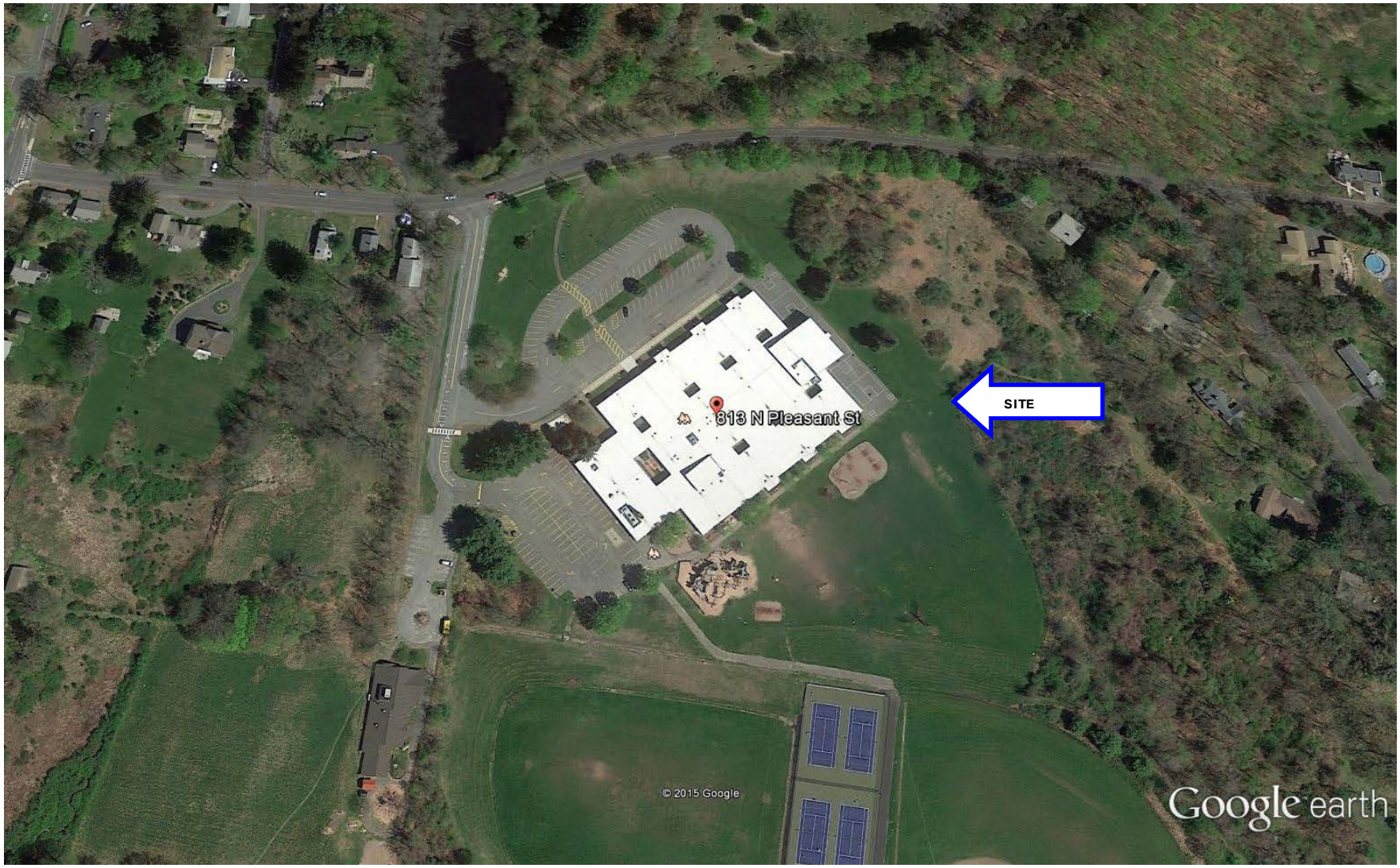
LEGEND

NORTH

FIGURE 3: SITE PLAN

WILDWOOD SCHOOL
71 STRONG STREET
AMHERST, MA

DATE: 9/30/2015	DRAWN BY: STAFF
NTS	REVISIONS:



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(781) 255-5554

REFERENCE:

GOOGLE MAPS

NORTH

FIGURE 4: AERIAL MAP

71 STRONG STREET
AMHERST, MASSACHUSETTS

MassDEP - Bureau of Waste Site Cleanup

Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

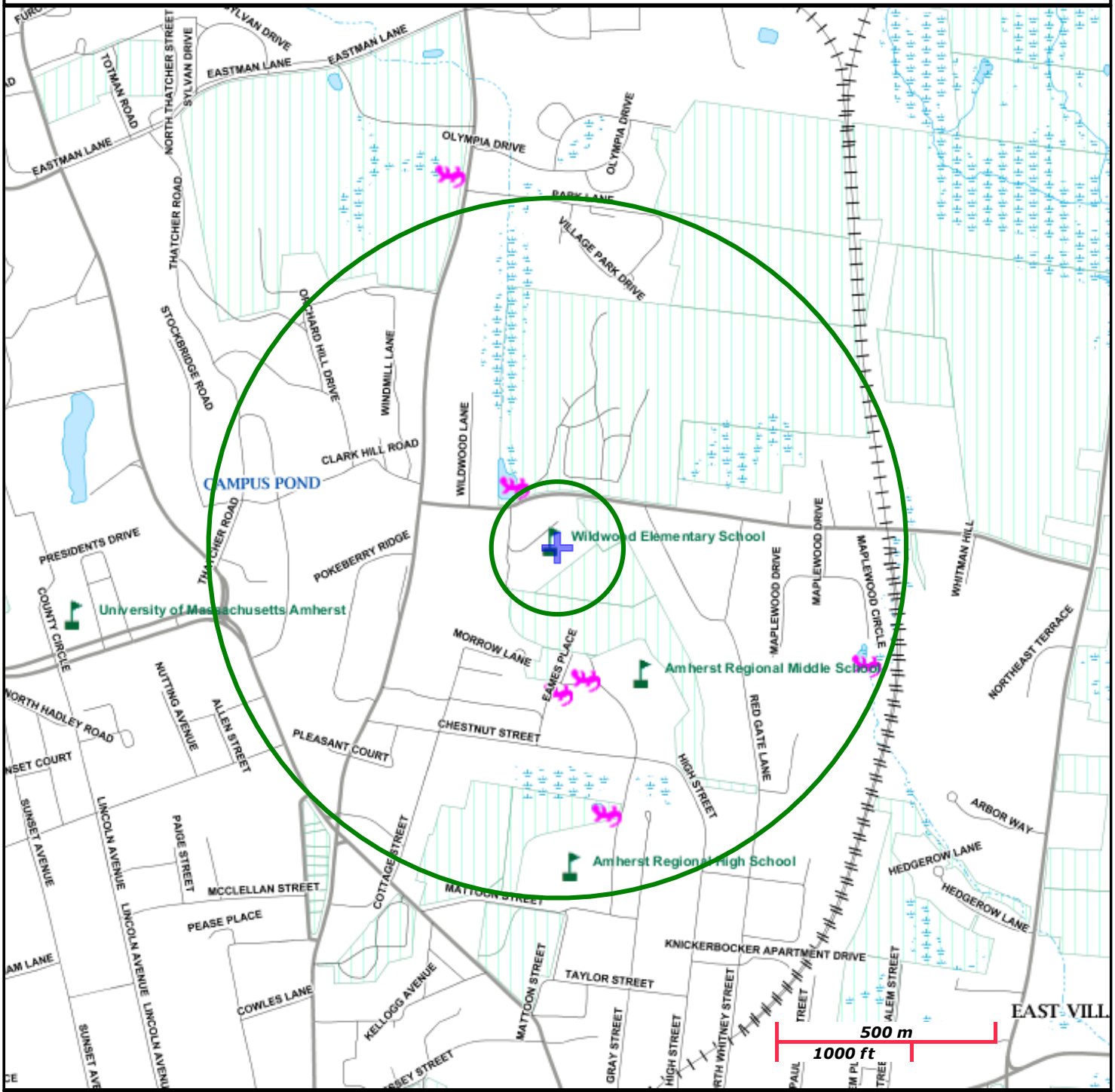
Site Information:

71 STRONG STREET AMHERST, MA

NAD83 UTM Meters:
4695783mN , 704712mE (Zone: 18)
September 30, 2015

The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately responsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at: http://www.mass.gov/mgis/.

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail

Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct

Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam

Aquifers: Medium Yield, High Yield, EPA Sole Source

Non Potential Drinking Water Source Area: Medium, High (Yield)

PWS Protection Areas: Zone II, IWPA, Zone A

Hydrography: Open Water, PWS Reservoir, Tidal Flat

Wetlands: Freshwater, Saltwater, Cranberry Bog

FEMA 100yr Floodplain; Protected Open Space; ACEC

Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert., Potential

Solid Waste Landfill; PWS: Com.GW,SW, Emerg., Non-Com.

Mass. Towns Boundaries
EOT-OTC Roads
Limited Access Highway
Multi-lane Hwy, Not Limited Access
Other Numbered Hwy
Wetland Connections
Wetlands 12k Detailed
Barrier Beach System
Barrier Beach-Deep Marsh
Barrier Beach-Wooded Swamp Mixed Trees
Barrier Beach-Coastal Beach
Barrier Beach-Coastal Dune
Barrier Beach-Marsh
Barrier Beach-Salt Marsh
Barrier Beach-Wooded Swamp Coniferous
Barrier Beach-Wooded Swamp Deciduous
Bog
Coastal Bank Bluff or Sea Cliff
Coastal Beach
Coastal Dune
Cranberry Bog
Deep Marsh
Barrier Beach-Open Water
Open Water
Rocky Intertidal Shore
Salt Marsh
Shallow Marsh Meadow or Fen
Shrub Swamp
Tidal Flat
Wooded Swamp Coniferous
Wooded Swamp Deciduous
Wooded Swamp Mixed Trees

LORD ASSOCIATES, INC.

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Norwood, MA 02062-4647
(781) 255-5554

REFERENCE:

MAGIS MAPS

NORTH

FIGURE 5: WETLANDS MAP

71 STRONG STREET
AMHERST, MASSACHUSETTS

Map Unit Legend

Hampshire County, Massachusetts, Central Part (MA609)

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
1	Water	0.5	1.2%
404B	Charlton fine sandy loam, 3 to 8 percent slopes, stony	4.4	12.1%
404C	Charlton fine sandy loam, 8 to 15 percent slopes, stony	1.8	4.8%
405C	Charlton fine sandy loam, 8 to 15 percent slopes	0.9	2.5%
406D	Charlton fine sandy loam, 15 to 25 percent slopes, very stony	2.7	7.5%
741A	Amostown-Windsor silty substratum-Urban land complex, 0 to 3 percent slopes	9.8	26.6%
747C	Paxton-Charlton-Urban land complex, 3 to 15 percent slopes	16.6	45.3%
Totals for Area of Interest		36.7	100.0%

LORD ASSOCIATES, INC.

1506 Providence Highway, Suite 30
Norwood, MA 02062-4647
(781) 255-5554

REFERENCE:

USGS MAPS

NORTH

FIGURE 6: SOIL SURVEY MAP

71 STRONG STREET
AMHERST, MASSACHUSETTS

Photo #1:	Site view from northeast

Photo #2:	View from north

Photo #3:	Southwest corner; UST under van

Photo #4:	South side of school

Photo #5:	West side of school

Photo #6:	East side of school

Photo #7:	UST pad shown

Photo #8:	Boiler room

APPENDIX C

Wildwood School
71 Strong Street
Amherst, MA 01002

Inquiry Number: 4421598.1
September 25, 2015

Certified Sanborn® Map Report

6 Armstrong Road, 4th Floor
Shelton, Connecticut 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

9/25/15

Site Name:
Wildwood School
71 Strong Street
Amherst, MA 01002

Client Name:
Lord Associates, Inc.
1506 Providence Highway
Norwood, MA 02062

EDR Inquiry # 4421598.1

Contact: Nat Finsness

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Lord Associates, Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Site Name: Wildwood School
Address: 71 Strong Street
City, State, Zip: Amherst, MA 01002
Cross Street:
P.O. # NA
Project: 2321
Certification # A490-432B-9ED0

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results
Certification # A490-432B-9ED0

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

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Wildwood School
71 Strong Street
Amherst, MA 01002

Inquiry Number: 4421598.3s
September 25, 2015

EDR FIRST REPORT

A Search of ASTM E1527-13 §8.2.1 Databases

Table of Contents

This report includes a search of reasonably available environmental records to assist the professional in compliance with Section 8.2.1 Standard Federal, State, and Tribal Environmental Record Source of ASTM Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (E1527-13). Additional environmental records sources may be available for your property.

Target Site: 71 STRONG STREET
AMHERST, MA 01002

Site Location

	Degrees (Decimal)	Degrees (Min/Sec)	UTMs	
Longitude:	72.514000	72.5140000 - 72° 30' 50.40''	Easting:	704639.8
Latitude:	42.388300	42.3883000 - 42° 23' 17.88''	Northing:	4695670.0
Elevation:	337 ft. above sea level		Zone:	Zone 18

Search Summary

TARGET SITE: **71 STRONG STREET**
AMHERST, MA 01002

Category	Database	Update	Radius	Site	1/8	1/4	1/2	> 1/2	Orphan	TOTALS
Federal NPL site list										
	NPL	03/26/2015	1.000	0	0	0	0	0	0	0
	Proposed NPL	03/26/2015	1.000	0	0	0	0	0	0	0
	NPL LIENS	10/15/1991	TP	0	-	-	-	-	0	0
Federal Delisted NPL site list										
	Delisted NPL	03/26/2015	1.000	0	0	0	0	0	0	0
Federal CERCLIS list										
	FEDERAL FACILITY	03/26/2015	0.500	0	0	0	0	-	0	0
	CERCLIS	10/25/2013	0.500	0	0	0	0	-	0	0
Federal CERCLIS NFRAP site List										
	CERC-NFRAP	10/25/2013	0.500	0	0	0	0	-	0	0
Federal RCRA CORRACTS facilities list										
	CORRACTS	06/09/2015	1.000	0	0	0	0	0	0	0
Federal RCRA non-CORRACTS TSD facilities list										
	RCRA-TSDF	06/09/2015	0.500	0	0	0	0	-	0	0
Federal RCRA generators list										
	RCRA-LQG	06/09/2015	0.250	0	0	0	-	-	0	0
	RCRA-SQG	06/09/2015	0.250	0	0	0	-	-	0	0
	RCRA-CESQG	06/09/2015	0.250	0	0	0	-	-	0	0
Federal institutional controls / engineering controls registries										
	LUCIS	05/28/2015	0.500	0	0	0	0	-	0	0
	US ENG CONTROLS	06/09/2015	0.500	0	0	0	0	-	0	0
	US INST CONTROL	06/09/2015	0.500	0	0	0	0	-	0	0
Federal ERNS list										
	ERNS	06/22/2015	TP	0	-	-	-	-	0	0
State- and tribal - equivalent CERCLIS										
	SHWS	06/30/2015	1.000	0	0	1	0	22	7	30
State and tribal landfill and/or solid waste disposal site lists										
	SWF/LF	01/29/2015	0.500	0	0	0	0	-	0	0

Search Summary

TARGET SITE: **71 STRONG STREET**
AMHERST, MA 01002

Category	Database	Update	Radius	Site	1/8	1/4	1/2	> 1/2	Orphan	TOTALS
State and tribal leaking storage tank lists										
	LAST	06/30/2015	0.500	0	0	1	0	-	0	1
	LUST	06/30/2015	0.500	0	0	0	0	-	0	0
	INDIAN LUST	02/03/2015	0.500	0	0	0	0	-	0	0
State and tribal registered storage tank lists										
	FEMA UST	01/01/2010	0.250	0	0	0	-	-	0	0
	UST	07/13/2015	0.250	0	1	0	-	-	0	1
	AST	10/22/2009	0.250	0	0	0	-	-	0	0
	INDIAN UST	02/03/2015	0.250	0	0	0	-	-	0	0
State and tribal institutional control / engineering control registries										
	INST CONTROL	06/30/2015	0.500	0	0	0	0	-	0	0
State and tribal voluntary cleanup sites										
	INDIAN VCP	09/29/2014	0.500	0	0	0	0	-	0	0
State and tribal Brownfields sites										
	BROWNFIELDS	11/01/2014	0.500	0	0	0	0	-	0	0
	- Totals --			0	1	2	0	22	7	32

Sites Sorted by Distance

TARGET PROPERTY ADDRESS:

71 STRONG STREET
AMHERST, MA 01002

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft, mi.) DIRECTION
1	WILDWOOD CEMETERY	70 STRONG ST	UST	Higher	21, 0.004, NNW
2	FORMER HAWTHORNE RES	235 EAST PLEASANT ST	SHWS, LAST	Higher	1126, 0.213, SW
3	NO LOCATION AID	99 EAST PLEASANT ST	SHWS	Lower	2732, 0.517, SSW
4	UNIV OF MASSACHUSETT	ENV HEALTH NORTH 414	SHWS	Lower	2828, 0.536, West
5	TRIANGLEPRAY & E PLE	TRIANGLE ST	SHWS	Lower	3072, 0.582, SSW
6	CONSTRUCTION SITE	650 NORTH PLEASANT S	SHWS	Lower	3381, 0.640, WNW
A7	NO LOCATION AID	168 NORTH PLEASANT S	SHWS	Lower	3616, 0.685, SSW
8	UNIV OF MASSACHUSETT	112 EASTMAN LANE	SHWS	Lower	3646, 0.690, NNW
9	GETTY PROP #6202	203 TRIANGLE ST	SHWS	Lower	3665, 0.694, South
A10	EXXON MOBIL OIL CORP	161 NORTH PLEASANT S	SHWS	Lower	3669, 0.695, SSW
11	POLE #4	33 KELLOGG AVE	SHWS	Lower	4060, 0.769, SSW
12	POLE #78/49	OFF COMMONWEALTH AVE	SHWS	Lower	4112, 0.779, West
13	COMMERCIAL PROPERTY	103 NORTH PLEASANT S	SHWS	Lower	4125, 0.781, SSW
14	UMASS CRAMPTON HALL/	256 SUNSET AVE	SHWS	Lower	4288, 0.812, WSW
B15	LERDERLE LOW RISE	NORTH PLEASANT AND G	SHWS	Lower	4303, 0.815, NW
B16	UMASS PVTA BUS DEPOT	255 GOVERNORS DR	SHWS	Lower	4308, 0.816, NW
17	RESIDENCE	237 SUNSET AVENUE	SHWS	Lower	4335, 0.821, WSW
18	POWER PLANT PUMP HOU	CAMPUS CENTER WAY SE	SHWS	Lower	4623, 0.876, West
19	NO LOCATION AID	40-50 MAIN ST	SHWS	Lower	4785, 0.906, SSW
20	CONCRETE PAD IN FRON	630 MASSACHUSETTS AV	SHWS	Lower	4836, 0.916, WSW
21	ACROSS FROM TOWN HAL	BOLTWOOD AVE	SHWS	Lower	4937, 0.935, SSW
22	FORMER POWER PLANT -	40 CAMPUS CENTER SER	SHWS	Lower	4971, 0.941, West
23	UMASS PHYSICAL PLNT	2 CAMPUS CENTERWAY	SHWS	Lower	5016, 0.950, WNW
24	LORD JEFFERY INN	30 BOLTWOOD AVENUE	SHWS	Lower	5118, 0.969, SSW

Sites Sorted by Database

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

SURROUNDING SITES: SEARCH RESULTS

State- and tribal - equivalent CERCLIS

SHWS: Reportable Releases Database

Site	Address	Direction / Distance	Map ID	Page
FORMER HAWTHORNE RES	***235 EAST PLEASANT ST***	***SW (0.213 mi. / 1126 ft.)***	***2***	***4***
Release Tracking Number / Current Status: 1-0019275 / RAO				
NO LOCATION AID	99 EAST PLEASANT ST	SSW (0.517 mi. / 2732 ft.)	3	5
Release Tracking Number / Current Status: 1-0014063 / RAO				
UNIV OF MASSACHUSETT	ENV HEALTH NORTH 414	W (0.536 mi. / 2828 ft.)	4	5
Release Tracking Number / Current Status: 1-0000016 / RAO				
TRIANGLEPRAY & E PLE	TRIANGLE ST	SSW (0.582 mi. / 3072 ft.)	5	5
Release Tracking Number / Current Status: 1-0000649 / RAO				
CONSTRUCTION SITE	650 NORTH PLEASANT S	WNW (0.640 mi. / 3381 ft.)	6	6
Release Tracking Number / Current Status: 1-0018665 / RAO				
NO LOCATION AID	168 NORTH PLEASANT S	SSW (0.685 mi. / 3616 ft.)	A7	6
Release Tracking Number / Current Status: 1-0013052 / RAO				
UNIV OF MASSACHUSETT	112 EASTMAN LANE	NNW (0.690 mi. / 3646 ft.)	8	7
Release Tracking Number / Current Status: 1-0019533 / UNCLSS				
GETTY PROP #6202	***203 TRIANGLE ST***	***S (0.694 mi. / 3665 ft.)***	***9***	***7***
Release Tracking Number / Current Status: 1-0000895 / RAO				
EXXON MOBIL OIL CORP	***161 NORTH PLEASANT S***	***SSW (0.695 mi. / 3669 ft.)***	***A10***	***8***
Release Tracking Number / Current Status: 1-0016838 / RAO				
POLE #4	33 KELLOGG AVE	SSW (0.769 mi. / 4060 ft.)	11	8
Release Tracking Number / Current Status: 1-0015809 / RAO				
POLE #78/49	OFF COMMONWEALTH AVE	W (0.779 mi. / 4112 ft.)	12	9
Release Tracking Number / Current Status: 1-0011619 / RAO				
COMMERCIAL PROPERTY	***103 NORTH PLEASANT S***	***SSW (0.781 mi. / 4125 ft.)***	***13***	***9***
Release Tracking Number / Current Status: 1-0018965 / TIERII				
UMASS CRAMPTON HALL/	256 SUNSET AVE	WSW (0.812 mi. / 4288 ft.)	14	10
Release Tracking Number / Current Status: 1-0018343 / RAO				
LERDERLE LOW RISE	NORTH PLEASANT AND G	NW (0.815 mi. / 4303 ft.)	B15	10
Release Tracking Number / Current Status: 1-0016269 / RAO				
UMASS PVTA BUS DEPOT	255 GOVERNORS DR	NW (0.816 mi. / 4308 ft.)	B16	11
Release Tracking Number / Current Status: 1-0016496 / RAO				
RESIDENCE	***237 SUNSET AVENUE***	***WSW (0.821 mi. / 4335 ft.)***	***17***	***11***
Release Tracking Number / Current Status: 1-0019693 / PSNC				
POWER PLANT PUMP HOU	***CAMPUS CENTER WAY SE***	***W (0.876 mi. / 4623 ft.)***	***18***	***12***
Release Tracking Number / Current Status: 1-0010724 / RAO				

Sites Sorted by Database

Site	Address	Direction / Distance	Map ID	Page
NO LOCATION AID Release Tracking Number / Current Status: 1-0014556 / RAO	40-50 MAIN ST	SSW (0.906 mi. / 4785 ft.)	19	12
CONCRETE PAD IN FRON Release Tracking Number / Current Status: 1-0010195 / RAO	630 MASSACHUSETTS AV	WSW (0.916 mi. / 4836 ft.)	20	13
ACROSS FROM TOWN HAL Release Tracking Number / Current Status: 1-0013943 / RAO	BOLTWOOD AVE	SSW (0.935 mi. / 4937 ft.)	21	13
FORMER POWER PLANT - Release Tracking Number / Current Status: 1-0018584 / TIERII	40 CAMPUS CENTER SER	W (0.941 mi. / 4971 ft.)	22	14
UMASS PHYSICAL PLNT Release Tracking Number / Current Status: 1-0000943 / RAO	***2 CAMPUS CENTERWAY***	***WNW (0.950 mi. / 5016 ft.)***	***23***	***14***
LORD JEFFERY INN Release Tracking Number / Current Status: 1-0011214 / RAO Release Tracking Number / Current Status: 1-0018042 / RAO	30 BOLTWOOD AVENUE	SSW (0.969 mi. / 5118 ft.)	24	15

State and tribal leaking storage tank lists

LAST: Leaking Aboveground Storage Tank Sites

Site	Address	Direction / Distance	Map ID	Page
FORMER HAWTHORNE RES Release Tracking Number / Current Status: 1-0019275 / RAO	***235 EAST PLEASANT ST***	***SW (0.213 mi. / 1126 ft.)***	***2***	***4***

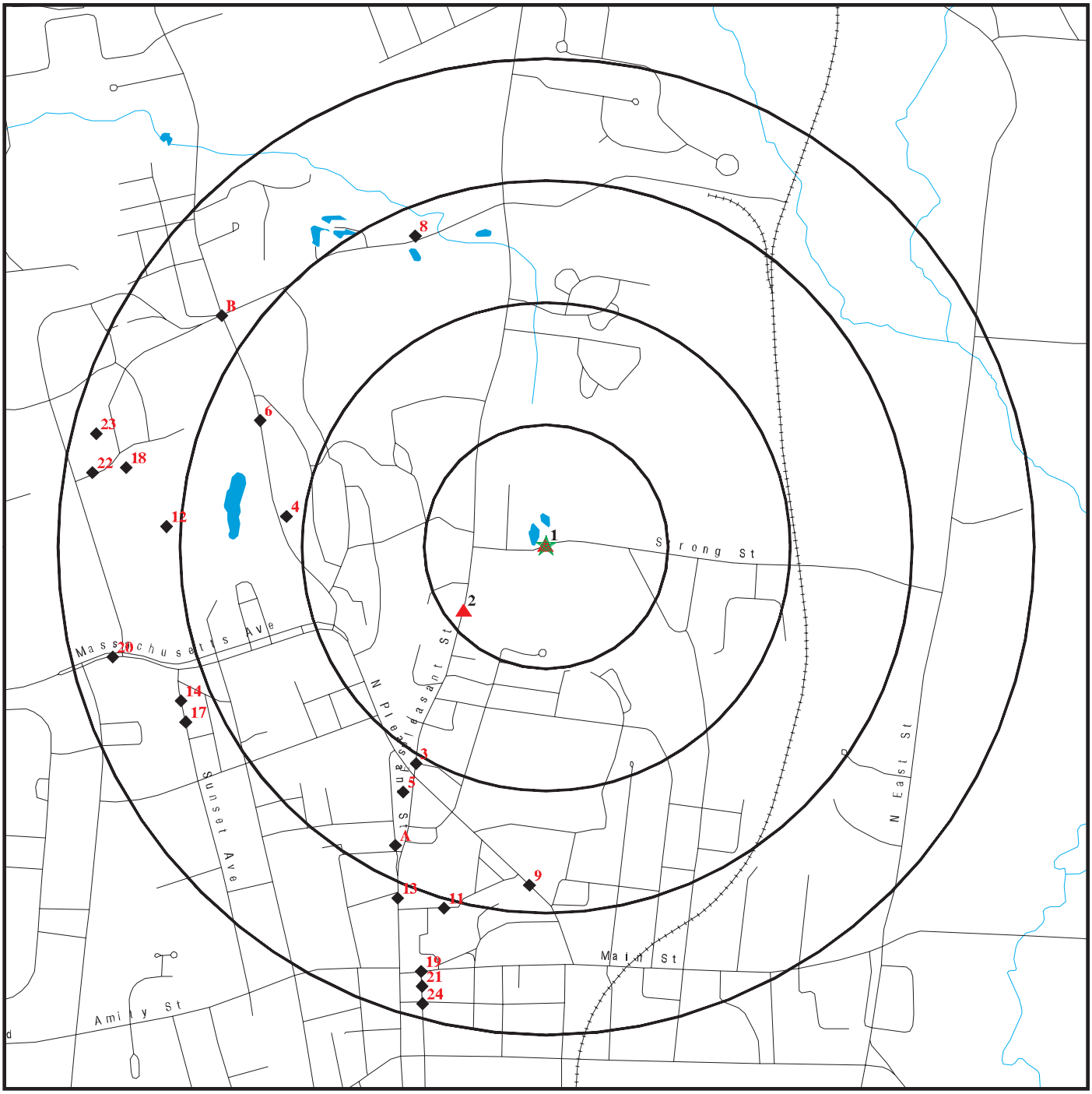
State and tribal registered storage tank lists

UST: Summary Listing of all the Tanks Registered in the State of Massachusetts

Site	Address	Direction / Distance	Map ID	Page
WILDWOOD CEMETERY Tank Status: Removed Facility Id: 166	70 STRONG ST	NNW (0.004 mi. / 21 ft.)	1	4

1.00 Mile Map

71 STRONG STREET AMHERST, MA 01002



Black Rings Represent Qtr. Mile Radius

- ★ **Target Property (Latitude: 42.3883 Longitude: 72.514)**
- ▲ **High or Equal Elevation Sites**
- ◆ **Low Elevation Sites**
- **National Priority List Sites**

EDR First Report

0.250 Mile Map

71 STRONG STREET AMHERST, MA 01002

Black Rings Represent Qtr. Mile Radius

- **Target Property (Latitude: 42.3883 Longitude: 72.514)**
- **High or Equal Elevation Sites**
- **Low Elevation Sites**
- **National Priority List Sites**

EDR First Report

Mapped Sites Summary

Target Property: 71 STRONG STREET
AMHERST, MA 01002

UST

EDR ID: U003000293 **DIST/DIR:** 0.004 NNW **ELEVATION:** 338 **MAP ID:** 1

NAME: WILDWOOD CEMETERY
ADDRESS: 70 STRONG ST
AMHERST, MA 01002
HAMPSHIRE

Click here for full text details

UST
Facility Id: 166
Tank Status: Removed

SHWS, LAST

EDR ID: S114965439 **DIST/DIR:** 0.213 SW **ELEVATION:** 350 **MAP ID:** 2

NAME: FORMER HAWTHORNE RES
ADDRESS: 235 EAST PLEASANT ST
AMHERST, MA 01002

Click here for full text details

SHWS
Release Tracking Number / Current Status: 1-0019275 / RAO

Click here to access the MA DEP site for this facility

LAST
Release Tracking Number / Current Status: 1-0019275 / RAO

Mapped Sites Summary

Target Property: 71 STRONG STREET
AMHERST, MA 01002

SHWS

EDR ID: S105198853 **DIST/DIR:** 0.517 SSW **ELEVATION:** 290 **MAP ID:** 3

NAME: NO LOCATION AID
ADDRESS: 99 EAST PLEASANT ST
AMHERST, MA

Click here for full text details

SHWS
Release Tracking Number / Current Status: 1-0014063 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S100828060 **DIST/DIR:** 0.536 West **ELEVATION:** 250 **MAP ID:** 4

NAME: UNIV OF MASSACHUSETT
ADDRESS: ENV HEALTH NORTH 414
AMHERST, MA 01002

Click here for full text details

SHWS
Release Tracking Number / Current Status: 1-0000016 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S100040405 **DIST/DIR:** 0.582 SSW **ELEVATION:** 286 **MAP ID:** 5

NAME: TRIANGLEPRAY & E PLE
ADDRESS: TRIANGLE ST
AMHERST, MA 01002

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 71 STRONG STREET
AMHERST, MA 01002

SHWS

EDR ID: S100040405 **DIST/DIR:** 0.582 SSW **ELEVATION:** 286 **MAP ID:** 5

NAME: TRIANGLEPRAY & E PLE
ADDRESS: TRIANGLE ST
AMHERST, MA 01002

SHWS
Release Tracking Number / Current Status: 1-0000649 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S111739368 **DIST/DIR:** 0.640 WNW **ELEVATION:** 232 **MAP ID:** 6

NAME: CONSTRUCTION SITE
ADDRESS: 650 NORTH PLEASANT S
AMHERST, MA 01003

Click here for full text details

SHWS
Release Tracking Number / Current Status: 1-0018665 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S104000270 **DIST/DIR:** 0.685 SSW **ELEVATION:** 282 **MAP ID:** A7

NAME: NO LOCATION AID
ADDRESS: 168 NORTH PLEASANT S
AMHERST, MA

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 71 STRONG STREET
AMHERST, MA 01002

SHWS

EDR ID: S104000270 **DIST/DIR:** 0.685 SSW **ELEVATION:** 282 **MAP ID:** A7

NAME: NO LOCATION AID
ADDRESS: 168 NORTH PLEASANT S
AMHERST, MA

SHWS
Release Tracking Number / Current Status: 1-0013052 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S110173717 **DIST/DIR:** 0.690 NNW **ELEVATION:** 306 **MAP ID:** 8

NAME: UNIV OF MASSACHUSETT
ADDRESS: 112 EASTMAN LANE
AMHERST, MA 01003

Click here for full text details

SHWS
Release Tracking Number / Current Status: 1-0019533 / UNCLSS

Click here to access the MA DEP site for this facility

SHWS

EDR ID: U000223267 **DIST/DIR:** 0.694 South **ELEVATION:** 313 **MAP ID:** 9

NAME: GETTY PROP #6202
ADDRESS: 203 TRIANGLE ST
AMHERST, MA 01002
HAMPSHIRE

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 71 STRONG STREET
AMHERST, MA 01002

SHWS

EDR ID: U000223267 **DIST/DIR:** 0.694 South **ELEVATION:** 313 **MAP ID:** 9

NAME: GETTY PROP #6202
ADDRESS: 203 TRIANGLE ST
AMHERST, MA 01002
HAMPSHIRE

SHWS
Release Tracking Number / Current Status: 1-0000895 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S101041623 **DIST/DIR:** 0.695 SSW **ELEVATION:** 282 **MAP ID:** A10

NAME: EXXON MOBIL OIL CORP
ADDRESS: 161 NORTH PLEASANT S
AMHERST, MA 01002

Click here for full text details

SHWS
Release Tracking Number / Current Status: 1-0016838 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S106953840 **DIST/DIR:** 0.769 SSW **ELEVATION:** 291 **MAP ID:** 11

NAME: POLE #4
ADDRESS: 33 KELLOGG AVE
AMHERST, MA

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 71 STRONG STREET
AMHERST, MA 01002

SHWS

EDR ID: S106953840 **DIST/DIR:** 0.769 SSW **ELEVATION:** 291 **MAP ID:** 11

NAME: POLE #4
ADDRESS: 33 KELLOGG AVE
AMHERST, MA

SHWS
Release Tracking Number / Current Status: 1-0015809 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S101021851 **DIST/DIR:** 0.779 West **ELEVATION:** 232 **MAP ID:** 12

NAME: POLE #78/49
ADDRESS: OFF COMMONWEALTH AVE
AMHERST, MA 01002
HAMPSHIRE

Click here for full text details

SHWS
Release Tracking Number / Current Status: 1-0011619 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S112288242 **DIST/DIR:** 0.781 SSW **ELEVATION:** 293 **MAP ID:** 13

NAME: COMMERCIAL PROPERTY
ADDRESS: 103 NORTH PLEASANT S
AMHERST, MA 01002

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 71 STRONG STREET
AMHERST, MA 01002

SHWS

EDR ID: S112288242 **DIST/DIR:** 0.781 SSW **ELEVATION:** 293 **MAP ID:** 13

NAME: COMMERCIAL PROPERTY
ADDRESS: 103 NORTH PLEASANT S
AMHERST, MA 01002

SHWS
Release Tracking Number / Current Status: 1-0018965 / TIERII

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S111085853 **DIST/DIR:** 0.812 WSW **ELEVATION:** 220 **MAP ID:** 14

NAME: UMASS CRAMPTON HALL/
ADDRESS: 256 SUNSET AVE
AMHERST, MA 01003

Click here for full text details

SHWS
Release Tracking Number / Current Status: 1-0018343 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S108034399 **DIST/DIR:** 0.815 NW **ELEVATION:** 236 **MAP ID:** B15

NAME: LERDERLE LOW RISE
ADDRESS: NORTH PLEASANT AND G
AMHERST, MA

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 71 STRONG STREET
AMHERST, MA 01002

SHWS

EDR ID: S108034399 **DIST/DIR:** 0.815 NW **ELEVATION:** 236 **MAP ID:** B15

NAME: LERDERLE LOW RISE
ADDRESS: NORTH PLEASANT AND G
AMHERST, MA

SHWS
Release Tracking Number / Current Status: 1-0016269 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S108348225 **DIST/DIR:** 0.816 NW **ELEVATION:** 236 **MAP ID:** B16

NAME: UMASS PVTA BUS DEPOT
ADDRESS: 255 GOVERNORS DR
AMHERST, MA 01003

Click here for full text details

SHWS
Release Tracking Number / Current Status: 1-0016496 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S117964657 **DIST/DIR:** 0.821 WSW **ELEVATION:** 229 **MAP ID:** 17

NAME: RESIDENCE
ADDRESS: 237 SUNSET AVENUE
AMHERST, MA

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 71 STRONG STREET
AMHERST, MA 01002

SHWS

EDR ID: S117964657 **DIST/DIR:** 0.821 WSW **ELEVATION:** 229 **MAP ID:** 17

NAME: RESIDENCE
ADDRESS: 237 SUNSET AVENUE
AMHERST, MA

SHWS
Release Tracking Number / Current Status: 1-0019693 / PSNC

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S102083454 **DIST/DIR:** 0.876 West **ELEVATION:** 189 **MAP ID:** 18

NAME: POWER PLANT PUMP HOU
ADDRESS: CAMPUS CENTER WAY SE
AMHERST, MA 01003

Click here for full text details

SHWS
Release Tracking Number / Current Status: 1-0010724 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S106953796 **DIST/DIR:** 0.906 SSW **ELEVATION:** 301 **MAP ID:** 19

NAME: NO LOCATION AID
ADDRESS: 40-50 MAIN ST
AMHERST, MA

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 71 STRONG STREET
AMHERST, MA 01002

SHWS

EDR ID: S106953796 **DIST/DIR:** 0.906 SSW **ELEVATION:** 301 **MAP ID:** 19

NAME: NO LOCATION AID
ADDRESS: 40-50 MAIN ST
AMHERST, MA

SHWS
Release Tracking Number / Current Status: 1-0014556 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S103545206 **DIST/DIR:** 0.916 WSW **ELEVATION:** 175 **MAP ID:** 20

NAME: CONCRETE PAD IN FRON
ADDRESS: 630 MASSACHUSETTS AV
AMHERST, MA 01003

Click here for full text details

SHWS
Release Tracking Number / Current Status: 1-0010195 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S105124777 **DIST/DIR:** 0.935 SSW **ELEVATION:** 302 **MAP ID:** 21

NAME: ACROSS FROM TOWN HAL
ADDRESS: BOLTWOOD AVE
AMHERST, MA 01002

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 71 STRONG STREET
AMHERST, MA 01002

SHWS

EDR ID: S105124777 **DIST/DIR:** 0.935 SSW **ELEVATION:** 302 **MAP ID:** 21

NAME: ACROSS FROM TOWN HAL
ADDRESS: BOLTWOOD AVE
AMHERST, MA 01002

SHWS
Release Tracking Number / Current Status: 1-0013943 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S111411726 **DIST/DIR:** 0.941 West **ELEVATION:** 186 **MAP ID:** 22

NAME: FORMER POWER PLANT -
ADDRESS: 40 CAMPUS CENTER SER
AMHERST, MA 01003

Click here for full text details

SHWS
Release Tracking Number / Current Status: 1-0018584 / TIERII

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S100360542 **DIST/DIR:** 0.950 WNW **ELEVATION:** 196 **MAP ID:** 23

NAME: UMASS PHYSICAL PLNT
ADDRESS: 2 CAMPUS CENTERWAY
AMHERST, MA 01002

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 71 STRONG STREET
AMHERST, MA 01002

SHWS

EDR ID: S100360542 **DIST/DIR:** 0.950 WNW **ELEVATION:** 196 **MAP ID:** 23

NAME: UMASS PHYSICAL PLNT
ADDRESS: 2 CAMPUS CENTERWAY
AMHERST, MA 01002

SHWS
Release Tracking Number / Current Status: 1-0000943 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S102083773 **DIST/DIR:** 0.969 SSW **ELEVATION:** 298 **MAP ID:** 24

NAME: LORD JEFFERY INN
ADDRESS: 30 BOLTWOOD AVENUE
AMHERST, MA 01002

Click here for full text details

SHWS
Release Tracking Number / Current Status: 1-0011214 / RAO
Release Tracking Number / Current Status: 1-0018042 / RAO

Click here to access the MA DEP site for this facility

Count: 7 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
AMHERST	S113411575	CORNER OF THATCHER AND CLARK HILL	CLARK HILL ROAD		SHWS
AMHERST	S108034425	N PLEASANT ST NEW DORM CONSTRUCTIO	EASTMAN LN	01003	SHWS
AMHERST	S109546226	PIERPONT DORMITORY	FEARING ST		SHWS
AMHERST	S110526346	UMASS SOUTHWEST RESIDENTIAL AREA	MASS AVE. AND UNIVERSITY DR.	01003	SHWS
AMHERST	S105124794	UMASS CHILLED WATER PUMPHOUSE	MASSACHUSETTS AVE		SHWS
AMHERST	S111989410	MELVILLE RESIDENCE HALL	MASSACHUSETTS AVENUE	01003	SHWS
AMHERST	S105198704	JONES PATTERSON	EAST PLEASANT ST	01002	SHWS

RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Gov Date	Arvl. Date	Active Date	Last EDR Contact
MA	AST	Aboveground Storage Tank Database	10/22/2009	10/28/2009	11/06/2009	07/20/2015
MA	BROWNFIELDS	Completed Brownfields Covenants Listing	11/01/2014	11/06/2014	11/10/2014	08/07/2015
MA	BROWNFIELDS 2	Potential Brownfields Listing	12/17/2014	05/06/2015	05/11/2015	08/07/2015
MA	INST CONTROL	Sites With Activity and Use Limitation	06/30/2015	07/14/2015	08/04/2015	07/14/2015
MA	LAST	Leaking Aboveground Storage Tank Sites	06/30/2015	07/14/2015	08/04/2015	07/14/2015
MA	LF PROFILES	Landfill Profiles Listing	06/26/2012	11/21/2014	12/17/2014	07/10/2015
MA	LUST	Leaking Underground Storage Tank Listing	06/30/2015	07/14/2015	08/04/2015	07/14/2015
MA	SHWS	Site Transition List	06/30/2015	07/14/2015	08/04/2015	07/14/2015
MA	SWF/LF	Solid Waste Facility Database/Transfer Stations	01/29/2015	04/09/2015	04/21/2015	07/10/2015
MA	UST	Summary Listing of all the Tanks Registered in the State of	07/13/2015	07/21/2015	08/04/2015	07/21/2015
US	BRS	Biennial Reporting System	12/31/2011	02/26/2013	04/19/2013	05/29/2015
US	CERCLIS	Comprehensive Environmental Response, Compensation, and Liab	10/25/2013	11/11/2013	02/13/2014	05/29/2015
US	CERCLIS-NFRAP	CERCLIS No Further Remedial Action Planned	10/25/2013	11/11/2013	02/13/2014	05/29/2015
US	CORRACTS	Corrective Action Report	06/09/2015	06/26/2015	09/16/2015	06/26/2015
US	Delisted NPL	National Priority List Deletions	03/26/2015	04/08/2015	06/22/2015	07/09/2015
US	ERNS	Emergency Response Notification System	06/22/2015	06/26/2015	09/16/2015	06/26/2015
US	FEDERAL FACILITY	Federal Facility Site Information listing	03/26/2015	04/08/2015	06/11/2015	07/10/2015
US	FEDLAND	Federal and Indian Lands	12/31/2005	02/06/2006	01/11/2007	07/14/2015
US	FEMA UST	Underground Storage Tank Listing	01/01/2010	02/16/2010	04/12/2010	07/10/2015
US	INDIAN LUST R1	Leaking Underground Storage Tanks on Indian Land	02/03/2015	04/30/2015	06/22/2015	07/31/2015
US	INDIAN LUST R10	Leaking Underground Storage Tanks on Indian Land	02/03/2015	02/12/2015	03/13/2015	07/22/2015
US	INDIAN LUST R4	Leaking Underground Storage Tanks on Indian Land	09/30/2014	03/03/2015	03/13/2015	07/22/2015
US	INDIAN LUST R5	Leaking Underground Storage Tanks on Indian Land	04/30/2015	05/29/2015	06/22/2015	07/22/2015
US	INDIAN LUST R6	Leaking Underground Storage Tanks on Indian Land	03/17/2015	05/01/2015	06/22/2015	07/22/2015
US	INDIAN LUST R7	Leaking Underground Storage Tanks on Indian Land	03/30/2015	04/28/2015	06/22/2015	07/22/2015
US	INDIAN LUST R8	Leaking Underground Storage Tanks on Indian Land	04/30/2015	05/05/2015	06/22/2015	07/22/2015
US	INDIAN LUST R9	Leaking Underground Storage Tanks on Indian Land	01/08/2015	01/08/2015	02/09/2015	07/31/2015
US	INDIAN UST R1	Underground Storage Tanks on Indian Land	02/03/2015	04/30/2015	06/22/2015	07/31/2015
US	INDIAN UST R10	Underground Storage Tanks on Indian Land	05/06/2015	05/19/2015	06/22/2015	07/22/2015
US	INDIAN UST R4	Underground Storage Tanks on Indian Land	09/30/2014	03/03/2015	03/13/2015	07/22/2015
US	INDIAN UST R5	Underground Storage Tanks on Indian Land	04/30/2015	05/26/2015	06/22/2015	07/22/2015
US	INDIAN UST R6	Underground Storage Tanks on Indian Land	03/17/2015	05/01/2015	06/22/2015	07/22/2015
US	INDIAN UST R7	Underground Storage Tanks on Indian Land	09/23/2014	11/25/2014	01/29/2015	07/22/2015
US	INDIAN UST R8	Underground Storage Tanks on Indian Land	04/30/2015	05/05/2015	06/22/2015	07/22/2015
US	INDIAN UST R9	Underground Storage Tanks on Indian Land	12/14/2014	02/13/2015	03/13/2015	07/31/2015
US	INDIAN VCP R1	Voluntary Cleanup Priority Listing	09/29/2014	10/01/2014	11/06/2014	06/26/2015
US	INDIAN VCP R7	Voluntary Cleanup Priority Lisitng	03/20/2008	04/22/2008	05/19/2008	04/20/2009
US	LUCIS	Land Use Control Information System	05/28/2015	05/29/2015	06/11/2015	08/12/2015
US	NPL	National Priority List	03/26/2015	04/08/2015	06/22/2015	07/09/2015
US	NPL LIENS	Federal Superfund Liens	10/15/1991	02/02/1994	03/30/1994	08/15/2011
US	PRP	Potentially Responsible Parties	10/25/2013	10/17/2014	10/20/2014	05/14/2015
US	Proposed NPL	Proposed National Priority List Sites	03/26/2015	04/08/2015	06/22/2015	07/09/2015
US	RCRA-CESQG	RCRA - Conditionally Exempt Small Quantity Generators	06/09/2015	06/26/2015	09/16/2015	06/26/2015
US	RCRA-LQG	RCRA - Large Quantity Generators	06/09/2015	06/26/2015	09/16/2015	06/26/2015
US	RCRA-SQG	RCRA - Small Quantity Generators	06/09/2015	06/26/2015	09/16/2015	06/26/2015
US	RCRA-TSDF	RCRA - Treatment, Storage and Disposal	06/09/2015	06/26/2015	09/16/2015	06/26/2015
US	US AIRS (AFS)	Aerometric Information Retrieval System Facility Subsystem (	07/22/2015	07/24/2015	09/02/2015	06/22/2015

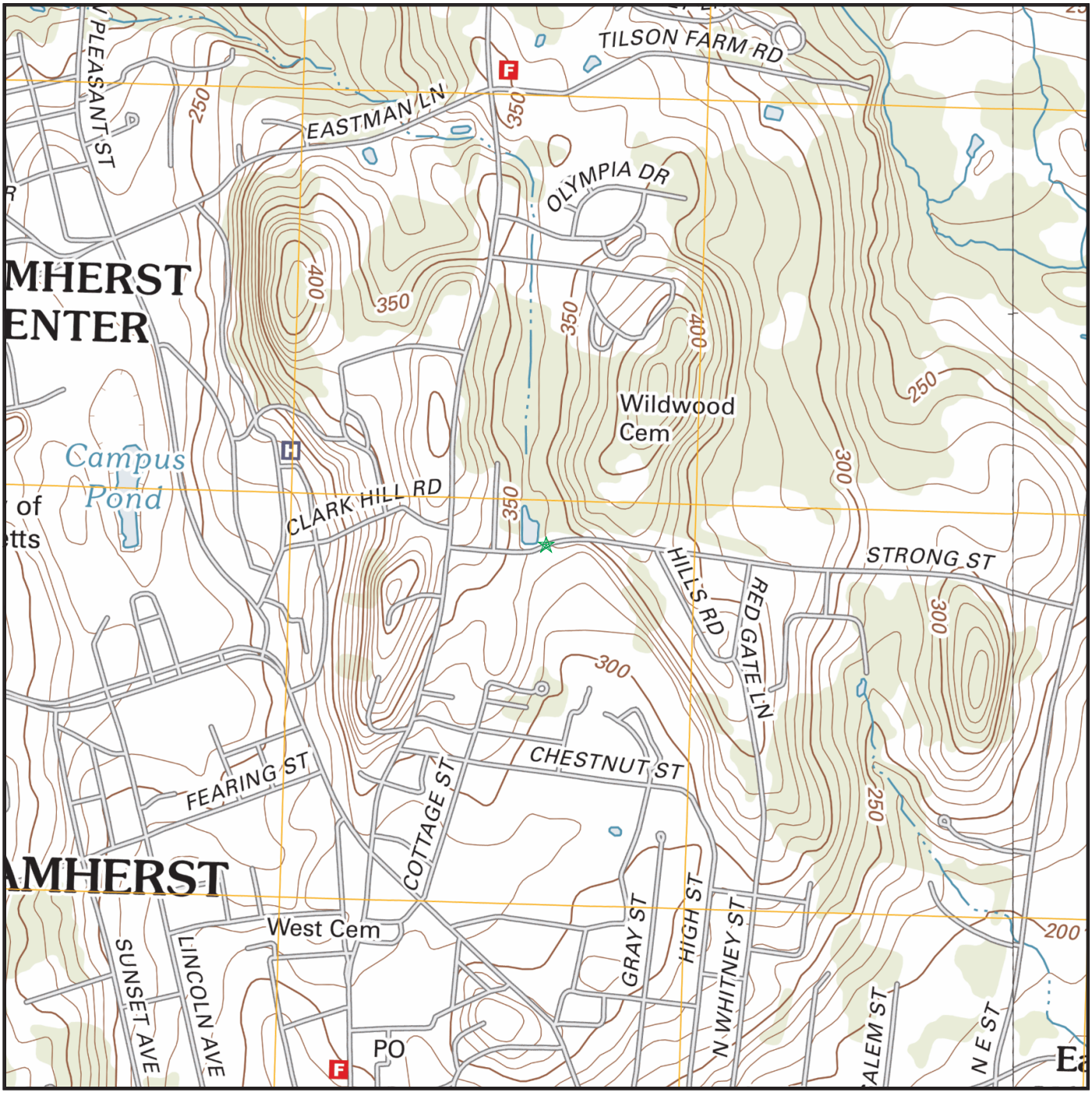
RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Gov Date	Arvl. Date	Active Date	Last EDR Contact
US	US AIRS MINOR	Air Facility System Data	07/22/2015	07/24/2015	09/02/2015	06/22/2015
US	US ENG CONTROLS	Engineering Controls Sites List	06/09/2015	06/26/2015	09/02/2015	08/31/2015
US	US INST CONTROL	Sites with Institutional Controls	06/09/2015	06/26/2015	09/02/2015	08/31/2015

STREET AND ADDRESS INFORMATION

USGS 7.5 Minute Topographic Map

71 STRONG STREET AMHERST, MA 01002



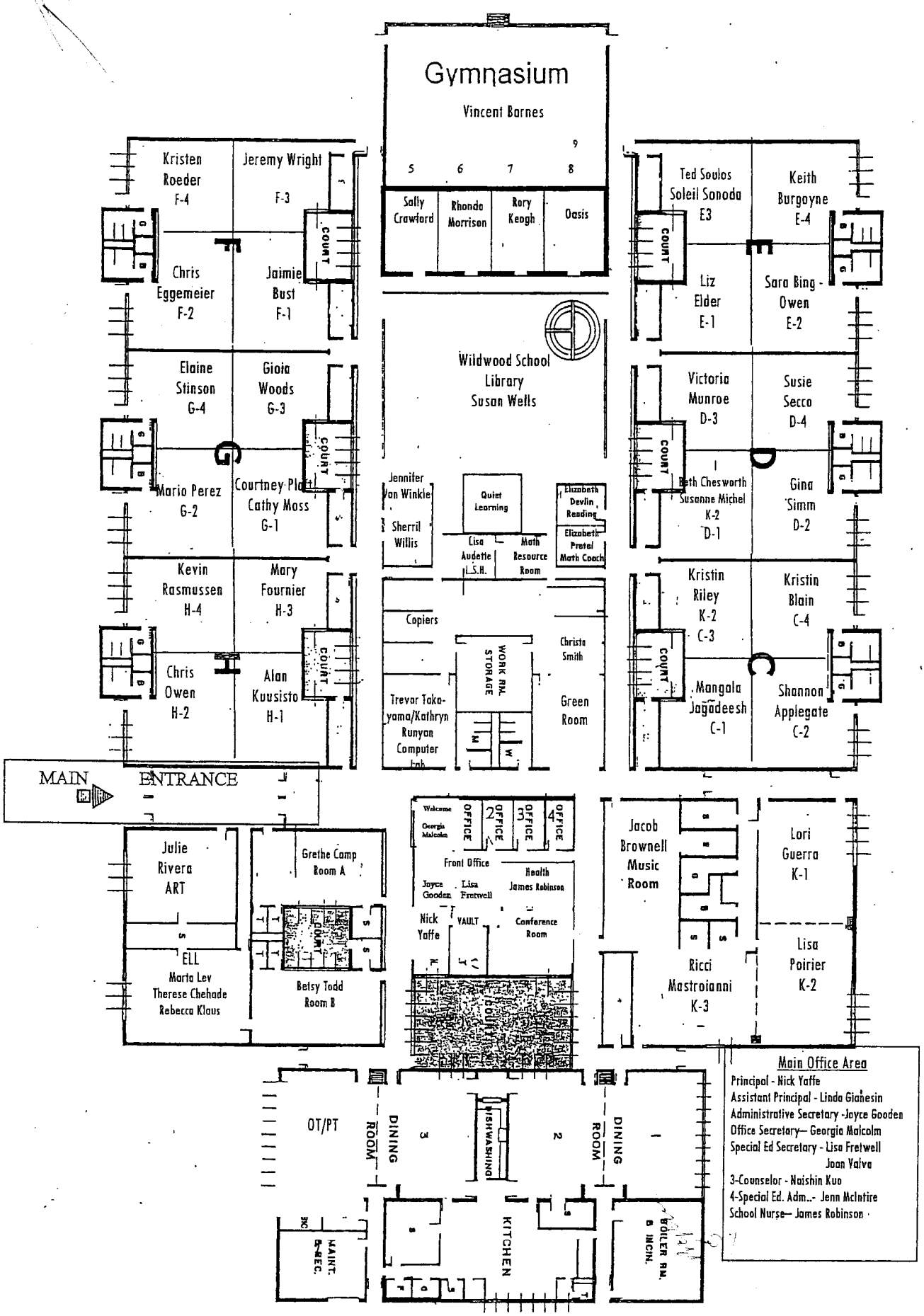
Map Image Position: TP
Map Reference Code & Name: 5642742 Mount Toby
Map State(s): MA
Version Date: 2012
Map Image Position: NE
Map Reference Code & Name: 5642718 Shutesbury
Map State(s): MA
Version Date: 2012

Map Image Position: SE
Map Reference Code & Name: 5642686 Belchertown
Map State(s): MA
Version Date: 2012

EDR First Report

APPENDIX B

WILDWOOD SCHOOL 2015-2016



Main Office Area

Principal - Nick Yaffe
Assistant Principal - Linda Giahesin
Administrative Secretary -Joyce Gooden
Office Secretary— Georgia Malcolm
Special Ed Secretary - Lisa Fretwell
Joan Valva
3-Counselor - Naishin Kuo
4-Special Ed. Adm..- Jenn McIntire
School Nurse— James Robinson

Property Location: 71 STRONG ST | MAP ID:11B/ / 76/ / | Bldg Name: | State Use:9034
Vision ID: 2205 | Account # | Bldg #: 1 of 1 | Sec #: 1 of 1 | Card 1 of 1 | Print Date:12/05/2014 11:23

CURRENT OWNER	TOPO.	UTILITIES	STRT./ROAD	LOCATION
TOWN OF AMHERST SCHOOL DEPT				
TOWN HALL				
AMHERST, MA 01002				
Additional Owners:				

SUPPLEMENTAL DATA

Other ID:	WILDWOOD SCHOOL	Precinct	
Calc Frontag	571.2	Vote At	
		Tenant	
		Parent	
BIDIN		Created	
BIDOUT			
GIS ID:	11B-76	ASSOC PID#	

CURRENT ASSESSMENT

Description	Code	Appraised Value	Assessed Value
EXEMPT	9030	25,217,800	25,217,800
EXM LAND	9030	329,400	329,400
		Total	25,547,200	25,547,200

601
Amherst, MA

VISION

RECORD OF OWNERSHIP	BK-VOL/PAGE	SALE DATE	q/u	v/i	SALE PRICE	V.C.
TOWN OF AMHERST SCHOOL DEPT	1464/ 123	06/15/1965	U		0	
W D COWLES INC	1213/ 346				0	

PREVIOUS ASSESSMENTS (HISTORY)

Yr.	Code	Assessed Value	Yr.	Code	Assessed Value	Yr.	Code	Assessed Value
2015	9030	25,217,800	2014	9030	25,217,800	2013	9030	12,358,400
2015	9030	329,400	2014	9030	329,400	2013	9030	259,400
	Total:	25,547,200		Total:	12,617,800		Total:	8,410,800

EXEMPTIONS

Year	Type	Description	Amount
		Total:	

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm. Int.

This signature acknowledges a visit by a Data Collector or Assessor

ASSESSING NEIGHBORHOOD

NBHD/ SUB	NBHD Name	Street Index Name	Tracing	Batch
SA/A				

NOTES

WILDWOOD ELEMENTARY

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	25,158,400
Appraised XF (B) Value (Bldg)	59,400
Appraised OB (L) Value (Bldg)	0
Appraised Land Value (Bldg)	329,400
Special Land Value	0
Total Appraised Parcel Value	25,547,200
Valuation Method:	C
Exemptions	0
Adjustment:	0
Net Total Appraised Parcel Value	**25,547,200**

BUILDING PERMIT RECORD

Permit ID	Issue Date	Type	Description	Amount	Insp. Date	% Comp.	Date Comp.	Comments
PLM14-0057	08/30/2013	PL	Plumbing	0		0		DISHWASHER & DISPO
ELE14-0123	08/20/2013	EL	Electric	0		0		ELECTRIFIED MAIN E
ELE12-0119	08/16/2011	EL	Electric	0		0		INTERCOM SYSTEM
ELE11-0133	08/18/2010	EL	Electric	0		0		REPL COOLER & FREE
ELE09-0026	07/15/2008	EL	Electric	0		0		REPL 24 LIGHTS IN GY
ELE05-570	01/10/2005	EL	Electric	0		0		REPL FIRE ALARM & F
ELE05-056	07/23/2004	EL	Electric	0		0		MISC WIRING

VISIT/ CHANGE HISTORY

Date	Type	IS	ID	Cd.	Purpose/Result
07/17/1986			A		

LAND LINE VALUATION SECTION

B #	Use Code	Use Description	Zone	D	Front	Depth	Units		Unit Price	I. Factor	S.A.	Acre Disc	C. Factor	ST. Idx	Adj.	Notes- Adj	Special Pricing	S Adj Fact	Adj. Unit Price	Land Value
1	9034	Municpal C	RN20				108,900	SF	1.86	1.1000	7	1.0000	1.00	CE	1.00			1.00		222,800
1	9034	Municpal C	RN23				11.84	AC	10,000.00	0.9000	0	1.0000	1.00	SA	1.00			1.00		106,600

Total Card Land Units: 14.34 AC | Parcel Total Land Area: 14.34 AC | Total Land Value: 329,400

Property Location: 71 STRONG ST | **MAP ID:** 11B/ / 76/ / | **Bldg Name:** | **State Use:** 9034

Vision ID: 2205 | **Account #** | **Bldg #:** 1 of 1 | **Sec #:** 1 of 1 | **Card** 1 of 1 | **Print Date:** 12/05/2014 11:23

CONSTRUCTION DETAIL

Element	Cd.	Ch.	Description
Style	74		School/Public
Model	94		Commercial
Grade	11		B
Stories	1		
Occupancy	0		
Exterior Wall 1	20		Brick/Masonry
Exterior Wall 2			
Roof Structure	01		Flat
Roof Cover	02		Rolled Compos
Interior Wall 1	05		Drywall/Sheet
Interior Wall 2			
Interior Floor 1	04		Concr Abv Grad
Interior Floor 2			
Heating Fuel	02		Oil
Heating Type	05		Hot Water
AC Type	01		None
Bldg Use	9034		Municpal C
Total Rooms			
Total Bedrms	00		
Total Baths	9		
Foundation			
Heat/AC	02		Heat/Ac Split
Frame Type	03		Masonry
Baths/Plumbing	03		Above Average
Ceiling/Wall	03		Sus-Ceil/Mn Wl
Rooms/Prtns	03		Above Average
Wall Height	12		
% Comn Wall	0		

CONSTRUCTION DETAIL (CONTINUED)

Element	Cd.	Ch.	Description

MIXED USE

Code	Description	Percentage
9034	Municpal C	100

COST/MARKET VALUATION

Adj. Base Rate:	319.11
Replace Cost	34,463,556
AYB	1976
Dep Code	A
Remodel Rating	
Year Remodeled	
Dep %	27
Functional Obslnc	0
External Obslnc	0
Cost Trend Factor	
Condition	
% Complete	
Overall % Cond	73
Apprais Val	25,158,400
Dep % Ovr	0
Dep Ovr Comment	
Misc Imp Ovr	0
Misc Imp Ovr Comment	
Cost to Cure Ovr	0
Cost to Cure Ovr Comment	

BAS[108000]

OB-OUTBUILDING & YARD ITEMS(L) / XF-BUILDING EXTRA FEATURES(B)

Code	Description	Sub	Sub Descript	L/B	Units	Unit Price	Yr	Gde	Dp Rt	Cnd	%Cnd	Apr Value
SPR2	Sprinlklers wet			B	108,00	1.10	1987		1		50	59,400

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Gross Area	Eff. Area	Unit Cost	Undeprec. Value
BAS	First Floor	108,000	108,000	108,000	319.11	34,463,556
	Ttl. Gross Liv/Lease Area:	108,000	108,000	108,000		34,463,556

No Photo On Record

88-82

THE COMMONWEALTH OF MASSACHUSETTS

Town of Amherst

FIRE DEPARTMENT

FIRE PREVENTION DIVISION

PERMIT FOR STORAGE OF FUEL OIL

FORM 245 HOBBS & WARREN, INC.

In accordance with provisions of Chapter 148, General Laws, and amendments thereto and Regulations made under authority thereof.

Name Wildwood Elem. School (OWNER OR OCCUPANT) Name Industrial Combustion Inc. (INSTALLER)

Address Strong St. Address Bloomfield, Ct.

BURNER		STORAGE	
Name	Forced Draft	Type of Tank	Steel round
Manufacturer	Ray Burner Co.	Capacity	10,000 gals. (or) Size
Model No. or Size	PAEOP-114	Location	Underground
Type	Gun	Mass. Approval No.	651

Permit issued 9/13/82 expires

(HEAD OF FIRE DEPARTMENT)

Fee Paid By H. A. Cummings

This Permit must be Conspicuously Posted on Premises

30-69

THE COMMONWEALTH OF MASSACHUSETTS

Town of Amherst

FIRE DEPARTMENT

FIRE PREVENTION DIVISION

PERMIT FOR STORAGE OF FUEL OIL

FORM 245 HOBBS & WARREN, INC.

In accordance with provisions of Chapter 148, General Laws, and amendments thereto and Regulations made under authority thereof.

Name Amherst Elementary School (OWNER OR OCCUPANT) Name Foster C. [illegible] (INSTALLER)

Address Strong St. *Wildwood School* Address [illegible] St. Springfield

BURNER		STORAGE	
Name	Petro	Type of Tank	Steel round
Manufacturer	[illegible] Conditioning	Capacity	10,000 gals. (or) Size
Model No. or Size	WD-5-A[illegible]	Location	Underground
Type	Rotary	Mass. Approval No.	173

Permit issued expires

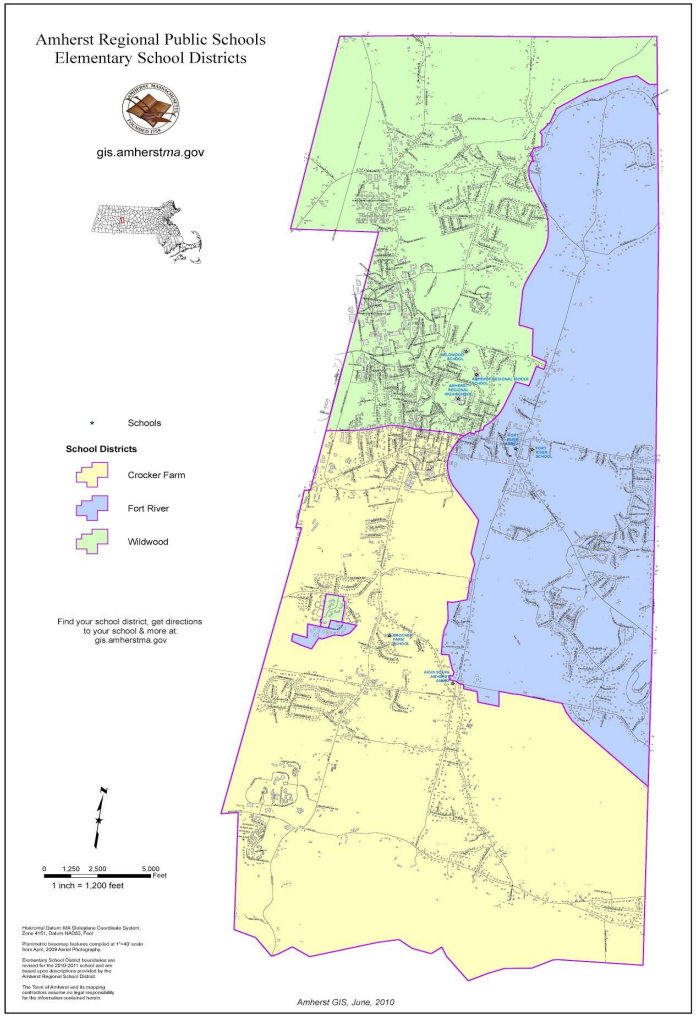
(HEAD OF FIRE DEPARTMENT)

DRAFT Reconfiguration Maps

December 22, 2015

Current Enrollment Map

Category	Range Between Schools
Free and/or Reduced Lunch	9.5%



2-6 750 Student Option

Category	Range Between Schools
Free and/or Reduced Lunch	2%

Route 9

2-6 (750 Students) School Option 1

Amity/Main/Rt9

Category	Range Between Schools
Free and/or Reduced Lunch	10%

2-6 (750 Students) School Option 2

NE/SW

Category	Range Between Schools
Free and/or Reduced Lunch	0.6%

2-6 (750 Students) School Option 3

East/West

Category	Range Between Schools
Free and/or Reduced Lunch	6%

2-6 (750 Students) School Option 4

Feasibility Study

Wildwood Elementary School
Design Options

Amherst, MA

PMC LLC
20 Downer Avenue, Suite 1c
Hingham
MA 02043
(ph) 781 740 8007

Prepared for:

NV5

January 27, 2016

PM&C

Wildwood Elementary School
Design Options
Amherst, MA

27-Jan-16

Feasibility Study

MAIN CONSTRUCTION COST SUMMARY

			Gross Floor Area	$/sf	Estimated Construction Cost
OPTION W - CODE UPDATES TO EXISTING ELEMENTARY SCHOOL					
REPAIR EXISTING ELEMENTARY SCHOOL			82,000	$82.31	$6,749,448
REMOVE HAZARDOUS MATERIALS [1]					$786,000
SITEWORK					$250,000
SUB-TOTAL			82,000	$94.94	$7,785,448
DESIGN AND PRICING CONTINGENCY	15%				$1,167,817
ESCALATION - CONSTRUCTION START FALL 2017, 4% per annum	6.33%				$492,819
SUB-TOTAL					$9,446,084
GENERAL CONDITIONS		8 MTHS		$80,000	$640,000
GENERAL REQUIREMENTS	3%				$283,383
BONDS	1.00%				$94,461
INSURANCE	1.25%				$118,076
PERMIT					NIC
SUB-TOTAL					$10,582,004
OVERHEAD AND FEE	3.00%				$317,460
GMP CONTINGENCY	2%				$211,640
TOTAL OF ALL CONSTRUCTION OPTION W			82,000	$135.50	**$11,111,104**

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Wildwood Elementary School
Design Options
Amherst, MA

27-Jan-16

Feasibility Study

OPTION W10 - RENOVATION/ADDITION 2-6 FOR 750

RENOVATION			82,000	$192.84	$15,812,855
ADDITION			44,000	$275.47	$12,120,619
REMOVE HAZARDOUS MATERIALS [1]					$786,000
SITEWORK					$3,446,337
SUB-TOTAL			126,000	$255.28	$32,165,811
DESIGN AND PRICING CONTINGENCY	15%				$4,824,872
PHASING PREMIUM	3%				$964,974
ESCALATION - CONSTRUCTION START FALL 2017, 4% per annum	6.33%				$2,036,096
SUB-TOTAL					$39,991,753
GENERAL CONDITIONS		32	MTHS	$150,000	$4,800,000
GENERAL REQUIREMENTS	3%				$1,199,753
BONDS	1.00%				$399,918
INSURANCE	1.25%				$499,897
PERMIT					NIC
SUB-TOTAL					$46,891,321
OVERHEAD AND FEE	3.00%				$1,406,740
GMP CONTINGENCY	2%				$937,826
TOTAL OF ALL CONSTRUCTION OPTION W10			126,000	$390.76	**$49,235,887**

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Wildwood Elementary School
Design Options
Amherst, MA

27-Jan-16

Feasibility Study

OPTION W7 - NEW 2-6 for 750

NEW ELEMENTARY SCHOOL			122,714	$260.70	$31,991,573
DEMOLITION OF EXISTING BUILDING			82,000	$10.00	$820,000
REMOVE HAZARDOUS MATERIALS [1]					$786,000
SITEWORK					$4,031,709
SUB-TOTAL			122,714	$306.64	$37,629,282
DESIGN AND PRICING CONTINGENCY	15%				$5,644,392
ESCALATION - CONSTRUCTION START FALL 2017, 4% per annum	6.33%				$2,381,934
SUB-TOTAL					$45,655,608
GENERAL CONDITIONS		24	MTHS	$150,000	$3,600,000
GENERAL REQUIREMENTS	3%				$1,369,668
BONDS	1.00%				$456,556
INSURANCE	1.25%				$570,695
PERMIT					NIC
SUB-TOTAL					$51,652,527
OVERHEAD AND FEE	3.00%				$1,549,576
GMP CONTINGENCY	2%				$1,033,051
TOTAL OF ALL CONSTRUCTION OPTION W7			122,714	$441.96	**$54,235,154**

TEMPORARY CLASSROOMS **NIC**

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Wildwood Elementary School
Design Options
Amherst, MA

27-Jan-16

Feasibility Study

OPTION W12 - NEW 2-6 for 750

NEW ELEMENTARY SCHOOL			122,714	$252.79	$31,020,369
DEMOLITION OF EXISTING BUILDING			82,000	$10.00	$820,000
REMOVE HAZARDOUS MATERIALS [1]					$786,000
SITEWORK					$3,915,164
SUB-TOTAL			122,714	$297.78	$36,541,533
DESIGN AND PRICING CONTINGENCY	15%				$5,481,230
PHASING PREMIUM	3%				$1,096,246
ESCALATION - CONSTRUCTION START FALL 2017, 4% per annum	6.33%				$2,313,079
SUB-TOTAL					$45,432,088
GENERAL CONDITIONS		30	MTHS	$150,000	$4,500,000
GENERAL REQUIREMENTS	3%				$1,362,963
BONDS	1.00%				$454,321
INSURANCE	1.25%				$567,901
PERMIT					NIC
SUB-TOTAL					$52,317,273
OVERHEAD AND FEE	3.00%				$1,569,518
GMP CONTINGENCY	2%				$1,046,345
TOTAL OF ALL CONSTRUCTION OPTION W12			122,714	$447.65	**$54,933,136**

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Wildwood Elementary School
Design Options
Amherst, MA

27-Jan-16

Feasibility Study

OPTION FR5 - NEW 2-6 for 750

NEW ELEMENTARY SCHOOL			122,714	$258.66	$31,741,183
DEMOLITION OF EXISTING BUILDING			82,000	$10.00	$820,000
REMOVE HAZARDOUS MATERIALS [1]					$786,000
SITEWORK					$4,001,662
SUB-TOTAL			122,714	$304.36	$37,348,845
DESIGN AND PRICING CONTINGENCY	15%				$5,602,327
ESCALATION - CONSTRUCTION START FALL 2017, 4% per annum	6.33%				$2,364,182
SUB-TOTAL					$45,315,354
GENERAL CONDITIONS		20	MTHS	$150,000	$3,000,000
GENERAL REQUIREMENTS	3%				$1,359,461
BONDS	1.00%				$453,154
INSURANCE	1.25%				$566,442
PERMIT					NIC
SUB-TOTAL					$50,694,411
OVERHEAD AND FEE	3.00%				$1,520,832
GMP CONTINGENCY	2%				$1,013,888
TOTAL OF ALL CONSTRUCTION OPTION FR5			122,714	$433.77	**$53,229,131**

TEMPORARY CLASSROOMS **NIC**

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Wildwood Elementary School 27-Jan-16
Design Options
Amherst, MA

Feasibility Study GFA 82,000

CONSTRUCTION COST SUMMARY

	BUILDING SYSTEM		*SUB-TOTAL*	*TOTAL*	*$/SF*	*%*
OPTION W - CODE UPDATES TO EXISTING ELEMENTARY SCHOOL						
A10	**FOUNDATIONS**					
	A1010	Standard Foundations	$0			
	A1020	Special Foundations	$0			
	A1030	Lowest Floor Construction	$0	**$0**	$0.00	0.0%
B10	**SUPERSTRUCTURE**					
	B1010	Upper Floor Construction	$0			
	B1020	Roof Construction	$0	**$0**	$0.00	0.0%
B20	**EXTERIOR CLOSURE**					
	B2010	Exterior Walls	$36,400			
	B2020	Windows/Curtainwall	$0			
	B2030	Exterior Doors	$147,598	**$183,998**	$2.24	2.7%
B30	**ROOFING**					
	B3010	Roof Coverings	$0			
	B3020	Roof Openings	$0	**$0**	$0.00	0.0%
C10	**INTERIOR CONSTRUCTION**					
	C1010	Partitions	$0			
	C1020	Interior Doors	$311,150			
	C1030	Specialties/Millwork	$95,300	**$406,450**	$4.96	6.0%
C20	**STAIRCASES**					
	C2010	Stair Construction	$0			
	C2020	Stair Finishes	$0	**$0**	$0.00	0.0%
C30	**INTERIOR FINISHES**					
	C3010	Wall Finishes	$420,000			
	C3020	Floor Finishes	$656,000			
	C3030	Ceiling Finishes	$492,000	**$1,568,000**	$19.12	23.2%
D10	**CONVEYING SYSTEMS**					
	D1010	Elevator	$0	**$0**	$0.00	0.0%
D20	**PLUMBING**					
	D20	Plumbing	$492,000	**$492,000**	$6.00	7.3%
D30	**HVAC**					
	D30	HVAC	$1,230,000	**$1,230,000**	$15.00	18.2%
D40	**FIRE PROTECTION**					
	D40	Fire Protection	$369,000	**$369,000**	$4.50	5.5%
D50	**ELECTRICAL**					
	D5010	Electrical Systems	$1,475,000	**$1,475,000**	$17.99	21.9%

Wildwood Elementary School
Design Options
Amherst, MA

27-Jan-16

Feasibility Study

GFA 82,000

CONSTRUCTION COST SUMMARY

	BUILDING SYSTEM		*SUB-TOTAL*	*TOTAL*	*$/SF*	*%*
OPTION W - CODE UPDATES TO EXISTING ELEMENTARY SCHOOL						
E10	**EQUIPMENT**					
	E10	Equipment	$0	**$0**	$0.00	0.0%
E20	**FURNISHINGS**					
	E2010	Fixed Furnishings	$656,000			
	E2020	Movable Furnishings	NIC	**$656,000**	$8.00	9.7%
F10	**SPECIAL CONSTRUCTION**					
	F10	Special Construction	$0	**$0**	$0.00	0.0%
F20	**SELECTIVE BUILDING DEMOLITION**					
	F2010	Building Elements Demolition	$369,000			
	F2020	Hazardous Components Abatement	$0	**$369,000**	$4.50	5.5%
TOTAL DIRECT COST (Trade Costs)				***$6,749,448***	*$82.31*	*100.0%*

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Wildwood Elementary School 27-Jan-16
Design Options
Amherst, MA

Feasibility Study GFA 82,000

CONSTRUCTION COST SUMMARY

	BUILDING SYSTEM		*SUB-TOTAL*	*TOTAL*	*$/SF*	*%*
OPTION W10 - RENOVATION						
A10	**FOUNDATIONS**					
	A1010	Standard Foundations	$246,000			
	A1020	Special Foundations	$0			
	A1030	Lowest Floor Construction	$30,000	**$276,000**	$3.37	1.7%
B10	**SUPERSTRUCTURE**					
	B1010	Upper Floor Construction	$0			
	B1020	Roof Construction	$1,041,400	**$1,041,400**	$12.70	6.6%
B20	**EXTERIOR CLOSURE**					
	B2010	Exterior Walls	$36,400			
	B2020	Windows/Curtainwall	$877,943			
	B2030	Exterior Doors	$131,318	**$1,045,661**	$12.75	6.6%
B30	**ROOFING**					
	B3010	Roof Coverings	$10,000			
	B3020	Roof Openings	$0	**$10,000**	$0.12	0.1%
C10	**INTERIOR CONSTRUCTION**					
	C1010	Partitions	$1,804,000			
	C1020	Interior Doors	$328,000			
	C1030	Specialties/Millwork	$483,450	**$2,615,450**	$31.90	16.5%
C20	**STAIRCASES**					
	C2010	Stair Construction	$0			
	C2020	Stair Finishes	$0	**$0**	$0.00	0.0%
C30	**INTERIOR FINISHES**					
	C3010	Wall Finishes	$410,000			
	C3020	Floor Finishes	$656,000			
	C3030	Ceiling Finishes	$492,000	**$1,558,000**	$19.00	9.9%
D10	**CONVEYING SYSTEMS**					
	D1010	Elevator	$0	**$0**	$0.00	0.0%
D20	**PLUMBING**					
	D20	Plumbing	$984,000	**$984,000**	$12.00	6.2%
D30	**HVAC**					
	D30	HVAC	$3,116,000	**$3,116,000**	$38.00	19.7%
D40	**FIRE PROTECTION**					
	D40	Fire Protection	$369,000	**$369,000**	$4.50	2.3%
D50	**ELECTRICAL**					
	D5010	Electrical Systems	$2,583,000	**$2,583,000**	$31.50	16.3%

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Wildwood Elementary School 27-Jan-16
Design Options
Amherst, MA

Feasibility Study GFA 82,000

CONSTRUCTION COST SUMMARY

	BUILDING SYSTEM	*SUB-TOTAL*	*TOTAL*	*$/SF*	*%*
OPTION W10 - RENOVATION					
E10	**EQUIPMENT**				
E10	Equipment	$485,840	**$485,840**	$5.92	3.1%
E20	**FURNISHINGS**				
E2010	Fixed Furnishings	$720,752			
E2020	Movable Furnishings	NIC	**$720,752**	$8.79	4.6%
F10	**SPECIAL CONSTRUCTION**				
F10	Special Construction	$0	**$0**	$0.00	0.0%
F20	**SELECTIVE BUILDING DEMOLITION**				
F2010	Building Elements Demolition	$1,007,752			
F2020	Hazardous Components Abatement	$0	**$1,007,752**	$12.29	6.4%
TOTAL DIRECT COST (Trade Costs)			***$15,812,855***	*$192.84*	*100.0%*

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Wildwood Elementary School
Design Options
Amherst, MA

27-Jan-16

Feasibility Study

GFA 44,000

CONSTRUCTION COST SUMMARY

	BUILDING SYSTEM		*SUB-TOTAL*	*TOTAL*	*$/SF*	*%*
ADDITIONS TO ELEMENTARY SCHOOL						
A10	**FOUNDATIONS**					
	A1010	Standard Foundations	$716,465			
	A1020	Special Foundations	$288,000			
	A1030	Lowest Floor Construction	$261,295	**$1,265,760**	$28.77	10.4%
A20	**BASEMENT CONSTRUCTION**					
	A2010	Basement Excavation	$0			
	A2020	Basement Walls	$0	**$0**	$0.00	0.0%
B10	**SUPERSTRUCTURE**					
	B1010	Upper Floor Construction	$714,640			
	B1020	Roof Construction	$738,462	**$1,453,102**	$33.03	12.0%
B20	**EXTERIOR CLOSURE**					
	B2010	Exterior Walls	$1,279,807			
	B2020	Windows	$1,055,712			
	B2030	Exterior Doors	$81,400	**$2,416,919**	$54.93	19.9%
B30	**ROOFING**					
	B3010	Roof Coverings	$603,360			
	B3020	Roof Openings	$10,000	**$613,360**	$13.94	5.1%
C10	**INTERIOR CONSTRUCTION**					
	C1010	Partitions	$678,120			
	C1020	Interior Doors	$220,000			
	C1030	Specialties/Millwork	$256,750	**$1,154,870**	$26.25	9.5%
C20	**STAIRCASES**					
	C2010	Stair Construction	$54,500			
	C2020	Stair Finishes	$12,824	**$67,324**	$1.53	0.6%
C30	**INTERIOR FINISHES**					
	C3010	Wall Finishes	$220,000			
	C3020	Floor Finishes	$352,000			
	C3030	Ceiling Finishes	$264,000	**$836,000**	$19.00	6.9%
D10	**CONVEYING SYSTEMS**					
	D1010	Elevator	$93,000	**$93,000**	$2.11	0.8%
D20	**PLUMBING**					
	D20	Plumbing	$528,000	**$528,000**	$12.00	4.4%
D30	**HVAC**					
	D30	HVAC	$1,672,000	**$1,672,000**	$38.00	13.8%

PM&C

Wildwood Elementary School
Design Options
Amherst, MA

27-Jan-16

Feasibility Study

GFA 44,000

CONSTRUCTION COST SUMMARY

	BUILDING SYSTEM		*SUB-TOTAL*	*TOTAL*	*$/SF*	*%*
ADDITIONS TO ELEMENTARY SCHOOL						
D40	**FIRE PROTECTION**					
	D40	Fire Protection	$198,000	**$198,000**	$4.50	1.6%
D50	**ELECTRICAL**					
	D5010	Service & Distribution	$352,000			
	D5020	Lighting & Power	$539,000			
	D5030	Communication & Security Systems	$440,000			
	D5040	Other Electrical Systems	$67,500	**$1,398,500**	$31.78	11.5%
E10	**EQUIPMENT**					
	E10	Equipment	$0	**$0**	$0.00	0.0%
E20	**FURNISHINGS**					
	E2010	Fixed Furnishings	$423,784			
	E2020	Movable Furnishings	NIC	**$423,784**	$9.63	3.5%
F10	**SPECIAL CONSTRUCTION**					
	F10	Special Construction	$0	**$0**	$0.00	0.0%
F20	**HAZMAT REMOVALS**					
	F2010	Building Elements Demolition	$0			
	F2020	Hazardous Components Abatement	$0	**$0**	$0.00	0.0%
TOTAL DIRECT COST (Trade Costs)				***$12,120,619***	*$275.47*	*100.0%*

PM&C

Wildwood Elementary School 27-Jan-16
Design Options
Amherst, MA

Feasibility Study GFA 122,714

CONSTRUCTION COST SUMMARY

	BUILDING SYSTEM		*SUB-TOTAL*	*TOTAL*	*$/SF*	*%*
OPTION W7 - NEW 2-6 for 750						
A10	**FOUNDATIONS**					
	A1010	Standard Foundations	$1,476,291			
	A1020	Special Foundations	$869,640			
	A1030	Lowest Floor Construction	$787,613	**$3,133,544**	$25.54	9.8%
A20	**BASEMENT CONSTRUCTION**					
	A2010	Basement Excavation	$0			
	A2020	Basement Walls	$0	**$0**	$0.00	0.0%
B10	**SUPERSTRUCTURE**					
	B1010	Upper Floor Construction	$1,781,122			
	B1020	Roof Construction	$2,135,275	**$3,916,397**	$31.91	12.2%
B20	**EXTERIOR CLOSURE**					
	B2010	Exterior Walls	$2,963,674			
	B2020	Windows	$2,013,796			
	B2030	Exterior Doors	$87,600	**$5,065,070**	$41.28	15.8%
B30	**ROOFING**					
	B3010	Roof Coverings	$1,643,100			
	B3020	Roof Openings	$10,000	**$1,653,100**	$13.47	5.2%
C10	**INTERIOR CONSTRUCTION**					
	C1010	Partitions	$1,859,408			
	C1020	Interior Doors	$613,570			
	C1030	Specialties/Millwork	$699,792	**$3,172,770**	$25.85	9.9%
C20	**STAIRCASES**					
	C2010	Stair Construction	$307,500			
	C2020	Stair Finishes	$25,648	**$333,148**	$2.71	1.0%
C30	**INTERIOR FINISHES**					
	C3010	Wall Finishes	$613,570			
	C3020	Floor Finishes	$981,712			
	C3030	Ceiling Finishes	$736,284	**$2,331,566**	$19.00	7.3%
D10	**CONVEYING SYSTEMS**					
	D1010	Elevator	$186,000	**$186,000**	$1.52	0.6%
D20	**PLUMBING**					
	D20	Plumbing	$1,472,568	**$1,472,568**	$12.00	4.6%
D30	**HVAC**					
	D30	HVAC	$4,663,132	**$4,663,132**	$38.00	14.6%

PM&C

Wildwood Elementary School 27-Jan-16
Design Options
Amherst, MA

Feasibility Study GFA 122,714

CONSTRUCTION COST SUMMARY

	BUILDING SYSTEM		*SUB-TOTAL*	*TOTAL*	*$/SF*	*%*
OPTION W7 - NEW 2-6 for 750						
D40	**FIRE PROTECTION**					
	D40	Fire Protection	$552,213	**$552,213**	$4.50	1.7%
D50	**ELECTRICAL**					
	D5010	Service & Distribution	$981,712			
	D5020	Lighting & Power	$1,503,247			
	D5030	Communication & Security Systems	$1,262,140			
	D5040	Other Electrical Systems	$67,500	**$3,814,599**	$31.09	11.9%
E10	**EQUIPMENT**					
	E10	Equipment	$581,030	**$581,030**	$4.73	1.8%
E20	**FURNISHINGS**					
	E2010	Fixed Furnishings	$1,116,436			
	E2020	Movable Furnishings	NIC	**$1,116,436**	$9.10	3.5%
F10	**SPECIAL CONSTRUCTION**					
	F10	Special Construction	$0	**$0**	$0.00	0.0%
F20	**HAZMAT REMOVALS**					
	F2010	Building Elements Demolition	$0			
	F2020	Hazardous Components Abatement	$0	**$0**	$0.00	0.0%
TOTAL DIRECT COST (Trade Costs)				***$31,991,573***	*$260.70*	*100.0%*

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Wildwood Elementary School 27-Jan-16
Design Options
Amherst, MA

Feasibility Study GFA 122,714

CONSTRUCTION COST SUMMARY

	BUILDING SYSTEM		*SUB-TOTAL*	*TOTAL*	*$/SF*	*%*
OPTION W12 - NEW 2-6 for 750						
A10	**FOUNDATIONS**					
	A1010	Standard Foundations	$1,331,832			
	A1020	Special Foundations	$783,048			
	A1030	Lowest Floor Construction	$709,031	**$2,823,911**	$23.01	9.1%
A20	**BASEMENT CONSTRUCTION**					
	A2010	Basement Excavation	$0			
	A2020	Basement Walls	$0	**$0**	$0.00	0.0%
B10	**SUPERSTRUCTURE**					
	B1010	Upper Floor Construction	$2,031,729			
	B1020	Roof Construction	$1,928,087	**$3,959,816**	$32.27	12.8%
B20	**EXTERIOR CLOSURE**					
	B2010	Exterior Walls	$2,688,184			
	B2020	Windows	$1,835,970			
	B2030	Exterior Doors	$87,600	**$4,611,754**	$37.58	14.9%
B30	**ROOFING**					
	B3010	Roof Coverings	$1,505,052			
	B3020	Roof Openings	$10,000	**$1,515,052**	$12.35	4.9%
C10	**INTERIOR CONSTRUCTION**					
	C1010	Partitions	$1,823,288			
	C1020	Interior Doors	$613,570			
	C1030	Specialties/Millwork	$699,792	**$3,136,650**	$25.56	10.1%
C20	**STAIRCASES**					
	C2010	Stair Construction	$254,500			
	C2020	Stair Finishes	$12,824	**$267,324**	$2.18	0.9%
C30	**INTERIOR FINISHES**					
	C3010	Wall Finishes	$613,570			
	C3020	Floor Finishes	$981,712			
	C3030	Ceiling Finishes	$736,284	**$2,331,566**	$19.00	7.5%
D10	**CONVEYING SYSTEMS**					
	D1010	Elevator	$186,000	**$186,000**	$1.52	0.6%
D20	**PLUMBING**					
	D20	Plumbing	$1,472,568	**$1,472,568**	$12.00	4.7%
D30	**HVAC**					
	D30	HVAC	$4,663,132	**$4,663,132**	$38.00	15.0%

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Wildwood Elementary School 27-Jan-16
Design Options
Amherst, MA

Feasibility Study GFA 122,714

CONSTRUCTION COST SUMMARY

	BUILDING SYSTEM		*SUB-TOTAL*	*TOTAL*	*$/SF*	*%*
OPTION W12 - NEW 2-6 for 750						
D40	**FIRE PROTECTION**					
	D40	Fire Protection	$552,213	**$552,213**	$4.50	1.8%
D50	**ELECTRICAL**					
	D5010	Service & Distribution	$981,712			
	D5020	Lighting & Power	$1,503,247			
	D5030	Communication & Security Systems	$1,262,140			
	D5040	Other Electrical Systems	$67,500	**$3,814,599**	$31.09	12.3%
E10	**EQUIPMENT**					
	E10	Equipment	$581,030	**$581,030**	$4.73	1.9%
E20	**FURNISHINGS**					
	E2010	Fixed Furnishings	$1,104,754			
	E2020	Movable Furnishings	NIC	**$1,104,754**	$9.00	3.6%
F10	**SPECIAL CONSTRUCTION**					
	F10	Special Construction	$0	**$0**	$0.00	0.0%
F20	**HAZMAT REMOVALS**					
	F2010	Building Elements Demolition	$0			
	F2020	Hazardous Components Abatement	$0	**$0**	$0.00	0.0%
TOTAL DIRECT COST (Trade Costs)				***$31,020,369***	*$252.79*	*100.0%*

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Wildwood Elementary School 27-Jan-16
Design Options
Amherst, MA

Feasibility Study GFA 122,714

CONSTRUCTION COST SUMMARY

	BUILDING SYSTEM		*SUB-TOTAL*	*TOTAL*	*$/SF*	*%*
OPTION FR5 - NEW 2-6 for 750						
A10	**FOUNDATIONS**					
	A1010	Standard Foundations	$1,178,249			
	A1020	Special Foundations	$933,888			
	A1030	Lowest Floor Construction	$1,636,065	**$3,748,202**	$30.54	11.8%
A20	**BASEMENT CONSTRUCTION**					
	A2010	Basement Excavation	$0			
	A2020	Basement Walls	$0	**$0**	$0.00	0.0%
B10	**SUPERSTRUCTURE**					
	B1010	Upper Floor Construction	$1,592,050			
	B1020	Roof Construction	$2,289,222	**$3,881,272**	$31.63	12.2%
B20	**EXTERIOR CLOSURE**					
	B2010	Exterior Walls	$2,535,254			
	B2020	Windows	$1,737,245			
	B2030	Exterior Doors	$87,600	**$4,360,099**	$35.53	13.7%
B30	**ROOFING**					
	B3010	Roof Coverings	$1,700,032			
	B3020	Roof Openings	$10,000	**$1,710,032**	$13.94	5.4%
C10	**INTERIOR CONSTRUCTION**					
	C1010	Partitions	$1,781,156			
	C1020	Interior Doors	$613,570			
	C1030	Specialties/Millwork	$699,792	**$3,094,518**	$25.22	9.7%
C20	**STAIRCASES**					
	C2010	Stair Construction	$254,500			
	C2020	Stair Finishes	$12,824	**$267,324**	$2.18	0.8%
C30	**INTERIOR FINISHES**					
	C3010	Wall Finishes	$613,570			
	C3020	Floor Finishes	$981,712			
	C3030	Ceiling Finishes	$736,284	**$2,331,566**	$19.00	7.3%
D10	**CONVEYING SYSTEMS**					
	D1010	Elevator	$186,000	**$186,000**	$1.52	0.6%
D20	**PLUMBING**					
	D20	Plumbing	$1,472,568	**$1,472,568**	$12.00	4.6%
D30	**HVAC**					
	D30	HVAC	$4,663,132	**$4,663,132**	$38.00	14.7%

PM&C

Wildwood Elementary School 27-Jan-16
Design Options
Amherst, MA

Feasibility Study GFA 122,714

CONSTRUCTION COST SUMMARY

	BUILDING SYSTEM		*SUB-TOTAL*	*TOTAL*	*$/SF*	*%*
OPTION FR5 - NEW 2-6 for 750						
D40	**FIRE PROTECTION**					
	D40	Fire Protection	$552,213	**$552,213**	$4.50	1.7%
D50	**ELECTRICAL**					
	D5010	Service & Distribution	$981,712			
	D5020	Lighting & Power	$1,503,247			
	D5030	Communication & Security Systems	$1,262,140			
	D5040	Other Electrical Systems	$67,500	**$3,814,599**	$31.09	12.0%
E10	**EQUIPMENT**					
	E10	Equipment	$538,890	**$538,890**	$4.39	1.7%
E20	**FURNISHINGS**					
	E2010	Fixed Furnishings	$1,120,768			
	E2020	Movable Furnishings	NIC	**$1,120,768**	$9.13	3.5%
F10	**SPECIAL CONSTRUCTION**					
	F10	Special Construction	$0	**$0**	$0.00	0.0%
F20	**HAZMAT REMOVALS**					
	F2010	Building Elements Demolition	$0			
	F2020	Hazardous Components Abatement	$0	**$0**	$0.00	0.0%
TOTAL DIRECT COST (Trade Costs)				***$31,741,183***	*$258.66*	*100.0%*

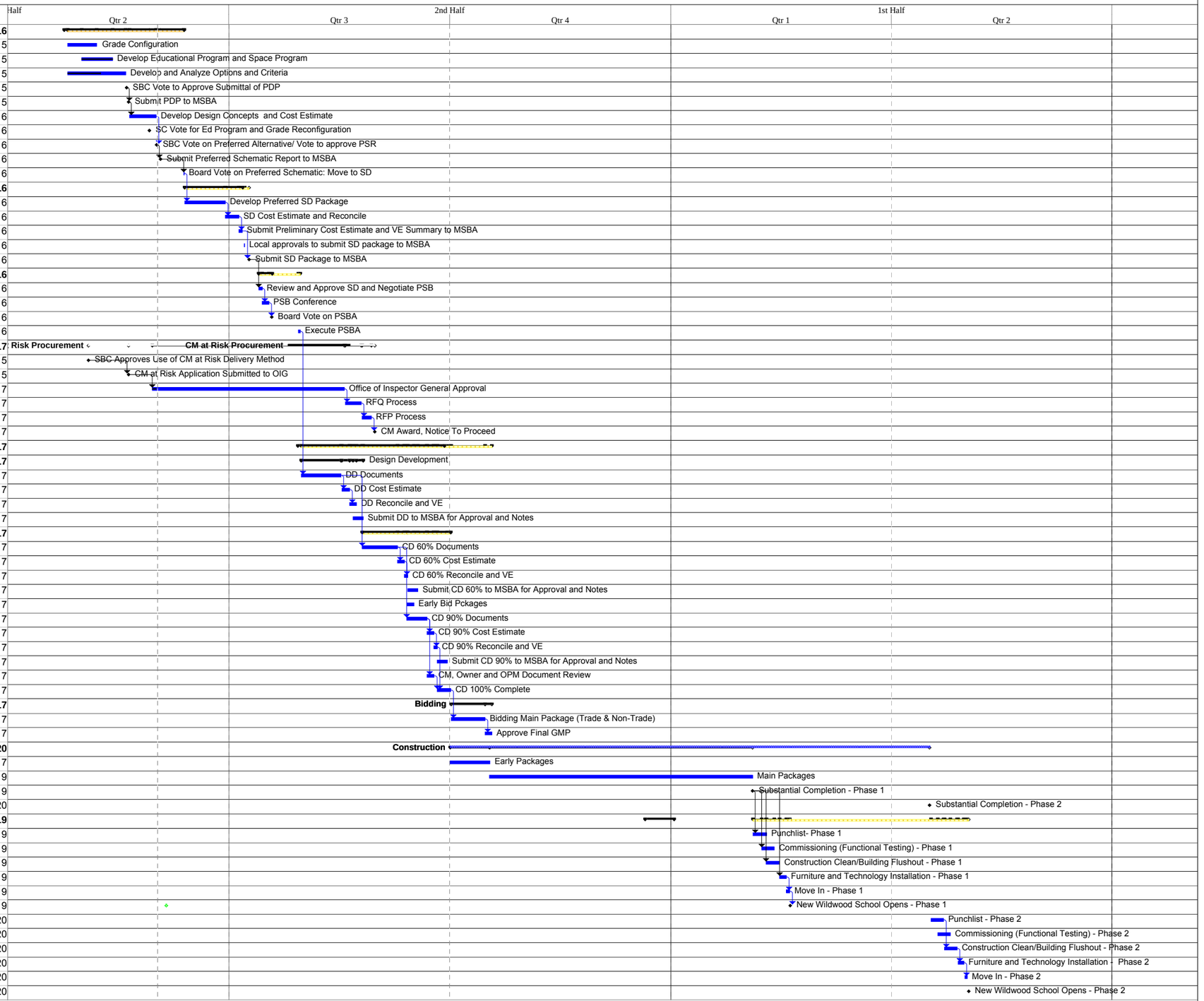
AMHERST ELEMENTARY SCHOOL - Amherst, MA — Options and Criteria Evaluation Matrix

● Favorable ⊙ Netural ○ Unfavorable

	Criteria	Grade Reconfiguration 2-6			
	Note: All design options will meet current building codes.	W10	W7	W12	FR5
		Renovation / Addition	New Construction	New Construction (Phased)	New Construction (Alternate site - Fort River)
Building and Site Facts					
1	Student enrollment population	750	750	750	750
2	Size of site (acres)	14.34	14.34	14.34	11.46
3	Site acquisition or additional legal requirements	N	N	N	N
4	Estimated project capital cost	$60,893,000	$66,015,000	$67,176,167	$65,464,000
Cost and Schedule					
1	Accommodates transition without need for swing space	●	○	●	○
2	Allows all students to move in to new school 2019	○	●	○	●
3	Minimizes construction duration	○	●	○	●
Educational					
1	Meets goals of Ed Program for independent schools	○	●	●	●
2	Provides flexibility for future growth	○	⊙	●	⊙
3	Promotes teacher collaboration	⊙	⊙	●	⊙
Community					
1	Provides accessibility to community used space	○	●	●	●
2	Allows interior space for informal parent gathering	○	⊙	⊙	⊙
3	Allows independent use of community spaces	○	●	●	●
Building					
1	Allows for a contextually sensitive design	○	●	●	⊙
2	Minimizes impact on students during construction	○	●	⊙	●
3	Addresses all building deficiencies	⊙	●	●	●
4	Maximizes daylight and solar orientation	⊙	●	●	⊙
5	Provides easy access to commons spaces for all students	⊙	●	●	●
6	Provides "small school" experience	○	⊙	⊙	⊙
Site					
1	Maximizes efficient utilization of site (minimizes bldg. footprint	○	⊙	●	⊙
2	Involves additional site costs (utilities, mitigation, etc.)	⊙	⊙	⊙	⊙
3	Optimizes safety and efficiency of parent/bus drop off	⊙	⊙	●	○
4	Maximizes student outdoor activities/education	⊙	⊙	●	●

AMHERST WILDWOOD SCHOOL
PRELIMINARY PROJECT SCHEDULE
JANUARY 27, 2016

ID	Task Name	Start	Duration	Finish
1	**Feasibility Study**	**Mon 7/27/15**	**178 days**	**Wed 3/30/16**
2	Grade Configuration	Mon 8/3/15	44 days?	Thu 10/1/15
3	Develop Educational Program and Space Program	Tue 9/1/15	46 days	Tue 11/3/15
4	Develop and Analyze Options and Criteria	Mon 8/3/15	86 days	Mon 11/30/15
5	SBC Vote to Approve Submittal of PDP	Thu 12/3/15	0 days	Thu 12/3/15
6	Submit PDP to MSBA	Mon 12/7/15	0 days	Mon 12/7/15
7	Develop Design Concepts and Cost Estimate	Wed 12/9/15	39 days	Mon 2/1/16
8	SC Vote for Ed Program and Grade Reconfiguration	Tue 1/19/16	0 days	Tue 1/19/16
9	SBC Vote on Preferred Alternative/ Vote to approve PSR	Tue 2/2/16	0 days	Tue 2/2/16
10	Submit Preferred Schematic Report to MSBA	Thu 2/11/16	0 days	Thu 2/11/16
11	Board Vote on Preferred Schematic: Move to SD	Wed 3/30/16	1 day	Wed 3/30/16
12	**Schematic Design**	**Fri 4/1/16**	**86 days**	**Fri 7/29/16**
13	Develop Preferred SD Package	Fri 4/1/16	60 days	Thu 6/23/16
14	SD Cost Estimate and Reconcile	Fri 6/24/16	20 days	Thu 7/21/16
15	Submit Preliminary Cost Estimate and VE Summary to MSBA	Fri 7/22/16	5 days	Thu 7/28/16
16	Local approvals to submit SD package to MSBA	Tue 8/2/16	1 day	Tue 8/2/16
17	Submit SD Package to MSBA	Thu 8/11/16	0 days	Thu 8/11/16
18	**Project Scope and Budget**	**Thu 9/1/16**	**20 days**	**Wed 9/28/16**
19	Review and Approve SD and Negotiate PSB	Thu 9/1/16	5 days	Wed 9/7/16
20	PSB Conference	Thu 9/8/16	10 days	Wed 9/21/16
21	Board Vote on PSBA	Wed 9/28/16	0 days	Wed 9/28/16
22	Execute PSBA	Tue 11/22/16	4 days	Fri 11/25/16
23	**CM at Risk Procurement**	**Tue 11/1/16**	**92 days**	**Wed 3/8/17**
24	SBC Approves Use of CM at Risk Delivery Method	Tue 9/15/15	0 days	Tue 9/15/15
25	CM at Risk Application Submitted to OIG	Mon 12/7/15	0 days	Mon 12/7/15
26	Office of Inspector General Approval	Mon 1/25/16	74 days	Fri 2/24/17
27	RFQ Process	Mon 2/27/17	25 days	Fri 3/31/17
28	RFP Process	Mon 4/3/17	15 days	Fri 4/21/17
29	CM Award, Notice To Proceed	Fri 4/28/17	0 days	Fri 4/28/17
30	**Pre-Construction**	**Mon 11/21/16**	**217 days**	**Tue 9/19/17**
31	**Design Development**	**Mon 11/28/16**	**92 days**	**Tue 4/4/17**
32	DD Documents	Mon 11/28/16	60 days	Fri 2/17/17
33	DD Cost Estimate	Mon 2/20/17	12 days	Tue 3/7/17
34	DD Reconcile and VE	Wed 3/8/17	10 days	Tue 3/21/17
35	Submit DD to MSBA for Approval and Notes	Wed 3/15/17	15 days	Tue 4/4/17
36	**Contract Documents**	**Mon 4/3/17**	**131 days**	**Mon 10/2/17**
37	CD 60% Documents	Mon 4/3/17	53 days	Wed 6/14/17
38	CD 60% Cost Estimate	Thu 6/15/17	10 days	Wed 6/28/17
39	CD 60% Reconcile and VE	Thu 6/29/17	5 days	Wed 7/5/17
40	Submit CD 60% to MSBA for Approval and Notes	Thu 7/6/17	15 days	Wed 7/26/17
41	Early Bid Pckages	Wed 7/5/17	2 wks	Tue 7/18/17
42	CD 90% Documents	Tue 7/4/17	30 days	Mon 8/14/17
43	CD 90% Cost Estimate	Tue 8/15/17	10 days	Mon 8/28/17
44	CD 90% Reconcile and VE	Tue 8/29/17	5 days	Mon 9/4/17
45	Submit CD 90% to MSBA for Approval and Notes	Tue 9/5/17	15 days	Mon 9/25/17
46	CM, Owner and OPM Document Review	Tue 8/15/17	10 days	Mon 8/28/17
47	CD 100% Complete	Tue 9/5/17	20 days	Mon 10/2/17
48	**Bidding**	**Wed 10/4/17**	**60 days**	**Tue 12/26/17**
49	Bidding Main Package (Trade & Non-Trade)	Wed 10/4/17	10 wks	Tue 12/12/17
50	Approve Final GMP	Wed 12/13/17	10 days	Tue 12/26/17
51	**Construction**	**Mon 10/2/17**	**710 days**	**Fri 6/19/20**
52	Early Packages	Mon 10/2/17	60 days	Fri 12/22/17
53	Main Packages	Fri 12/22/17	388 days	Tue 6/18/19
54	Substantial Completion - Phase 1	Wed 6/19/19	0 days	Wed 6/19/19
55	Substantial Completion - Phase 2	Fri 6/19/20	0 days	Fri 6/19/20
56	**Closeout**	**Fri 11/9/18**	**42 days**	**Mon 1/7/19**
57	Punchlist- Phase 1	Thu 6/20/19	4 wks	Wed 7/17/19
58	Commissioning (Functional Testing) - Phase 1	Mon 7/8/19	4 wks	Fri 8/2/19
59	Construction Clean/Building Flushout - Phase 1	Wed 7/17/19	4 wks	Tue 8/13/19
60	Furniture and Technology Installation - Phase 1	Wed 8/14/19	2 wks	Tue 8/27/19
61	Move In - Phase 1	Wed 8/28/19	5 days	Tue 9/3/19
62	New Wildwood School Opens - Phase 1	Wed 9/4/19	0 days	Wed 9/4/19
63	Punchlist - Phase 2	Mon 6/22/20	4 wks	Fri 7/17/20
64	Commissioning (Functional Testing) - Phase 2	Mon 7/6/20	4 wks	Fri 7/31/20
65	Construction Clean/Building Flushout - Phase 2	Mon 7/20/20	4 wks	Fri 8/14/20
66	Furniture and Technology Installation - Phase 2	Mon 8/17/20	2 wks	Fri 8/28/20
67	Move In - Phase 2	Mon 8/31/20	5 days	Fri 9/4/20
68	New Wildwood School Opens - Phase 2	Tue 9/8/20	0 days	Tue 9/8/20



Inactive Milestone · Manual Task · Manual Summary Rollup · Start-only · External Tasks
Inactive Summary · Duration-only · Manual Summary · Finish-only · External Milestone · Manual Progress