

MASTER PLAN

Winchester Public Schools

Winchester, Massachusetts

August 15, 2007



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■ | **Executive Summary**

Key Goals

Introduction

Flansburgh Architects was hired in February of 2007 to prepare a Master Plan for the Winchester Public Schools. The purpose of the Master Plan was to explore space needs, options and costs, and to provide a capital improvement plan to meet the program needs for growing enrollments in Winchester. The Master Plan in this report is divided into a short-term plan that addresses the five-year enrollment projections and a long-term plan that solves the space needs for ten years and beyond.

Section 2 of this report contains existing conditions reports for the five Elementary schools, the Middle school, and the High school. This establishes a basis for the condition of each school which is used to recommend options and costs in later sections of this report.

Section 3 of this report contains ten-year historical enrollments and ten-year projections of enrollments in the Elementary, Middle, and High schools. This enrollment data is used to project classroom and other space needs in the schools.

Sections 4 and 5 contain the Five-Year and Ten-Year plans for space needs, options, floor plans, schedules, and costs for the entire Winchester school system.

The following is an Executive Summary of the report that highlights the key findings and recommendations of the Master Plan.

Five – Year Plan

A. Elementary Schools:

1. Options: After comparing 7 options to resolve the current and projected overcrowding at the elementary schools, a scheme using modular classrooms appears to be the best short-term solution. This option involves adding 4 modular classrooms at the Ambrose school and 3 at Muraco. This option was selected because it is both the least expensive and most flexible given that the enrollment projections for the elementary schools are somewhat uncertain. This allows the number of modular classrooms to be adjusted to fit the need without redistricting in the short term. Although these modulars will handle most of the increased space needs, a few rooms will still need to be converted to classrooms for the short term until the next phase of the master plan is implemented.
2. Schedule: Current enrollment projections are somewhat unclear, but it appears that the 4 modular classrooms at Ambrose and 3 at Muraco will be needed by September 2008. This will require that authorization to commence construction documents should occur no later than December 1, 2007. This will allow bidding in February 2008 and construction to be completed for a September 2008 occupancy. Actual enrollments in October 2007 should be checked to determine whether 7 modular classrooms will still be needed. If the enrollment trend is closer to the NES-DEC projections, the number of modulars might be reduced.
3. Estimated Costs: The preliminary estimated total project costs for these 7 portable classrooms including furniture, equipment, technology, and soft costs is approximately \$1,943,000 if bid in February 2008.

B. Middle School:

1. Options: Short-term options were reviewed for converting existing rooms into classrooms and adding portable classrooms to resolve current and projected overcrowding at McCall Middle School. It was concluded that it makes better sense to build a permanent addition with a net gain of 9 new classrooms because the enrollment projections are clear and the need is based on students already in the system. Also, this option avoids spending money on a temporary solution that would be disruptive to the operation of the school.
2. Schedule: Enrollment projections show a need for 2 new classrooms starting in the Fall of 2007. This need will have to be temporarily resolved by converting 2 rooms into classrooms. After this, there will be a need for 6 new classrooms by the Fall of 2009. This need then increases to 9 new classrooms by 2012. In order to meet this need it is recommended that the permanent addition be ready for occupancy by the Fall of 2009. This will require that the authorization to commence Design Development and Construction Documents should be given by December 1, 2007. This will allow bidding by May 2008 and construction completion for occupancy by September 2009.
3. Estimated Costs: The preliminary estimated total project costs for this addition including furniture, equipment, technology, and soft costs is approximately \$8,232,000.

C. High School

The High School size and program is adequate to handle the current and projected enrollments for the short term until approximately 2012 (5 years). At that time, enrollment is expected to significantly increase from approximately 1100 to 1250 students and then up to 1370 by the Fall of 2015. The long-term plan needs to address the High School, which will need additional classrooms and other spaces starting in 2012.

Ten – Year Plan**A. Elementary Schools:**

1. Scope: The Vinson-Owen, Muraco and Lynch schools are all in need of repairs and improvements both in terms of space needs and their physical conditions.

Phase I: It is recommended that the Vinson-Owen school be built first due to the following key deficiencies:

- a. Health and safety issues including lack of sprinklers, handicap accessibility problems, poor indoor air quality, inadequate fire alarm system and emergency lighting.
- b. Lack of a cafeteria/kitchen, inadequate gym, small library and 6 deteriorating modular classrooms.
- c. Inefficient plan design which utilizes single loaded corridors and maximizes exterior wall surface causing extensive heat loss.
- d. 46 year old facility that has numerous failing systems including roofs, windows, HVAC systems, and generally antiquated materials and finishes.

The recommended option for Phase I is to build a new Vinson-Owen school on the play field adjacent to the existing school with a capacity of 420 students or larger depending on updated enrollments in the elementary schools. This will allow the excess students in the elementary school system to be redistricted and portables eliminated thus solving most of the overcrowding problems. When the existing Vinson-Owen school is demolished, a full size soccer field and baseball field can then be built in its place on terraces up the hill. Since the new building would be separate from the existing school, construction disruption would be minimized.

Phase II: It is recommended that the Muraco School be renovated next due to the following key deficiencies:

- a. Projected overcrowding and the need for 3 new permanent classrooms.
- b. Lack of a separate gymnasium, adequate kitchen, and a separate computer lab.
- c. Classroom design is based on an “open plan” concept with moveable walls between rooms that do not provide good acoustical separation.
- d. 40 year old facility that is in better condition than Vinson-Owen but still has numerous problems such as a poor HVAC system, an aging exterior envelope with old windows and doors, an antiquated electrical system, lack of a sprinkler system, some asbestos and handicap access issues.

This phase would involve renovations and an addition at the Muraco School to add a separate gymnasium and additional classrooms to bring the capacity up to 420 students. This renovation and addition could be built in multiple phases while the building is occupied but it would be less expensive and less disruptive to move the students to the old Vinson-Owen school for 1 year during construction.

Phase III: It is recommended that the Lynch School be renovated last due to the following reasons:

- a. Most of the spaces are adequately sized for an elementary school, although some reconfiguration of classrooms will be required.
- b. Although there are substantial renovations required, the Lynch School is in fair condition considering its age of 47 years.
- c. Some of the key issues to be addressed are: handicap accessibility, asbestos removal, upgrade of HVAC systems and controls, bleacher repairs, electrical service upgrade, repair of exterior masonry joints and sealants, roofing, windows and kitchen servery.

This phase would involve the renovation of the Lynch School for 380 K-5 plus 80 pre-school children without adding new space. The renovation could be phased over 2 school years or the students could be relocated to the old Vinson-Owen School and construction shortened to 1 school year.

School Capacities: At the end of these suggested renovations/additions to the elementary schools, the anticipated elementary school capacities would be as follows. If enrollment projections change in the future, these numbers will need to be revised.

School	K-5 Students	Pre-School Students
Ambrose	420	
Lincoln	400	
Lynch	380	80
Muraco	420	
Vinson-Owen	420	
Total Anticipated Capacity	2040	80

2. Schedule: The schedule for proceeding with these three elementary school projects is dependent upon when the MSBA approves the projects and agrees to State reimbursement. The time frames for each project would be approximately as follows:

Phase I: Vinson-Owen

Design/Documents	9 months
Bid/Award	2 months
<u>Construction</u>	<u>24 months</u>
Total	35 months

Phase II: Muraco

Design/Documents	8 months
Bid/Award	2 months
<u>Construction</u>	<u>18 months*</u>
Total	28 months

Phase III: Lynch

Design/Documents	8 months
Bid/Award	2 months
<u>Construction</u>	<u>14 months*</u>
Total	24 months

*If students are relocated

3. Estimated Project Costs: The estimated total project costs (in 2007 dollars) for these 3 renovations/additions including furniture, equipment, technology, and soft costs are as follows. Three or four levels of scope were estimated for each school.

Phase I: Vinson-Owen

Level 1: Renovate and add onto existing school (Not recommended since it would not be energy efficient and would cost almost as much as a new school)	\$22,138,000
Level 2: All new 70,000 s.f. school (Energy efficient LEED certified option)	\$23,056,000
*Level 3: All new 70,000 s.f. school with new soccer and baseball fields (recommended option)	\$25,398,000

Phase 2: Muraco

Level 1: Basic renovation and addition to meet code and program	\$15,499,000
Level 2: Same as Level 1 but add new finishes and some exterior improvements	\$17,849,000
*Level 3: Same as Level 2 but add new high performance exterior building skin and windows (recommended option)	\$19,163,000
Level 4: All new construction	\$21,775,000

Phase 3: Lynch

Level 1: Basic renovation to meet code and program	\$15,666,000
Level 2: Same as Level 1 but add new finishes and some exterior improvements	\$19,129,000
*Level 3: Same as Level 2 but add new high performance exterior building skin and windows (recommended option)	\$21,321,000
Level 4 All new construction	\$24,890,000

These estimates should be increased for inflation and rising construction costs at a compounded rate of interest of 7% per year.

B. Middle School:

The permanent addition as outlined in the “Five-Year Plan” will solve both the short term and “Ten-Year Plan” needs of the Middle school.

C. High School:

1. Scope: The ten-year plan for the High School to accommodate the ten year projected enrollment increase to 1,370 students will require additional classrooms that will fit within the existing building. Additional needed spaces are as follows:

- 4 new classrooms (English, Math, Social Studies, Language)
- 12 reconfigured science rooms/labs
- 1 new weight room
- 1 new fitness room
- 1 new art room (divide existing)

2. Schedule: It is recommended that the renovation work at the High School be ready for occupancy by September 2012 due to the projected large increase in enrollment in that year. In order for this to occur, the following schedule is recommended:

Design/Documents	8-10 months
Bid/Award	2 months
<u>Construction</u>	<u>14-24 months</u>
Total	24-36 months

This requires that authorization to start design work should occur no later than September 1, 2009.

3. Estimated Project Costs: The estimated total project costs (in 2007 dollars) for this renovation work including furniture, equipment, technology, and soft costs is as follows. Four levels of scope have been estimated.

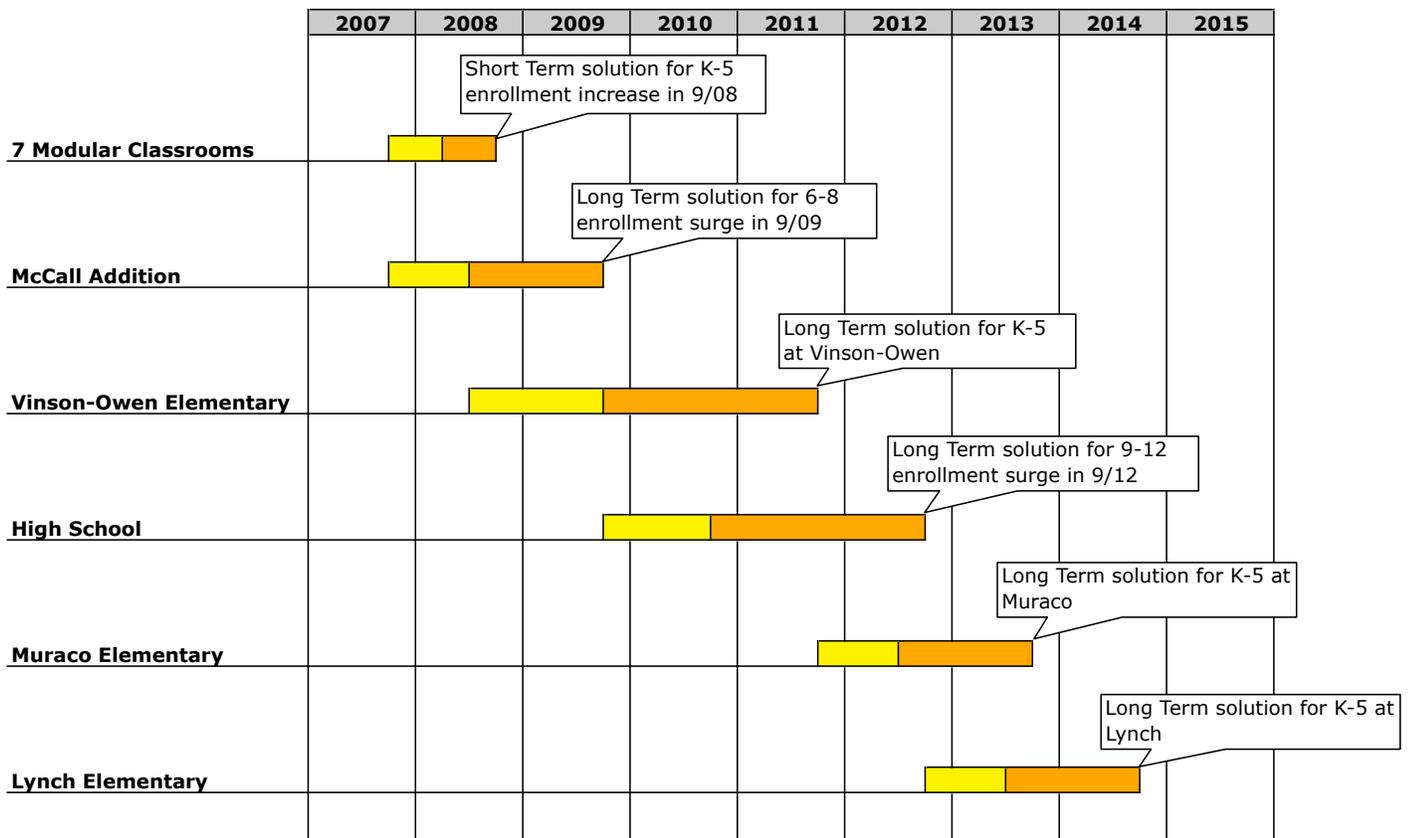
<u>High School</u>	
Level 1: Space needs renovation only	\$11,000,000
Level 2: Renovation to meet code, space needs, existing condition issues and new finishes	\$54,784,000
Level 3: Moderate renovation and add new high performance exterior skin and new windows	\$75,233,000
Level 4: All new high school	\$87,676,000

These estimates should be increased for inflation and rising construction costs at a compounded rate of 7% per year.

Master Plan Schedule

The attached master plan schedule shows a proposed phasing for the various projects in the master plan. This schedule is somewhat optimistic in that it assumes that MSBA state reimbursement for the projects would be approved approximately 1 to 2 years apart. The projects would need to slide out according to the actual dates of MSBA funding approvals.

1. The McCall Middle School addition needs to be completed by September of 2009 to meet the projected enrollments in grades 6-8.
2. When the Vinson-Owen school is completed, it should be possible to remove the portable classrooms, recapture spaces converted to classrooms and redistrict to resolve the projected overcrowding at the Elementary schools.
3. The High school should be completed by September of 2012 in order to meet the increased enrollments projected for that year.
4. The remaining two Elementary schools, Muraco and Lynch, can then be renovated which will resolve their space needs, upgrade the schools to current standards and complete the master plan.



Note: This schedule shows a proposed phasing of the projects which will need to be adjusted according to MSBA State funding approvals.

Yellow = Design/CDs
Orange = Bid/Construction

Short Term Issues (5 years)

- Solve Elementary School overcrowding
- Solve Middle School overcrowding
- Minimize “Permanent Costs” of short term solutions
- Maximize opportunity for future MSBA state reimbursement
- Obtain community consensus: Fall 2007 Town Meeting approval
- Minimize Redistricting
- Short Term Solution should support Long Term Solutions

Long Term Issues

- Maintain 5 elementary schools
- Find permanent building solutions for:
 - Vinson-Owen/Lynch/Muraco
 - Middle School overcrowding
 - High School 21st century solution
- Develop phased implementation plan
- Provide cost options
- Maximize state funding
- Provide green/sustainable options; reduce O&M costs

2 | Existing Conditions

Existing Conditions Report
2006/2007 Existing Floor Plans

Existing Conditions Report

Overview

Flansburgh Architects has prepared this existing conditions report in the Winter/Spring of 2007, working with the Town of Winchester. This report considers the quality and anticipated life of the physical plant of each school, and provides a description and analysis of the building's interior and exterior conditions, play fields and site features, structural systems, mechanical/electrical/plumbing systems, and technology infrastructure.

The findings of this report will assist in finalizing the scope of proposed renovation work for the master plan, and assure that systems and materials left in place are sound and appropriate for the school programs. This report is a supplement to the HMFH Architects 1996 Report, Tappe Associates 2004 Report and Simon Associates 2006 Report.

Scope

Each system of the existing building is addressed in this report. The systems reviewed include exterior walls, windows, roofs, doors, hardware, interior finishes (walls, floors, ceilings), built-in equipment (cabinets, storage), lighting, electrical power, technology infrastructure, heating and ventilation, plumbing and handicapped accessibility. The process involved a physical survey of the buildings by the following team of qualified architects and engineers:

- Flansburgh Architects - Architectural
- TMP Consulting Engineers - Mechanical, Electrical, Plumbing
- Boston Building Consultants - Structural Engineers
- Nitsch Engineering - Site/Civil
- Edvance - Technology Consultants



Ambrose School

A. General Description

Ambrose Elementary School - Opened in 2005 - approximately 63,180 sf.
25 High Street, Winchester, MA 01890

The Ambrose school is a new modern two story building with a flat roof constructed under the current building code.

B. Building Condition

1. Interior Conditions

- All interior architectural components are new and in excellent condition.
- The Facilities Department is finalizing items remaining on the contractor's punch list.

2. ADA/MAAB

- No deficiencies were observed.

3. Exterior Conditions

- All architectural exterior components are new and in excellent condition
- The Facilities Department is finalizing items remaining on the contractor's punch list

C. Structural Systems - Boston Building Consultants

- No structural issues have been identified.

D. Mechanical, Electrical and Plumbing - TMP Consulting Engineers

1. General

The Ambrose School that was included in the 1996 report has been torn down and a new school was constructed that opened in 9/05 with completely new mechanical and electrical systems. It is in its second full year of operation.

The General Contractor, Jackson Construction, filed for bankruptcy during construction.

The occupants love the school however, the work was never fully completed and it has been difficult to provide closure on many items. This is reportedly due to the difficult process of getting issues approved through the Bonding Company.

There are problems with all systems, in general. These are felt by TMP, to be more nuisance type problems however. The items included herein were reported by Tom Yuskus, head of maintenance at the school, who was at the original Ambrose School, as well as at St. Mary's. He was very helpful. Comments herein then, do not relate to the 1996 original report.

2. Fire Protection

There have been two leaks at sprinkler heads, that have been there since 9/05 when the school opened. This issue perhaps indicates the difficulty of getting items completed with a Bonding Company in place.

3. Plumbing

Two gym roof leaks remain. These are not really plumbing issues.

4. Heating, Ventilating and Air Conditioning

The system has Trane controls. They have not returned for the required “training” session with operating personnel.

The Trane control system time clock needs to be reset for daylight savings time. There is overheating in some areas, due to Trane Control issues.

5. Electrical

a. Emergency Power System:

Emergency generator radiator heater hose is leaking.

b. Lighting System:

Electronic ballast failure has been prevalent in some fluorescent fixtures. Building wide computer controlled lighting system has not operated correctly for some time.

c. Intrusion Alarm System:

Intrusion alarm system has been troublesome. “Beeping” signal is constant at control panel.

E. Technology

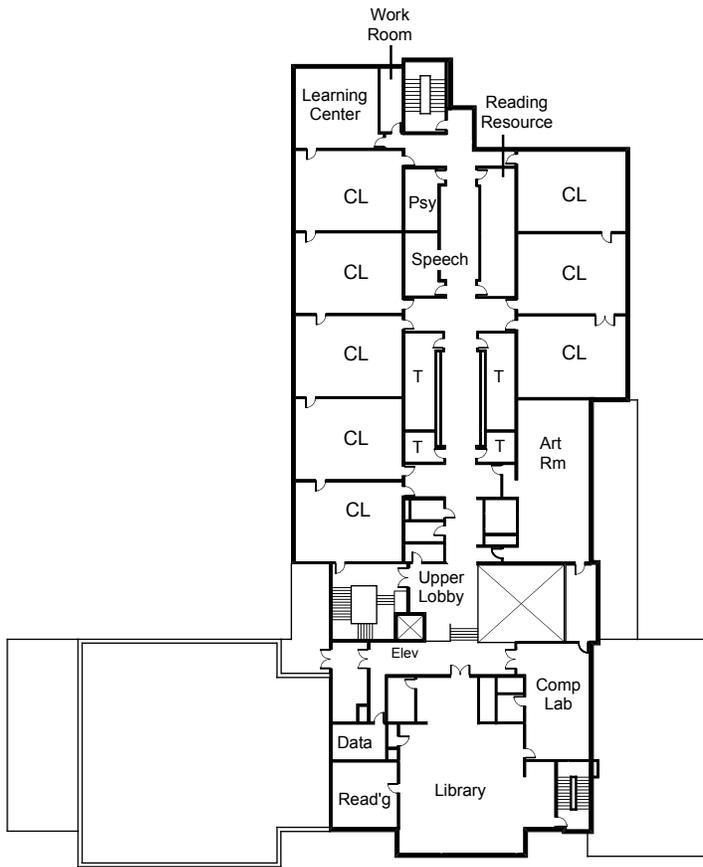
The voice and data cabling is up to date with current standards. There is also a wireless data infrastructure. There is a Head End Room (MDF) and one Technology Closet (IDF). The public address system is a Rauland Telecenter and the telephone system is by NEC. Both systems are in good working order.

Typical classrooms consist of either one or two student computers, depending on grade level. Teachers typically use laptops which are connected to ceiling projection/audio systems. The school also utilizes two carts of (30) Alphasmart Neo for word processing projects. There is a repeater in this school for the police/fire communication system.

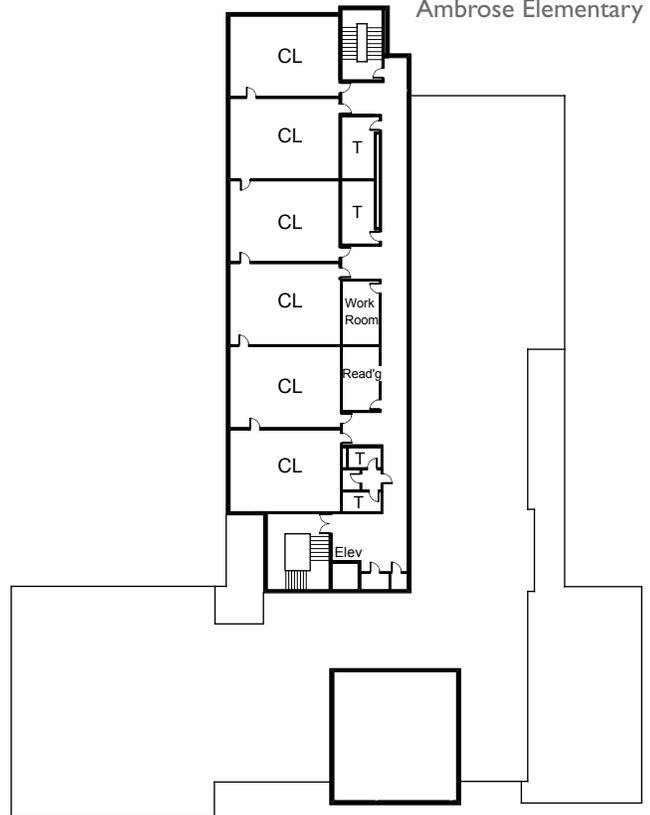
F. Site Utilities

The utilities serving the Ambrose School were constructed in 2004. The Ambrose School is connected to the town water and sewer system. New connections to both of these systems were installed during the recent construction.

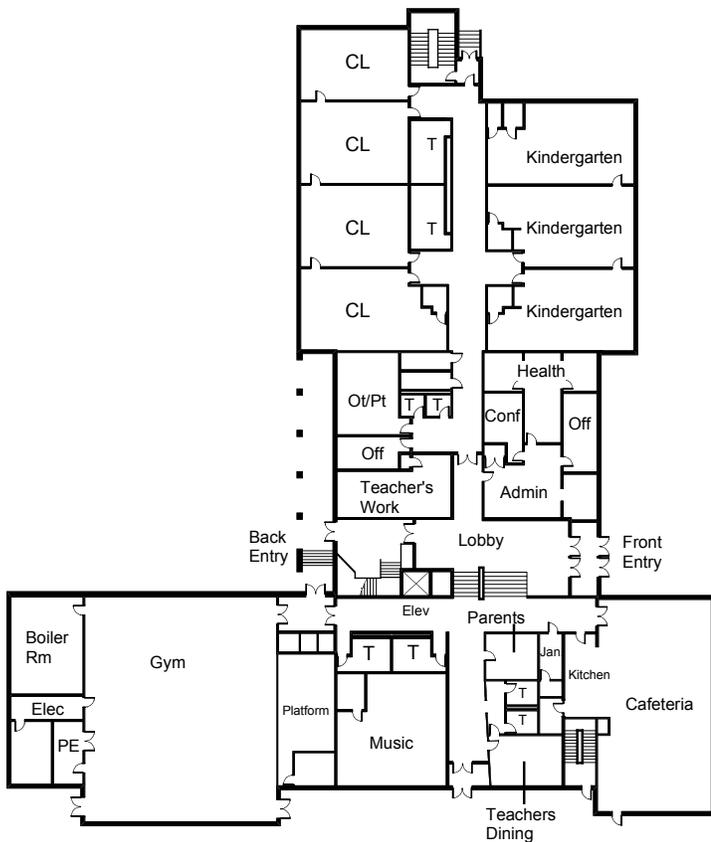
The storm drainage system on the site, in keeping with current practice, addresses both the amount and quality of the storm water runoff leaving the site. Catchbasins on the site have both sumps and hoods. In addition, runoff from the parking area is routed through a Vortechincs Stormwater Treatment Unit. The Vortechincs Unit works to remove pollutants from the runoff. An underground detention system, consisting of 175 linear feet of 36-inch diameter pipe, slows the rate of the stormwater leaving the site.



SECOND FLOOR PLAN



THIRD FLOOR PLAN



FIRST FLOOR PLAN



1" = 60'

21 Existing K-5 Classrooms

Ambrose Elementary School



Lincoln School

A. General Description

Lincoln Elementary School Completely Renovated in 2002. Approximately 71,920 sf
161 Mystic Valley Parkway, Winchester, MA 01890

B. Building Condition

1. Interior Conditions

- All interior architectural components are new or renovated and are in excellent condition
- The Facilities Department is finalizing items remaining on the contractor's punch list.

2. ADA/MAAB

- No deficiencies were observed.

3. Exterior Conditions

- All exterior architectural components are new or renovated and are in excellent condition.
- The Facilities Department is finalizing items remaining from the contractor's punch list.

C. Structural Systems - Boston Building Consultants

The Lincoln school is the oldest school in Town. It was constructed of wood floor joists, interior wood stud bearing walls, and exterior brick masonry walls in the early 1900's. In early 2002, it was completely renovated. There are minor issues reported by maintenance personnel. These included cracking floor tiles in several classrooms, and water leakage into the building at the South – West lobby entrance above the windows and lobby doors. Interior wall finishes are deteriorating as a result.

D. Mechanical, Electrical and Plumbing - TMP Consulting Engineers

1. General

This school underwent an addition and complete (gut) renovation that reopened the school in 9/02, with completely new mechanical and electrical systems. It is in its fifth year of operation since the rehab.

We were escorted by Peter D'Angerville, the new head custodian who has been in the position for the past year. Comments herein then do not relate to the 1996 original report.

2. Fire Protection

There was reported to be a pipe freeze and break over the Ground Floor Lobby that resulted in the replacement of the floor.

3. Plumbing

There was a pipe freeze up in the Boiler Room that resulted in the boiler not operating. A visual inspection appeared to indicate that it was a #2 oil line serving the boiler/burners that froze, due to direct (cold) combustion air on the pipe. A temporary baffle has been erected. A fairly simple pipe offset would appear that it would remedy the situation.

It was reported that the Faculty toilet has at times had “hot water” noticeable in it.

4. Heating, Ventilating and Air Conditioning

The AHU serving the Cafeteria has not operated properly since the school reopened in 9/02. It may be that it was too noisy for someone and is simply not run.

Some work is required on the chiller. There is a call-back expected.

The heating in the Principal’s office frequently has problems. It is served from a packaged roof-top unit. The thermostat was relocated but still is not in an ideal location. There were many call-backs for control adjustments during construction.

5. Electrical

a. Electric Service and Equipment:

All systems were installed new five years ago.

b. Lighting System:

Electronic ballasts of a specific fixture type have been failing frequently.

c. Clock System:

Clock system is not always advancing as required and is not correcting for daylight savings time.

d. Sound, Paging and Intercom System:

General paging and announcements are not heard in the Gymnasium and toilets.
Feeder circuit breaker to fan of specific AHU frequently trips, shutting down air circulation.

E. Technology

The Lincoln Elementary School went through a renovation approximately five years ago. A new Telecenter ICS public address system was installed at this time as well as a full video distribution system and “cherry picker” head end with four VCRs.

The telephone system is a PBX by Vodavi. Some of the public address speakers are not working, but the system is functional as a whole. There are some issues with the syncing of the clock system. The

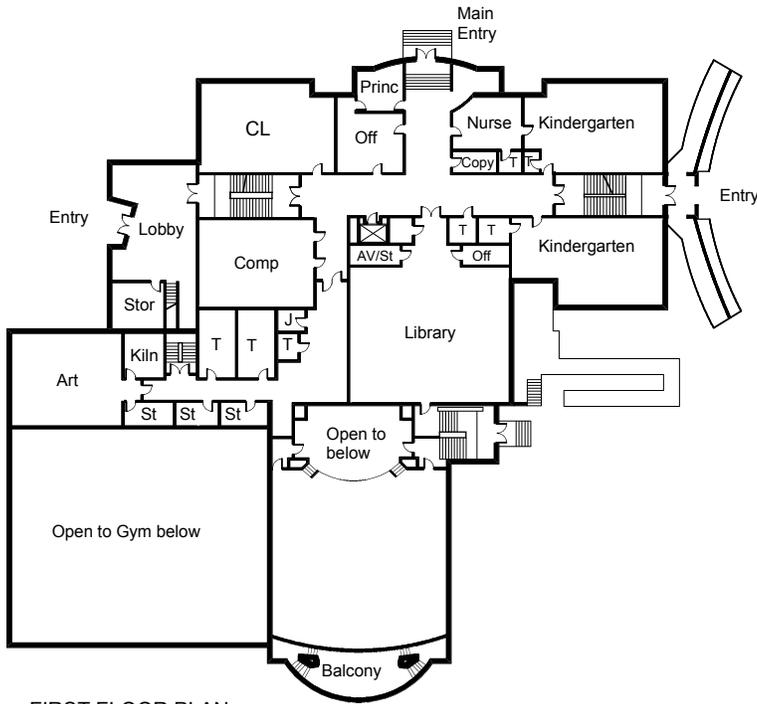
voice and data cabling is up to date with current standards. There is a Head End Room (MDF) that contains all of the aforementioned equipment. Typical classrooms in this facility contain four student computers in most cases and a teacher's computer that is connected to a television monitor. There are classroom telephones mounted on the wall.

F. Site Utilities

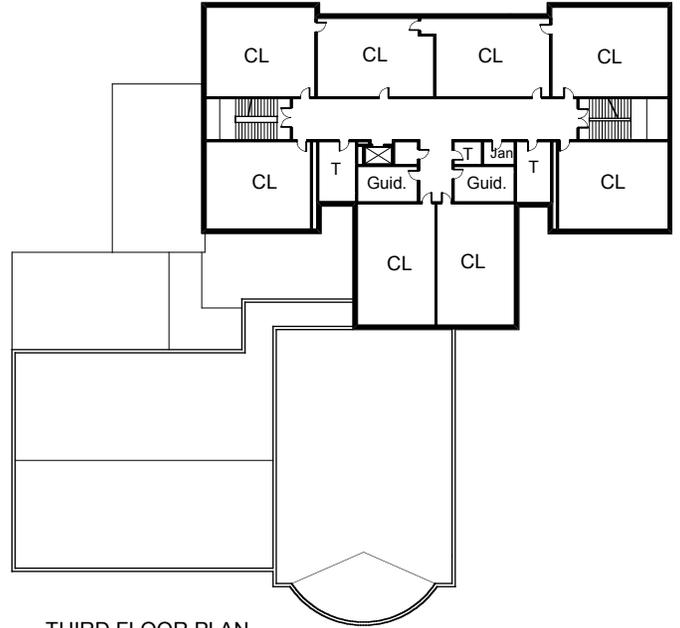
The Lincoln School site utilities date from the recent renovation. All of the services are new as of September 2002.

The school has all new connections to the town water and sewer systems.

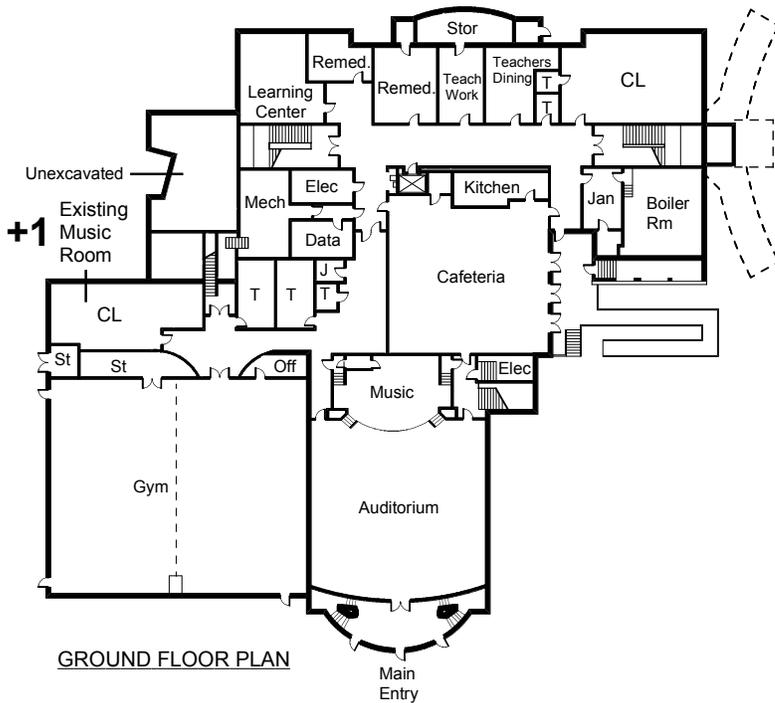
The on-site storm water drainage system is new, with catchbasins with hoods and sumps and new connections to the town drainage system.



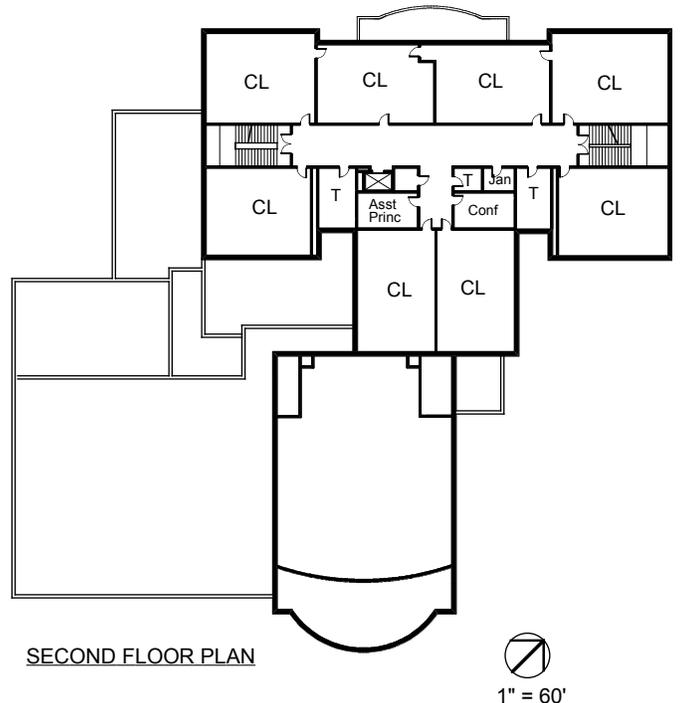
FIRST FLOOR PLAN



THIRD FLOOR PLAN



GROUND FLOOR PLAN



SECOND FLOOR PLAN


1" = 60'

20 Original K-5 Classrooms
+1 Modified Classroom
21 Existing K-5 Classrooms

Lincoln Elementary School



Lynch School

A. General Description

Lynch Elementary School - Opened in 1960 - Approximately 81,713 SF
19 Brantwood Road, Winchester, MA 01890

The Lynch School is a large, mostly one story building, with both flat and sloped roof areas, constructed in 1960.

B. Building Conditions

1. Interior Architectural Conditions

Interior Partitions/Walls

- Walls and wall finishes are worn and require refinishing. Repairs to walls will be required but are not yet critical.

Interior Doors and Frames

- Doors show signs of wear and will need to be replaced along with new door hardware. Frames need refinishing and can be reused in most locations. Fire rated door frames should be installed per code.

Ceilings

- Tectum and acoustical tile ceilings generally are in fair condition, however, staining was noticeable at some locations. The tile integrity is still good, however, their appearance should be addressed.

Floors

- Floors are mainly comprised of vinyl composition tile, carpet, ceramic tile and wood. All floors are worn and in need of replacement with the exception of the wood floor which can be refinished.

2. ADA/MAAB Compliance and Deficiencies

- Stage area off the Cafetorium has an ADA complaint ramp at the rear of the space.
- An elevator servicing the lower level where OT/PT and School Administration Offices are located provides handicap access to the lower level of the school.
- The former Music Room which had multi-tiered levels was recently converted to a single accessible floor level that is flush with the adjacent corridors.
- Stairwells do not have code compliant guardrails and hand railings
- Ramp to the depressed Cafetorium level does not have the required handrails and has a questionable slope.
- Room signage does not meet ADA braille identification requirements
- Courtyard off the Cafetorium has multiple levels without interconnecting ramps
- The Gymnasium is equipped with a handicapped wheelchair lift which complies with ADA accessibility requirements.

- Ground floor level rest rooms for faculty and students appears to meet ADA requirements for fixture mounting heights, dimensional clearance, and handrails at stalls. The Main floor restrooms directly above also meet ADA requirements.

3. Exterior Architectural Conditions

Exterior Walls

- The brick and precast veneers are cracked and have faulty joints. These walls need repair or replacement.

Roof

- The EPDM 'rubber' roof membrane on the flat roof has significant ponding issues and is experiencing roof leak problems. It appears from observation that the roof drains and interior leaders are free from debris and clogging. The inadequate slope of the flat roof to the drain locations should be modified with tapered roof insulation. The sloped roofing needs replacement.

Exterior Windows

- Single pane (uninsulated) polycarbonate glazing in non thermally broken steel frames contribute to a significant heat and energy loss. The windows have out lived their life expectancy and need to be replaced.

Exterior Doors and Frames

- Doors are uninsulated, worn and need to be replaced. New door frames are required to have an opening that is energy conserving.

C. Structural System - Boston Building Consultants

The building is framed with light steel columns and beams with tectum roof panels supported on bulb tees. The sloped roof surfaces have weathered, and have lost most of their mineral surfacing.

D. Mechanical, Electrical and Plumbing - TMP Consulting Engineers

1. General

We were escorted by Bill Doyle, the Head Custodian, during our interview and survey. He has been there since 2001 and was very helpful and knowledgeable with the systems.

2. Fire Protection

The building does not have a sprinkler system.

3. Plumbing

Domestic hot water traveling to the building extremities is prolonged with poor pumping capability. Accessible Faculty toilets have been added as well as unisex toilets for handicapped children. A gas-fired domestic hot water unit was added and the old horizontal water-to-water storage heater has been abandoned.

The roof is in the process of being replaced, is about 90% complete and will be finished this summer, with new drains, gutters, and downspouts.

4. Heating, Ventilating and Air Conditioning

A new buried oil tank was installed in 2006 (10,000 gallon). The old tank was removed. Also, in 1996, one boiler and both burners were replaced and the fuel was changed from #4 oil to #2 oil.

The roof fan motors and belts have been replaced.

For the unit ventilators, the filters are replaced and the motors cleaned twice a year.

The heating hot water pumps have been upgraded (2003/4).

The AHU motors have been overhauled.

The pneumatic control system was overhauled including some new devices and thermostats.

The Energy Report of 12/13/06, states that the unit ventilators probably run all of the time and control work is required in order to optimize energy usage.

5. Electrical

a. Emergency Power System:

New emergency battery units have been recently added, but quantity is still insufficient. Emergency generator is very old, located in boiler room, and apparently operational.

b. Lighting System:

Utility company energy efficiency program replaced most fluorescent lighting fixtures and exit signs.

c. Classroom Receptacles:

Some classrooms have had additional receptacles added.

d. Information Technology System:

Data drops have been added to all classrooms and offices.

e. Sound, Paging, and Intercom System:

New speakers have been added in some corridors and system has been repaired. New telephone/intercom phones have been added throughout in all offices and classrooms.

f. Clock System:

Master clock system was replaced last year and approximately 95% of clocks are connected to the system. Remaining 5% are battery operated.

g. Intrusion Alarm System:

Intrusion alarm system has been upgraded substantially and reports to UL listed central station.

E. Technology

The Lynch Elementary School Head End (MDF) is located in a copier room off the Main Office. This is also the location of the public address system. There is a wall mounted rack containing patch panels, switches and a server. The data cabling infrastructure is dependent on many mini-switches and not up to date with current standards. Much of the cabling is run exposed in the hallways due to a lack of pathways. Many classrooms are served with mini-switches. Portable projection systems are shared among all classrooms. The district offices are also located in this facility. This is served by equipment located in the Mail Room area. These offices have an independent demarcation point for telephone services. This is also where the town wide fiber is terminated.

F. Site Utilities

The Lynch Elementary School is connected to both the Town of Winchester water and sewer systems.

The main access to the Lynch School is via bridge over the Horn Pond Brook. Per the FEMA flood maps the flood zone for Horn Pond Brook in the vicinity of the Lynch School appears to be limited to elevation 35 or roughly the bank of the brook.

There is some site drainage adjacent to the building and the roof drainage/downspouts are piped into the storm drain system.

There are minimal drainage structures on site. The main drainage strategy appears to be grading the site toward Horn Pond Brook. The parking area adjacent to the brook has no structures and just grades toward the brook. This strategy can lead to ponding and icing problems during the winter.

The east side of the site is graded toward the building which could cause problems.

There are no apparent stormwater controls to address either rate or quality of the runoff from the site. There are three fire hydrants on the site.

A large above ground oil storage tank is located on the service/parking area. The oil tank is surrounded by a fence but there is no containment berm or protective curbs around the tank.



Muraco School

A. General Description

Muraco Elementary School - Opened in 1967 - Approximately 54,825 SF
33 Bates Pond Road, Winchester, MA 01890

The Muraco School was constructed in the 1967. It is a one-story building, with an exposed basement area on the north side of the building.

B. Building Architectural Conditions

1. Interior Conditions

Ceilings

- Acoustical ceilings generally are in fair condition. Some staining was observed in the classrooms and corridors. Sagging ceiling tiles observed in the Kindergarten classrooms. These tiles are worn and replacement should be considered.

Interior Partitions/Walls

- Walls and wall finishes are worn and require refinishing.

Interior Doors and Frames

- Doors show signs of wear and will need to be replaced along with new door hardware. Frames need refinishing and can be reused in most locations. Fire rated door frames should be installed per code.

Floors

- Flooring consists of vinyl tile, carpet and ceramic tile. All floors are worn and in need of replacement.

2. ADA/MAAB Compliance and Deficiencies

- Building does not have an elevator to the lower floor level nor a handicap wheelchair lift to the Stage area off the Gymnasium/Cafeteria.
- Most restrooms have clearance inadequacies and are not HC accessible. One unisex restroom appears to have been upgraded to meet ADA compliance.
- Most classroom and office interior door hardware has code compliant lever type handles but some still have door knob hardware that should be replaced.
- Exterior paths in the rear of the building to the play areas and fields exceed slope requirements and need ramps and associated railings.
- Stairwells do not have code complaint guardrails and hand railings
- Classroom sinks and cabinets are antiquated and do not meet accessibility requirements.
- Room signage does not meet ADA braille identification requirements

3. Exterior Conditions

Exterior Walls

- Brick veneer is in fair condition, minor cracking and deteriorated mortar joints are visible. Wall repairs and repointing of mortar joints are required.

Roof

- EPDM rubber roof membrane is approximately 6 years old and in good condition, roof drains are functional.

Exterior Windows

- Single pane (uninsulated) glazing in a non-thermal broken steel frame contributes to a significant heat and energy loss. The windows have out lived their life expectancy and need to be replaced.

Exterior Doors and Frames

- Doors are uninsulated, worn, and need to be replaced. New door frames are required to have an opening that is energy conserving.

C. Structural System - Boston Building Consultants

There are some brick movement issues that have spalled the foundation walls at the corners. There is a small site retaining wall along the west side driveway that has shifted, and the masonry steps at the front entry have displaced. The exterior trim should be painted.

D. Mechanical, Electrical and Plumbing - TMP Consulting Engineers

1. General

We were escorted by Paul Delia during our interview/survey. He was very helpful and knowledgeable with the systems.

The biggest complaint is that, in general, the heating system is “not dependable”. (This is in spite of a lot of repairs and replacements that have been done over the last 10 years to keep the system in operation.).

2. Fire Protection

There is no sprinkler system in the building.

3. Plumbing

Flush valves were replaced. Some of the original gate valves do not hold. The valve on the main service was replaced. A lot of faucets leak. There is still a propane tank outside for boiler ignition.

The oil-fired domestic water heater is inoperable. Domestic hot water is produced from the boiler and run through the original “uninsulated” horizontal tank. It doesn’t work well so there basically isn’t any domestic hot water to the classroom sinks. There are portable electric domestic water heaters for the Cafeteria and the Nurse’s Room.

4. Heating, Ventilating and Air Conditioning

In general, one heating system is reported as not being dependable. The burners have been replaced; still on #4 oil. The center heating zone (which is hot water) is currently “down” with an inoperable pump. A work order has been requested. The other zones remain steam. The relays in the ATC panel have been replaced, along with the same other control upgrades. Steam traps have been overhauled. The cooling tower is all “rotted out” and is inoperable. The Gym air handler motor was replaced, as well as some others, as were about 75% of the unit ventilator/motors.

5. Electrical

a. Lighting System:

Energy saving lamps and electronic ballasts have been provided by the utility company. Exit signs are retrofitted with energy savings lamps. New Gym lighting has high efficiency T5 type fluorescent lamps. New lighting is installed at exterior doors and under entrance canopies.

b. Sound, Paging and Intercom System:

New speakers have been added in corridors. New telephone/intercom phones have been added throughout in all classrooms and offices. Emergency page cannot be heard throughout.

c. Information Technology System:

Data outlets have been added to classrooms and most offices.

d. Cable Television System:

Cablevision outlets have been added to specific rooms.

e. Clock System:

Master clock controller was repaired and is used for programming and class changes only. Clocks are battery operated.

f. Intrusion Alarm System:

Intrusion alarm system has been upgraded, is operating correctly, and notifies UL listed central station.

E. Technology

The Muraco Elementary School utilizes a series of three computer “pods” for classroom use. These pods are shared by multiple classrooms. Systems in one pod are new. Other systems are between six and seven years old. The data cabling infrastructure is dependent on many mini-switches and not up to date with current standards. There are phones in every classroom. The school shares three TVs on carts on an as needed basis. Horizontal cabling in this facility is very limited and dated.

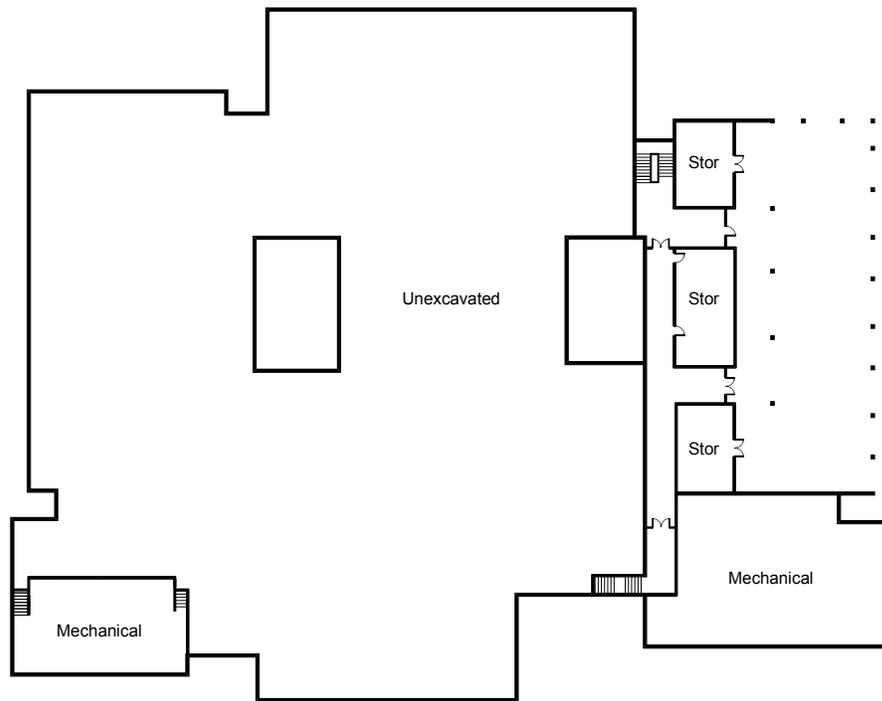
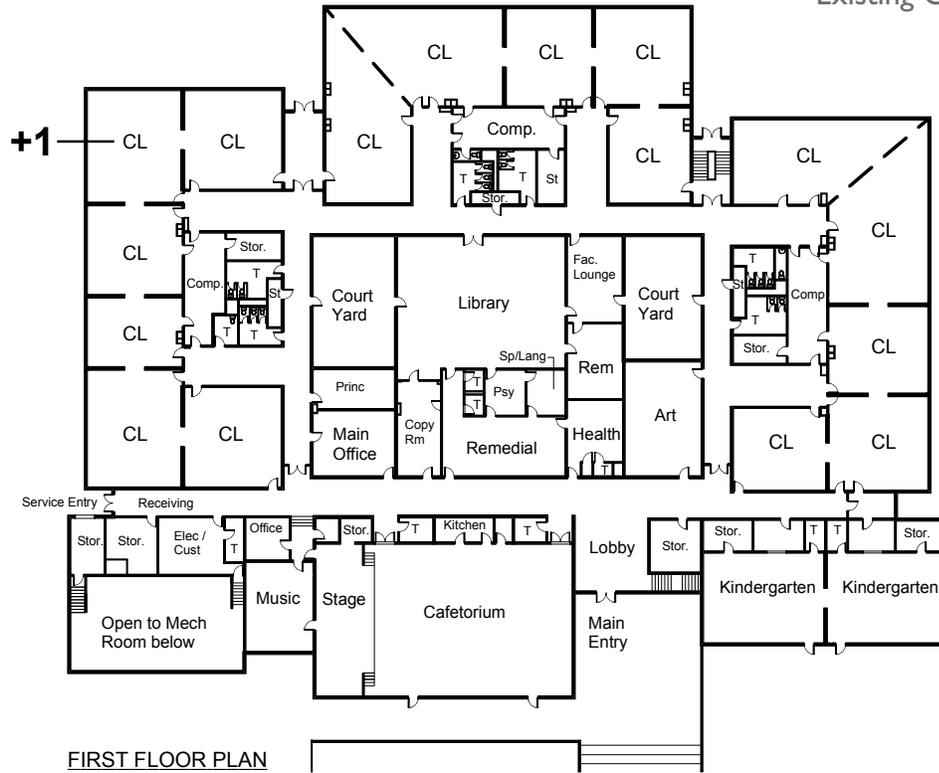
F. Site Utilities

The Muraco School site has limited site drainage infrastructure. Downspouts from the roof discharge to the ground. There is one catchbasin to serve the whole front parking/drop-off area. There is no apparent treatment of stormwater from the site for either quality or quantity.

Although the FEMA flood maps for the site do not indicate that the Muraco School site is within any flood zone, the fields behind the school experienced severe flooding in the storms of May 2006. The 100 year flood plain is very close to the building.

The school's electric transformer sits in the middle of the parking area on the side of the school. The transformer is protected by bollards, which appear to have been hit previously. In the same area a small propane tank is protected only by a chain link fence.





17 Original K-5 Classrooms
+1 Modified Classroom
18 Existing K-5 Classrooms

Muraco Elementary School



Vinson-Owen School

A. General Description

Vinson-Owen Elementary School - Opened in 1961 - Approximately 27,950 SF
75 Johnson Road, Winchester, MA 01890

The Vinson-Owen School is a one-story school, built in 1961 which steps up the hill.

There are 6 modular classrooms connected to the building

B. Building Architectural Conditions

1. Interior Conditions

Ceilings

- The exposed roof deck is the ceiling finish in the classrooms. Refinishing of the ceiling is required.

Interior Walls

- Walls consisting of CMU and gypsum board are worn and require refinishing. Repairs to walls are required however they are not critical at this time.

Interior Doors and Frames

- Doors show signs of wear and will need to be replaced along with new door hardware. Frames need refinishing and can be reused. Fire rated door frames should be installed per code.

Floors

- Floors consist of vinyl composition tile, carpet, ceramic tile, wood and terrazzo. All floors are worn and need to be replaced with the exception of the wood and terrazzo floors which can be refinished.

2. ADA/MAAB Non Compliance/Deficiencies

- Main and Secondary Entries are not HC accessible
- Three tier/wing plan layout which steps up the hill is non accessible at any levels and difficult to achieve with new construction and elevators.
- Building does not have an elevator or handicap wheelchair lift
- The Auditorium's stage is not handicap accessible
- Restrooms have clearance inadequacies and are not HC accessible
- All interior door hardware in non-compliant (knob type)
- Watercoolers are not HC accessible
- Central connecting stairwells do not have code complaint center guardrail and hand railings
- Exterior handrails are missing or do not meet MAAB HC Code requirements for height and extensions
- Faculty Room Kitchenette with sink is not HC accessible

- Room signage does not meet ADA braille identification requirements

3. Exterior Conditions

Exterior walls

- Brick veneer is in fair condition with minor cracking and deteriorated mortar joints visible. Wall repair and repointing of joints are required. Large spandrels of glass walls are in fair condition and are uninsulated. These walls require energy efficient replacements.

Exterior Windows

- Single pane (uninsulated) glazing in a non-thermal broken steel frame contributes to a significant heat and energy loss. The windows have outlived their useful life and need to be replaced. There is leakage at the base of the window wall.

Roof

- The roof shingles are 10 years old and are in good condition.

Exterior Doors and Frames

- Doors are uninsulated, worn, and need to be replaced. New door frames are required to have an opening that is energy conserving.

C. Structural System - Boston Building Consultants

The building is framed with light steel columns and sloping roof beams, with tectum roof panels supported on bulb tees. Roofing is asphalt shingles. Six modular classrooms are attached to the upperwing of the school.

The connecting corridor is stepped, and there is some deterioration in the top of the concrete foundation wall due to rusting and expansion of embedded steel elements. This has been caused by leakage at the base of the window wall and has resulted in damage to the terrazzo finishes.

D. Mechanical, Electrical and Plumbing - TMP Consulting Engineers

1. General Description

Modular classrooms were added in 1997, 1998, and 1999. Each module has two classrooms, for a total of six. Tom Murphy, head custodian, assisted TMP with the interview/survey and was very helpful and knowledgeable with the systems. In general, most of the major noted M&E deficiencies from the 1996 report were addressed. These upgrades have served well in the last 10 years but the H&V system is still "tired".

2. Fire Protection

The '96 report recommendation to sprinkle the building was not implemented, as sprinklers were not evident.

3. Plumbing

The domestic water heater was replaced in 2003 and is in fair to good condition. The heating boilers were converted to natural gas shortly after the 1996 report; probably in 1997. Gas is run from the new gas service to the units serving the modular classrooms.

Sewage from the third classroom module (1999), has an ejector to pump the sewage into the gravity sewer from the previous modules.

4. Heating, Ventilating and Air Conditioning

The H&V units serving the three classroom wings were replaced in 1997. The controls were up-graded at that time and have generally been okay since. Dampers were not replaced.

It was reported that the buried duct systems were cleaned; probably as a part of the 1997 unit replacement. Pneumatic controls were also overhauled in '06/07'. It is reported that there doesn't seem to be enough fresh air.

5. Electrical

a. Lighting System:

Utility company energy efficiency program replaced all fluorescent fixtures and/or lamps and ballasts three years ago. New Gym lighting consists of high efficiency T5 fluorescent lamps in 2'x4' fixtures with guards.

b. Modular Classrooms:

Modular classrooms installed in 1998 and 1999 required installation of new separately metered electric service.

c. Information Technology System:

New fiber optic service cable installed recently.
Data drops have been provided in all offices and classrooms.

d. Classroom Receptacles:

Additional receptacles have been added to classrooms to accommodate new IT drops.

e. Clock System:

Master clock used only for starting and ending class. All classroom and office clocks are battery operated.

f. Telephone/Intercom System:

New telephone/intercom system recently installed providing classroom to classroom, classroom to office, and classroom and office communication to outside lines. New corridor intercom speakers were also installed recently.

E. Technology

The Vinson-Owen School is connected to a town-wide fiber optic backbone. This fiber backbone connects all town facilities. There are three servers; one town server, one school server, and one video server. The school staff is encoding some of the video inventory onto the video server for distribution over the network. The data cabling consists of 8 to 10 drops per classroom in some areas. In most cases, many of the drops are connected to mini-switches, which are in turn connected back to a technology room. The public address system is an older Bogen system and is not functional to an acceptable level. The audio quality is very poor.

F. Site Utilities

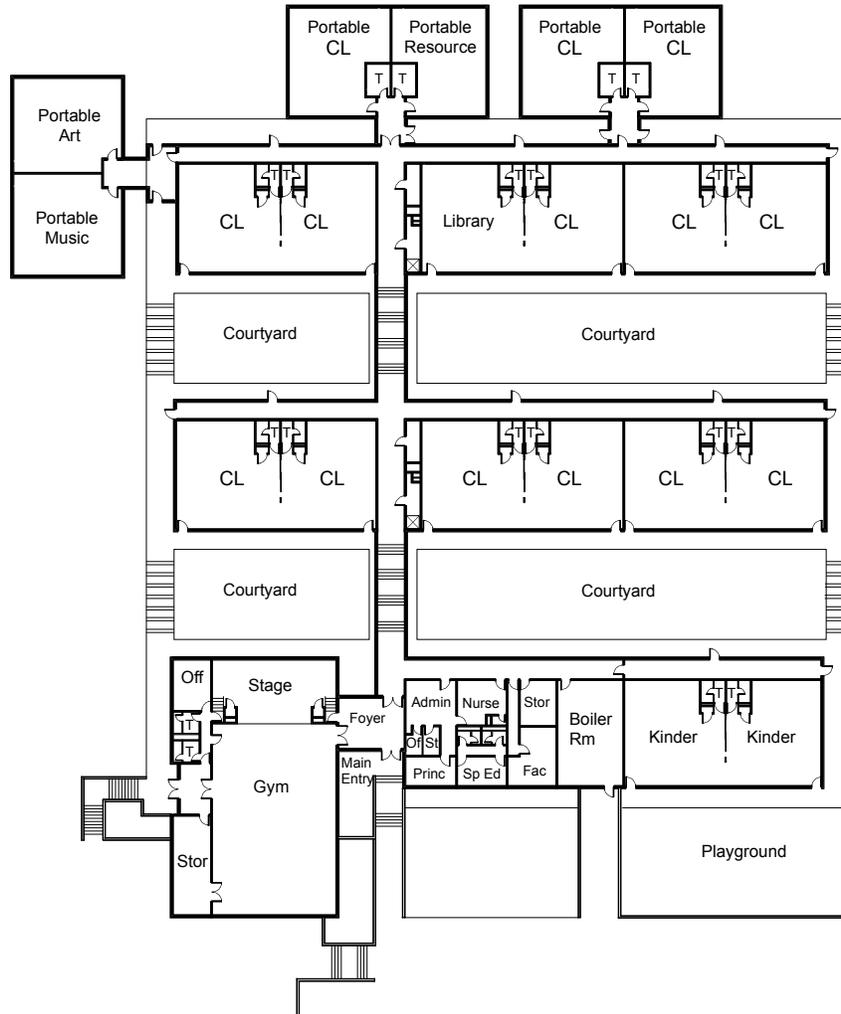
The Vinson-Owen School is served by both town water and sewer. There is only one catchbasin for the main parking lot. The lower playground area has one catchbasin that is collapsing. The lower playground area does not appear to be well drained.

The temporary classrooms have no downspouts. Runoff from the temporary classrooms runs off onto a stone drip edge, which appears to run to a subdrain which daylights on the side of the hill.

The classroom wings do not have any downspouts. Runoff from these areas is directed toward the next, lower classroom wing. There is one drainage structure located on the low side of each of these areas. The slopes between each classroom wing are so severe that runoff from these areas is likely to be running up to the building. Some of these areas were damp with moss growth, indicating poor drainage. This roof drainage system is very poor and needs replacement.

There does not appear to be any system for addressing either stormwater quality or quantity.





 **FLOOR PLAN**
1" = 60'

16 Existing K-5 Classrooms

**Vinson-Owen
Elementary School**



McCall Middle School

A. General Description

McCall Middle School - Renovated in 2000 - Approximately 150,201 SF
458 Main Street, Winchester, MA 01890

McCall Middle School consists of 4 stories, constructed into a hill side. Original construction was in the 1930's with additions in the 1950's and the year 2000.

B. Building Architectural Conditions

1. Interior Conditions

All interior components are in good condition with only minor defects requiring repair and touchup.

2. ADA/MAAB

No deficiencies were observed.

3. Exterior Conditions

All exterior components are in good condition with only minor defects requiring repair and touch up.

C. Structural - Boston Building Consultants

The McCall School was originally constructed in the 1930's, with major additions to the north and south in the 1950's. In 2000 there was a major renovation at which time a classroom wing was added to the back of the building.

The original building and 1950's additions appear to be framed with concrete, and the recent addition is steel framed.

At the west stair towers of the Gymnasium wing, there is evidence of continuing movement in the masonry walls, since the 2000 renovation. The cracking is caused by brick growth and thermal cycles of the brick masonry walls. There are no expansion joints in the long wall of the gym, and as the brick expands, it pushes the wall corners westward, cracking the masonry. These walls should be periodically monitored until the problem can be corrected by installing control joints in the wall.

D. Mechanical, Electrical and Plumbing --TMP Consulting

1. General

We were escorted by Dan Doucette, Head Custodian, during our interview and survey. He was very helpful and knowledgeable with the systems.

The school underwent a complete (gut) renovation and addition and was reopened in 9/00, with completely new mechanical and electrical systems. It is in its seventh year of operation since the rehab. Most of their current issues relate to temperature and control issues with the HVAC system. Comments herein then, do not relate to the 1996 original report.

2. Fire Protection

There was a failure of the air compressor in the attic dry system. The system filled with water and leaked to the classroom below; there was no real damage.

3. Plumbing

The domestic water heater has had the core and coil assembly replaced.

4. Heating, Ventilating and Air Conditioning

It was reported that the HVAC system balancing was not fully completed.

They would like a catwalk in the Boiler Room for access to the two air handlers that hang up high in the space; staging ladder access is dangerous.

The two air handlers in the attic are in a location that makes servicing difficult.

As pointed out in the Energy Report of 12/13/06, adjustments can be implemented that will allow energy usage to be optimized, while still maintaining adequate environmental conditions.

5. Electrical

a. Lighting System:

Energy efficient lamps and ballasts have not been provided by the utility company. Occupancy sensors or additional switches should be installed in classrooms to make better use of natural day light and save energy.

b. Fire Alarm System:

Fire alarm control panel recently struck by lightning. Full operation is questionable. Dirt in smoke detectors has been troublesome.

c. Exterior Lighting System:

Exterior lighting system has been upgraded and provides sufficient illumination.

E. Technology

The McCall Middle School was renovated in 2000. Typical classrooms consist of five student data outlets, one teacher outlet location, a wall phone, a television connected to the teacher computer, and at least one student computer in most cases. Some of the classrooms also have projection systems. The school has two computer labs with twenty-four newer computers and projection systems. There is a Head End Room (MDF) with a new Simplex 5100 public address system. An Iwatsu telephone system was installed at this time as well as a full video distribution system and "cherry picker" head end with four VCRs. There is also one Technology Closet (IDF).

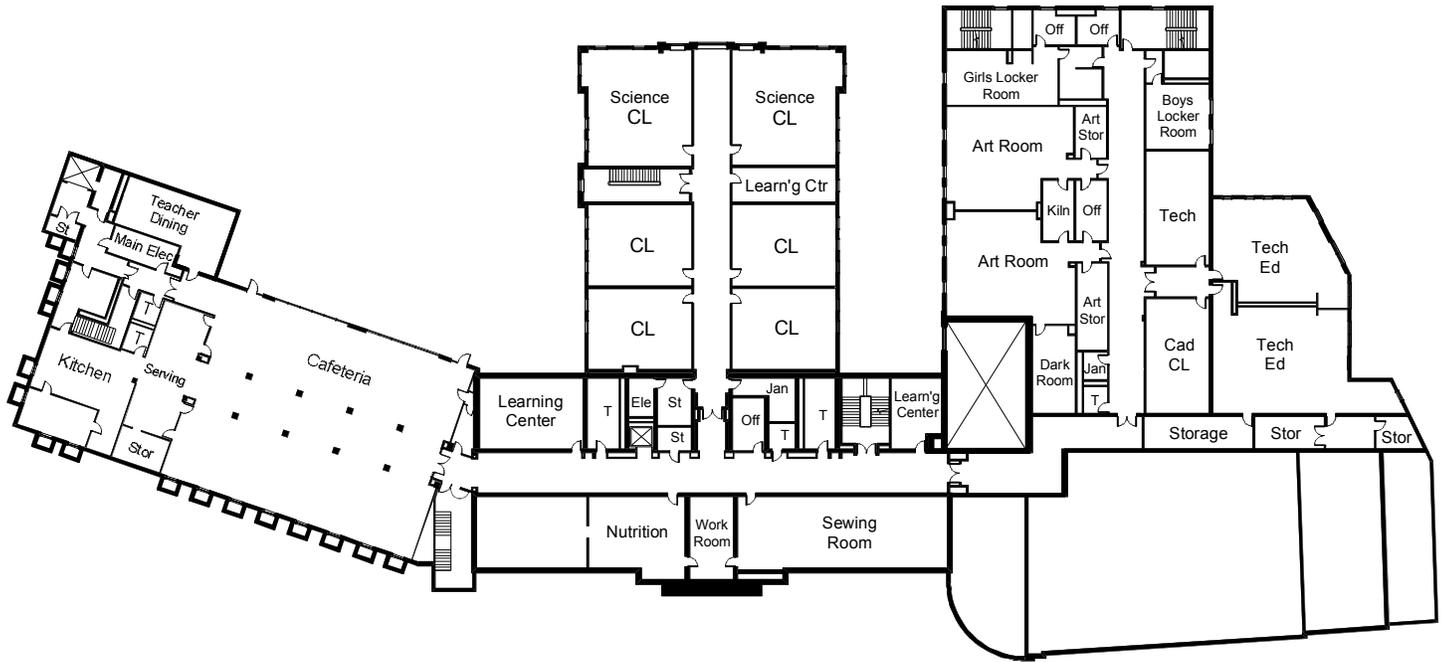
F. Site Utilities

All of the site utility systems for the McCall School date from the recent renovation. The school is connected to both the town water and sewer systems.

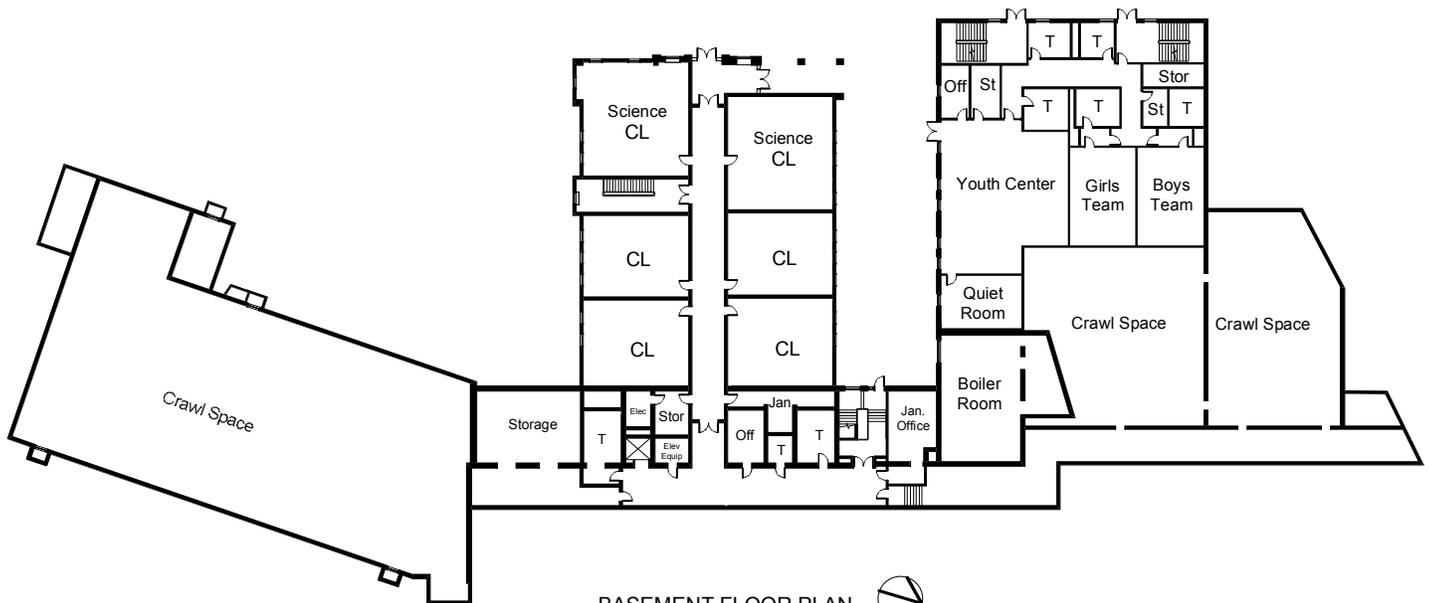
All of the catchbasins on the site have hoods and sumps to address water quality.

An external grease-trap serves the waste generated by the cafeteria. A ph neutralization tank serves the waste stream from the science classrooms.

Three hydrants are located on the site.



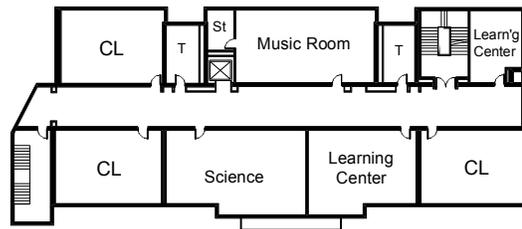
GROUND FLOOR PLAN



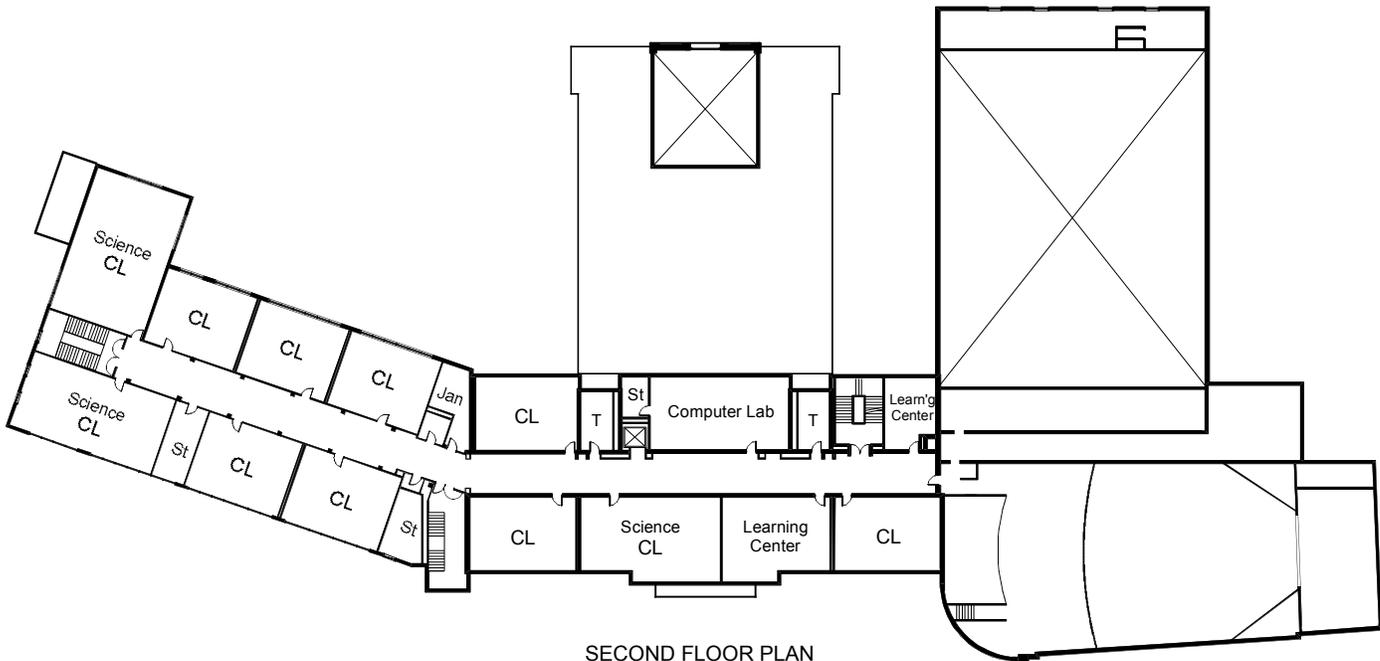
BASEMENT FLOOR PLAN



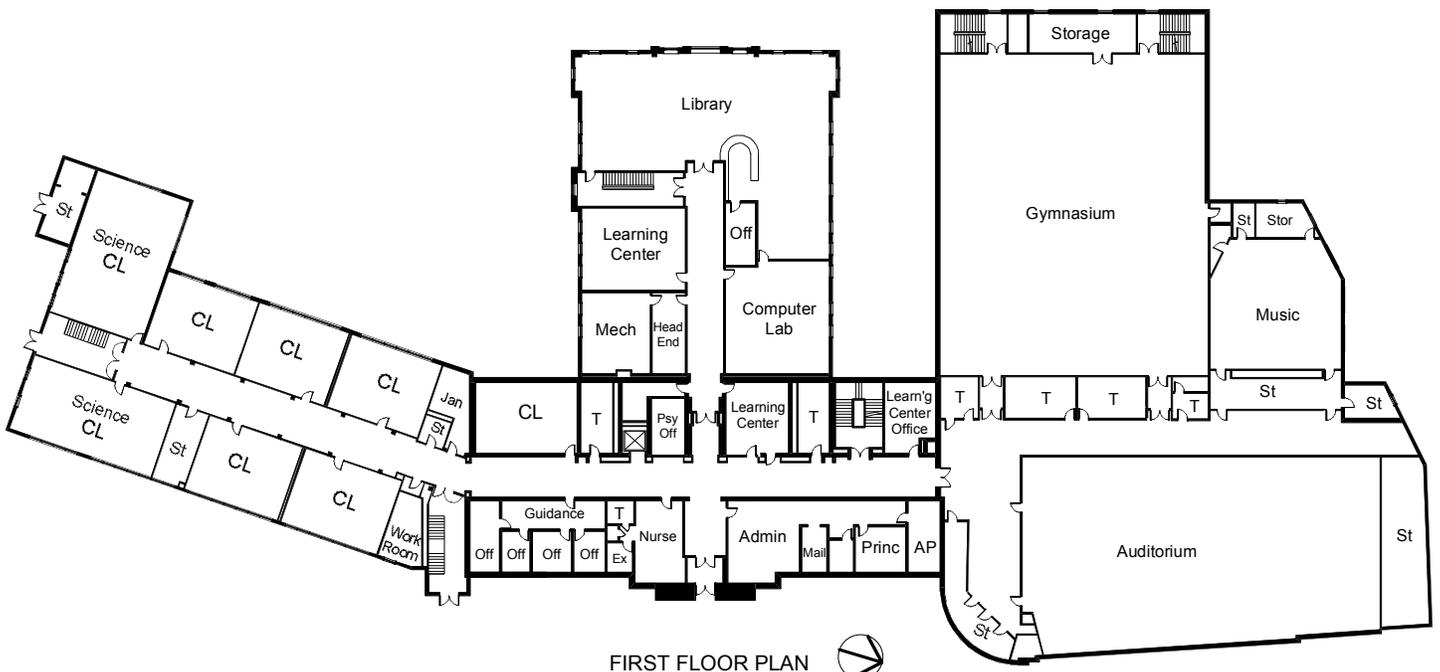
McCall Middle School



THIRD FLOOR PLAN



SECOND FLOOR PLAN



FIRST FLOOR PLAN



McCall Middle School



Winchester High School

A. General Description

Winchester High School - Opened in 1971 - Approximately 280,700 SF
80 Skillings Road, Winchester, MA 01890

The school is a three story structure constructed under the 1970's building code.

B. Building Architectural Conditions

1. Interior Conditions

Ceilings

- Acoustical tile ceilings are in fair condition with noticeable staining and sagging in some areas. The ceiling tiles should be replaced for appearance but are not a critical item.

Interior Partitions/Walls

- Walls and wall finishes are worn and require refinishing. Repairs to walls are required, however, they are not critical at this time.

Interior Doors and Frames

- Doors show signs of wear and will need to be replaced along with new door hardware. Frames need refinishing and can be reused in most locations. Fire rated frames should be installed per code.

Floors

- Flooring consists of vinyl composition tile, carpet and ceramic tile. All floors are worn and in need of replacement.

2. ADA/MAAB Compliance/Deficiencies

- Gang restrooms were recently retrofitted to meet ADA requirements for fixture mounting heights, dimensional clearances, and handrails at stalls. Restrooms in the Locker room facilities have recently been upgraded to meet ADA requirements as well.
- Noncompliant door knob hardware is at all interior locations.
- Stairwells do not have code complaint guardrails and hand railings.
- Water fountains do not meet current requirements for spout height off finished floor level.
- Sinks in shop areas are not handicap accessible.
- Auditorium stage is not handicap accessible.
- Room signage does not meet ADA braille identification requirements.
- The courtyard has settlement issues and is not HC accessible.

3. Exterior Conditions

Exterior Walls

- Brick veneer and precast are in fair condition showing some cracking, deteriorated mortar joints and mold growth due to water infiltration. The masonry walls should be repaired, repointed, cleaned and sealed.

Roof

- The ballasted single ply roofing system is in good condition.

Exterior Windows

- The existing aluminum framed windows with uninsulated glazing contributes to a significant heat and energy loss. The windows have outlived their useful life expectancy and need to be replaced.

Exterior Doors and Frames

- Doors are uninsulated, worn and need to be replaced. New frames are required to have an opening that is energy conserving.

C. Structural System - Boston Building Consultants

The High School is a large, concrete framed, complex built in the early 1970's. There are exposed architectural columns and beams on the exterior elevations, with brick masonry exterior infill panels, backed up with CMU. There is some minor cracking in the CMU resulting from long-term creep of the concrete beams.

There is also some minor spalls and cracking of the exposed concrete framing at various location due to rusting and expansion of embedded reinforcing steel with insufficient cover over the reinforcing. This appears to be an on going maintenance issue, since previous repairs were noted.

The main problem with the Campus is the settlement of the site. While the buildings are pile supported, the surrounding grades have settled as much as 12 inches, affecting walkways and steps to building. This will be a continuing issue, since adding more fill to re-level the site adds weight which will likely result in further settlement.

D. Mechanical, Electrical and Plumbing - TMP Consulting Engineers

1. General

We were escorted by Joe O'Brien, the head custodian, during our interview and survey. Joe has been there since 1996, and in the Winchester system for 19 years. He was very helpful and knowledgeable.

2. Fire Protection

The building is not sprinkled.

3. Plumbing

With the long history of flooding in the basement, due to the location in the river watershed, pumps were installed in the crawl space. The heavy rains in the spring of '06 (100 year storm), did not result in serious flooding or the loss of any equipment.

Toilets were upgraded as a part of a \$2 million renovation in 2006.

Some of the old gate valves are unreliable for positive water shut off.

It was reported that the Trainer did not get enough domestic hot water now and then; for the whirlpool. (This is a large hot water demand device.) The domestic water heaters, as a point of note, are now 36 years old.

4. Heating, Ventilating and Air Conditioning

One of the biggest HVAC issues is “noise” from vibrations with HVAC units “rattling”. Motors were reported to have been replaced with a next larger size, without thought to the increase in the vibration level, or the change-out of vibration isolation springs and devices.

There are problems in the shoulder (spring and fall) months with temperature controls, since this is a two-pipe changeover system; especially Monday mornings, muggy, etc. It appears that the system needs to be started earlier to purge the spaces prior to occupancy.

The cooling towers were replaced 7 - 8 years ago after some serious flooding. The chillers were replaced and are about two years old.

Rebalancing was performed as well as overhauling dampers, motors, and actuators. Two boilers have been replaced and are combination gas/oil type. The two older, oil only units, are only run during extremely cold weather.

The original oil tanks still exist. They were reported in 1996 to be original, in poor condition and not code compliant (single-wall, no monitoring). They are now 36 years old and should be replaced with dual wall tanks with a leak detection system.

5. Electrical

a. Electric Service and Equipment: One phase wire of electric service has been recently replaced and the service transformer was repaired by the utility company, NSTAR.

b. Lighting System: Utility company energy efficiency program upgraded all fluorescent fixture lamps and ballasts with T8 lamps and electronic ballasts and new high efficiency exit signs last summer. Occupancy sensors have been installed in drafting classrooms as a “test” program.

c. Sound, Paging, and Intercom System:

New head end equipment including telephone equipment has been installed. Some offices have had new phones installed.

d. Distribution System:

New panelboard and branch circuits have been provided in recently renovated office area.

e. Emergency Power System:

Changes in Auditorium have caused concern that emergency lighting may not be operating. General paging has been problematic with speaker crackle.

f. Video Information System:

New video information system has been recently installed consisting of video monitors located in all major areas of school.

g. Information Technology System:

New wireless system has been installed in Administrative/Office area.

h. Intrusion Alarm System:

Intrusion alarm system is now complete and reporting alarms to UL listed alarm company.

E. Technology

The Winchester High School has a Head End Room (MDF) and four primary Technology Closets (IDF). There are also other patch panels and mini-switches installed in several areas. Most of the data cabling in the facility is Category 5. A wireless data infrastructure was recently installed in the school. There are also several wireless laptop carts being shared among the various departments. The public address system is a TOA 900 series II. The system was installed in 2000. However, it does not function properly. There is a TV Studio curriculum for the school and the Town TV Studio also resides in the High School. Projection systems are used in some of the Computer Labs.

F. Site Utilities

The High School, similar to all of the schools, is connected to both the town's sewer and water system. There is no known capacity issue for either of these utilities.

Site drainage infrastructure at the High School is sparse. For the amount of impervious area (parking lots and courtyards) there are very few catchbasins. For example, on the parking and drive area on the north side of the school there appears to be only one drainage structure. To compensate for the lack of drainage structures it appears that the site was somewhat excessively graded. Runoff from the site typically has to travel overland for fairly long distances to reach a catchbasin. This results in premature aging and erosion of the pavement and landscaping, ponding and puddling of areas, and icing problems.

Minimal or no drainage structures close to the building or in the courtyard areas means that those areas had to be graded in somewhat odd ways (ramping up to the building, apparent swales down walkways) and has resulted in excessive wear and/or erosion of these areas.

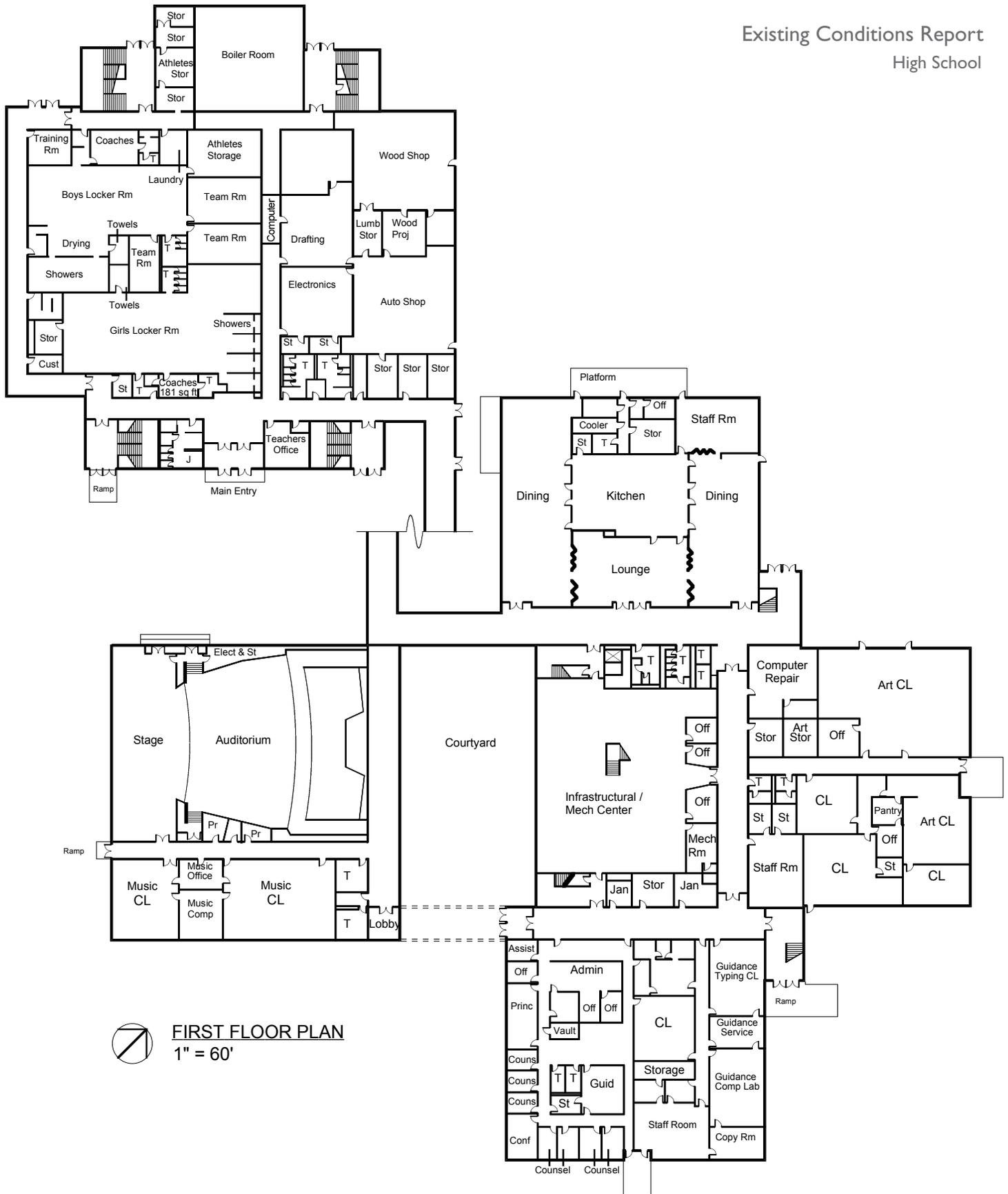
The parking area on the south side of the school, adjacent to the railroad does not appear to have any drainage system. Stormwater runoff from this area appears to just run off to the shoulder.

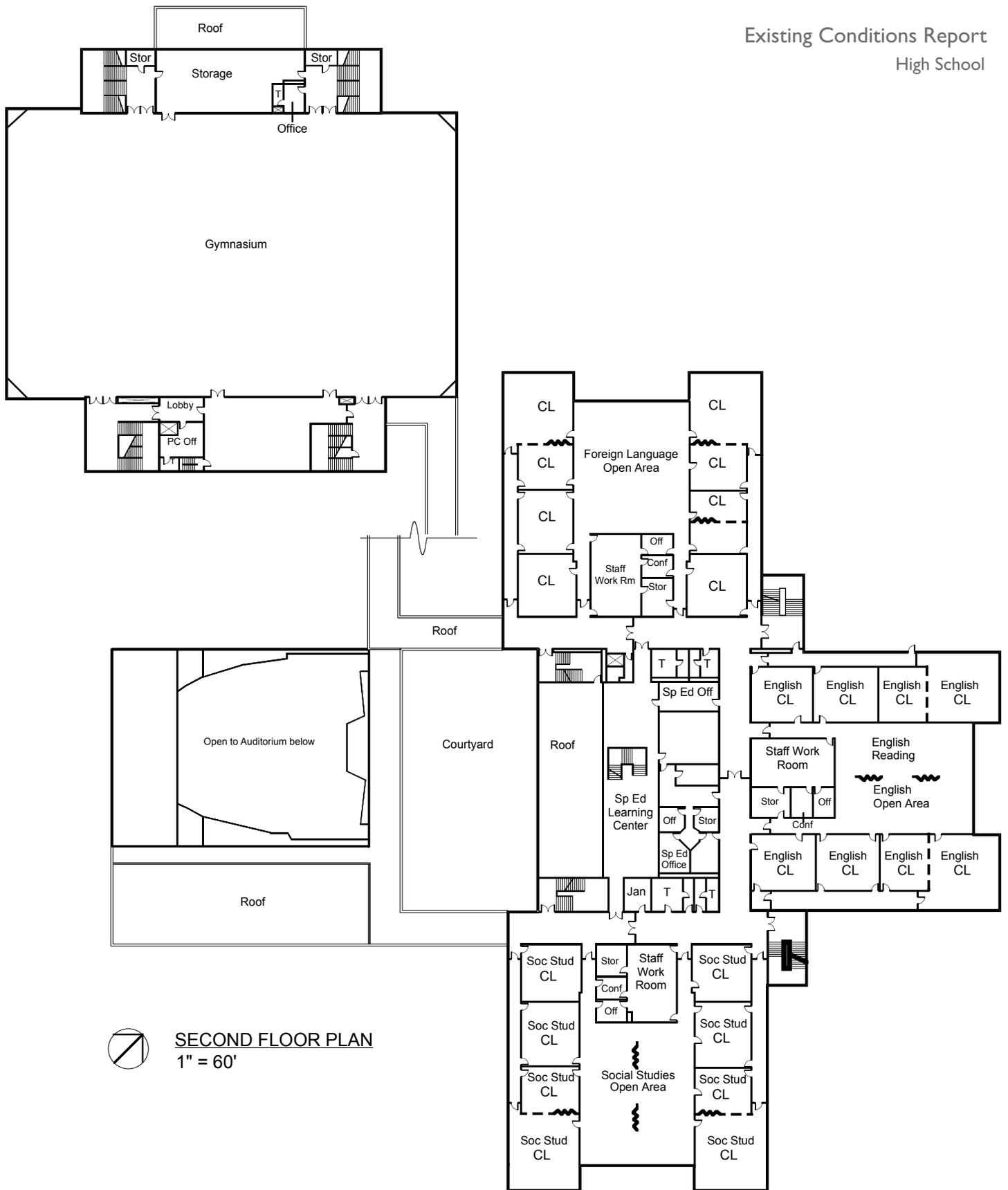
Some of the catch basins on the site have sumps but none of them have hoods. Besides the sumps in some of the catchbasins there did not appear to be any stormwater quality devices or measures on the site. The site does not appear to have any sort of stormwater detention or infiltration system.

The Aberjona River travels under the adjacent playing fields in a culvert. Much of the playing field area is listed as a Flood Zone B on by the Flood Insurance Rate Map for the area. Flood Zone B's are areas either between the 100-year and 500-year flood levels or see less than 1-foot of water during a 100-year flood.

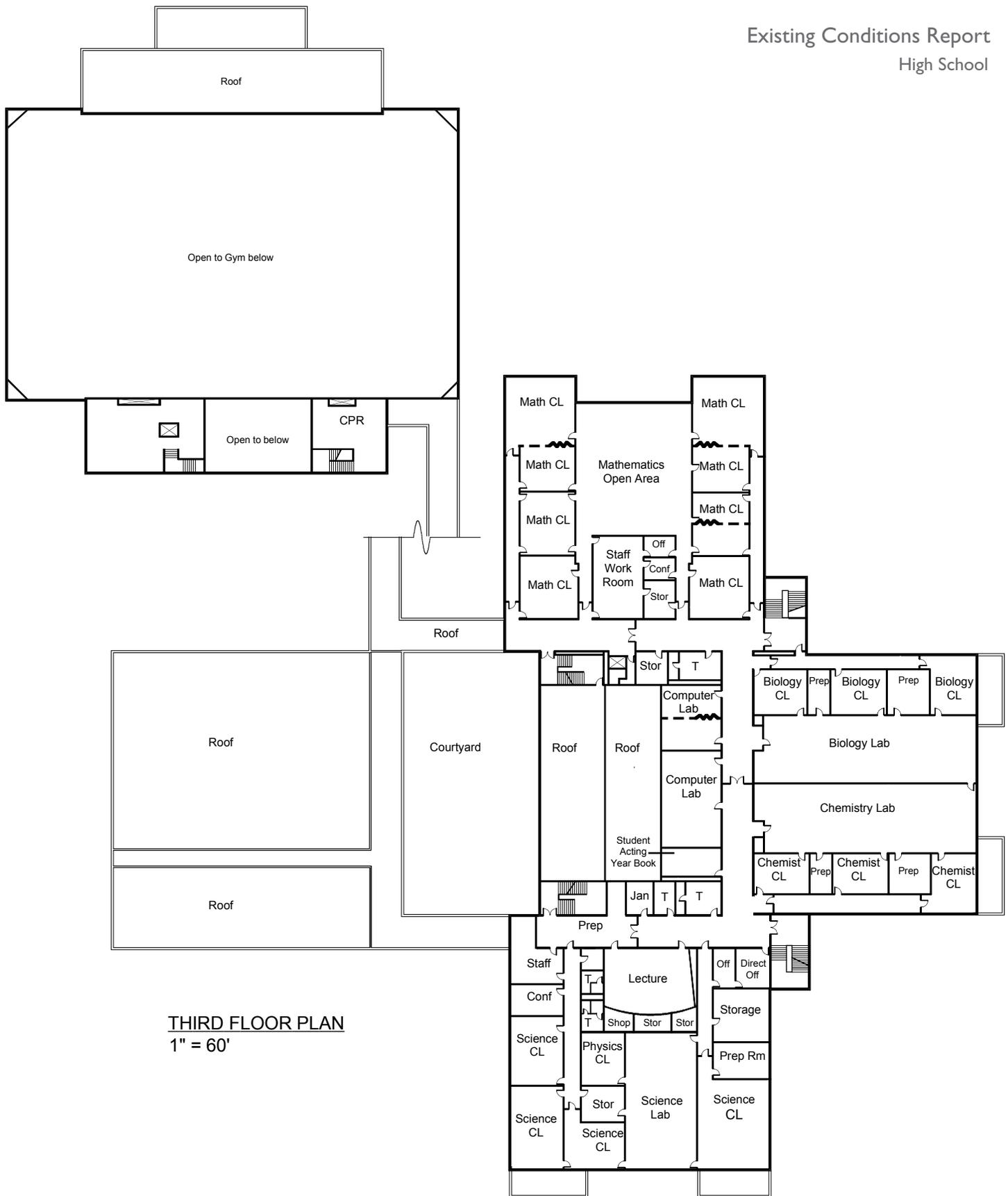
There only appear to be two fire hydrants on the site.







 **SECOND FLOOR PLAN**
1" = 60'



THIRD FLOOR PLAN
1" = 60'

3 | Enrollment Projections

Elementary Schools

Middle School

High School

Enrollment Projections:

The following three charts show 10-year historical and 10-year projected enrollments in the elementary, middle, and high schools.

1. Elementary Schools (K-5):

There are three different enrollment projections in the elementary school grades due to some uncertainty about birth rates in Winchester and the somewhat unpredictable in-migration. Despite this, all three projections show an increase in elementary school enrollments over the next two years for schools that are already overcrowded. If the School Department projections are realized, there will be an increased enrollment of 199 students over the capacity of the existing schools in the next four years. If the NESDEC projections are realized, elementary school enrollments may increase to 105 students over capacity and then drop back down to the current capacity in five years.

2. Middle School (6-8):

The two enrollment projections for the McCall Middle School both show a sharp rise in enrollment from 880 to 1060 by 2011. This then rises to 1077 by the year 2013, which is 213 students over the capacity of the school. Since most of these students are already in the elementary school grades, these projected enrollments are more reliable. A total of nine additional classrooms are needed at the McCall Middle School due to this increase.

3. High School (9-12):

The high school projections show a somewhat flat enrollment at about 1100 students over the next five years. In 2012 it is predicted that there will be a sharp increase in enrollment up to 1242 students. This then increases to 1371 by the year 2015, which is the result of the increased middle school students moving through the system. Additional classrooms at the high school will be needed starting in 2012 (five years.)

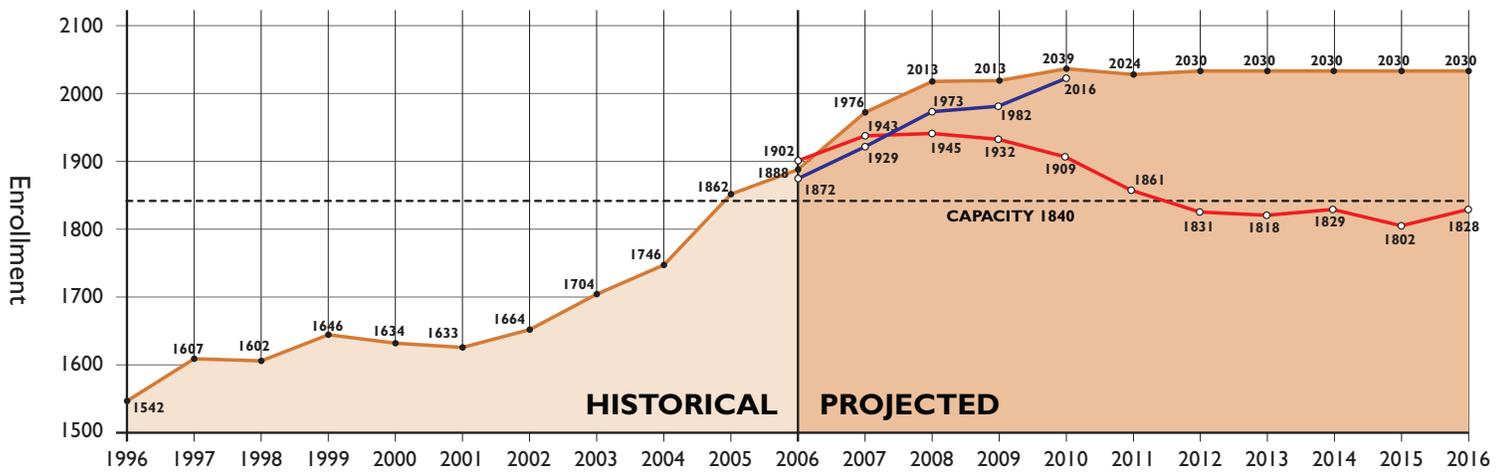
Note:

See Appendix A for detailed NESDEC report.

10-Year Projected Enrollments

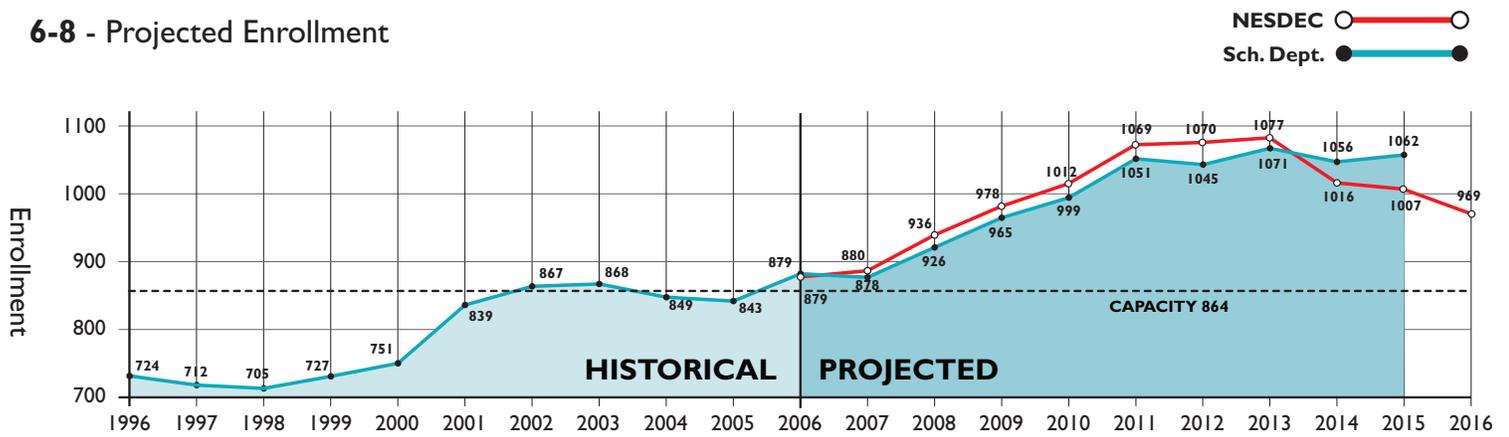
- EPR ○ — ○
- NESDEC ○ — ○
- Sch. Dept. ● — ●

K-5 - Projected Enrollment



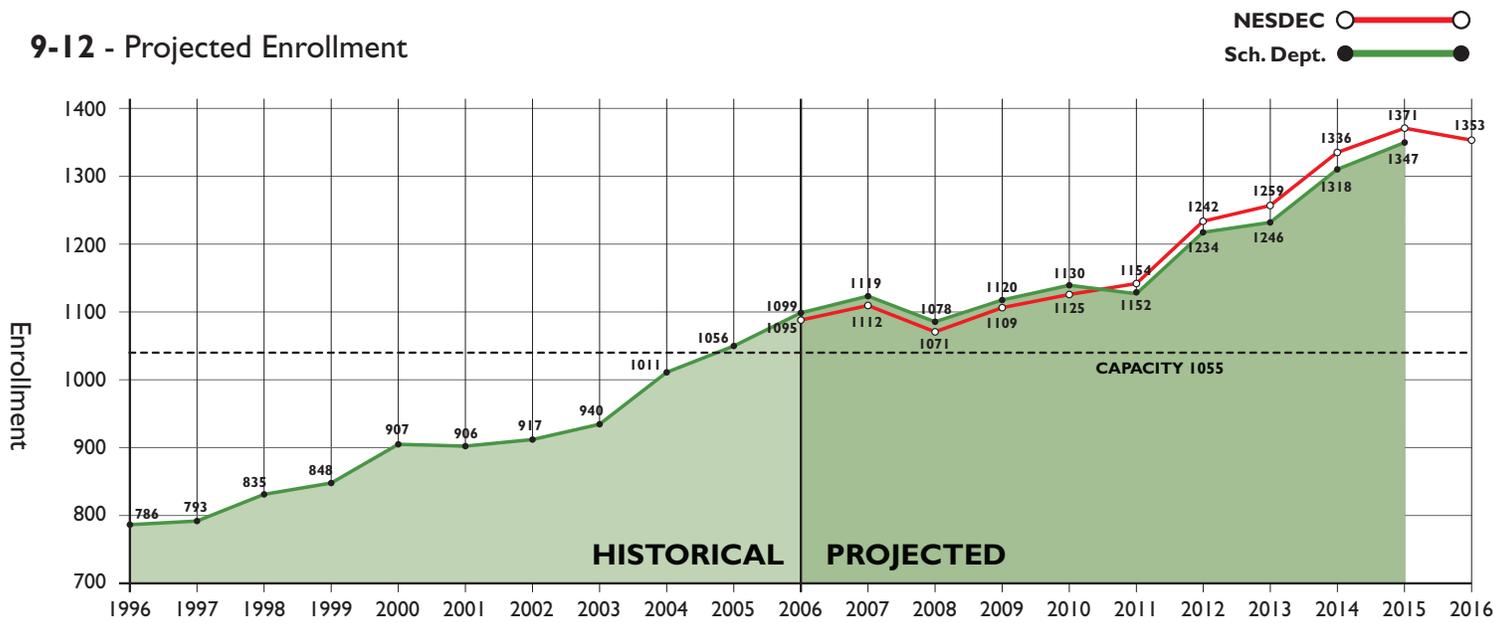
10-Year Projected Enrollments

6-8 - Projected Enrollment



10-Year Projected Enrollments

9-12 - Projected Enrollment



4 | Five-Year Plan

A. Elementary Schools

- Classroom Needs
- Options
- Floor Plans
- Schedule and Costs

B. Middle School

- Classroom Needs
- Options
- Floor Plans
- Schedule and Costs

C. Summary

Classroom Needs:

The following charts show the five-year enrollment projection effect on the number of classrooms required at each school. In the next five years, the projected shortage of K-5 classrooms is as follows:

Elementary Schools:

Ambrose	6
Lincoln	2
Lynch	1
Muraco	3
<u>Vinson-Owen</u>	<u>0</u>
Total Classroom Shortage	12

5-Year Classroom Needs

Ambrose School (design capacity 420)

Grade	06-07			07-08			08-09			09-10			10-11			11-12		
	Enroll	Size	CR															
K	86	21.5	4	84	21.0	4	84	21.0	4	84	21.0	4	84	21.0	4	84	21.0	4
1	82	20.5	4	90	18.0	5	90	18.0	5	90	18.0	5	90	18.0	5	90	18.0	5
2	74	18.5	4	83	20.8	4	91	18.2	5	91	18.2	5	91	18.2	5	91	18.2	5
3	74	24.7	3	74	24.7	3	84	21.0	4	92	23.0	4	92	23.0	4	92	18.4	5
4	72	24.0	3	75	25.0	3	75	18.8	4	85	21.3	4	93	18.6	5	93	23.3	4
5	59	19.7	3	72	18.0	4	76	19.0	4	76	19.0	4	86	21.5	4	94	23.5	4
Total	447		21	478		23	500		26	518		26	536		27	544		27
Orig CR design			21			21			21			21			21			21
Shortage			0			2			5			5			6			6

6 Classrooms required

Lincoln School (design capacity 400)

Grade	06-07			07-08			08-09			09-10			10-11			11-12		
	Enroll	Size	CR															
K	59	19.7	3	66	22.0	3	66	22.0	3	66	22.0	3	66	22.0	3	66	22.0	3
1	84	21.0	4	69	17.3	4	72	18.0	4	72	18.0	4	72	18.0	4	72	18.0	4
2	68	17.0	4	85	21.3	4	70	17.5	4	73	18.3	4	73	18.3	4	73	18.3	4
3	84	21.0	4	69	23.0	3	86	21.5	4	71	17.8	4	74	18.5	4	74	18.5	4
4	72	24.0	3	85	21.3	4	70	23.3	3	87	21.8	4	72	24.0	3	75	18.8	4
5	63	21.0	3	73	24.3	3	86	21.5	4	71	23.7	3	88	22.0	4	73	24.3	3
Total	430		21	447		21	450		22	440		22	445		22	433		22
Orig CR design			20			20			20			20			20			20
Shortage			1			1			2			2			2			2

2 classrooms required

Lynch School (design capacity 360)

Grade	06-07			07-08			08-09			09-10			10-11			11-12		
	Enroll	Size	CR															
K	56	18.7	3	53	17.7	3	53	17.7	3	53	17.7	3	53	17.7	3	53	17.7	3
1	64	21.3	3	60	20.0	3	57	19.0	3	57	19.0	3	57	19.0	3	57	19.0	3
2	59	19.7	3	65	21.7	3	61	20.3	3	58	19.3	3	58	19.3	3	58	19.3	3
3	71	23.7	3	58	19.3	3	66	22.0	3	62	20.7	3	59	19.7	3	59	19.7	3
4	53	17.7	3	72	18.0	4	59	19.7	3	67	22.3	3	63	21.0	3	60	20.0	3
5	58	19.3	3	53	17.7	3	73	18.3	4	60	20.0	3	68	22.7	3	64	21.3	3
Total	361		18	361		19	369		19	357		18	358		18	351		18
Orig CR design			18			18			18			18			18			18
Shortage			0			1			1			0			0			0

1 short term classroom required

5-Year Classroom Needs

Muraco School (design capacity 340)

Grade	06-07			07-08			08-09			09-10			10-11			11-12		
	Enroll	Size	CR															
K	61	20.3	3	66	22.0	3	66	22.0	3	66	22.0	3	66	22.0	3	66	22.0	3
1	67	22.3	3	67	22.3	3	70	17.5	4	70	17.5	4	70	17.5	4	70	17.5	4
2	59	19.7	3	69	23.0	3	68	22.7	3	71	17.8	4	71	23.7	3	71	23.7	3
3	61	20.3	3	61	20.3	3	70	23.3	3	69	23.0	3	72	18.0	4	72	24.0	3
4	58	19.3	3	65	21.7	3	62	20.7	3	71	23.7	3	70	23.3	3	73	18.3	4
5	63	21.0	3	61	20.3	3	66	22.0	3	63	21.0	3	72	24.0	3	71	23.7	3
Total	369		18	389		18	402		19	410		20	421		20	423		20
Orig CR design			17			17			17			17			17			17
Shortage			1			1			2			3			3			3

3 classrooms required

Vinson-Owen School (design capacity 320)

Grade	06-07			07-08			08-09			09-10			10-11			11-12		
	Enroll	Size	CR															
K	34	17.0	2	41	20.5	2	50	16.7	3	50	16.7	3	50	16.7	3	50	16.7	3
1	53	17.7	3	42	21.0	2	45	22.5	2	54	18.0	3	54	18.0	3	54	18.0	3
2	55	18.3	3	52	17.3	3	43	21.5	2	46	23.0	2	55	18.3	3	55	18.3	3
3	52	17.3	3	56	18.7	3	53	17.7	3	44	22.0	2	47	23.5	2	56	18.7	3
4	58	19.3	3	52	17.3	3	57	19.0	3	54	18.0	3	45	22.5	2	48	24.0	2
5	53	26.5	2	58	19.3	3	53	17.7	3	58	19.3	3	55	18.3	3	46	23.0	2
Total	305		16	301		16	301		16	306		16	306		16	309		16
Orig CR design			16			16			16			16			16			16
Shortage			0															

0 classrooms required

Options:

The following charts show 7 options for the Elementary Schools to resolve the short term space needs. Each option summarizes the solution and states the pros and cons of implementing that specific plan.

- Option 1-ES does not resolve the 5-year enrollment increase.
- Options 2-ES and 3-ES have many disadvantages including high costs to re-open the Parkhurst School and/or disruptive redistricting.
- Option 4-ES involves seven temporary portable classrooms.
- Options 5-ES, 6-ES, and 7-ES all involve redistricting and high costs.

Options

Grades K-5

Option 1-ES: Space modifications only

Modify rooms in existing elementary schools to gain 5 classrooms (2 at Ambrose, 2 at Lincoln and 1 at Lynch). No new portable classrooms.

Pros

- Least expensive option
- Avoids redistricting
- Least disruptive

Cons

- Does not resolve 5-year enrollment increase
- Classroom sizes would increase to 31 at Ambrose, and 25 at Muraco.
- Not a permanent solution

Option 2-ES: Use of Parkhurst School for Ambrose overcrowding

Move 6 to 8 classrooms from Ambrose to Parkhurst for either K-5 small school or grades 4 & 5. Add 3 portables or permanent construction at Muraco.

Pros

- Avoids portable classrooms on Ambrose site
- Avoids redistricting

Cons

- Very disruptive to students, teachers, admin, and parents (one school in 2 buildings)
- High cost to upgrade Parkhurst to code and to refurbish building for new classrooms, etc.
- Higher operating costs with Parkhurst open.
- Not a permanent solution

Option 3-ES: Use of Parkhurst for Administration

Move Admin out of Lynch to Parkhurst portables. Shift 4 classrooms out of Ambrose into Lynch Admin area. Add 3 portables or permanent construction at Muraco.

Pros

- Alleviates overcrowding at Muraco and Ambrose and avoids portables on Ambrose site

Cons

- Requires redistricting of Ambrose to Lynch
- Disruptive to school admin, teachers, parents, and students
- Added Cost to upgrade and renovate Parkhurst for school admin
- Puts additional stress on core facilities and traffic at Lynch with 4 new classrooms and +/- 90 new students
- Added Cost to convert Admin offices to 4 classroom space at Lynch.
- Higher operating cost to open Parkhurst school for admin use.

Options

Grades K-5 (Continued)

Option 4-ES: Classroom modifications and new portables

Gain 12 classrooms at elementary schools with 7 portables (4 at Ambrose and 3 at Muraco) and 5 space modifications (2 at Ambrose, 2 at Lincoln, and 1 at Lynch).

Pros

- Avoids high cost of opening Parkhurst.
- Alleviates overcrowding at each school without redistricting
- Minimizes inconvenience to students, teachers, staff, and parents.
- Least expensive option for short term (except Option 1)
- Solves problem for short term until State funding is available for a permanent solution
- Portables can be phased in as needed

Cons

- Portables are a temporary solution
- Portables at Ambrose displace parking
- Rooms must be converted to classrooms within existing schools for short term

Options

Grades K-5 (Continued)

Option 5-ES: Shift 4 Ambrose classrooms to Lynch

Relocate admin out of Lynch to leased space and shift 4 classrooms from Ambrose to Lynch. 3 portables at Muraco.

Pros

- Avoids portables at Ambrose

Cons

- Requires redistricting of Ambrose to Lynch
- Added cost of annual leasing of Admin. space required (approx. \$90K to \$120K per year)
- Added cost to renovate Lynch for 4 classrooms and build out leased space for Admin
- Additional stress on core facilities and traffic at Lynch with +/- 85 new students

Option 6-ES: Use Carriage house for Ambrose

Renovate Carriage house for 4 classrooms at Ambrose and shift 3 classrooms from Muraco to Lynch. Move Admin. out of Lynch to leased space

Pros

- Avoids portables at Ambrose and Muraco
- Avoids redistricting Ambrose

Cons

- Requires redistricting from Muraco to Lynch
- Added cost of annual leasing of Admin. space required (approx. \$90K to \$120K per year)
- Added cost to renovate Lynch for 3 classrooms and build out leased space for Admin.
- Added cost to fit out Carriage house for 4 classrooms
- Additional stress on core facilities and traffic at Lynch with +/- 66 new students.

Option 7-ES: Vinson-Owen Addition

8 classroom addition onto Vinson-Owen school. Redistrict to shift 4 classrooms from Ambrose and 3 classrooms from Muraco.

Pros

- Permanent construction, no temporary costs or portables
- Allows for future renovation or demolition of Vinson-Owen.
- Resolves projected overcrowding at Elementary schools
- Places costs into the continuation of original master plan
- Avoids portables that may be difficult to sell
- If enrollments decrease after 5 years, the investment is not wasted

Cons

- Redistricting required
- Higher cost than other options
- Still requires 4 or 5 classroom modifications

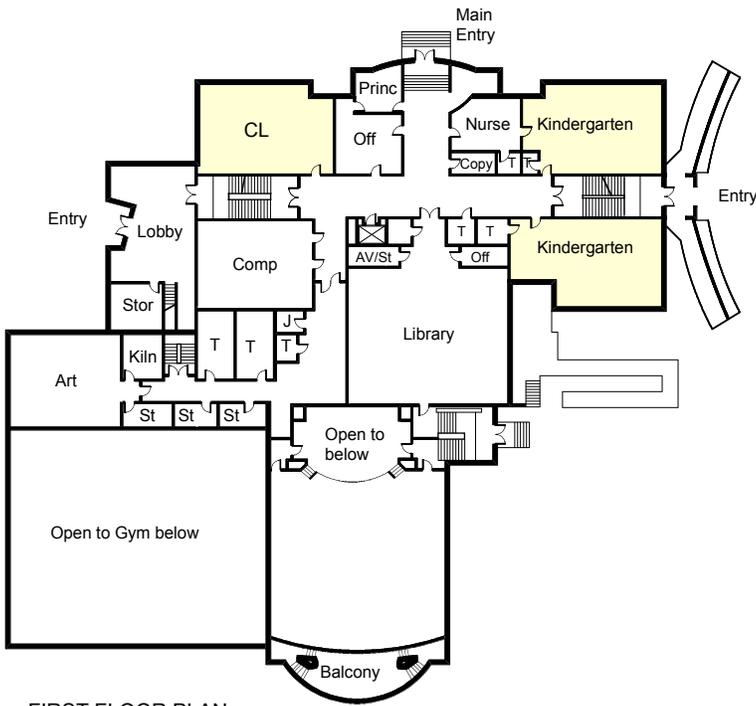
Floor Plans:

The following plans show classroom modifications and modular (portable) classrooms (4 at Ambrose and 3 at Muraco) to resolve the projected overcrowding at the Elementary Schools. This is Option 4-ES which is intended as a short term solution only.

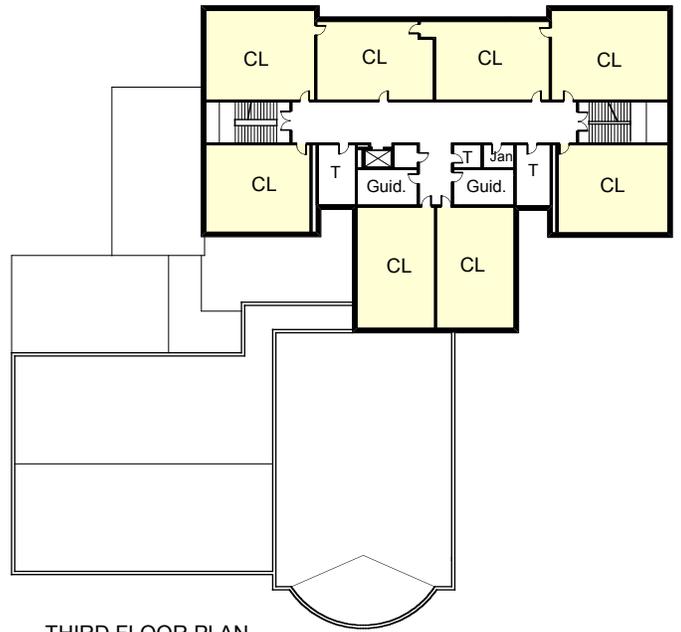
The additional needed classrooms are allocated as follows:

	<u>Modular</u>	<u>Modified CR</u>	<u>Total</u>
Ambrose	4	2	6
Lincoln	0	2	2
Lynch	0	1	1
Muraco	3	0	3
<u>Vinson-Owen</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total Classrooms Additional	7	5	12

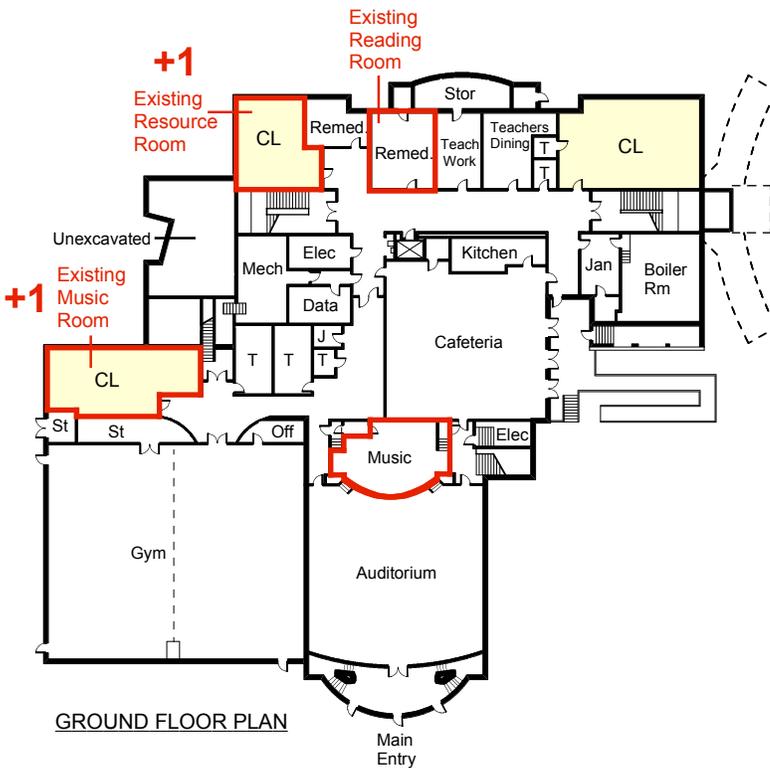
A. Elementary Schools



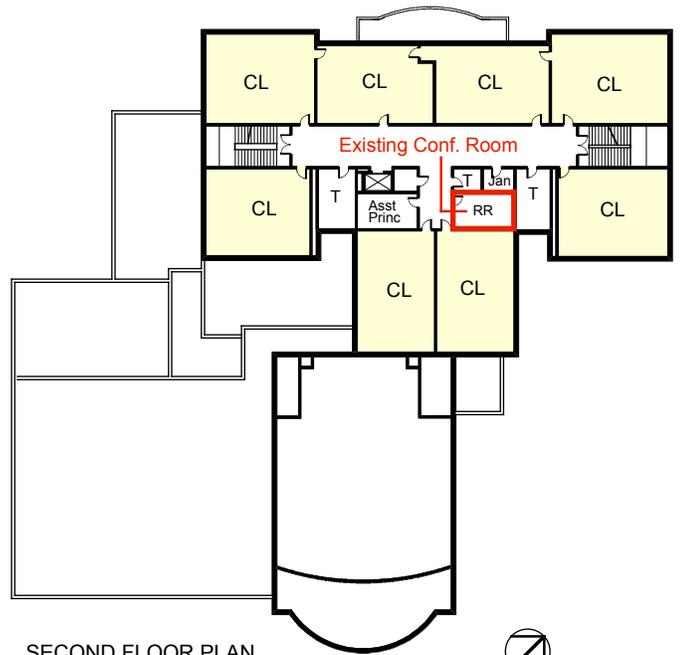
FIRST FLOOR PLAN



THIRD FLOOR PLAN



GROUND FLOOR PLAN



SECOND FLOOR PLAN

1" = 60'

Legend

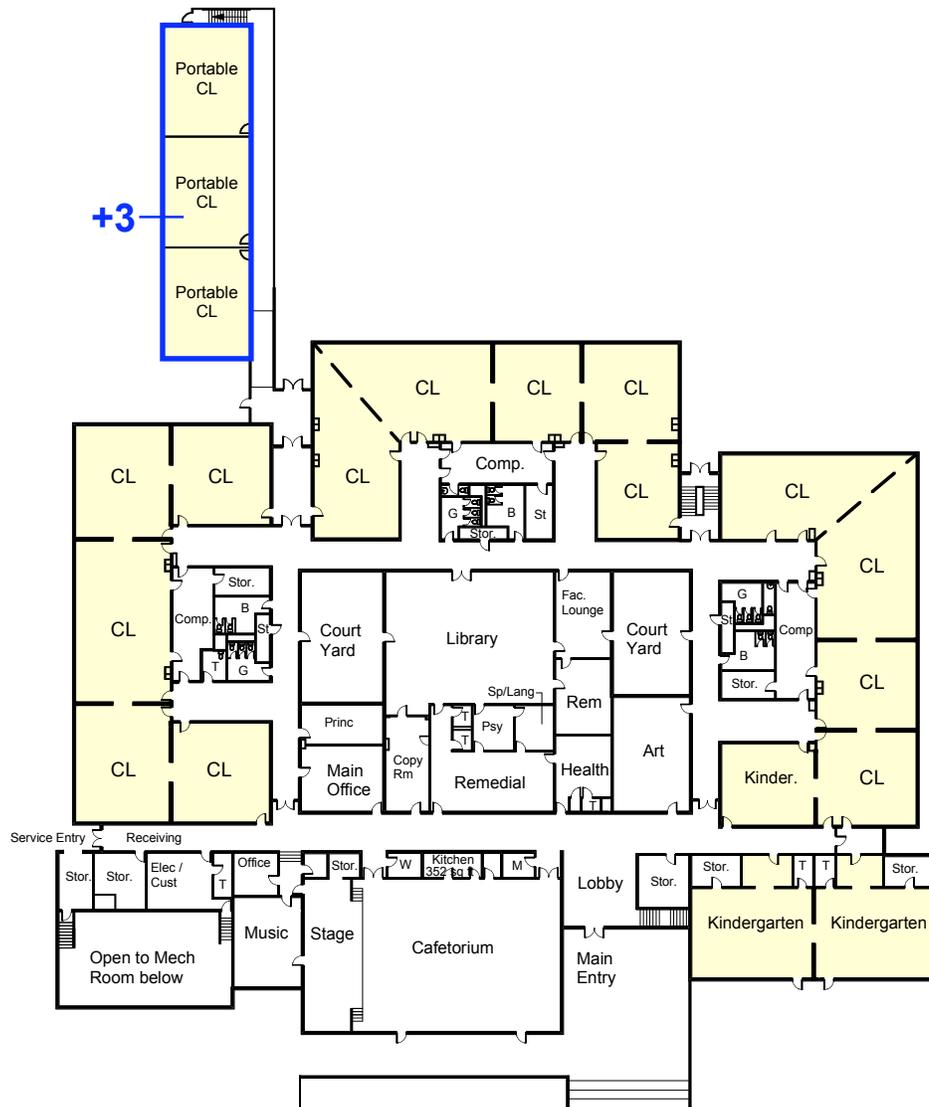
- Classrooms
- Consolidated Areas
- Portable Classrooms

20 Existing K-5 Classrooms
+2 Modified Classrooms
22 Total K-5 Classrooms

SHORT TERM SOLUTION

Lincoln Elementary School

**Lynch Elementary
School**



FIRST FLOOR PLAN 
1" = 60'

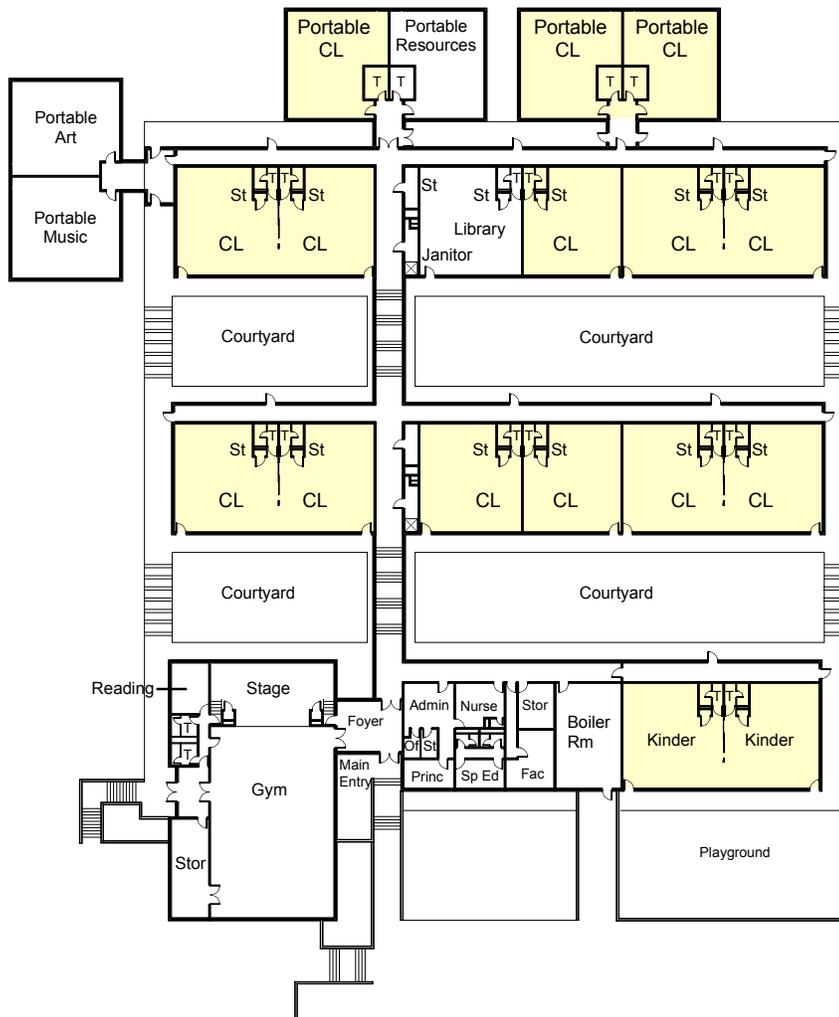
**17 Existing K-5 Classrooms
+ 3 Portable Classrooms
20 Total K-5 Classrooms**

Legend

-  Classrooms
-  Consolidated Areas
-  Portable Classrooms

SHORT TERM SOLUTION

**Muraco Elementary
School**



 FLOOR PLAN
1" = 60'

16 Existing K-5 Classrooms
+ 0 Additional Classrooms
16 Total K-5 Classrooms

Legend

-  Classrooms
-  Consolidated Areas
-  Portable Classrooms

SHORT TERM SOLUTION

**Vinson-Owen
Elementary School**

Schedule:

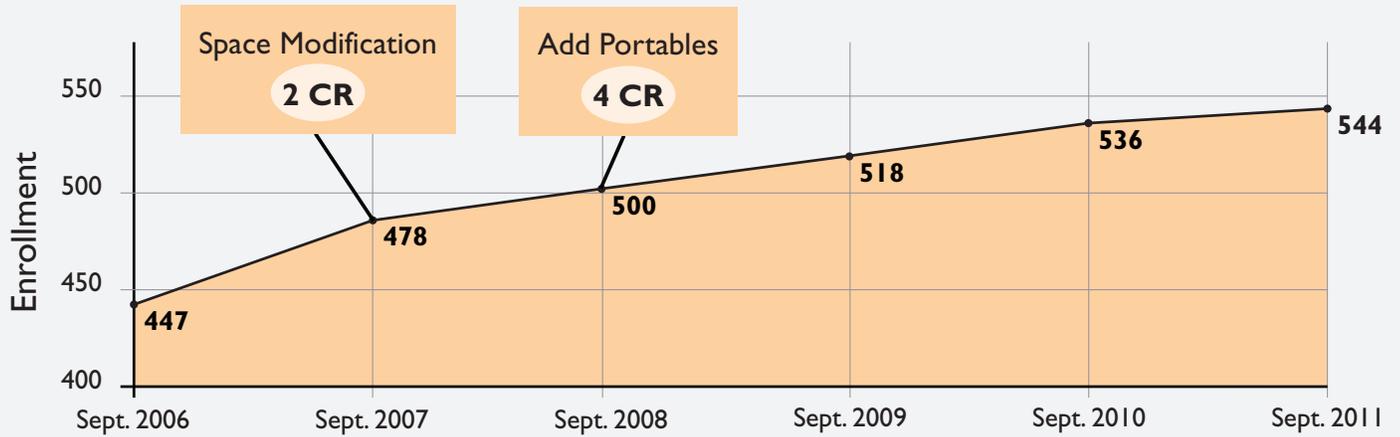
The following charts show the enrollment projections at each Elementary School over the next five years and when portable classrooms and modified classrooms will be needed. The seven portable classrooms will be needed by September 2008, which means that they need to be authorized by December 1, 2007.

Roll Out Schedule

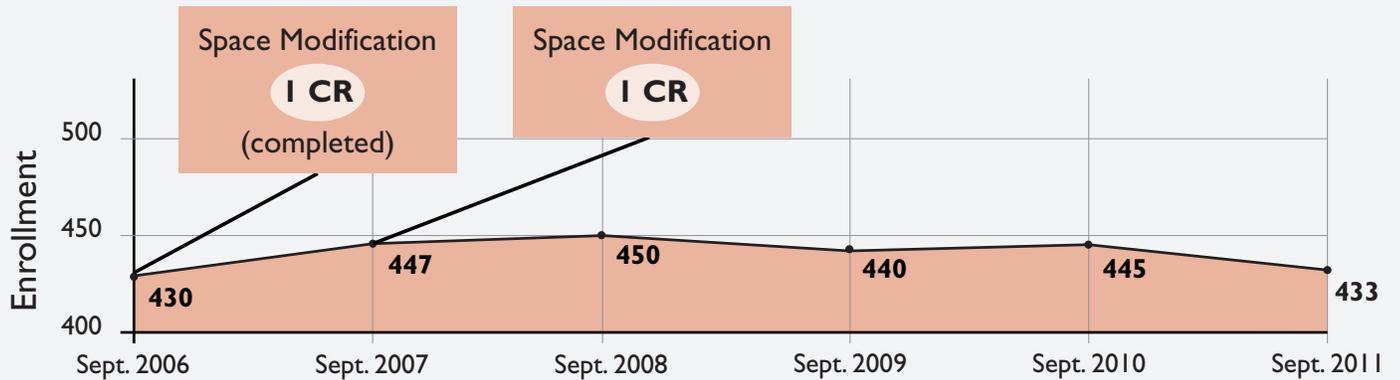
Option #4-ES

7 Portable Classrooms & 5 Space Modifications

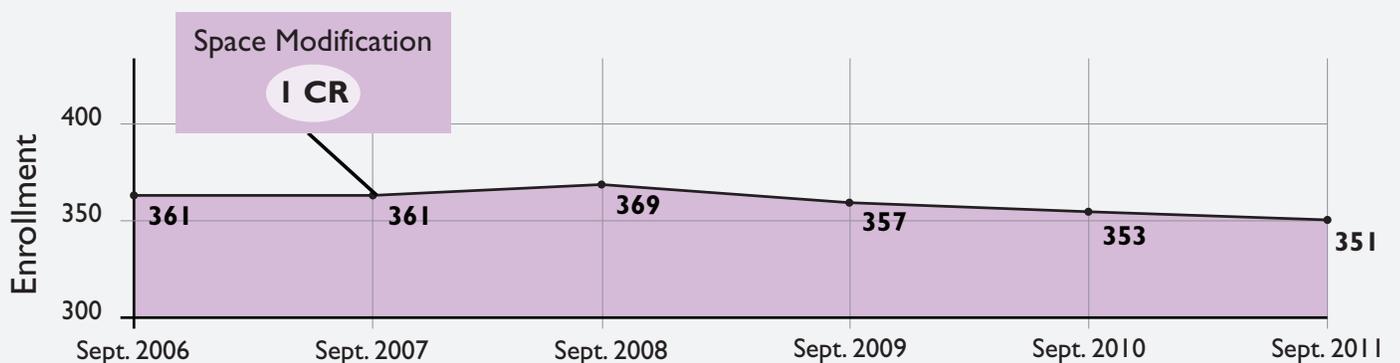
Ambrose - Capacity 420



Lincoln - Capacity 400



Lynch - Capacity 360

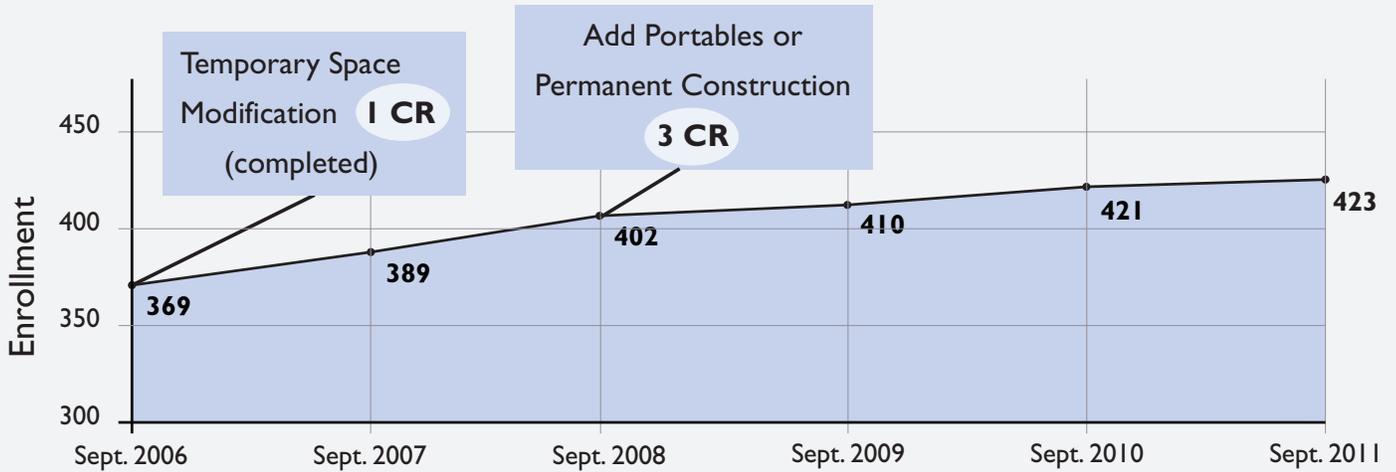


Roll Out Schedule

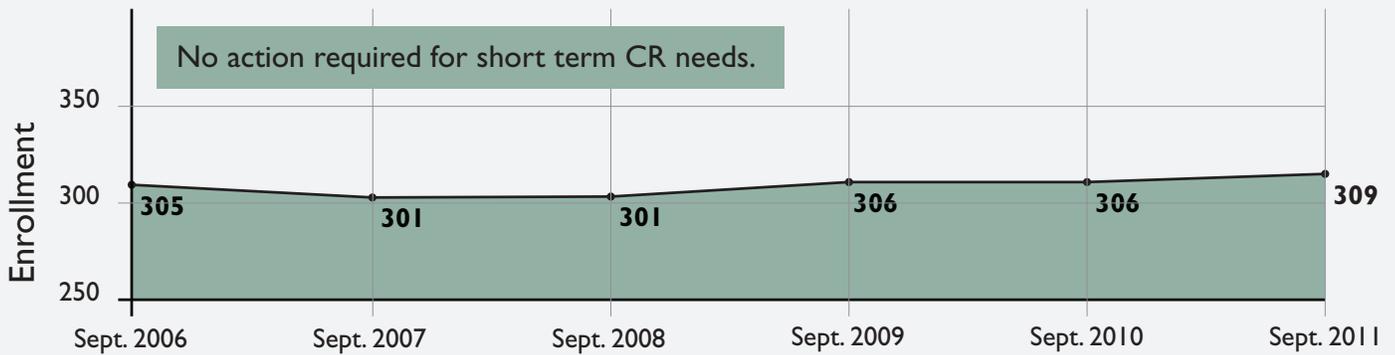
Option #4-ES

7 Portable Classrooms & 5 Space Modifications

Muraco - Design Capacity 340



Vinson-Owen - Design Capacity 320



Costs of Options:

The following charts show the estimated costs for the seven options studied to resolve the short term space needs at the Elementary Schools.

Option 4-ES was selected as the best short-term option because it is the least expensive, it does not require re-districting, it minimizes inconvenience, and the portables can be phased in as needed.

K-5 Preliminary Estimated Costs: 2008 - 2011

	Option 1-ES Space modif. only	Option 2-ES Renovate Parkhurst for Ambrose	Option 3-ES Renovate Parkhurst for Admin.	Option 4-ES 5 CR modif., 7 portables
Ambrose	2 CR Modif. \$0	No change \$0	2 CR Modif. \$0	2 CR Modif. 4 portables and new parking \$1,123,000
Lincoln	2 CR Modif. \$22,000	2 CR Modif. \$22,000	2 CR Modif. \$22,000	2 CR Modif. \$22,000
Lynch	1 CR Modif. \$0	1 CR Modif. \$0	Renovate Admin for 4 CR \$846,000	1 CR Modif. \$0
Muraco	1 CR Modif. \$0	3 portables \$820,000	3 portables \$820,000	3 portables \$820,000
Vinson-Owen	No change \$0	No change \$0	No change \$0	No change \$0
Parkhurst	No change \$0	Renovate for 6 to 8 CR \$1,492,000	Relocate Admin out of Lynch \$788,000	No change \$0
Total Capital Cost	\$22,000	\$2,334,000	\$2,476,000	\$1,965,000
Annual Operating Cost	\$68,000	\$1,157,000	\$839,000	\$704,000

Notes:

1. Does not include 2006 and 2007 space modification and operational costs.
2. If Muraco utilizes permanent construction, total cost would be \$1,966,000 in lieu of \$616,000.
3. Capital cost includes construction, furniture, technology and soft cost.
4. Operational costs include staff, supplies, energy, utilities and maintenance for 1 year.

K-5 Preliminary Estimated Costs: 2008 - 2011

	Option 5-ES Relocated 4 CR from Ambrose to Lynch. Admin to leased space	Option 6-ES Relocate 4 CR from Ambrose to Carriage house and 3CR from Muraco to Lynch. Admin to leased space.	Option 7-ES Add 7 CR onto Vinson-Owen
Ambrose	2 CR Modify \$0	Renovate Carriage House for 4 CR \$2,198,200	2 CR Modif. \$0
Lincoln	2 CR Modify \$22,000	2 CR Modify \$22,000	2 CR Modify \$22,000
Lynch	Renovate Admin for 4 Ambrose CR \$606,000	Renovate Admin for 3 Muraco CR \$480,000	1 CR Modify \$0
Muraco	3 portables \$820,000	No change \$0	No change \$0
Vinson-Owen	No change \$0	No change \$0	20,000 sf addition, 7CR \$6,485,000
Administration	Build-out lease space for Admin \$623,000	Build-out lease space for Admin \$623,000	No change \$0
Total Capital Cost	\$2,071,000	\$3,323,200	\$6,507,000

Notes:

- Does not include 2006 and 2007 space modification and operational costs.
- If Muraco utilizes permanent construction, total cost would be \$1,966,000 in lieu of \$611,000.
- Total project cost includes construction, furniture, technology, and soft cost.
- Operational costs include staff, supplies, energy, utilities and maintenance for 1 year.
- If Admin. leases space, estimated rent is \$90,000 to \$120,000 per year for 6,000 s.f.

Ambrose and Muraco School - Portable Classrooms:

The following are detailed cost estimates for the seven portable classrooms. Four of these are new at Ambrose. At Muraco, one is new and two are re-used portables from the Parkhurst school.

The total project costs include construction costs, contingencies, fees, furniture, equipment and expenses. These estimates are for “light green” designs which include some sustainable design and energy saving features but are not fully LEED certifiable designs. Costs are escalated for a bid date of February 2008. If bids are delayed, these costs would need to be increased by approximately 7% per year.

July 17, 2007
Ambrose Elementary School
4 Modular Classrooms
Schematic Design Cost Estimate

PROBABLE COST OF CONSTRUCTION			
4 Modular Classrooms & sitework		\$856,919	
Total			\$856,919
CONSTRUCTION CONTINGENCY			
Construction / Project	10%	\$85,692	
Owners contingency/	1%	\$8,569	
Architect contingency	1%	\$8,569	
Total			\$102,830
DESIGN AND ENGINEERING FEES			
Flansburgh Architects Base Contract		\$102,830	
Total			\$102,830
FFE & TECHNOLOGY			
Furniture & Equipment @ \$5,000/ Classroom (4)		\$20,000	
Technology / Phones @ 3000/ Classroom (4)		\$12,000	
Total			\$32,000
TESTING, EXPENSES & BIDDING			
Testing and monitoring at Construction		\$2,500	
Bidding Printing, Addendum & Distribution		\$2,500	
Advertisements, & Misc. Expenses		\$1,000	
Reimbursable Expenses - Architect		\$10,000	
Total			\$16,000
OTHER CONSULTANTS			
Cost Estimating		\$5,000	
Civil Engineering		\$7,000	
Total			\$12,000
TOTAL ESTIMATED PROJECT COST			\$1,122,580

PROJECT: AMBROSE ELEMENTARY SCHOOL
 TEMPORARY CLASSROOMS
 WINCHESTER, MA

GAA: 4,690 SF

Code	Item Description	Quantity	Unit Price	Total	
1.000000	TEMPORARY CLASSROOMS			\$	
1.100000	temporary classrooms "green" relocatable (turnkey)	3,808 sf	131.58	501,053	
1.100200	corridors/ancillary spaces (turnkey)	882 sf	115.00	101,430	
1.100300	bring electrical service thru existing corridors	89 lf	55.00	4,895	
1.100400	bring teledata service thru existing corridors	143 lf	40.00	5,720	
1.100500	temporary concrete curbs	17 ea	90.00	1,530	
1.100600	wood ramp & rail	276 sf	30.00	8,280	
1.100700	sawcut existing concrete	97 lf	9.64	935	
1.100800	demo existing concrete paving	2,378 sf	1.50	3,567	
1.100900	sawcut existing bituminous lot	132 lf	4.82	636	
1.101000	demo existing bituminous paving	2,326 sf	0.75	1,745	
1.101100	disabled card access	2 ea	2,000.00	4,000	
1.101200	aluminum storefront system	170 sf	65.94	11,210	
1.101300	storefront doors	2 ea	2,335.08	4,670	
1.101400	power assist	1 ea	7,500.00	7,500	
1.101500	handicap curb cut	1 ea	500.00	500	
1.101600	restripe stall	1 ea	9.50	10	
1.101700	restripe area markings	108 sf	2.26	244	
1.101800	remove curb	65 lf	5.00	325	
1.101900	remove parking island	206 sf	1.50	309	
1.102000	new curb	50 sf	37.50	1,875	
1.102100	patch paving	small area	206 sf	7.48	1,541
1.102200	layout & survey	1 ls	1,500.00	1,500	
1.102300	remove/relocate trees	2 ea	1,000.00	2,000	
1.102400	clearing/site preparation	1 ls	2,000.00	2,000	
1.102500	excavate/grade for new lot	8,030 sf	3.85	30,916	
1.102600	new bituminous lot	small area	4,861 sf	2.95	14,340
1.102700	new bituminous berm	292 lf	6.50	1,898	
1.102800	paint parking stalls	16 ea	9.50	152	
1.102900	landscape repairs	1 ls	1,500.00	1,500	
	SUBTOTAL			<u>\$716,281</u>	
1.250000	DESIGN & PRICE RESERVE	15.00%		107,442	
				<u>\$823,723</u>	
1.300000	ESCALATION TO BID DATE	Feb-08	4.03%	33,196	
1.000000	TEMPORARY CLASSROOMS	TOTAL COST		<u><u>\$856,919</u></u>	

July 17, 2007
Muraco Elementary School
3 Modular Classrooms
Schematic Design Cost Estimate

PROBABLE COST OF CONSTRUCTION		
3 Modular Classrooms		\$623,033
(re-use 2 Parkhurst modulares)		
Total		\$623,033
CONSTRUCTION CONTINGENCY		
Construction / Project	10%	\$62,303
Owners contingency/	1%	\$6,230
Architect contingency	1%	\$6,230
Total		\$74,764
DESIGN AND ENGINEERING FEES		
Flansburgh Architects Base Contract		\$74,764
Total		\$74,764
FFE & TECHNOLOGY		
Furniture & Equipment @ \$5,000/ Classroom (3)		\$15,000
Technology / Phones @ 3000/ Classroom (3)		\$9,000
Total		\$24,000
TESTING, EXPENSES & BIDDING		
Testing and monitoring at Construction		\$1,500
Bidding Printing, Addendum & Distribution		\$2,500
Advertisements, & Misc. Expenses		\$1,000
Reimbursable Expenses - Architect		\$10,000
Total		\$15,000
OTHER CONSULTANTS		
Cost Estimating		\$4,500
Civil Engineering		\$4,000
Total		\$8,500
TOTAL ESTIMATED PROJECT COST		\$820,061

PROJECT: MURACO ELEMENTARY SCHOOL
 TEMPORARY CLASSROOMS
 WINCHESTER, MA

GAA: 4,225 SF

Code	Item Description	Quantity	Unit Price	Total
1.000000	TEMPORARY CLASSROOMS			\$
1.100000	temporary classrooms "green" relocatable (turnkey)	952 sf	131.58	125,263
1.100100	temporary classrooms "green" relocatable (relocated turnkey)	1,904 sf	111.84	212,947
1.100200	corridors/ancillary spaces (turnkey)	1,369 sf	115.00	157,435
1.100300	bring electrical service thru existing corridors	184 lf	55.00	10,120
1.100400	bring teledata service thru existing corridors	269 lf	40.00	10,760
1.100500	new bituminous walk small area	851 sf	5.00	4,255
	SUBTOTAL			<u>\$520,780</u>
1.250000	DESIGN & PRICE RESERVE	15.00%		78,117
				<u>\$598,897</u>
1.300000	ESCALATION TO BID DATE	Feb-08	4.03%	24,136
1.000000	TEMPORARY CLASSROOMS			<u><u>\$623,033</u></u>
	TOTAL COST			

Classroom Needs:

The following chart shows the five-year enrollment projection effect on the number of classrooms required at the middle school. At the end of five years, the projected shortage of classrooms is as follows:

<u>McCall Middle School</u>	<u>Classrooms</u>
5-year need	8
<u>Increase for 10-year projection</u>	<u>1</u>
Total Classroom Need	9

5-Year Classroom Needs

McCall Middle School (design capacity 864)

Grade	06-07			07-08			08-09			09-10			10-11			11-12		
	Enroll	Size	CR	Enroll	Size	CR												
6	317	26.4	12	294	24.5	12	317	22.6	14	354	23.6	15	328	23.4	14	369	24.6	15
7	267	22.3	12	315	22.5	14	294	22.6	13	317	22.6	14	354	23.6	15	328	23.4	14
8	296	24.7	12	269	22.4	12	315	22.5	14	294	22.6	13	317	22.6	14	354	23.6	15
Total	880		36	878		38	926		41	965		42	999		43	1051		44
Orig CR design			36			36			36			36			36			36
Shortage			0			2			5			6			7			8

8 classrooms required

Options:

The following chart shows four options for the McCall Middle School to resolve the increasing space needs.

- Option 1-MS is a minimal scheme and does not resolve the increasing space needs since there is no new space added.
- Option 2-MS proposes three new portable classrooms that would also require the disruptive conversion of existing rooms to classrooms.
- Option 3-MS would require the very disruptive and expensive relocation of the 6th Grade to the Mystic School.
- Option 4-MS creates a permanent addition to the McCall School for a net gain of 9 new classrooms. (Eleven classrooms in the addition, less two classrooms reduced by the new connecting corridor in the existing school.)

Options

Grades 6-8

Option 1-MS: Space modifications only, no new portables

Gain 5 classrooms at McCall with space modifications only

Pros

- Least expensive option

Cons

- Does not solve overcrowding at McCall
- Disruptive to the educational process to convert rooms.

Option 2-MS: Space modifications and new portables

Gain 8 classrooms at McCall with 5 space modifications and 3 new portables.

Pros

- Solves overcrowding at McCall
- Can add portables as needed

Cons

- Requires using rooms not intended for regular classroom instruction
- Disruptive to the educational process
- Temporary solution that does not support long-term goals

Option 3-MS: Use of Mystic School

Move 6th grade from McCall to Mystic School.

Pros

- Solves overcrowding at McCall

Cons

- Disruptive to students, teachers, admin and parents
- High cost to upgrade Mystic for 6th grade.
- Costly to operate Mystic school as a middle school
- Displaces Rec. Dept. and “Kid’s Corner”
- Temporary solution

Option 4-MS: Permanent Construction at McCall

Gain 9 new classrooms with a permanent addition at McCall school.

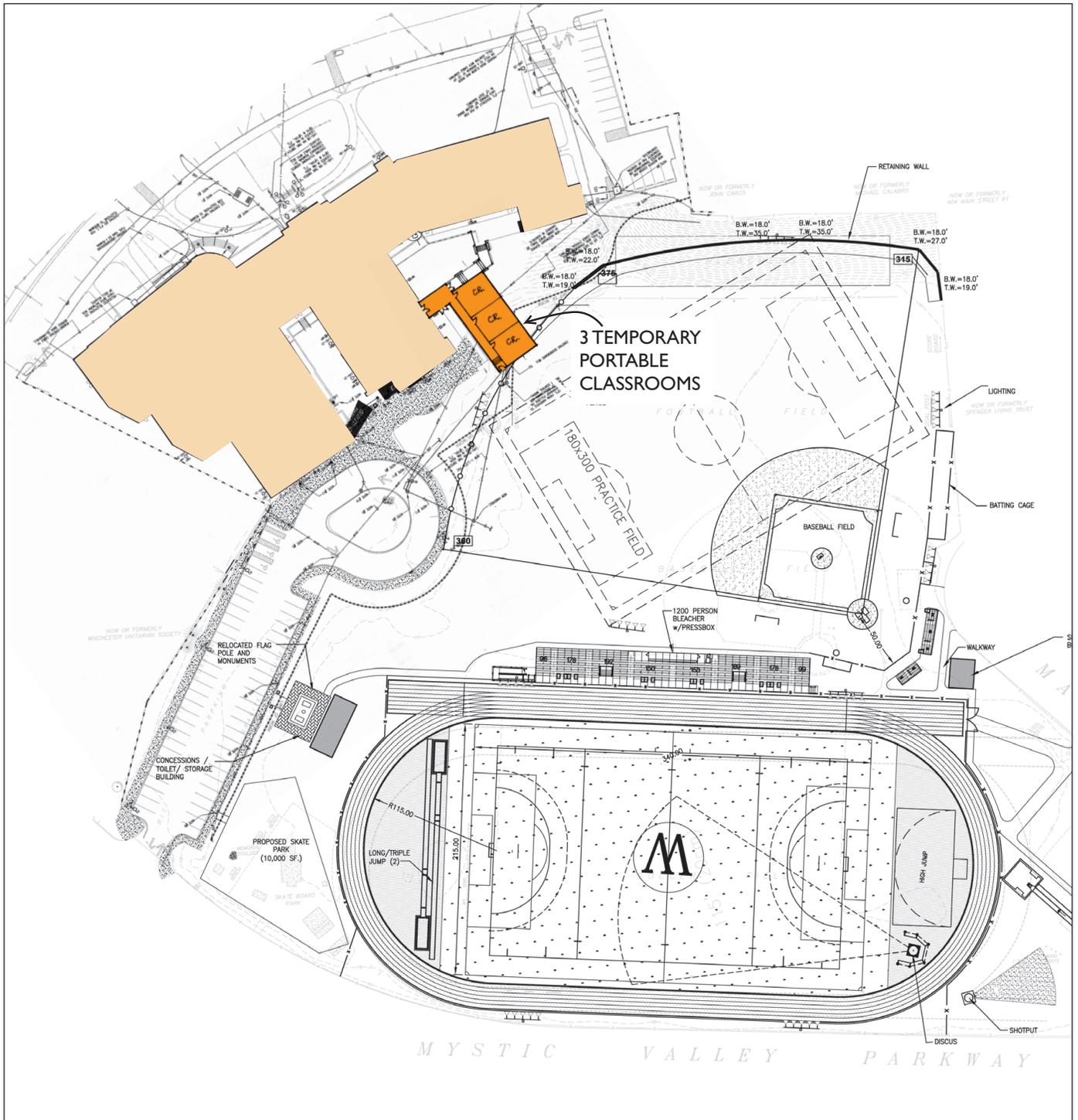
Pros

- Permanent solution
- Avoids portables
- No squeezing space in existing school
- Use existing spaces as intended and is least disruptive

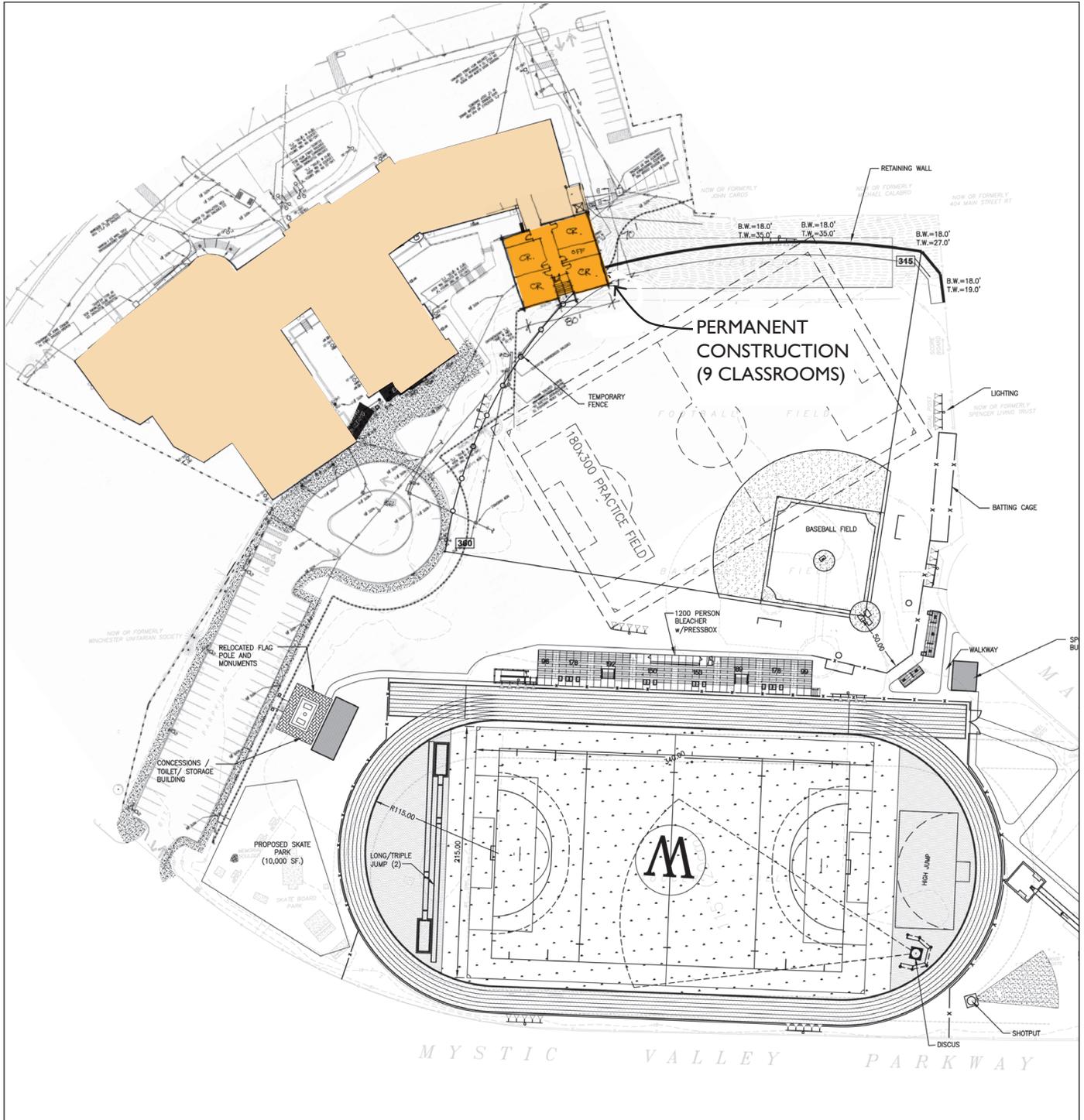
Cons

- MSBA funding may not be available soon
- Would need to fast track construction

Option 2-MS



Option 4-MS

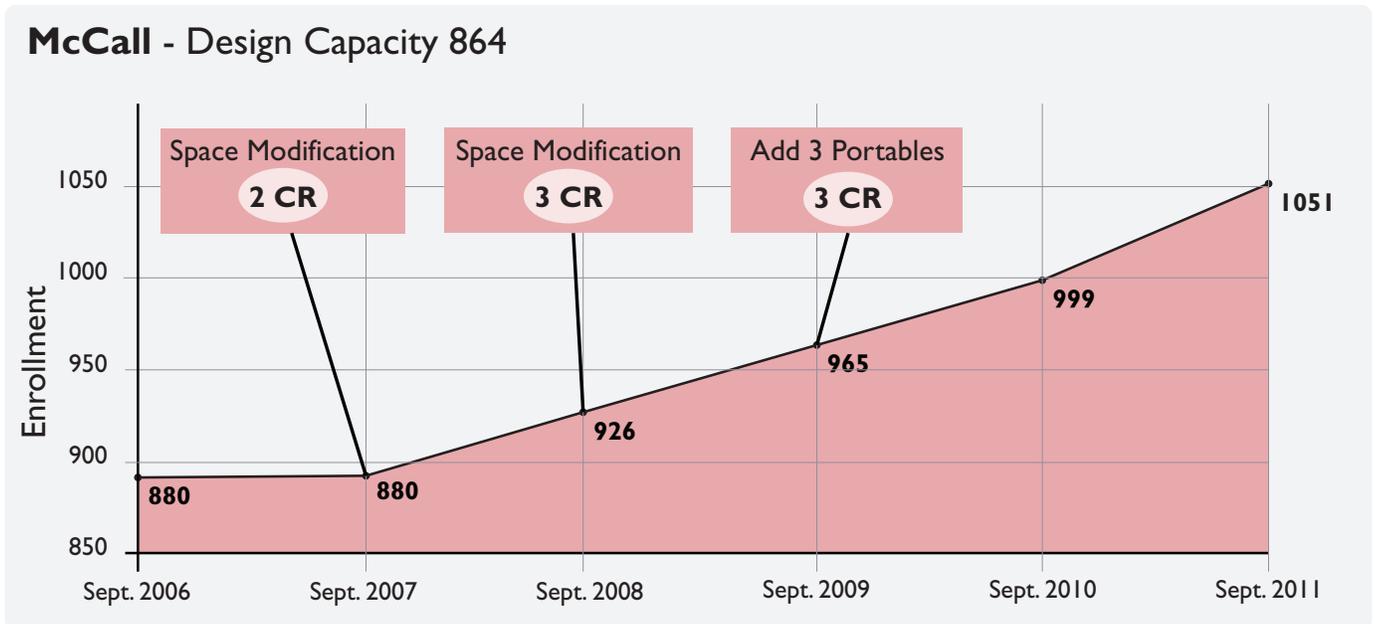


Schedule:

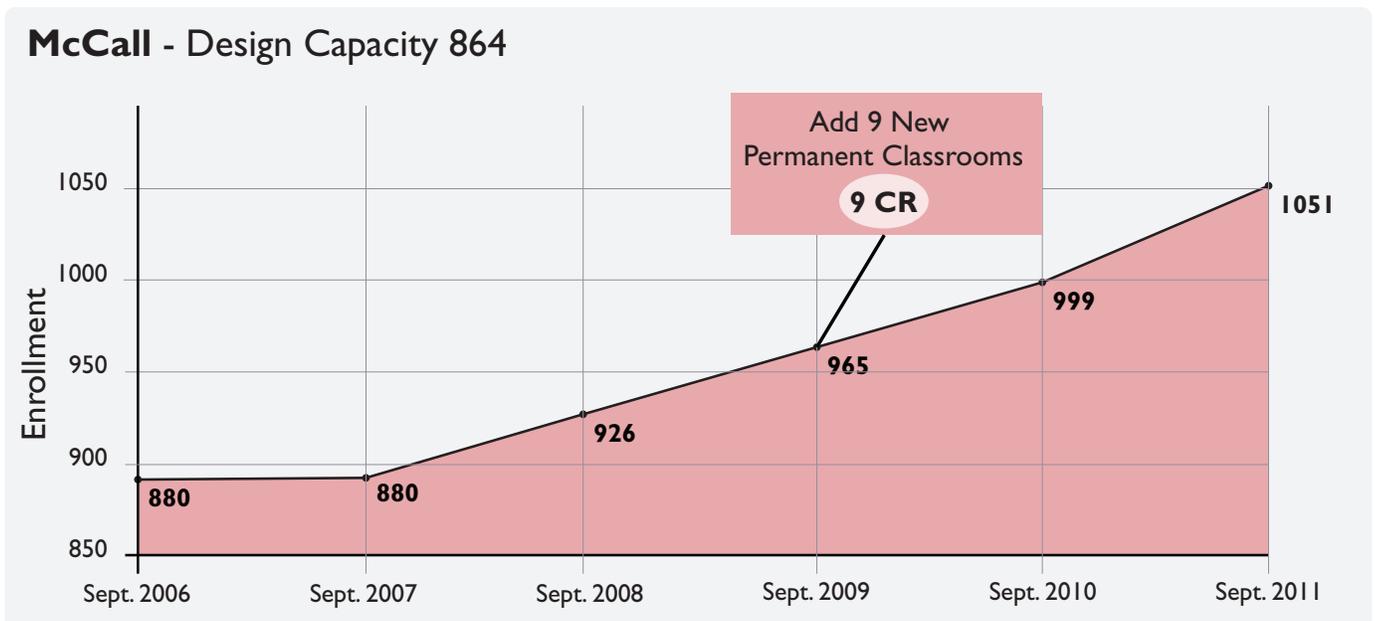
The following charts show the 5-year projected enrollment at the middle school.

- Option 2-MS shows a need for five space modifications by September 2008 and three portables by September 2009.
- Option 4-MS shows a need for nine permanent classrooms by September 2009, which will also provide for the 10-year projected enrollment.

Middle School Roll Out Schedule



Option 2-MS - Add 3 Portable Classrooms



Option 4-MS - Add Permanent Addition with 9 Classrooms

Costs of Options:

The following chart shows the estimated costs for the four options studied to resolve the short term space need at the middle school.

Option 4-MS was selected as the best option because it is a permanent solution, it avoids portable classrooms, it is least disruptive to the ongoing use of the school, and it solves the 10-year enrollment space needs.

6-8 Preliminary Estimated Costs: 2008 - 2011

	Option 1-MS Space modif. only	Option 2-MS 5 CR modif., 3 portables	Option 3-MS 6th grade to Mystic	Option 4-MS 9 permanent CR at McCall
McCall	5 CR Modif. \$151,000	5 CR Modif. 3 portables \$828,000	No change \$0	9 CR 23,000 sf permanent addition \$8,231,000
Mystic	No change \$0	No change \$0	20,000 sf renovation or Grade 6 \$2,515,000	No change \$0
Parkhurst	No change \$0	No change \$0	Renovate & relocate Rec Dept. and Kid's Corner \$2,310,000	No change \$0
Total Capital Cost	\$151,000	\$828,000	\$4,825,000	\$8,231,000
Incremental Annual Operating	\$204,000	\$483,000	\$1,008,000	\$593,000

Notes:

1. Does not include 2006 and 2007 space modification and operational costs.
2. If space modifications are required during renovation/construction: ADD \$150,000 to total capital cost.
3. Capital cost includes construction, furniture, technology and soft cost.
4. Operational costs include staff, supplies, energy, utilities and maintenance for 1 year.

Summary - Final Selected Options:

Elementary Schools:

Option 4-ES with four portable classrooms at Ambrose and three portable classrooms at Muraco was selected as the preferred option for the elementary schools for the short term plan. The following chart shows that in addition to the portables, a few classroom modifications will be needed at some of the schools. The seven portable classrooms are predicted to be needed by September 2008.

Middle School:

Option 4-MS was selected as the preferred option for the McCall Middle School since it provides a permanent solution and addition to the school for a net gain of nine new classrooms. This option also resolves the longer range, ten-year enrollment projections.

High School:

The High School size and program is adequate to handle the current and projected enrollments for the short term until approximately 2012 (5 years.) See the Ten-Year Plan section of this report for projected High School needs.

5-Year Summary

Class Size Targets

Grades	Class Size
K-2	18-20
3-5	20-22
6-8	22-24

Summary of CR Needs – 5-year Plan

School	Space	Additional CR	
	Modifications	Required	Total
Ambrose	2	4	6
Lincoln	2	0	2
Lynch	1	0	1
Muraco	0	3	3
Vinson-Owen	0	0	0
McCall	0	9	9
	5 CR	16 CR	+ 21 CR

5-year Planned Capacity

Grades	Original		5-year Plan			
	Capacity	CR	Projected Enrollment	Student Increase	Needed CR	CR Increase
K-5	1,840	92	2,040	+200	104	+12
6-8	864	36	1,070	+206	45	+9
						+21 CR

5 | Ten-Year Plan

A. Elementary Schools

- Space Needs and Phasing
- Space Programs and Floor Plans
- Schedule and Costs

B. Middle School

- Scope of Work
- Space Programs and Floor Plans
- Schedule and Costs

C. High School

- Scope of Work
- Space Programs and Floor Plans
- Schedule and Costs



Elementary Schools

Space Needs and Phasing:

In section three of this report, the 10-year projected enrollment chart for the Elementary Schools shows the potential for an increase to 2,040 students in grades K-5 by the year 2010. This will increase the need for classrooms from 92 to 104 (a gain of 12 classrooms.) The proposed addition of seven portable classrooms and five classroom space modifications will handle this increase over the short term, but a long term solution is needed.

Since the Lincoln School has been recently renovated and the Ambrose School is relatively new, it is recommended that the remaining three elementary schools be renovated or replaced and sized to meet this expanded enrollment.

In order to keep the five elementary schools fairly similar in size and not increase any one school to over 420 students, it is recommended that the capacities be established as follows to solve the projected 2,040 K-5 student enrollment.

	Existing Capacity	New K-5 Capacity	Notes
Ambrose	420	420	No room to expand
Lincoln	400	400	No room to expand
Lynch	360	380	No room to expand and Pre-school located here
Muraco	340	420	Can be expanded
Vinson-Owen	320 (260 w/o portables)	420	Can be expanded or all new
Totals	1840	2040	

Scope: The Vinson-Owen, Muraco and Lynch schools are all in need of repairs and improvements both in terms of space needs and their physical conditions.

Phase I: It is recommended that the Vinson-Owen school be built first due to the following key deficiencies:

- a. Lack of a cafeteria/kitchen, inadequate gym, small library and 6 deteriorating modular classrooms.
- b. Inefficient plan design which utilizes single loaded corridors and maximizes exterior wall surface causing extensive heat loss.
- c. Handicap accessibility problems due to the school being built on a hill with multiple levels that are not accessible.
- d. 46 year old facility that has numerous failing systems including roofs, windows, HVAC systems, lack of sprinklers, and generally antiquated materials and finishes.

The recommended option for Phase I is to build a new Vinson-Owen school on the play field adjacent to the existing school with a capacity of 420 students. This will allow the excess students at Ambrose to be redistricted to Vinson-Owen. When the existing Vinson-Owen school is demolished, a full size soccer field and baseball field can then be built in its place on terraces up the hill. Since the new building would be separate from the existing school, construction disruption would be minimized.

Phase II: It is recommended that the Muraco School be renovated next due to the following key deficiencies:

- a. Lack of a separate gymnasium, adequate kitchen, and a separate computer lab.
- b. Classroom design is based on an “open plan” concept with moveable walls between rooms that do not provide good acoustical separation.
- c. 40 year old facility that is in better condition than Vinson-Owen but still has numerous problems such as a poor HVAC system, an aging exterior envelope with old windows and doors, an antiquated electrical system, lack of a sprinkler system, some asbestos and handicap access issues.

This phase would involve renovations and an addition at the Muraco School to add a separate gymnasium and additional classrooms to bring the capacity up to 420 students. This renovation and addition could be built in multiple phases while the building is occupied but it would be less expensive and less disruptive to move the students to the old Vinson-Owen school for 1 year during construction.

Phase III: It is recommended that the Lynch School be renovated last due to the following reasons:

- a. Most of the spaces are adequately sized for an elementary school, although some reconfiguration of classrooms will be required.
- b. Although there are substantial renovations required, the Lynch School is in fair condition considering its age of 47 years.
- c. Some of the key issues to be addressed are: handicap accessibility, asbestos removal, upgrade of HVAC systems and controls, bleacher repairs, electrical service upgrade, repair of exterior masonry joints and sealants, roofing, windows and kitchen servery.

This phase would involve the renovation of the Lynch School for 380 K-5 plus 80 pre-school children without adding new space. The renovation could be phased over 2 school years or the students could be relocated to the old Vinson-Owen School and construction shortened to 1 school year.

Space Programs and Floor Plans:

The following space programs have been developed using the new MSBA space standards for each of the Elementary Schools. The programs for Ambrose and Lincoln fit within the existing buildings without any changes except to recover any existing rooms converted to classrooms (such as the music room at Lincoln School.) The program for Lynch also fits within the existing school with minimal changes. The program for Muraco requires an addition for a new gymnasium and three new classrooms. Vinson-Owen could be renovated with a new addition to fit the new program but due to the poor condition of the school, the accessibility issues, the large heat loss due to the configuration of the school and the extent of new space required, it is more cost effective to build a new school.

Following each program is a conceptual floor plan that shows how the spaces would be accommodated.

Ambrose Elementary School

Space Program

DATE: 7/24/07

School District: Winchester Public Schools

School Address: 25 High Street, Winchester, MA 01890

Type of Proposed Construction: New _____ Additon _____ Renovation _____ Existing: x

Grade in Attendance (Circle): Pre-K K 1 2 3 4 5 6 7 8

10-Year Enrollment Data Date: 4/17/07

Current	9/1/06		Projected	9/1/2016
Head Count	FTE*		Head Count	FTE*
0	0	Pre-K	0	0
86	86	Kindergarten	60	60
0	0	Ungraded	0	0
361	361	Grades <u>1</u> to <u>5</u>	360	360
447	447	Total	420	420

Ambrose Elementary School Space Program

- Column (I): Indicates new spaces to be added; when the proposed project is a new school, complete Column I only.
- Column (II): Is for the existing spaces after planned renovations; for renovation projects only, complete Column II.
- Column (III) Is total spaces needed to operate the approved educational program. Columns (I)+(II) must equal Column (III) for additions.

Table A	(I) Additional Space		(II) Existing Space Renovation		(III) Total Space (Educational)	
	No.	Sq.Ft.*	No.	Sq.Ft.*	No.	Sq.Ft.*
A. Basic Educational Space						
1. Pre-K			0	-	0	-
2. Kindergarten			3	3330	3	3330
3. General Class			18	15,655	18	15,655
4. Art			1	1280	1	1280
5. Music Rooms			1	1080	1	1080
a. Ensemble			0	-	0	-
b. Practice			0	-	0	-
6. Computer			1	760	1	760
7. Media Center/Library			1	2080	1	2080
8. Gymnasium			1	4260	1	4260
a. Storage + Stage			1	720	1	720
9. Special Needs			1	510	1	510
10 Remedial			1	420	1	420
11. Collaborative			0	-	0	-
A. SUBTOTAL Basic Space			29	30,095	29	30,095

Ambrose Elementary School
Space Program

Table B	(I) Additional Space (New Construction)		(II) Existing Space After Renovation		(III) Total Space (Educational)	
	No.	Sq.Ft.*	No.	Sq.Ft.*	No.	Sq.Ft.*
B. Misc. Educational Space						
1. Cafeteria + Seating			1	2300	1	2300
2. Two Seating Cafetorium			0	-	0	-
Stage	****		****	-	****	-
3. Guidance			0	-	0	-
a. Office						
b. Psychiatrist			0	-	0	-
c. Waiting			0	-	0	-
4. Health Suite			1	320	1	320
a. Office						
b. Examining Room			1	130	1	130
c. Rest Areas			0	-	0	-
5. Kitchen			1	350	1	350
6. Administration			1	260	1	260
a. Principal						
b. Asst. Principal			0	-	0	-
c. General Office			1	560	1	560
d. Conference			1	190	1	190
e. Other			1	240	1	240
7. Planning Work Room			3	1270	3	1270
8. Teacher Dining Room			1	350	1	350
9. Auditorium Seating			0	-	0	-
a. Stage	****		****	-	****	-
10. Locker Rooms			0	-	0	-
b. Storage			0	-	0	-
B. SUBTOTAL Misc. Educational Space			12	5,970	12	5,970

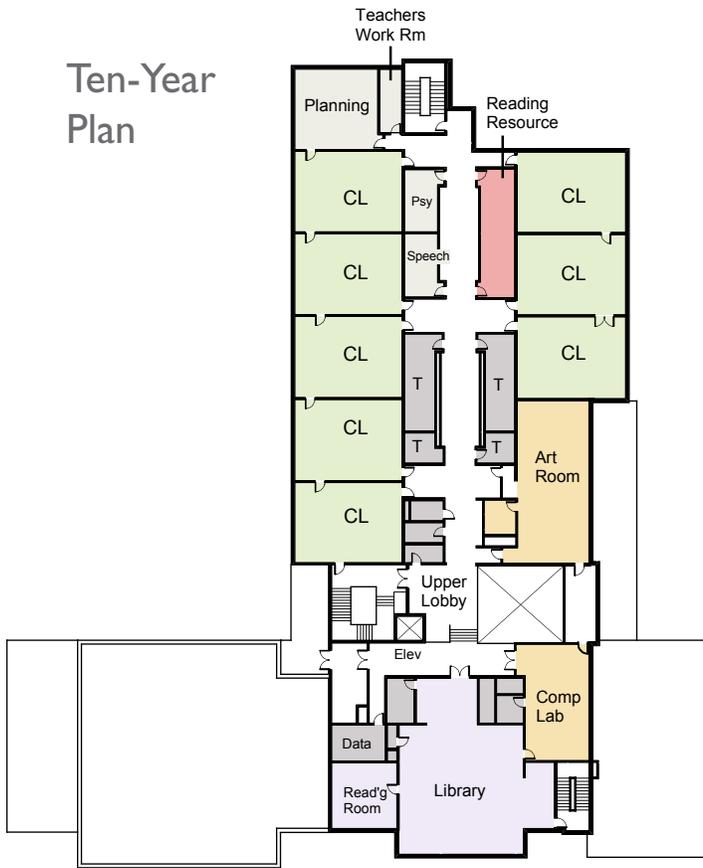
Ambrose Elementary School
Space Program

C. SUMMARY OF SPACES FOR MAXIMUM CONSTRUCTION COST ALLOWANCE

Table C Description of Space	(I) Additional Space (New Construction)		(II) Renovation Space		(III) Total Planned Space	
	Sq.Ft	%	Sq.Ft	%	Sq.Ft	%
1. Basic Educational			30,095	48%	30,095	48%
2. Misc. Educational			5,970	9%	5,970	9%
3. SUBTOTAL (Basic + Misc.)			36,065	57%	36,065	57%
4. Other Space			27,115	43%	27,115	43%
5. TOTAL Gross (Educational + Other)			63,180	100%	63,180	100%

FAI RAID:FAI Projects:2007 Projects:2702.00 Winchester Master Plan:06 PREDESIGN:06E Program-Ed Specs:Ambrose Space Program.doc

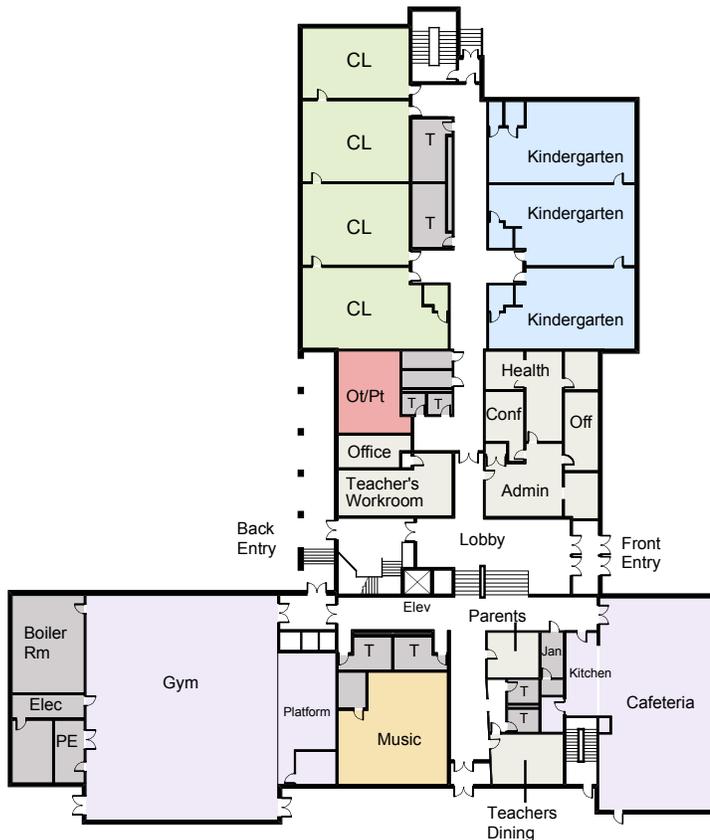
Ten-Year Plan



SECOND FLOOR PLAN



THIRD FLOOR PLAN



FIRST FLOOR PLAN 
1" = 60'

- Pre-K
- Kindergarten
- 1-5 Classrooms
- Special Classroom
- Student Facilities
- Learning Center
- Administrative/Services
- Storage/Mechanical

Total Building Area: 63,180 sf

Capacity 420
K-5 Classrooms 21

Ambrose Elementary School

Lincoln Elementary School

Space Program

DATE: 7/24/07

School District: Winchester Public Schools

School Address: 161 Mystic Valley Parkway, Winchester, MA 01890

Type of Proposed Construction: New _____ Additon _____ Renovation _____ Existing: x

Grade in Attendance (Circle): Pre-K (K 1 2 3 4 5) 6 7 8

10-Year Enrollment Data Date: 4/17/2007

Current		9/1/2006		Projected		9/1 /2016
Head Count	FTE*			Head Count	FTE*	
0	0		Pre-K	0	0	
59	59		Kindergarten	40	40	
0	0		Ungraded	0	0	
371	371		Grades <u>1</u> to <u>5</u>	360	360	
430	430		Total	400	400	
			Collaboratives			

Lincoln Elementary School Space Program

- Column (I): Indicates new spaces to be added; when the proposed project is a new school, complete Column I only.
- Column (II): Is for the existing spaces after planned renovations; for renovation projects only, complete Column II.
- Column (III) Is total spaces needed to operate the approved educational program. Columns (I)+(II) must equal Column (III) for additions.

Table A	(I) Additional Space (New Construction)		(II) Existing Space After Renovation		(III) Total Space (Educational)	
	No.	Sq.Ft.*	No.	Sq.Ft.*	No.	Sq.Ft.*
A. Basic Educational Space						
1. Pre-K			0	0	0	0
2. Kindergarten			2	2330	2	2330
3. General Class			18	16,500	18	16,500
4. Art			1	1000	1	1000
5. Music Rooms			1	1200	1	1200
a. Ensemble			0	0	0	0
b. Practice			0	0	0	0
6. Science			0	0	0	0
7. Media Center/Library			1	2280	1	2280
8. Gymnasium			1	5250	1	5250
a. Storage + Office			2	500	2	500
9. Learning Centers			1	660	1	660
10 Remedial			2	800	2	800
11. Computers			1	950	1	950
A. SUBTOTAL Basic Space			30	31,470	30	31,470

Lincoln Elementary School
Space Program

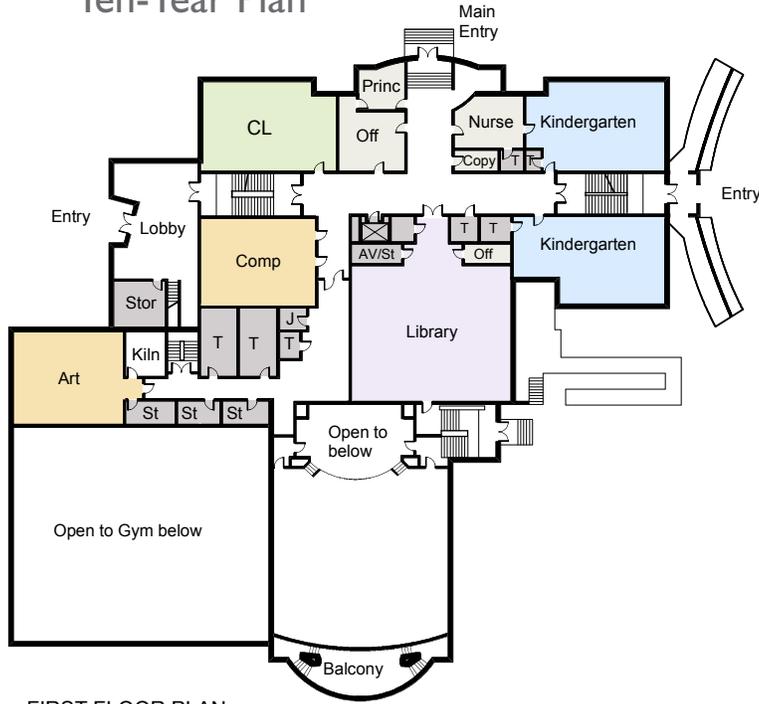
Table B	(I) Additional Space (New Construction)		(II) Existing Space After Renovation		(III) Total Space (Educational)	
	No.	Sq.Ft.*	No.	Sq.Ft.*	No.	Sq.Ft.*
B. Misc. Educational Space						
1. Cafeteria + Seating			1	2,226	1	2,226
2. Two Seating Cafetorium			0	0	0	0
Stage			0	0	0	0
3. Guidance			2	227	2	227
a. Office						
b. Psychiatrist			0	0	0	0
c. Waiting			0	0	0	0
4. Health Suite			1	334	1	334
a. Office/Suite						
b. Examining Room			0	0	0	0
c. Rest Areas			0	0	0	0
5. Kitchen			1	297	1	297
6. Administration			1	193	1	193
a. Principal						
b. Asst. Principal			1	191	1	191
c. General Office			1	407	1	407
d. Conference			1	211	1	211
e. Other			0	0	0	0
7. Planning Work Room			1	333	1	333
8. Teacher Dining Room			1	414	1	414
9. Auditorium Seating			1	2929	1	2929
a. Stage			1	790	1	790
10. Locker Rooms			0	0	0	0
11. Storage			0	0	0	0
12. Custodian/Maintenance			0	0	0	0
B. SUBTOTAL Misc. Educational space			13	8,552	13	8,552

Lincoln Elementary School
Space Program

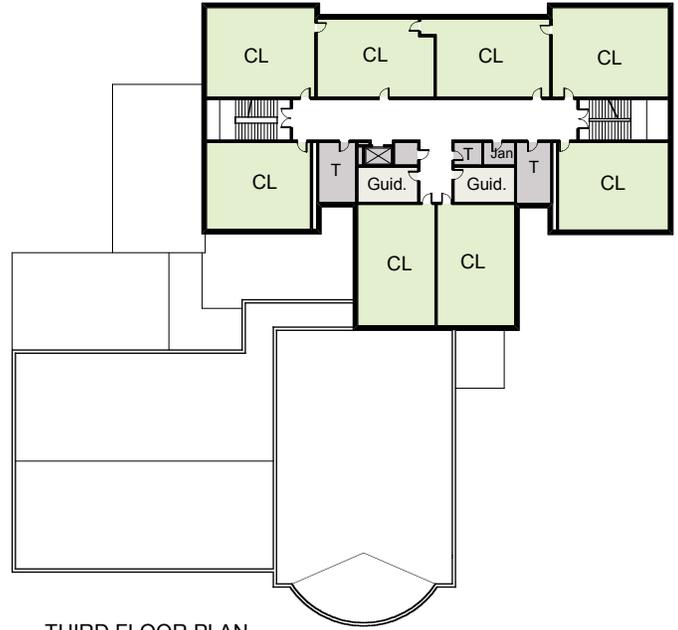
C. SUMMARY OF SPACES FOR MAXIMUM CONSTRUCTION COST ALLOWANCE

Table C Description of Space	(I) Additional Space (New Construction)		(II) Renovation Space		(III) Total Planned Space	
	Sq.Ft	%	Sq.Ft	%	Sq.Ft	%
1. Basic Educational			31,470	44%	31,470	44%
2. Misc. Educational			8,552	12%	8,552	12%
3. SUBTOTAL (Basic + Misc.)			40,022	56%	40,022	56%
4. Other Space			31,898	44%	31,898	44%
5. TOTAL Gross (Educational + Other)			71,920	100%	71,920	100%

Ten-Year Plan



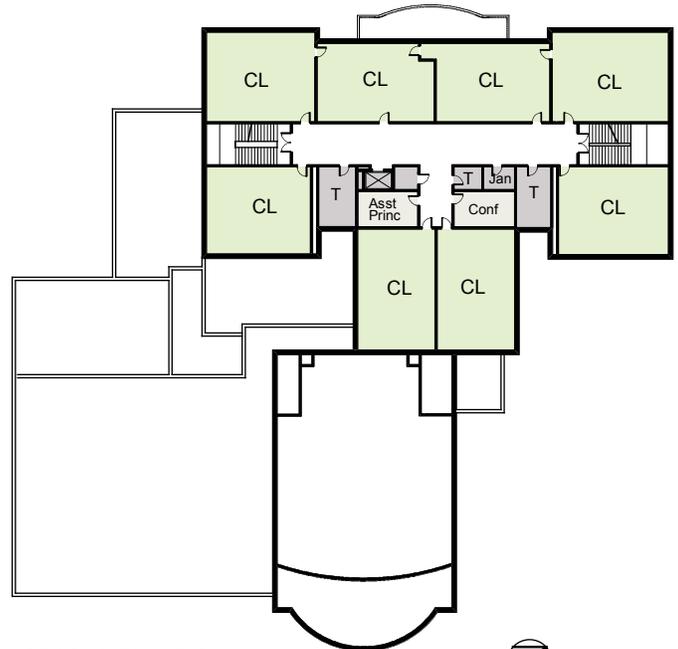
FIRST FLOOR PLAN



THIRD FLOOR PLAN



GROUND FLOOR PLAN



SECOND FLOOR PLAN



Total Building Area: 71,920 sf

Capacity 400
K-5 Classrooms 20

 Pre-K	 Student Facilities
 Kindergarten	 Learning Center
 1-5 Classrooms	 Administrative/Services
 Special Classroom	 Storage/Mechanical

Lincoln Elementary School

Lynch Elementary School

Space Program

DATE: 7/24/07

School District: Winchester Public Schools

School Address: 19 Brantwood Street, Winchester, MA 01890

Type of Proposed Construction: New Additon Renovation x Existing x

Grade in Attendance (Circle): Pre-K K 1 2 3 4 5 6 7 8

10-Year Enrollment Data Date: 4/17/07

(*Fulltime Equivalent for part time students- ½ day Kindergarten, divide enrollment by 2)

Current		9/1/06		Projected		9/1/2016
Head Count	FTE*			Head Count	FTE*	
80	40		Pre-K	80	40	
56	56		Kindergarten	60	60	
0	0		Ungraded	0	0	
305	305		Grades <u>1</u> to <u>5</u>	320	320	
441	401		Total	460	420	

Lynch Elementary School Space Program

- Column (I): Indicates new spaces to be added; when the proposed project is a new school, complete Column I only.
- Column (II): Is for the existing spaces after planned renovations; for renovation projects only, complete Column II.
- Column (III) Is total spaces needed to operate the approved educational program. Columns (I)+(II) must equal Column (III) for additions.

Table A	(I) Additional Space (New Construction)		(II) Existing Space After Renovation		(III) Total Space (Educational)	
	No.	Sq.Ft.*	No.	Sq.Ft.*	No.	Sq.Ft.*
A. Basic Educational Space						
1. Pre-K			4	4780	4	4780
2. Kindergarten			3	3600	3	3600
3. General Class			17	15420	17	15420
4. Art			1	1100	1	1100
5. Music Rooms			1	1200	1	1200
b. Ensemble			0	0	0	0
b. Practice			0	0	0	0
6. Science			0	0	0	0
7. Media Center/Library			1	1968	1	1968
8. Gymnasium			1	5430	1	5430
9. Learning Center			3	1302	3	1302
10 Remedial			3	1138	3	1138
11. Computer Lab			2	1875	2	1875
A. SUBTOTAL Basic Educational Space			36	37,813	36	37,813

Lynch Elementary School
Space Program

Table B	(I) Additional Space (New Construction)		(II) Existing Space After Renovation		(III) Total Space (Educational)	
	No.	Sq.Ft.*	No.	Sq.Ft.*	No.	Sq.Ft.*
B. Misc Educational Space						
1. Cafeteria + Seating						
2. Two Seating Cafetorium			1	4055	1	4055
Stage			1	1009	1	1009
3. Guidance						
a. Office						
b. Psychiatrist			2	200	2	200
c. Waiting			0	-	0	-
4. Health Suite			1	100	1	100
a. Office						
b. Examining Room			1	100	1	100
c. Rest Areas			1	154	1	154
5. Kitchen			0	-	0	-
6. Administration			1	166	1	166
a. Principal						
b. Asst. Principal			1	107	1	107
c. General Office			1	480	1	480
d. Conference			1	165	1	165
e. Other			1	87	1	87
7. Planning Work Room			1	132	1	132
8. Teacher Dining Room			1	400	1	400
9. Auditorium Seating			0	-	0	-
a. Stage				-		-
10. Locker Rooms			0	-	0	-
b. Storage			2	2400	2	2400
B. SUBTOTAL Misc. Educational Space			16	9,555	16	9,555

Lynch Elementary School Space Program

C. SUMMARY OF SPACES FOR MAXIMUM CONSTRUCTION COST ALLOWANCE

Table C Description of Space	(I) Additional Space (New Construction)		(II) Renovation Space		(III) Total Planned Space	
	Sq.Ft	%	Sq.Ft	%	Sq.Ft	%
1. Basic Educational			37,813	49%	37,813	49%
2. Misc. Educational			9,555	12%	9,555	12%
3. SUBTOTAL (Basic + Misc.)			47,368	61%	47,368	61%
4. Other Space			29,215	39%	29,215	39%
5. TOTAL Gross (Educational + Other)			76,583	100%	76,583	100%

Central Admin Area: 5,130 sf
Total Building Area: 81,713 sf

**Lynch Elementary
School**

Muraco Elementary School

Space Program

DATE: 7/24/07

School District: Winchester Public Schools

School Address: 33 Bates Pond, Winchester, MA 01890

Type of Proposed Construction: New Additon x Renovation x Existing x

Grade in Attendance (Circle): Pre-K K 1 2 3 4 5 6 7 8 9 10 11 12

10-Year Enrollment Data Date: 4/17/07

Current	09/01/06		Projected	09/01/2016
Head Count	FTE*		Head Count	FTE*
0	0	Pre-K	0	0
61	61	Kindergarten	60	60
0	0	Ungraded	0	0
308	308	Grades <u>1</u> to <u>5</u>	360	360
369	369	Total	420	420

Muraco Elementary School Space Program

- Column (I): Indicates new spaces to be added; when the proposed project is a new school, complete Column I only.
- Column (II): Is for the existing spaces after planned renovations; for renovation projects only, complete Column II.
- Column (III) Is total spaces needed to operate the approved educational program. Columns (I)+(II) must equal Column (III) for additions.

Table A	(I) Additional Space (New Construction)		(II) Existing Space After Renovation		(III) Total Space (Educational)	
	No.	Sq.Ft.*	No.	Sq.Ft.*	No.	Sq.Ft.*
A. Basic Educational Space						
1. Pre-K			0	0	0	0
2. Kindergarten	3	3,700			3	3,700
3. General Class			18	16,520	18	16,520
4. Art			1	900	1	900
5. Music Rooms			1	600	1	600
b. Ensemble			0		0	
b. Practice			0		0	
6. Science			0	-	0	0
7. Media Center/Library			1	2,000	1	2,000
8. Gymnasium	1	6,000			1	6,000
a. Storage + Office	2	300			2	300
9. Learning Centers			1	510	1	510
10 Remedial			2	1,000	2	1,000
11. Computer			1	950	1	950
A. SUBTOTAL Basic Space	6	10,000	25	22,480	31	32,480

Muraco Elementary School
Space Program

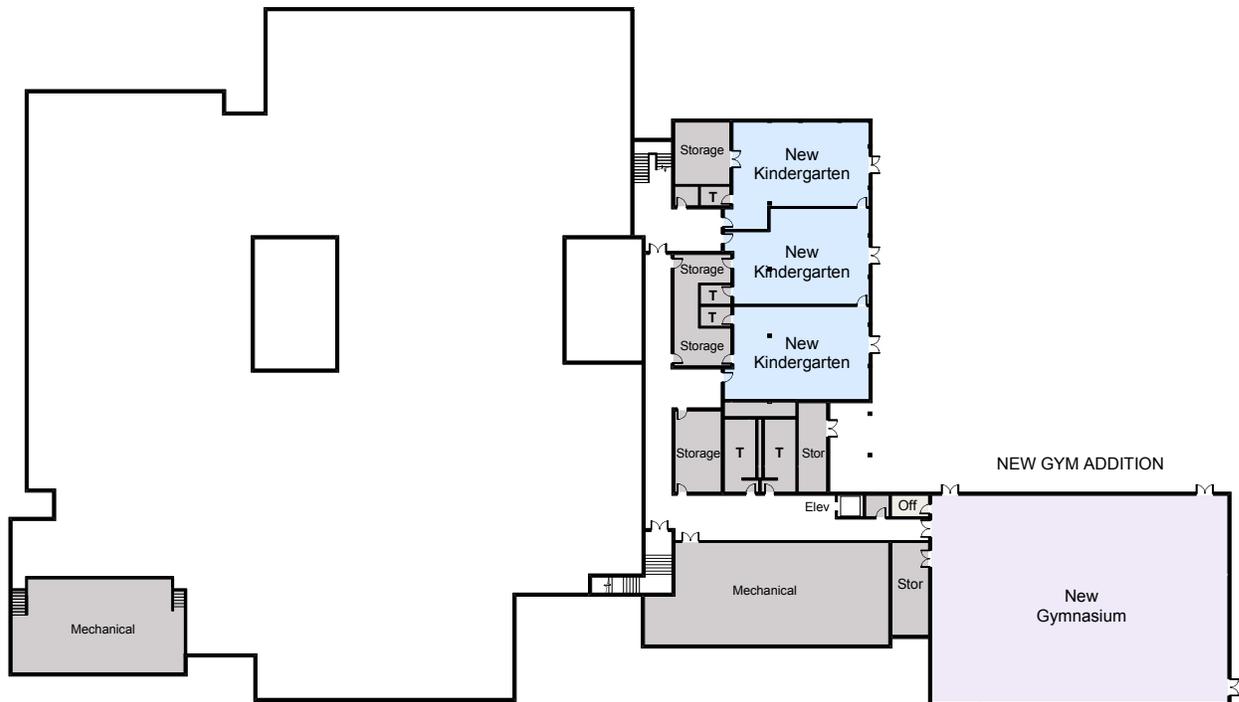
Table B	(I) Additional Space (New Construction)		(II) Existing Space After Renovation		(III) Total Space (Educational)	
	No.	Sq.Ft.*	No.	Sq.Ft.*	No.	Sq.Ft.*
B. Basic Educational Space						
1. Cafeteria + Seating						
2. Two Seating Cafetorium			1	2900	1	2900
Stage			1	850	1	850
3. Guidance			1	185	1	185
a. Office						
b. Psychiatrist			1	185	1	185
c. Waiting			0		0	
4. Health Suite			1	400	1	400
a. Office						
b. Examining Room			0	-	0	-
c. Rest Areas			0	-	0	-
5. Kitchen			1	350	1	350
6. Administration			1	200	1	200
a. Principal						
b. Asst. Principal			0	-	0	-
c. General Office			1	400	1	400
d. Conference			1	200	1	200
e. Other			0	-	0	-
7. Planning Work Room			1	500	1	500
8. Teacher Dining Room			1	400	1	400
9. Auditorium Seating			0	-	0	-
a. Stage			0	-	0	-
10. Locker Rooms			0	-	0	-
b. Storage			6	1400	6	1400
11. Custodian/Maintance			1	400	1	400
B. SUBTOTAL Misc. Educational Space			18	8370	18	8370

Muraco Elementary School
Space Program

C. SUMMARY OF SPACES FOR MAXIMUM CONSTRUCTION COST ALLOWANCE

Table C Description of Space	(I) Additional Space (New Construction)		(II) Renovation Space		(III) Total Planned Space	
	Sq.Ft	%	Sq.Ft	%	Sq.Ft	%
1. Basic Educational	10,000	15%	22,480	34%	32,480	49%
2. Misc. Educational			8,370	12%	8,370	12%
3. SUBTOTAL (Basic + Misc.)	10,000	15%	30,850	46%	40,850	61%
4. Other Space	2,130	3%	23,975	36%	26,105	39%
5. TOTAL Gross (Educational + Other)	12,130	18%	54,825	82%	66,955	100%

Ten-Year Plan



GROUND FLOOR PLAN 
1" = 60'

Existing Building: 54,825 sf
 New Addition: 12,130 sf
 Total Building Area: 66,955 sf

Capacity 420
 K-5 Classrooms 21

Muraco Elementary School

Vinson-Owen Elementary School

Space Program

DATE: 7/24/07

School District: Winchester Public Schools

School Address: 19 Brantwood Street, Winchester, MA 01890

Type of Proposed Construction: New x Addition _____ Renovation _____ Existing: _____

Grade in Attendance (Circle): Pre-K K 1 2 3 4 5 6 7 8

10-Year Enrollment Data Date: 4/17/07

Current		9/1/07		Projected		9/1/ 2016
Head Count	FTE*			Head Count	FTE*	
0	0		Pre-K	0	0	
34	34		Kindergarten	60	60	
0	0		Ungraded	0	0	
271	271		Grades <u>1</u> to <u>5</u>	360	360	
305	305		Total	420	420	

Vinson-Owen Elementary School Space Program

- Column (I): Indicates new spaces to be added; when the proposed project is a new school, complete Column I only.
- Column (II): Is for the existing spaces after planned renovations; for renovation projects only, complete Column II.
- Column (III) Is total spaces needed to operate the approved educational program. Columns (I)+(II) must equal Column (III) for additions.

Table A	(I) Additional Space		(II) Existing Space Renovation		(III) Total Space (Educational)	
	No.	Sq.Ft.*	No.	Sq.Ft.*	No.	Sq.Ft.*
A. Basic Educational Space						
1. Pre-K	0	0			0	0
2. Kindergarten	3	3750			3	3750
3. General Class	18	16,400			18	16,400
4. Art	1	1200			1	1200
5. Music Rooms	1	1150			1	1150
a. Ensemble	1	100			1	100
b. Practice	1	100			1	100
6. Science	0	0			0	0
7. Media Center/Library	1	2300			1	2300
8. Gymnasium	1	6000			1	6000
a. Storage	2	300			2	300
9. Learning Centers	3	2000			3	2000
10 Remedial	3	2000			3	2000
11. Computer	2	2000			2	2000
A. SUBTOTAL Basic Space	37	37,300			37	37,300

Vinson-Owen Elementary School
Space Program

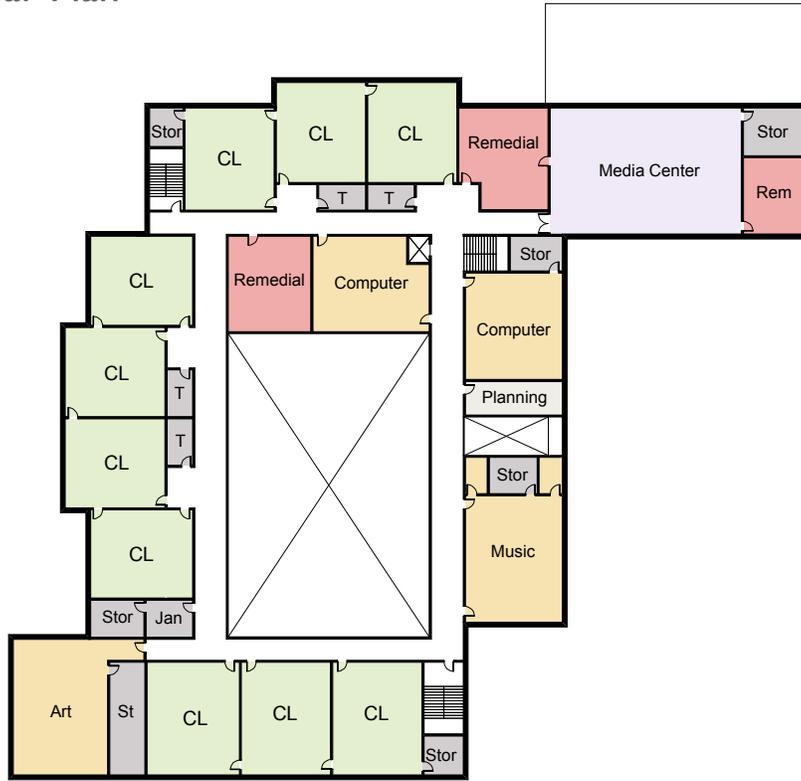
Table B	(I) Additional Space (New Construction)		(II) Existing Space After Renovation		(III) Total Space (Educational)	
	No.	Sq.Ft.*	No.	Sq.Ft.*	No.	Sq.Ft.*
B. Misc. Educational Space						
1. Cafeteria + Seating						
2. Two Seating Cafetorium	1	3200			1	3200
Stage	1	1000			1	1000
3. Guidance	1	185			1	185
a. Office						
b. Psychiatrist	1	100			1	100
c. Waiting	1	100			1	100
4. Health Suite	1	110			1	110
a. Office						
b. Examining Room	1	200			1	200
c. Rest Areas	1	200			1	200
5. Kitchen	1	800			1	800
6. Administration	1	200			1	200
a. Principal						
b. Asst. Principal	1	150			1	150
c. General Office	1	750			1	750
d. Conference	1	200			1	200
e. Other	1	200			1	200
7. Planning Work Room	1	300			1	300
8. Teacher Dining Room	1	200			1	200
9. Auditorium Seating	0	0			0	0
a. Stage	0	0			0	0
10. Locker Rooms	0	0			0	0
11. Storage (Books)	1	400			1	400
12. Custodial /Maintenance	1	1500			1	1500
B. SUBTOTAL Misc. Educational Space	18	9,795			18	9,795

Vinson-Owen Elementary School
Space Program

C. SUMMARY OF SPACES FOR MAXIMUM CONSTRUCTION COST ALLOWANCE

Table C Description of Space	(I) Additional Space (New Construction)		(II) Renovation Space		(III) Total Planned Space	
	Sq.Ft	%	Sq.Ft	%	Sq.Ft	%
1. Basic Educational	37,300	53%			37,300	53%
2. Misc. Educational	9,795	14%			9,795	14%
3. SUBTOTAL (Basic + Misc.)	47,095	67%			47,095	67%
4. Other Space	23,105	33%			23,105	33%
5. TOTAL Gross (Educational + Other)	70,200	100%			70,200	100%

Ten-Year Plan



- Pre-K
- Kindergarten
- 1-5 Classrooms
- Special Classroom
- Student Facilities
- Learning Center
- Administrative/Services
- Storage/Mechanical

Total Building Area:
70,200 sf
(New construction)

Capacity 420
K-5 Classrooms 21

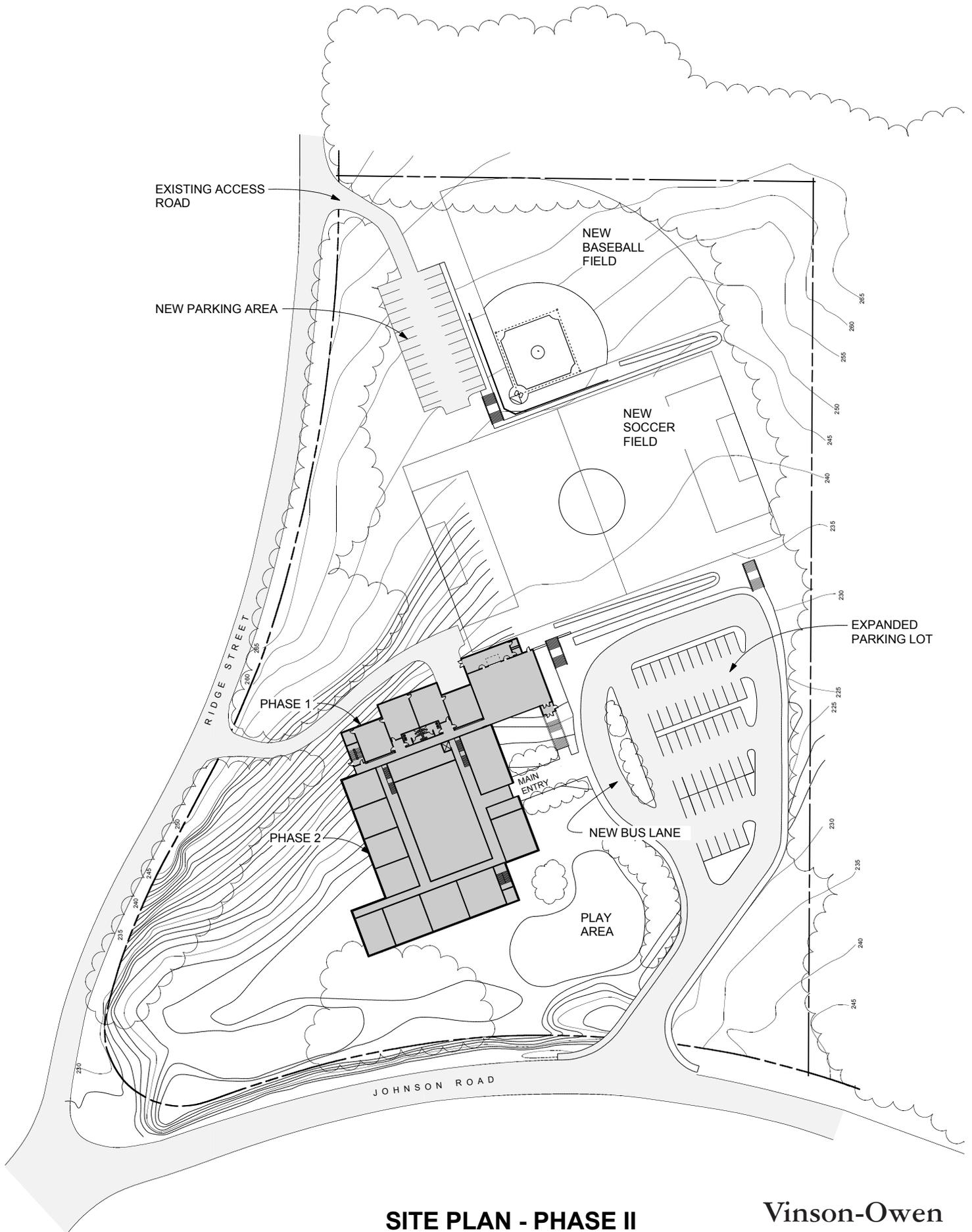
SECOND FLOOR PLAN



FIRST FLOOR PLAN



Vinson-Owen Elementary School



SITE PLAN - PHASE II
 NEW ELEMENTARY SCHOOL AND BALL FIELDS

Vinson-Owen
Elementary School

Schedule and Costs:

Schedule: The schedule for proceeding with these three elementary school projects is dependent upon when the MSBA approves the projects and agrees to State reimbursement. The time frames for each project would be approximately as follows:

Phase I: Vinson-Owen

Design/Documents	9 months
Bid/Award	2 months
<u>Construction</u>	<u>24 months</u>
Total	35 months

Phase II: Muraco

Design/Documents	8 months
Bid/Award	2 months
<u>Construction</u>	<u>18 months*</u>
Total	28 months

Phase III: Lynch

Design/Documents	8 months
Bid/Award	2 months
<u>Construction</u>	<u>14 months*</u>
Total	24 months

*If students are relocated

Estimated Project Costs: The estimated total project costs (in 2007 dollars) for these 3 renovations/additions including furniture, equipment, technology, and soft costs are as follows. Three levels of scope were estimated for each school.

Phase I: Vinson-Owen

Level 1: Renovate and add onto existing school	\$22,138,000
Level 2: All new 70,000 s.f. school	\$23,056,000
Level 3: All new 70,000 s.f. school with new fields	\$25,398,000

Phase 2: Muraco

Level 1: Basic renovation and addition to meet code and program	\$15,499,000
Level 2: Same as Level 1 but add new finishes and some exterior improvements	\$17,849,000
Level 3: Same as Level 2 but add new high performance exterior building skin and windows	\$19,163,000

Phase 3: Lynch

Level 1: Basic renovation to meet code and program	\$15,666,000
Level 2: Same as Level 1 but add new finishes and some exterior improvements	\$19,129,000
Level 3: Same as Level 2 but add new high performance exterior building skin and windows	\$21,321,000

Lynch Elementary School

Preliminary Cost Estimate
15-Aug-07

PROBABLE COST OF CONSTRUCTION

	Level 1 Basic Renovation Code Compliant Option	Level 2 Moderate Renovation w/ all new finishes	Level 3 Moderate Renovation w/ new High Performance skin
Basic Renovation (76,583sf x \$150)	\$11,487,450		\$16,235,600
Moderate Renovation (76,583sf x \$187)		\$14,397,604	
w/ new High Performance skin			\$16,235,600
Total	\$11,487,450	\$14,397,604	\$16,235,600
CONSTRUCTION CONTINGENCY			
Construction / Protect	\$574,373 5%	\$719,880 5%	\$811,780 5%
Owners contingency/	\$114,875 1%	\$143,976 1%	\$162,356 1%
Architect contingency	\$114,875 1%	\$143,976 1%	\$162,356 1%
Total	\$804,122	\$1,007,832	\$1,136,492
DESIGN AND ENGINEERING FEES			
Plansburgh Associates Base Contract	\$976,433	\$1,223,796	\$1,380,026
Total	\$976,433	\$1,223,796	\$1,380,026
FURNITURE AND EQUIPMENT			
Furniture Acquisition @ \$1500/student (380 + 1/2 80 pre-K)	\$630,000	\$630,000	\$630,000
Fees and Expenses	\$63,000	\$63,000	\$63,000
Total	\$693,000	\$693,000	\$693,000
COMPUTER/TECHNOLOGY + FEES			
Equipment @ 1500/student	\$630,000	\$630,000	\$630,000
Fees and Expenses	\$63,000	\$63,000	\$63,000
Total	\$693,000	\$693,000	\$693,000
ADDITIONAL PROJECT COSTS			
1 Surveying	\$20,000	\$20,000	\$20,000
2 Geotech. Cons. + Testing	\$0	\$0	\$0
3 Civil Engineering/Landscape	\$75,000	\$75,000	\$75,000
4 Food Service	\$20,000	\$20,000	\$20,000
5 Acoustics	\$15,000	\$15,000	\$15,000
6 Cost Estimating	\$60,000	\$60,000	\$65,000
7 Graphics	\$10,000	\$10,000	\$10,000
8 Testing and monitoring at Construction	\$50,000	\$50,000	\$50,000
9 Bidding Printing, Adendum & Distribution	\$50,000	\$50,000	\$50,000
10 Legal	\$15,000	\$15,000	\$15,000
11 Reimbursable Expenses - Architect	\$100,000	\$100,000	\$100,000
12 Construction Manager	\$402,061	\$503,916	\$568,246
13 Security Consultants	\$20,000	\$20,000	\$20,000
14 Environmental Testing	\$0	\$0	\$0
15 Gas Co	\$10,000	\$10,000	\$10,000
16 Electric Co	\$10,000	\$10,000	\$10,000
17 Other Utilities	\$10,000	\$10,000	\$10,000
18 Building Commissioning	\$75,000	\$75,000	\$75,000
19 Traffic Consultant	\$15,000	\$15,000	\$15,000
20 Asbestos report and monitoring services	\$50,000	\$50,000	\$50,000
21 Consultant, Advertisements, & Misc. Expenses	\$5,000	\$5,000	\$5,000
Total	\$1,012,061	\$1,113,916	\$1,183,246
2007 TOTAL PROJECT COSTS	\$15,666,066	\$19,129,149	\$21,321,364

Muraco Elementary School

Preliminary Cost Estimate
15-Aug-07

	Level 1 Basic Renovation / addition Code Compliant Option	Level 2 Moderate Renovation / addition w/ all new finishes	Level 3 Moderate Renovation / addition w/ new High Performance skin
PROBABLE COST OF CONSTRUCTION			
Basic Renovation / addition (54,825sf x \$150 + 12,130sf x \$275)	\$11,229,500		
Moderate Renovation / addition (54,825sf x \$180 + 12,130sf x \$275)		\$13,204,250	\$14,300,000
w/ new High Performance skin			
Total	\$11,229,500	\$13,204,250	\$14,300,000
CONSTRUCTION CONTINGENCY			
Construction / Project	\$561,475 5%	\$660,213 5%	\$715,000 5%
Owners contingency/	\$112,295 1%	\$132,043 1%	\$143,000 1%
Architect contingency	\$112,295 1%	\$132,043 1%	\$143,000 1%
Total	\$786,065	\$924,298	\$1,001,000
DESIGN AND ENGINEERING FEES			
Flansburgh Associates Base Contract	\$954,508	\$1,122,361	\$1,215,500
Total	\$954,508	\$1,122,361	\$1,215,500
FURNITURE AND EQUIPMENT			
Furniture Acquisition @ \$1500/student (420)	\$630,000	\$630,000	\$630,000
Fees and Expenses	\$63,000	\$63,000	\$63,000
Total	\$693,000	\$693,000	\$693,000
COMPUTER/TECHNOLOGY + FEES			
Equipment @1500/student	\$630,000	\$630,000	\$630,000
Fees and Expenses	\$63,000	\$63,000	\$63,000
Total	\$693,000	\$693,000	\$693,000
ADDITIONAL PROJECT COSTS			
1 Surveying	\$20,000	\$20,000	\$20,000
2 Geotech. Cons. + Testing	\$30,000	\$30,000	\$30,000
3 Civil Engineering/Landscape	\$140,000	\$140,000	\$140,000
4 Food Service	\$20,000	\$20,000	\$20,000
5 Acoustics	\$15,000	\$15,000	\$15,000
6 Cost Estimating	\$60,000	\$60,000	\$65,000
7 Graphics	\$10,000	\$10,000	\$10,000
8 Testing and monitoring at Construction	\$75,000	\$75,000	\$80,000
9 Bidding,Printing,Adendum & Distribution	\$50,000	\$50,000	\$50,000
10 Legal	\$15,000	\$15,000	\$15,000
11 Reimbursable Expenses - Architect	\$100,000	\$100,000	\$100,000
12 Construction Manager	\$393,033	\$462,149	\$500,500
13 Security Consultants	\$20,000	\$20,000	\$20,000
14 Environmental Testing	\$20,000	\$20,000	\$20,000
15 Gas Co	\$10,000	\$10,000	\$10,000
16 Electric Co	\$10,000	\$10,000	\$10,000
17 Other Utilities	\$10,000	\$10,000	\$10,000
18 Building Commissioning	\$75,000	\$75,000	\$75,000
19 Traffic Consultant	\$15,000	\$15,000	\$15,000
20 Asbestos report and monitoring services	\$50,000	\$50,000	\$50,000
21 Consultant, Advertisements, & Misc. Expenses	\$5,000	\$5,000	\$5,000
Total	\$1,143,033	\$1,212,149	\$1,260,500
2007 TOTAL PROJECT COSTS	\$15,499,105	\$17,849,058	\$19,163,000

Vinson-Owen Elementary School

Preliminary Cost Estimate
15--Aug-07

	Level 1 Renovate/ Addition Code Compliant Option	Level 2 New Building New Space Standards Option	Level 3 New Building with 2 new fields
PROBABLE COST OF CONSTRUCTION			
Renovate/ Addition (27,950sf x \$180 + 47,000sf x \$250)	\$16,781,000		
New 70,200sf K-5 school to meet MSBA space standards @ \$250/sf		\$17,550,000	\$19,500,000
New 70,200sf K-5 school with 2 new fields	\$16,781,000		\$19,500,000
Total		\$17,550,000	\$19,500,000
CONSTRUCTION CONTINGENCY			
Construction / Project	\$839,050 5%	\$877,500 5%	\$975,000 5%
Owners contingency/	\$167,810 1%	\$175,500 1%	\$195,000 1%
Architect contingency	\$167,810 1%	\$175,500 1%	\$195,000 1%
Total	\$1,174,670	\$1,228,500	\$1,365,000
DESIGN AND ENGINEERING FEES			
Flainburgh Associates Base Contract	\$1,426,385	\$1,491,750	\$1,657,500
Total	\$1,426,385	\$1,491,750	\$1,657,500
FURNITURE AND EQUIPMENT			
Furniture Acquisition @ \$1500/student (420)	\$630,000	\$630,000	\$630,000
Fees and Expenses	\$63,000	\$63,000	\$63,000
Total	\$693,000	\$693,000	\$693,000
COMPUTER/TECHNOLOGY + FEES			
Equipment @1500/student	\$630,000	\$630,000	\$630,000
Fees and Expenses	\$63,000	\$63,000	\$63,000
Total	\$693,000	\$693,000	\$693,000
ADDITIONAL PROJECT COSTS			
1 Surveying	\$20,000	\$20,000	\$20,000
2 Geotech. Cons. + Testing	\$30,000	\$30,000	\$30,000
3 Civil Engineering/Landscape	\$140,000	\$140,000	\$170,000
4 Food Service	\$20,000	\$20,000	\$20,000
5 Acoustics	\$15,000	\$15,000	\$15,000
6 Cost Estimating	\$60,000	\$60,000	\$65,000
7 Graphics	\$10,000	\$10,000	\$10,000
8 Testing and monitoring at Construction	\$75,000	\$75,000	\$80,000
9 Bidding,Printing,Adendum & Distribution	\$50,000	\$50,000	\$50,000
10 Legal	\$15,000	\$15,000	\$15,000
11 Reimbursable Expenses - Architect	\$100,000	\$100,000	\$100,000
12 Construction Manager	\$620,000	\$650,000	\$700,000
13 Security Consultants	\$20,000	\$20,000	\$20,000
14 Environmental Testing	\$20,000	\$20,000	\$20,000
15 Gas Co	\$10,000	\$10,000	\$10,000
16 Electric Co	\$10,000	\$10,000	\$10,000
17 Other Utilities	\$10,000	\$10,000	\$10,000
18 Building Commissioning	\$75,000	\$75,000	\$75,000
19 Traffic Consultant	\$15,000	\$15,000	\$15,000
20 Asbestos report and monitoring services	\$50,000	\$50,000	\$50,000
21 Consultant, Advertisements, & Misc. Expenses	\$5,000	\$5,000	\$5,000
Total	\$1,370,000	\$1,400,000	\$1,490,000
2007 TOTAL PROJECT COSTS	\$22,138,055	\$23,056,250	\$25,398,500



McCall Middle School

Scope of Work:

Short-term options were reviewed for converting existing rooms into classrooms and adding portable classrooms to resolve current and projected overcrowding at McCall Middle School. It was concluded that it makes better sense to build a permanent addition with a net gain of 9 new classrooms because the enrollment projections are clear and the need is based on students already in the system. Also, this option avoids spending money on a temporary solution that would be disruptive and eventually will need to be discarded.

Space Program and Floor Plans:

The following space program for the Middle School shows all spaces in the existing school plus the added new spaces in the proposed addition which totals 23,575 square feet. The new addition would contain eight general classrooms, three science classrooms, two learning centers, a teacher dining room and toilet rooms. Although there are eleven classrooms in the new addition, there is only a net gain of nine, since two classrooms in the existing building would be reduced by the new corridor and converted to other uses.

Following the programs are floor plans that show the existing school with the proposed new addition.

McCall Middle School
Space Program

DATE: 7/24/07

School District: Winchester Public Schools

School Address: 458 Main Street, Winchester, MA 01890

Type of Proposed Construction: New _____ Additon x Renovation x Existing x

Grade in Attendance (Circle): Pre-K K 1 2 3 4 5 6 7 8

10-Year Enrollment Data Date: 4/17/07

Current		09/01/06		Projected		09/01/2016
Head Count	FTE*			Head Count	FTE*	
0	0		Pre-K	0	0	
0	0		Kindergarten	0	0	
0	0		Ungraded	0	0	
880	880		Grades <u>6 to 8</u>	1,062	1,062	
880	880		Total	1,062	1,062	

McCall Middle School Space Program

- Column (I): Indicates new spaces to be added; when the proposed project is a new school, complete Column I only.
- Column (II): Is for the existing spaces after planned renovations; for renovation projects only, complete Column II.
- Column (III) Is total spaces needed to operate the approved educational program. Columns (I)+(II) must equal Column (III) for additions.

Table A	(I) Additional Space (New Construction)		(II) Existing Space After Renovation		(III) Total Space (Educational)	
	No.	Sq.Ft.*	No.	Sq.Ft.*	No.	Sq.Ft.*
A. Basic Educational Space						
1. General Class	8	7,580	24	18,725	32	26,305
a. Science	3	3,450	10	12,130	13	15,580
2. Art			2	2,516	2	2,516
a. Art Storage			2	420	2	420
b. Kiln			1	188	1	188
c. Darkroom			1	370	1	370
3. Music Rooms			2	2,590	2	2,590
a. Office			1	150	1	150
b. Storage			1	650	1	650
4. Vocation & Technology			6	7,000	6	7,000
a. Storage			2	575	2	575
5. Media Center/Library			1	3,772	1	3,772
6. Gymnasium			1	8,507	1	8,507
a. Storage + Office			1	407	1	407
b. Youth Ctr, Team Rooms			4	3,782	4	3,782
7. Learning Centers	2	900	9	4,810	11	5,710
9. Computer			2	2,120	2	2,120
A. SUBTOTAL Basic Ed. Space	13	11,930	70	68,712	83	80,642

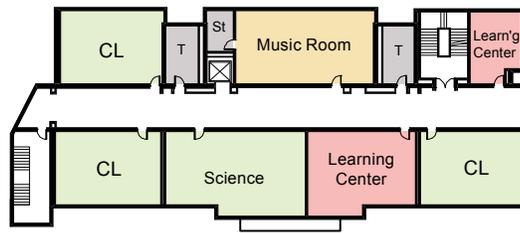
McCall Middle School
Space Program

Table B	(I) Additional Space (New Construction)		(II) Existing Space After Renovation		(III) Total Space (Educational)	
	No.	Sq.Ft.*	No.	Sq.Ft.*	No.	Sq.Ft.*
B. Misc. Educational Space						
1. Cafeteria + Seating			1	5312	1	5312
2. Guidance			4	600	4	600
a. Office						
c. Psychiatrist			1	185	1	185
c. Waiting			1	290	1	290
3. Health Suite			1	415	1	415
a. Office						
b. Examining Room			1	75	1	75
c. HC Toilet			1	60	1	60
4. Kitchen			1	1700	1	1700
5. Administration			1	225	1	225
a. Principal						
b. Asst. Principal			1	225	1	225
c. General Office			1	1075	1	1075
6. Planning Work Room			1	834	1	834
7. Teacher Dining Room	1	425			1	425
8. Auditorium Seating			1	5112	1	5112
a. Stage			1	1450	1	1450
9. Locker Rooms			2	1450	2	1450
a. Office			2	266	2	266
10. Custodian/Maintance	2	60	3	1021	5	1081
B. SUBTOTAL Misc. Educational Space	3	485	24	20,295	27	20,780

McCall Middle School
Space Program

C. SUMMARY OF SPACES FOR MAXIMUM CONSTRUCTION COST ALLOWANCE

Table C Description of Space	(I) Additional Space (New Construction)		(II) Renovation Space		(III) Total Planned Space	
	Sq.Ft	%	Sq.Ft	%	Sq.Ft	%
1. Basic Educational	11,930	6%	68,712	40%	80,642	46%
2. Misc. Educational	485	<1%	20,295	12%	20,780	12%
3. SUBTOTAL (Basic + Misc.)	12,415	6%	89,007	52%	101,422	58%
4. Other Space	11,160	6%	61,194	36%	72,344	42%
5. TOTAL Gross (Educational + Other)	23,575	14%	150,201	86%	173,776	100%



- Classroom
- Special Classroom
- Student Facilities
- Learning Center
- Administrative/Services
- Storage/Mechanical

1" = 60'

McCall Middle School

Schedule and Costs:

Schedule: Enrollment projections show a need for 2 new classrooms starting in the Fall of 2007 with 6 new classrooms needed by the Fall of 2009. This need then increases to 9 new classrooms by 2012. In order to meet this need it is recommended that the permanent addition be ready for occupancy by the Fall of 2009. This will require that the authorization to commence Design Development and Construction Documents should be given by December 1, 2007. This will allow bidding by May 2008 and construction completion for occupancy by September 2009.

Estimated Costs: The preliminary estimated total project costs for this addition including furniture, equipment, technology, and soft costs is approximately \$8,232,000.

Attached is a detailed cost estimate for the middle school addition:

McCall Middle School addition

Total Project preliminary cost estimate

Schematic Design

7/19/07

PROBABLE COST OF CONSTRUCTION

New Addition

\$6,362,705

Total

\$6,362,705

CONSTRUCTION CONTINGENCY

Construction / Project

7%

\$445,389

Owners contingency/

1%

\$63,627

Architect contingency

1%

\$63,627

Total

\$572,643

DESIGN AND ENGINEERING FEES

Flansburgh Architects Base Contract

\$699,898

Total

\$699,898

FFE & TECHNOLOGY (including fees)

Furniture & Equipment @ \$5,000/ Classroom

\$75,000

Technology / Phones @ \$3,000/ Classroom

\$33,000

Total

\$108,000

TESTING, EXPENSES & BIDDING

Testing and monitoring at Construction

\$20,000

Bidding Printing, Addendum & Distribution

\$25,000

Advertisements, & Misc. Expenses

\$5,000

Reimbursable Expenses - Architect

\$40,000

Bond

\$50,000

Total

\$140,000

OTHER CONSULTANTS

Cost Estimating

\$25,000

Commissioning

\$35,000

Reimbursable Consultants

\$100,000

Misc expenses

\$13,627

Owners Project Manager

\$175,000

Total

\$348,627

TOTAL ESTIMATED PROJECT COST

\$8,231,873

PROJECT McCALL MIDDLE SCHOOL ADDITION
WINCHESTER, MA

GFA 25,171 SF

Code	Item Description	Quantity	Unit	Price	Total
GENERAL SUMMARY					
					\$
1.00000	FOUNDATIONS	4.4%	\$8.20 /SF		206,413
2.00000	SUBSTRUCTURE	4.3%	\$8.04 /SF		202,298
3.00000	SUPERSTRUCTURE	12.0%	\$22.59 /SF		568,548
4.00000	EXTERIOR CLOSURE	20.3%	\$38.16 /SF		960,643
5.00000	ROOFING	2.4%	\$4.57 /SF		115,140
6.00000	INTERIOR CONSTRUCTION	16.2%	\$30.37 /SF		764,508
7.00000	CONVEYING SYSTEMS	0.0%	\$0.00 /SF		0
8.00000	MECHANICAL	23.7%	\$44.45 /SF		1,118,932
9.00000	ELECTRICAL	10.1%	\$19.02 /SF		478,807
11.00000	EQUIPMENT	0.2%	\$0.33 /SF		8,220
12.00000	SITE WORK	6.4%	\$11.97 /SF		301,194
		100.0%	\$187.70 /SF		<u>4,724,703</u>
10.10000	GENERAL CONDITIONS & PROFIT		16.36%		773,137
			\$218.42 /SF		<u>5,497,840</u>
10.20000	ESCALATION TO BID DATE	Apr-08	5.21%		286,437
			\$229.80 /SF		<u>5,784,277</u>
10.30000	DESIGN & PRICE RESERVE		10.00%		578,428
	TOTAL COST		\$252.78 /SF		<u><u>\$6,362,705</u></u>

ALTERNATES

A	ALL PRICES INCLUDE SUMMARY LEVEL MARKUPS				\$
A1	design structure for vertical expansion by one additional level	Add	1 ls	117,613.00	117,613

PROJECT McCALL MIDDLE SCHOOL ADDITION
WINCHESTER, MA

GFA 25,171 SF

Code	Item Description	Quantity	Unit	Price	Total
1.00000	FOUNDATIONS				\$
1.10000	STANDARD FOUNDATIONS				
1.11200	continuous footings conc.	68	cy	159.96	10,877
1.11201	continuous footings forms	1,005	sf	5.69	5,718
1.11202	continuous footings rebar.	5.45	tons	2,421.30	13,196
1.11203	key joint	486	lf	1.55	753
1.11210	isolated footings conc.	51	cy	161.62	8,243
1.11211	isolated footings forms	768	sf	6.13	4,708
1.11212	isolated footings rebar.	1.26	tons	2,421.30	3,051
1.11225	foundation walls conc.	84	cy	172.69	14,506
1.11226	foundation walls forms	3,888	sf	9.13	35,497
1.11227	foundation walls rebar	2.92	tons	2,052.34	5,993
1.11229	piers conc.	28	cy	181.55	5,083
1.11230	piers forms	1,094	sf	12.49	13,664
1.11231	piers rebar	2.30	tons	2,905.56	6,683
1.11232	brick shelf	265	sf	13.99	3,707
1.11240	foundation insulation	1,944	sf	2.01	3,907
1.11241	dampproofing	1,944	sf	2.60	5,054
1.90000	EXCAVATION				
1.91100	bulk excavation	see site	0	3.92	0
1.91101	footing excavation		198	8.66	1,715
1.91102	isolated footing excavation		81	11.26	912
1.91104	thickening slab on grade - hand trim excavations		161	1.98	319
1.91107	backfill & compaction	footings	78	21.81	1,701
1.91108	disposal off site	10 mile trip	64	25.01	1,601
1.91109	shore/brace existing wall w/ground anchors	allowance	1,128	52.77	59,525
	FOUNDATIONS	TOTAL COST	\$8.20 /SF		<u><u>\$206,413</u></u>

PROJECT McCALL MIDDLE SCHOOL ADDITION
WINCHESTER, MA

GFA 25,171 SF

Code	Item Description	Quantity	Unit	Price	Total
2.00000	SUBSTRUCTURE				\$
2.12000	SLAB ON GRADE				
2.12100	standard slab on grade - concrete	102	cy	166.60	16,993
2.12101	standard slab on grade - sand	41	cy	31.13	1,276
2.12102	standard slab on grade - vapor barrier	6,584	sf	0.21	1,383
2.12103	1" rigid insulation	6,584	sf	1.29	8,493
2.12104	thicknessing slab on grade - concrete	3	cy	156.09	468
2.12106	mesh 6x6 w2.1/2.1	6,584	sf	0.62	4,082
2.12109	standard slab on grade - gravel	203	cy	40.56	8,234
2.12110	standard slab on grade - fine grade	6,584	sf	0.19	1,251
2.12111	standard slab on grade - cure & finish	6,584	sf	1.49	9,810
2.12115	4" concrete pads	3	cy	180.99	543
2.12116	4" concrete pad	238	lf	12.85	3,058
2.12117	4" concrete pad	0.13	tons	2,375.18	317
2.12118	4" concrete pad	200	sf	1.49	298
2.15000	BASEMENT WALLS				
2.25000	basement walls conc.	228	cy	172.69	39,373
2.25001	basement walls forms	7,380	sf	9.55	70,479
2.25002	basement walls rebar	7.70	tons	2,052.34	15,803
2.25003	basement insulation	3,690	sf	2.01	7,417
2.25004	dampproofing	3,690	sf	2.60	9,594
2.25005	backfill & compaction	137	cy	25.01	3,426
	SUBSTRUCTURE	TOTAL COST	\$8.04 /SF		<u><u>\$202,298</u></u>

PROJECT McCALL MIDDLE SCHOOL ADDITION
WINCHESTER, MA

GFA 25,171 SF

Code	Item Description	Quantity	Unit	Price	Total
3.00000	SUPERSTRUCTURE				\$
3.50000	FLOOR CONSTRUCTION				
3.53000	2" 20 ga. galv. steel deck	16,209	sf	2.52	40,847
3.53001	closure pieces	1,375	lf	5.64	7,755
3.53002	normal weight concrete on metal deck 4½"	275	cy	163.84	45,056
3.53003	normal weight concrete on metal pan stairs	3	cy	192.62	578
3.53004	mesh 6x6 w1.4/1.4 slab on deck	16,209	sf	0.54	8,753
3.53005	finish & cure slab on deck	16,209	sf	1.49	24,151
3.53006	upper deck rebar slab on deck	4.05	tons	2,144.58	8,690
3.53046	beams TS 6x6x1/2	0.20	tons	3,213.56	643
3.53073	beams W10x12	0.38	tons	3,505.96	1,332
3.53078	beams W10x33	0.17	tons	3,175.87	540
3.53081	beams W12x16	13.56	tons	3,337.47	45,256
3.53085	beams W12x26	0.34	tons	2,994.00	1,018
3.53087	beams W12x40	0.40	tons	2,913.85	1,166
3.53094	beams W14x22	22.79	tons	3,084.73	70,301
3.53105	beams W16x26	6.79	tons	2,955.62	20,069
3.53112	beams W18x35	8.06	tons	2,936.97	23,672
3.53123	beams W21x44	0.44	tons	2,812.55	1,238
3.53132	beams W24x55	2.23	tons	2,721.82	6,070
3.53134	beams W24x68	6.92	tons	2,685.79	18,586
3.53169	beams unsized	0.18	tons	2,936.97	529
3.53182	bracing TS 6x6x1/2	4.95	tons	3,213.56	15,907
3.53223	columns W8x24	1.36	tons	2,702.92	3,676
3.53225	columns W8x31	0.15	tons	2,607.68	391
3.53227	columns W8x40	15.79	tons	2,559.03	40,407
3.53257	columns W24x55	6.11	tons	2,633.20	16,089
3.53258	connections	9.08	tons	3,852.28	34,979
3.53312	base plates	0.50	tons	3,852.28	1,938
3.53313	moment connections	10	ea	225.00	2,250
3.53314	shear studs	3,559	ea	3.00	10,677
3.53315	anchor bolts	112	ea	22.95	2,570
3.53316	firestopping floor decks	16,209	sf	0.86	13,940
3.53317	L4x4x3/8	13	lf	51.35	668
3.53321	L6x5x3/8	30	lf	77.34	2,320
3.53322	36" diameter concrete columns	60	lf	206.71	12,403
3.70000	ROOF CONSTRUCTION				
3.71002	2" 20 ga. galv. steel roof deck	6,548	sf	2.52	16,501
3.71023	closure pieces	477	lf	5.64	2,690
3.71085	firestopping roof decks	6,548	sf	0.86	5,631
3.90000	STAIR CONSTRUCTION				
3.91000	steel pan stairs	184	lfr	87.82	16,159
3.91001	steel pan stair landings	162	sf	57.39	9,297
3.91002	guard rails stairs	53	lf	199.60	10,579
3.91003	wall rails stairs	57	lf	92.32	5,262

PROJECT McCALL MIDDLE SCHOOL ADDITION
 WINCHESTER, MA

GFA 25,171 SF

Code	Item Description	Quantity	Unit	Price	Total
3.91006	guard rails; metal, mesh panels		atriums	72 lf	249.50 17,964
	SUPERSTRUCTURE	TOTAL COST	\$22.59 /SF		<u>\$568,548</u>

PROJECT McCALL MIDDLE SCHOOL ADDITION
WINCHESTER, MA

GFA 25,171 SF

Code	Item Description	Quantity	Unit	Price	Total
4.00000	EXTERIOR CLOSURE				\$
4.10000	EXTERIOR WALLS				
4.14500	cast stone block veneer allowance	2,212	sf	40.53	89,652
4.14501	cast stone block jambs allowance	64	lf	60.80	3,891
4.14502	cast stone block base allowance	48	lf	50.66	2,432
4.14502	brick veneer allowance	7,718	sf	29.10	224,594
4.14503	brick veneer jambs allowance	716	lf	43.65	31,253
4.14500	relieving angle L8x6x5/8	247	lf	172.30	42,558
4.14514	coated copper flashing	337	lf	25.17	8,482
4.14515	8" cmu back-up	552	sf	13.20	7,286
4.14522	8" lintels exterior wall	9	lf	19.76	178
4.14524	parapet wall caps LCC	291	lf	25.17	7,324
4.14525	parapet wall caps, wide LCC	186	lf	51.48	9,575
4.14526	precast sill 8"	337	lf	45.00	15,165
4.14527	precast window header	337	lf	45.00	15,165
4.14527	precast cornice allowance	80	lf	69.68	5,574
4.14528	precast cornice/cap allowance	186	lf	92.90	17,280
4.14530	through wall flashings	2,222	lf	11.45	25,442
4.14531	scaffolding exterior wall	10,482	sf	1.83	19,182
4.14534	6" galv. steel studs 16 ga. exterior wall	9,930	sf	4.44	44,089
4.14537	building paper exterior wall	9,930	sf	0.21	2,085
4.14539	adhesive waterproofing exterior wall	10,482	sf	2.60	27,253
4.14540	2" rigid wall insulation exterior wall	10,482	sf	3.92	41,089
4.14542	½" densglas sheathing exterior wall	9,930	sf	1.79	17,775
4.14544	5/8" gypsum board w/level 5 finish exterior wall	9,930	sf	2.15	21,350
4.14546	paint interior of exterior walls drywall	9,930	sf	0.95	9,434
4.14547	paint interior of exterior walls cmu	552	sf	1.16	640
4.14549	aluminum fascia	75	lf	16.82	1,262
4.14552	louvers	45	sf	62.92	2,831
4.14560	cement & plaster soffits	267	sf	28.60	7,636
4.14561	exterior soffit furring soffits	267	sf	2.30	614
4.14562	exterior soffit rigid insulation soffits	267	sf	4.32	1,153
4.14563	exterior soffit adhesive waterproofing soffits	267	sf	2.86	764
4.14564	exterior soffit densglas sheathing soffits	267	sf	1.97	526
4.60000	EXTERIOR DOORS				
4.61000	exterior door frames h.m. 3x7	2	ea	282.44	565
4.61002	exterior doors h.m. insulated 3x7	2	ea	538.51	1,077
4.61003	extra for vision lite	1	ea	102.21	102
4.61004	extra for half glass exterior door	1	ea	192.33	192
4.61009	thresholds/sills exterior door	17	lf	27.48	467
4.61010	hardware allowance exterior panic	2	leaf	1,566.08	3,132
4.61011	paint/stain exterior door & frame	2	leaf	146.92	294
4.61012	roll up door & frame	80	sf	55.00	4,400
4.70000	EXTERIOR WINDOWS				
4.71000	aluminum windows	2,155	sf	56.52	121,801

PROJECT McCALL MIDDLE SCHOOL ADDITION
WINCHESTER, MA

GFA 25,171 SF

Code	Item Description	Quantity	Unit	Price	Total
4.71002	storefront systems	276	sf	65.94	18,199
4.71004	curtain wall systems	224	sf	87.92	19,694
4.71006	storefront doors	2	leaf	2,335.08	4,670
4.71008	p/lam window sill w/hardwood edging	337	lf	13.93	4,694
4.71009	misc. sealing & caulking	25,171	sf	2.00	50,342
4.71010	backer rod	2,876	lf	1.37	3,940
4.71011	sealant	2,876	lf	5.89	16,940
4.71012	sprayed foam at windows	1,438	lf	4.59	6,600
	EXTERIOR CLOSURE		TOTAL COST	\$38.16 /SF	<u>\$960,643</u>

PROJECT McCALL MIDDLE SCHOOL ADDITION
WINCHESTER, MA

GFA 25,171 SF

Code	Item Description	Quantity	Unit	Price	Total
5.00000	ROOFING				\$
5.10000	ROOF COVERINGS				
5.12200	white membrane roof allowance	6,548	sf	5.72	37,455
5.12201	base flashing	614	lf	11.44	7,024
5.12206	vapor barrier roof	6,548	sf	0.21	1,375
5.12207	cant strip	614	lf	4.35	2,671
5.12208	metal counterflashing	614	lf	12.36	7,589
5.70000	INSULATION				
5.71000	roof deck insulation - polystyrene; 1 1/2" rigid. 2 layers	6,548	sf	3.39	22,198
5.71001	tapered insulation	3,141	sf	7.68	24,123
5.80000	ROOF SPECIALTIES				
5.81001	skylights stock acrylic	182	sf	45.00	8,190
5.81002	skylight curbs	143	lf	31.57	4,515
	ROOFING TOTAL COST		\$4.57 /SF		<u><u>\$115,140</u></u>

PROJECT McCALL MIDDLE SCHOOL ADDITION
WINCHESTER, MA

GFA 25,171 SF

Code	Item Description	Quantity	Unit	Price	Total
6.00000	INTERIOR CONSTRUCTION				\$
6.10000	INTERIOR MASONRY PARTITIONS				
6.12102	8" cmu partitions	1,644	sf	13.20	21,701
6.12108	8" lintels	19	lf	19.76	375
6.13000	GYPSUM WALLBOARD SYSTEMS				
6.13100	5/8" gypsum board w/level 5 finish	20,756	sf	2.15	44,625
6.13102	5/8" gypsum drywall base	10,399	sf	1.81	18,822
6.13103	ceramic tile backer board	1,680	sf	4.56	7,661
6.13107	2 1/2" studs	1,250	sf	2.10	2,625
6.13108	3 5/8" studs	91	sf	2.21	201
6.13110	6" studs	10,787	sf	2.55	27,507
6.13112	2 1/2" batts	1,250	sf	1.22	1,525
6.13113	3 5/8" batts	91	sf	1.51	137
6.13115	6" batts	10,787	sf	1.94	20,927
6.13117	drywall ceilings	830	sf	3.77	3,129
6.13123	soffits & furrdowns	818	lf	22.56	18,454
6.40000	INTERIOR DOORS & FRAMES				
6.41002	interior door frame h.m.	3x7	31 ea	206.61	6,405
6.41003	interior door frame h.m.	6x7	1 ea	248.37	248
6.41005	interior sidelights h.m.		14 ea	164.30	2,300
6.41020	interior door h.m.	3x7	3 leaf	478.07	1,434
6.41022	interior door wood	3x7	33 leaf	213.21	7,036
6.41024	extra for half lite	B	10 ea	109.90	1,099
6.41026	extra for vision lite	C	15 ea	102.21	1,533
6.41030	extra for B label		3 ea	152.76	458
6.41031	extra for 1 hour rating		3 ea	83.52	251
6.41032	glass & glazing, doors		74 sf	28.02	2,073
6.41033	glass & glazing, sidelites		178 sf	28.02	4,988
6.41036	paint/stain view window frame		364 lf	3.65	1,329
6.41037	paint/stain doors & frames		36 leaf	107.70	3,877
6.41039	hardware allowance	interior door	36 leaf	467.08	16,815
6.41045	storefront systems		90 sf	65.94	5,935
6.41045	storefront doors		2 leaf	2,335.08	4,670
6.50000	WALL FINISHES				
6.51100	paint partitions	drywall	21,436 sf	0.95	20,364
6.51101	paint partitions	cmu	3,288 sf	1.16	3,814
6.51103	ceramic tile walls		1,680 sf	11.45	19,236
6.60000	FLOOR FINISHES				
6.61303	paint/sealer	floor	4,522 sf	1.13	5,110
6.61305	vct		17,377 sf	1.99	34,580
6.61306	vinyl base	4"	3,067 lf	2.44	7,483

PROJECT McCALL MIDDLE SCHOOL ADDITION
WINCHESTER, MA

GFA 25,171 SF

Code	Item Description	Quantity	Unit	Price	Total	
6.61310	radial rubber stair tread/riser	184	lfr	16.40	3,018	
6.61311	radial rubber landings	162	sf	8.95	1,450	
6.61312	ceramic tile floor	830	sf	10.40	8,632	
6.61313	ceramic tile base	346	lf	13.17	4,557	
6.70000 CEILING FINISHES						
6.71100	acoustical tile 2x4	17,377	sf	2.47	42,921	
6.71106	paint drywall ceilings & furrdowns	2,466	sf	1.14	2,811	
6.71108	paint/seal exposed stairs & landings	346	sf	4.75	1,644	
6.80000 BUILT-INS						
6.82005	science demo table		p/lam	18 lf	414.00	7,452
6.82006	base cabinet		p/lam	164 lf	270.14	44,303
6.82007	wall cabinet		p/lam	164 lf	196.25	32,185
6.82010	p/lam countertops		p/lam	382 sf	20.70	7,907
6.82011	extra for cut out for sink		p/lam	10 ea	82.28	823
6.82013	full height storage		p/lam	99 lf	496.80	49,183
6.82021	misc rough carpentry	25,171	sf	0.77	19,382	
6.82022	misc trim	25,171	sf	0.63	15,858	
6.82023	misc metals	25,171	sf	0.91	22,906	
6.90000 SPECIALTIES						
6.90500	markerboards	1,020	sf	20.02	20,420	
6.90501	tackboards	680	sf	15.53	10,560	
6.90502	signs & graphics	25,171	sf	0.16	4,027	
6.90503	lockers	220	ea	263.93	58,065	
6.90505	fire extinguishers & cabinets	12	ea	477.34	5,728	
6.90506	standard partitions, phenolic	4	ea	1,319.63	5,279	
6.90507	handicap partitions, phenolic	2	ea	1,687.05	3,374	
6.90508	urinal screens, phenolic	1	ea	659.81	660	
6.90511	toilet accessories	1	ls	9,604.80	9,605	
6.90514	metal access panels	25,171	sf	0.13	3,272	
6.90515	demountable partition; unitized gypsum, vinyl clad	28	lf	157.32	4,405	
6.90516	partitions, operable - overhead supports	96	lf	158.23	15,190	
6.90517	partitions, modernfold standard fabric STC 5 10'2" high	976	sf	34.20	33,379	
6.90519	extra for STC 55	25	panels	165.47	4,137	
6.90520	extra for built in door	3	leaves	882.52	2,648	
INTERIOR CONSTRUCTION TOTAL COST					\$30.37 /SF	<u>\$764,508</u>

PROJECT McCALL MIDDLE SCHOOL ADDITION
WINCHESTER, MA

GFA 25,171 SF

Code	Item Description	Quantity	Unit	Price	Total
8.00000	MECHANICAL SUMMARY				\$
8.10000	FIRE PROTECTION	\$5.79	/SF		145,722
8.30000	PLUMBING	\$11.18	/SF		281,296
8.50000	HVAC	\$27.49	/SF		691,914
	MECHANICAL SUMMARY	TOTAL COST	\$44.45	/SF	<u><u>\$1,118,932</u></u>

PROJECT McCALL MIDDLE SCHOOL ADDITION
WINCHESTER, MA

GFA 25,171 SF

Code	Item Description	Quantity	Unit	Price	Total
8.10000	FIRE PROTECTION				\$
8.10002	fire department valve	3	ea	548.00	1,644
8.10004	zone control valve	1	ea	2,877.00	2,877
8.10010	sprinkler heads, semi recessed pendant	219	ea	399.68	87,530
8.10012	shop drawings/hydraulic calculation	1	ls	6,028.00	6,028
8.10014	connect to existing system in crawl space	1	ea	1,644.00	1,644
8.10014	water pipe u/ground 6"	55	lf	164.40	9,042
8.10015	water pipe in crawl space 6"	47	lf	205.50	9,659
8.10016	connect to existing system in ceiling	3	ea	822.00	2,466
8.10015	water pipe in ceiling 4"	201	lf	116.18	23,352
8.10016	remove/replace existing ceiling by GC	45	lf	32.88	1,480
8.10000	FIRE PROTECTION		TOTAL COST	\$5.79 /SF	<u><u>\$145,722</u></u>

PROJECT McCALL MIDDLE SCHOOL ADDITION
WINCHESTER, MA

GFA 25,171 SF

Code	Item Description	Quantity	Unit	Price	Total
8.30000	PLUMBING				\$
8.30006	1/2" mixing valve w/h&c water rough in to emergency showe	3	ea	1,286.57	3,860
8.30013	toilet, wall hung P-1,1A	12	ea	1,802.92	21,635
8.30015	urinal P-2,2A	2	ea	1,298.76	2,598
8.30016	lavatory P-3-3A	12	ea	1,501.52	18,018
8.30017	mop sink P-4	3	ea	2,230.36	6,691
8.30021	classroom sink PX-1	8	ea	1,397.40	11,179
8.30022	science sink PX-2,2A	9	ea	1,901.56	17,114
8.30023	lounge sink PX-3	1	ea	1,397.40	1,397
8.30024	safety shower eyewash PX-4	3	ea	575.40	1,726
8.30025	4" roof drain	4	ea	697.71	2,791
8.30027	floor drain w/trap primers	5	ea	711.30	3,557
8.30028	hose bib	2	ea	213.72	427
8.30029	wall hydrant	1	ea	246.60	247
8.30031	water hammer arrester w/access panel	2	ea	498.68	997
8.30037	pipng, valves & insulation storm water	25,171	sf	1.21	30,457
8.30038	pipng, valves & insulation sanitary	25,171	sf	1.64	41,280
8.30039	pipng, valves & insulation H&C water	25,171	sf	3.51	88,350
8.30110	connect to existing system	1	ea	548.00	548
8.30111	connect to existing system in crawl space	4	ea	822.00	3,288
8.30112	4" sanitary pipe in crawl space	116	lf	38.29	4,442
8.30113	3/4" H&C pipe in crawl space	116	lf	34.39	3,989
8.30114	1 1/4" H&C pipe in crawl space	116	lf	49.21	5,708
8.30115	2 1/2" H&C pipe in crawl space	116	lf	94.80	10,997
8.30000	PLUMBING				
	TOTAL COST	\$11.18	/SF		<u><u>\$281,296</u></u>

PROJECT McCALL MIDDLE SCHOOL ADDITION
WINCHESTER, MA

GFA 25,171 SF

Code	Item Description	Quantity	Unit	Price	Total
8.50000	HVAC				\$
8.60000	HVAC: EQUIPMENT				
8.60001	heat recovery unit 100% outside air, 7000 cfm	1	ea	31,327.33	31,327
8.60019	CUH-1, cabinet unit heater, 70.7 mbh ceiling recessed	1	ea	3,836.00	3,836
8.60026	UH-2, unit heater horiz propeller 74.6 mbh	1	ea	794.60	795
8.60028	relocate unit ventilator w/new louver	2	ea	5,780.00	11,560
8.80000	HVAC: HEAT TRANSFER / PIPING				
8.80001	12" fin tube radiation, 60 fins/ft 2 3/4x 4 1/4 alum	480	lf	70.14	33,667
8.80002	12" fin tube enclosure empty	618	lf	32.88	20,320
8.80006	P-1,2, hot water pump 100 gpm 5hp end suction	2	ea	3,315.40	6,631
8.80007	variable frequency drive 5 hp	2	ea	4,110.00	8,220
8.80057	pipng, valves & insulation	25,171	sf	3.84	96,657
8.80087	connect to existing system in crawl space	2	ea	822.00	1,644
8.80091	3" hot water pipe in crawl space	900	lf	84.12	75,708
8.90000	HVAC: AIR DISTRIBUTION				
8.90001	ductwork	15,487	lbs	9.92	153,631
8.90002	duct insulation	14,713	sf	4.33	63,706
8.90004	misc. ductwork accessories	1	ls	15,724.83	15,725
8.90005	air distribution devices	53	ea	266.33	14,115
8.90010	fans allowance	2	ea	1,644.00	3,288
8.90033	destratification fans w/cage	11	ea	959.00	10,549
8.95000	HVAC: OTHER				
8.95001	system identification	1	ls	5,573.16	5,573
8.95002	crane rental & rigging	1	ls	7,429.78	7,430
8.95003	equipment hook-ups	1	ls	31,579.05	31,579
8.95004	start-up	1	ls	3,715.44	3,715
8.95005	automatic controls	1	ls	75,491.38	75,491
8.95006	air & water test & balance	1	ls	16,746.88	16,747
8.50000	HVAC				
	TOTAL COST	\$27.49	/SF		<u><u>\$691,914</u></u>

PROJECT McCALL MIDDLE SCHOOL ADDITION
WINCHESTER, MA

GFA 25,171 SF

Code	Item Description	Quantity	Unit	Price	Total
9.00000	ELECTRICAL				\$
9.00100	ELECTRICAL SYSTEMS				
9.01100	SERVICE & DISTRIBUTION				
9.01107	DL1 distribution panelboard	1	ea	16,784.60	16,785
9.01110	panelboard 100A MCB 120/208	3	ea	2,686.60	8,060
9.01117	panelboard 100A MCB 277/480	1	ea	4,176.20	4,176
9.01118	panelboard 225A MCB 277/480	2	ea	6,197.80	12,396
9.01121	motor contol center, MCC1	1	ea	32,787.16	32,787
9.01122	dry type transformer	3	ea	5,133.80	15,401
9.06100	EQUIPMENT WIRING				
9.06101	equipment wiring & feeders	25,171	sf	1.33	33,477
9.10100	LIGHTING				
9.10101	lighting points	325	ea	303.89	98,764
9.10103	4' fluorescent strip w/wireguard, 2 lamp	4	ea	157.47	630
9.10105	8' fluorescent strip w/wireguard, 4 lamp	5	ea	267.06	1,335
9.10106	2x4 parabolic, 3 lamp	248	ea	261.74	64,912
9.10107	2x4 parabolic, 3 lamp w/bodine ballast	14	ea	374.53	5,243
9.10109	8" open downlight, 2 lamp w/bodine ballast	2	ea	295.79	592
9.10121	4' strip w/wireguard & bodine ballast	11	ea	270.26	2,973
9.10122	4' strip w/wireguard	13	ea	157.47	2,047
9.10122	4' linear direct/indirect w/.bodine ballast	7	ea	261.74	1,832
9.10123	8' linear direct/indirect	2	ea	297.92	596
9.10128	8' linear direct/indirect w/bodine ballast	8	ea	410.70	3,286
9.10132	exterior wall pack w/bodine ballast	3	ea	644.78	1,934
9.10137	exit signs	8	ea	147.90	1,183
9.10142	lighting control panel	1	ea	6,474.44	6,474
9.10144	occupancy sensor	32	ea	483.52	15,473
9.10146	switch 1 way	49	ea	178.70	8,756
9.10148	switch keyed	7	ea	207.48	1,452
9.20100	POWER				
9.20101	duplex receptacle	42	ea	185.92	7,809
9.20103	quadraplex receptacle	80	ea	225.33	18,026
9.20104	duplex receptacle gfi	24	ea	218.77	5,250
9.20110	junction box	11	ea	82.39	906
9.20131	grounding	25,171	sf	0.16	4,027
9.30100	COMMUNICATIONS & ALARM SYSTEMS				
9.30105	visual signal	5	ea	174.50	873
9.30106	audio & visual signal	29	ea	280.42	8,132
9.30107	manual pull station	4	ea	202.53	810
9.30108	magnetic door holder	3	ea	291.38	874

PROJECT McCALL MIDDLE SCHOOL ADDITION
WINCHESTER, MA

GFA 25,171 SF

Code	Item Description	Quantity	Unit	Price	Total	
9.30110	smoke detector	15	ea	227.43	3,411	
9.30112	duct smoke detectors	4	ea	627.23	2,509	
9.30115	remote test station	4	ea	161.41	646	
9.30120	remote indicating light	1	ea	174.50	175	
9.30121	fire alarm conduit & wire	2,600	lf	5.81	15,106	
9.30122	connect & tie in to existing system	1	ls	5,320.00	5,320	
9.40100 TECHNOLOGY & COMMUNICATIONS STUBS, BOXES & CONDUIT						
9.40101	stub, box & conduit	73	ea	61.71	4,505	
9.50100 SECURITY SYSTEMS						
9.50102	magnetic door contact	3	ea	227.16	681	
9.50103	motion alarm detector	6	ea	623.93	3,744	
9.50106	security system conduit & wire	675	lf	5.81	3,922	
9.50107	connect & tie in to existing system	1	ls	1,596.00	1,596	
9.60100 TECHNOLOGY						
9.61100 VOICE/INTERCOM/CLOCK SYSTEM						
9.61103	wall clocks	13	ea	207.21	2,694	
9.61105	ceiling speakers	26	ea	208.76	5,428	
9.62100 DATA SYSTEMS						
9.62104	technology outlets cable, patch panel D1	13	ea	207.75	2,701	
9.62105	technology outlets cable, patch panel D2	11	ea	281.91	3,101	
9.62106	technology outlets cable, patch panel D3	11	ea	356.07	3,917	
9.62108	teachers data outlets cable, patch panel T	11	ea	667.66	7,344	
9.62112	voice/data outlets cable, patch panel VD2	14	ea	281.91	3,947	
9.65100 MISCELLANEOUS SYSTEMS						
9.65101	lightning protection	allowance	6,548	sf	1.55	10,149
9.65120	connect & tie in to existing teledata systems	1	ls	10,640.00	10,640	
ELECTRICAL		TOTAL COST	\$19.02	/SF		<u><u>\$478,807</u></u>

PROJECT McCALL MIDDLE SCHOOL ADDITION
WINCHESTER, MA

GFA 25,171 SF

Code	Item Description	Quantity	Unit	Price	Total	
10.00000	GENERAL CONDITIONS & PROFIT				\$	
10.10000	GENERAL REQUIREMENTS					
10.11000	bonds	1	ls	59,000.00	59,000	
10.11000	insurances	1	ls	78,219.70	78,220	
10.11010	on site supervision & indirect costs	12	months	37,500.00	450,000	
10.90000	OVERHEAD & PROFIT					
10.91000	main office overhead & fee	3.50%	1	ls	185,917.00	185,917
	GENERAL CONDITIONS & PROFIT	TOTAL COST	\$30.72	/SF	<u>\$773,137</u>	

PROJECT McCALL MIDDLE SCHOOL ADDITION
 WINCHESTER, MA

GFA 25,171 SF

Code	Item Description	Quantity	Unit	Price	Total
11.00000	EQUIPMENT				\$
11.10000	FIXED & MOVABLE EQUIPMENT				
11.14500	refrigerator	1	ea	1,863.00	1,863
11.20000	FURNISHINGS				
11.11000	window shades, manual	2,155	sf	2.95	6,357
	EQUIPMENT				
	TOTAL COST	\$0.33	/SF		<u><u>\$8,220</u></u>

PROJECT McCALL MIDDLE SCHOOL ADDITION
WINCHESTER, MA

GFA 25,171 SF

Code	Item Description	Quantity	Unit	Price	Total
12.00000	SITE WORK				\$
12.10000	SITE PREPARATION				
12.10500	clearing & misc site demo	0.23	acres	2,500.00	575
12.10500	remove conc.stair & landings	264	sf	15.00	3,960
12.10500	remove bleachers	1,210	sf	5.00	6,050
12.10500	cut & demo retaining wall	1	ea	962.50	963
12.10500	remove utility structures	1	ea	200.00	200
12.10500	abandon existing utilities	70	lf	5.00	350
12.10500	premium for disposal of demolished materials	1	ls	2,900.00	2,900
12.10500	strip, stockpile & respread existing topsoil 6"	142	cy	12.75	1,811
12.10500	site earthwork cut	2,195	cy	4.75	10,426
12.11500	site earthwork fill & compact	1,677	cy	8.25	13,835
12.11500	site earthwork imported fill	1,677	cy	30.00	50,310
12.11500	disposal off site	2,195	cy	24.87	54,590
12.11500	site remediation of hazardous materials	150	cy	150.00	22,500
12.11500	fine grade for paved areas	1,653	sf	0.13	215
12.11500	BUILDING DEMOLITION				
12.11500	gut existing building	2,054	sf	10.00	20,540
12.10500	pre-demolition abatement allowance	2,054	sf	5.00	10,270
12.10500	premium for disposal of demolished materials	1	ls	7,700.00	7,700
12.20000	SITE IMPROVEMENTS				
12.21000	roads & lots	154	sf	2.03	313
12.21001	concrete walks	1,499	sf	5.18	7,765
12.21015	site/retaining walls concrete	56	lf	824.74	46,185
12.21026	steps on grade concrete	211	lfr	35.67	7,526
12.21028	exterior stair/ramp handrail	58	lf	97.50	5,655
12.21045	crosswalk/area markings	108	sf	2.26	244
12.25000	LANDSCAPING				
12.25006	landscape repairs	1	ls	3,000.00	3,000
12.25007	relocated trees allowance	2	ea	1,000.00	2,000
12.30000	SITE UTILITIES				
12.30500	STORM DRAINAGE SYSTEM				
12.25000	tie in to existing system storm system	2	ea	1,000.00	2,000
12.25001	excavate & backfill storm system	22	lf	15.19	334
12.25002	6" drain pipe	22	lf	16.95	373
12.31000	WASTE WATER COLLECTION				
12.31000	tie in to existing system waste system	2	ea	1,000.00	2,000
12.31000	sanitary manhole	2	ea	6,500.00	13,000

PROJECT McCALL MIDDLE SCHOOL ADDITION
 WINCHESTER, MA

GFA 25,171 SF

Code	Item Description	Quantity	Unit	Price	Total
12.31001	excavate & backfill				
	waste system	75	lf	15.19	1,139
12.31002	4" pvc				
	waste system	77	lf	15.50	1,194
12.31004	8"pvc				
	waste system	75	lf	16.95	1,271
	SITE WORK				
	TOTAL COST		\$11.97 /SF		<u>\$301,194</u>

PROJECT McCALL MIDDLE SCHOOL ADDITION
WINCHESTER, MA

GFA 25,171 SF

Code	Item Description	Quantity	Unit	Price	Total
B	COST SAVINGS/ADDITIONS				
	ALL PRICES INCLUDE SUMMARY LEVEL MARKUPS				\$
B1	delete collonade, enclose space				(34,457)
B2	basement to be "crawl" space only				(37,128)
B3	marmoleum floor in lieu of vct				43,626
B4	standard partitions in lieu of folding walls				(54,590)
B5	acid waste system				40,403
B6	leave teachers dining in place, delete toilets				(196,035)
B6	potential Geotech savings (bad soils premium)				(60,842)



Winchester High School

Scope of Work:

Scope: The ten-year plan for the High School to accommodate the ten year projected enrollment increase to 1,370 students will require additional classrooms that will fit within the existing building. Additional needed spaces are as follows:

- 4 new classrooms (English, Math, Social Studies, Language)
- 12 reconfigured science rooms/labs
- 1 new weight room
- 1 new fitness room
- 1 new art room (divide existing)

Space Program and Floor Plans:

The following program shows the detail of proposed spaces required to meet the needs of the projected enrollment increase at the High School.

Following the program are floor plans of the High School that show the existing school with required space modifications.

Winchester High School Space Program

DATE: 7/24/07

School District: Winchester Public Schools

School Address: 80 Skillings Road, Winchester, MA 01890

Type of Proposed Construction: New _____ Additon _____ Renovation x Existing x

Grade in Attendance (Circle): Pre-K K 1 2 3 4 5 6 7 8 **9** 10 11 12

10-Year Enrollment Data Date: 4/17/07

Current 09/01/06			Projected 09/01/2016	
Head Count	FTE*		Head Count	FTE*
0	0	Pre-K	0	0
0	0	Kindergarten	0	0
0	0	Ungraded	0	0
1,119	1,119	Grades <u>9</u> to <u>12</u>	1,371	1,371
1,119	1,119	Total	1,371	1,371

Winchester High School Renovation
Basic Educational Space for Planned Program

Subject	Projected Students per Class	Class Size	Sections	Sessions per Week	Total Sessions	Periods per Week	Total Stations Required	Stations Available	Sq. Ft. each Station	Total Area Available	New Stations Required	Sq. Ft. each Station	New Rooms
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Core Curriculum

English	1,350	27	50	7	350	35	10	10	990	9,900	0	0	1
Math	1,350	27	50	7	350	35	10	10	990	9,900	0	0	2
Social Studies	1,350	27	50	7	350	35	10	10	990	9,900	0	0	1
Science	1,378	24	57	7	400	35	12	12	1,417	17,000	0	0	Reconfig

Athletics

Gym Teaching Station Physical Ed.	1,370	30	45	7	315	35	9	9	2,888	26,000			
Weight Room								1	1,438	1,438			1
Athletic Storage								2	1,200	2,400			
Fitness Aerobics								1	1,438	1,438			1

Specialized Teaching Spaces

Art Classroom	240	24	10	7	70	35	2	2	1,514	3,028			Reconfig
Photography	120	24	5	7	35	35	1	1	1,400	1,400			
Health	120	24	5	7	35	35	1	1	724	724			
Consumer Science	240	24	10	7	70	35	2	2	1,475	2,950			
Computer Graphics	110	22	5	7	35	35	1	1	1,000	1,000			
Computer	240	24	10	7	70	35	2	3	940	2,820			

Subject	Room Number	Projected Students per Class	Class Size	Sections	Sessions per Week	Total Sessions	Periods per Week	Total Stations Required	Stations Available	Sq. Ft. each Station	Total Area Available	New Stations Required	Sq. Ft. each Station	New Rooms
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Specialized Teaching Spaces, Cont'd.

Music Office								1	1	260	260			
Music Composition								1	1	440	440			
Music CL		300	30	10	7	70	35	2	2	1,452	2,914			
Foreign Language		1,200	24	50	7	350	35	10	10	990	9,900			1
TV studio								1	1	1,200	1,200			
CAD Lab								1	1	1,100	1,100			
Technology Lab								1	1	950	950			
Model Shop								1	1	1,200	2,000			
Lecture/Study Hall								1	1	1,240	1,120			Reconfig
School Store								1	1	260	260			

Miscellaneous Educational Space

Administration

Principal								1	1	400	400			
Assist. Principal								2	2	125	250			
Administration								1	1	2,000	2,000			
Counseling Offices								8	8	1,150	1,150			

Cafeteria

Cafeteria								1	1	6,900	6,900			
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Subject	Room Number	Projected Students per Class	Class Size	Sections	Sessions per Week	Total Sessions	Periods per Week	Total Stations Required	Stations Available	Sq. Ft. each Station	Total Area Available	New Stations Required	Sq. Ft. each Station	New Rooms
Auditorium														
Auditorium								1	1	9,650	9,650			
Guidance														
Guidance								1	1	410	410			
Health Suite														
Health Suite								1	1	600	600			
Library														
Library								1	1	6,000	6,000			
Lockers														
Boys								1	1	3,220	3,220			
Girls								1	1	3,860	3,860			
Kitchen														
Kitchen								1	1	1,910	1,910			
Work Rooms														
Staff								5	5	755	3,775			
Special Needs														
Learning Center								3	3	800	2,400			
Life Skills								1	1	800	800			Reconfig
Core Curriculum														46,700
Athletics														31,276
Specialized Teaching Spaces														32,066
Miscellaneous Educational Space														40,125
Special Needs														3,200
Other Spaces (Includes gross areas for corridors, mechanical rooms, toilets, etc.)														127,333
Total Gross Square Footage														280,700



 **FIRST FLOOR PLAN**
1" = 60'

Total Building Area: 280,700 sf

High School



High School



THIRD FLOOR PLAN
1" = 60'

High School

Schedule and Costs:

Schedule: It is recommended that the renovation work at the High School be ready for occupancy by September 2012 due to the projected large increase in enrollment in that year. In order for this to occur, the following schedule is recommended:

Design/Documents	8-10 months
Bid/Award	2 months
<u>Construction</u>	<u>14-24 months</u>
Total	24-36 months

This requires that authorization to start design work should occur no later than September 1, 2009.

Estimated Costs: The estimated total project costs (in 2007 dollars) for the High school including furniture, equipment, technology, and soft costs is as follows: (Three levels of scope have been estimated.)

Level 1: Basic renovation to meet code and program with new finishes	\$54,784,000
Level 2: Moderate renovation and add new high performance exterior skin and new windows	\$75,233,000
Level 3: All new high school	\$87,676,000

(These estimates should be increased for inflation and rising construction costs at a compounded rate of 7% per year.)

Attached is a breakdown of the total project costs for the three levels of scope for the High School.

Winchester High School

Preliminary Cost Estimate
15-Aug-07

	Level 1 Basic Renovation Code Compliant Option	Level 2 Moderate Renovation w/new High Performance skin	Level 3 New High School
PROBABLE COST OF CONSTRUCTION			
Basic Renovation (280,700sf x \$150)	\$42,105,000	\$59,508,400	\$69,575,000
Moderate Renovation w/ new skin (280,700sf x \$212)			
New High School (253,000sf x \$275)		\$59,508,400	\$69,575,000
Total	\$42,105,000	\$59,508,400	\$69,575,000
CONSTRUCTION CONTINGENCY			
Construction / Protect	\$2,105,250 5%	\$2,975,420 5%	\$3,478,750 5%
Owners contingency/	\$421,050 1%	\$595,084 1%	\$695,750 1%
Architect contingency	\$421,050 1%	\$595,084 1%	\$695,750 1%
Total	\$2,947,350	\$4,165,588	\$4,870,250
DESIGN AND ENGINEERING FEES			
Plansburgh Associates Base Contract	\$3,157,875	\$4,463,130	\$5,218,125
Total	\$3,157,875	\$4,463,130	\$5,218,125
FURNITURE AND EQUIPMENT			
Furniture Acquisition @ \$1500/student (1370 students)	\$2,055,000	\$2,055,000	\$2,055,000
Fees and Expenses	\$205,500	\$205,500	\$205,500
Total	\$2,260,500	\$2,260,500	\$2,260,500
COMPUTER/TECHNOLOGY + FEES			
Equipment @1500/student (1370 students)	\$2,055,000	\$2,055,000	\$2,055,000
Fees and Expenses	\$205,500	\$205,500	\$205,500
Total	\$2,260,500	\$2,260,500	\$2,260,500
ADDITIONAL PROJECT COSTS			
1 Surveying	\$30,000	\$30,000	\$40,000
2 Geotech. Cons. + Testing	\$0	\$0	\$50,000
3 Civil Engineering/Landscape	\$75,000	\$75,000	\$175,000
4 Food Service	\$50,000	\$50,000	\$80,000
5 Acoustics	\$30,000	\$30,000	\$30,000
6 Cost Estimating	\$75,000	\$75,000	\$85,000
7 Graphics	\$25,000	\$25,000	\$25,000
8 Testing and monitoring at Construction	\$25,000	\$25,000	\$200,000
9 Bidding Printing, Adendum & Distribution	\$75,000	\$75,000	\$100,000
10 Legal	\$50,000	\$50,000	\$50,000
11 Reimbursable Expenses - Architect	\$150,000	\$150,000	\$200,000
12 Construction Manager	\$1,263,150	\$1,785,252	\$2,087,250
13 Security Consultants	\$50,000	\$50,000	\$60,000
14 Environmental Testing	\$0	\$0	\$50,000
15 Gas Co	\$10,000	\$10,000	\$20,000
16 Electric Co	\$10,000	\$10,000	\$20,000
17 Other Utilities	\$10,000	\$10,000	\$20,000
18 Building Commissioning	\$50,000	\$50,000	\$100,000
19 Traffic Consultant	\$15,000	\$15,000	\$40,000
20 Asbestos report and monitoring services	\$50,000	\$50,000	\$50,000
21 Consultant, Advertisements, & Misc. Expenses	\$10,000	\$10,000	\$10,000
Total	\$2,053,150	\$2,575,252	\$3,492,250
2007 TOTAL PROJECT COSTS	\$54,784,375	\$75,233,370	\$87,676,625