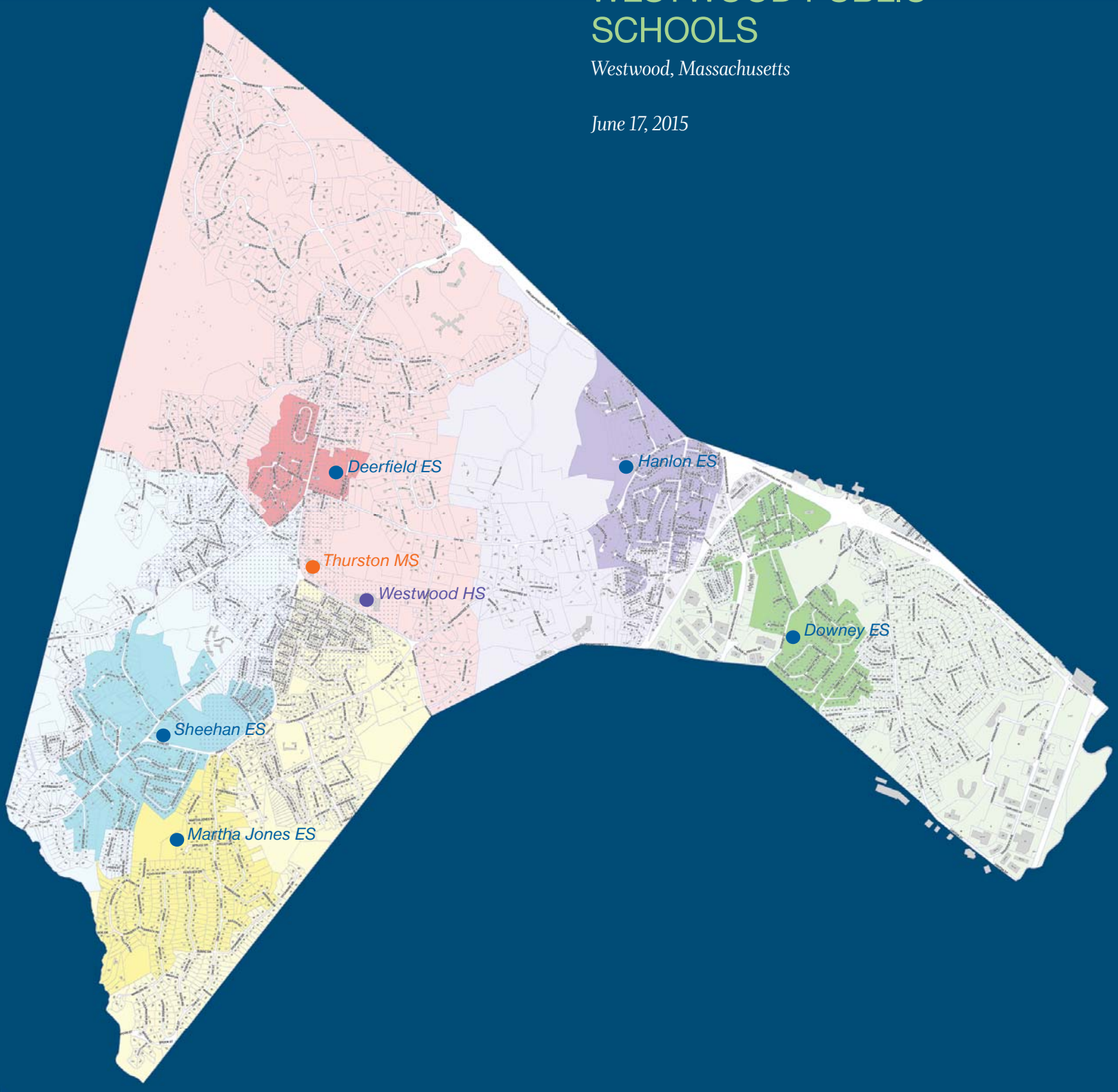
SMMA

Phase V - Master Plan
Capital Needs Study

WESTWOOD PUBLIC SCHOOLS

Westwood, Massachusetts

June 17, 2015



SMMA

Phase V - Master Plan
Capital Needs Study
Westwood Public Schools

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SMMA

Executive Summary 1

Executive Summary

1.1 Acknowledgements

Symmes Maini & McKee Associates (SMMA) would like to acknowledge the participation and guidance provided by the district administration, School Committee, and the teachers and staff of the District.

District Administration

Westwood Public Schools Administration
John Antonucci, Superintendent of Schools
Heath Petracca, Director of Business and Finance
Ken Aries, Director of Operations
Allison Borchers, Interim Assistant Superintendent

School Committee

Brian T. Kelly
Charles Donahue
Carol Lewis
John J. O'Brien, Jr.
Josepha A. Jowdy

1.2 Introduction

This report, Phase V, is the fifth and final component of the Capital Needs Study for the Westwood Public Schools. The Phase II report, Demographic Analysis, and the Phase III report, Facilities Assessment are included in the Appendix portion of this document. Phases II and III were completed in the Fall of 2014. Phase IV, Task 1- meeting with school administration and principals to review programming and educational goals was conducted in a series of meetings in November 2014. Minutes from these meetings are also included in the Appendix portion of this document.

Goals

Phase V of this Capital Needs Study sets out to develop strategies for addressing the code and system upgrades required at the elementary schools and the middle school as well as exploring consolidation options that will address the slow decrease in enrollment projected over the next ten years.

Based on the educational, enrollment, and infrastructure needs, conceptual options were developed for three levels of renovations:

Status Quo: Renovations as required for code upgrades and necessary infrastructure and system upgrades

Satisfy Educational Program: Major renovations and/or additions, in addition to systems/code upgrades noted above, as required to satisfy educational programming needs

Consolidation: Major renovations, additions, and new construction, in addition to systems/code upgrades noted above, as required to satisfy educational programming needs

This Capital Needs Study is not an implementation plan. The ideas will require detailed programming with administration, school staff and special program directors that lead to schematic design. These next steps will provide more detailed information to help the Town make decisions on what, where and when to build. Multiple schedule options are provided to assist in developing "what if" timing strategies.

Next Steps following the Study:

- Appropriate funds for further study of the Hanlon site for a potential new elementary school option.
- Develop a strategy for preparing the SOIs (Statement of Interests) to request elligibility into the MSBA (Massachusetts School Building Authority) grant programs.

1.3 Background/Enrollment

Enrollment projections were a key element and point of discussion of the previous Master Plan study prepared by SMMA in 2007 in response to concern of actual population increases and potential future growth from Westwood's University Station development.

The Demographic Study Report, prepared by Cropper GIS Consulting LLC, as part of Phase II of this Capital Needs Study, forecasts that elementary enrollment is expected to decline by 193 students by FY2025. Middle school enrollment is projected the decline by 100 students by FY2025 whereas high school enrollment will experience a slight increase through FY2021 to over 1000 students before declining back to 952 by FY2025. The full Demographic Study is included in the Appendix of this Report.

The table below summarizes the current and projected enrollments at FY2020 as well at FY2025.

Grade Group	Current Enrollment FY 2014-2015	Projected Enrollment FY 2019-2020	Projected Enrollment FY 2024-2025	Projected Enrollment Decline	Design Target Enrollment
Pre K	47	47	47	0	47
Elementary (K-5)	1391	1273	1198	193	1263
Middle School	798	702	698	100	725
High School	971	1032	952	19	-
Total System	**3207**	**3054**	**2895**	**312**	

Since this Capital Needs Study needs to conclude with recommendations for potential new construction and or redistricting options certain assumptions need to be established in regards to enrollment. These assumed enrollment numbers are listed in the far right column above entitled Design Target Enrollment.

Depending on the rate of decline and assuming that any building renovation, addition, or new construction would not break ground until at least FY2017 a target enrollment was determined to allow for the projected decline in enrollment while providing flexibility if the rate of decline is not as steady as predicted.

1.4
Grade Configuration Discussion

Westwood currently has a grade configuration as follows: K-5, 6-8 and 9-12 with PreK housed at the High School. Many people may think that maintaining the current structure is a given, but a review and discussion of this issue is a good exercise to explore as part of the master planning process. The grade structure must be first and foremost educationally sound. All or most of the grade structures discussed below can be found in school districts across the Commonwealth and elsewhere.

Pros and Cons of different grade structures can include:

- Transitions to another school as part of a different Grade structure can be viewed as disruptive for certain students.
- Adding transitions can in some cases complicate bussing and increase bussing costs.
- Aggregating certain grades together can improve communication between age related teachers, e.g. PreK and K.
- Changing grade structures can in some cases make building use more efficient.
- Redistricting required as a result of some grade restructuring may impact the current "neighborhood school" mentality that currently exists within the Elementary School districts.

Grade Configuration Options

In addition to the current grade configuration (K-5, 6-8 and 9-12/PreK), 3 additional grade configuration options were explored. These were discussed at a preliminary meeting with school administration and select School Committee members. The options are graphically expressed in Exhibit 1.1.

- Option 1: PreK, K-5, 6-8, 9-12: Maintains the current grade configuration; however, redistricting (all districts) would create an equilibrium for class sizes at the elementary school levels.
- Option 2: PreK, K-2, 3-5, 6-8, 9-12 was deleted after preliminary discussions with school administration and select school committee members. This option added a student transition which is felt to be adverse to the districts goals.
- Option 3: PreK-K, 1-5, 6-8, 9-12: A PreK-K school would remove Kindergarten students from 4 of the 5 elementary school districts and remove the PreK classes from the High School into the existing Hanlon school. Redistricting would also be required for all the districts to create parity among the remaining 4 elementary schools for grades 1-5. By removing PreK from the High School, this space could be reclaimed for High School use which would alleviate some of the pressure from current enrollment increases.
- Option 4: PreK-5, 6-8, 9-12: This option was added for the Consolidation options.

Class Sizes

Of particular concern with the current grade configuration and district boundaries are the varying class sizes at the elementary school level and perceived lack of parity in regards to class sizes from one district to another.

For purposes of this study, in those elementary school options that involve redistricting, typical class sizes have been based on the standards set forth by the MSBA:

- Kindergarten: 18 students per class
- Grades 1 through 5: 23 students per class

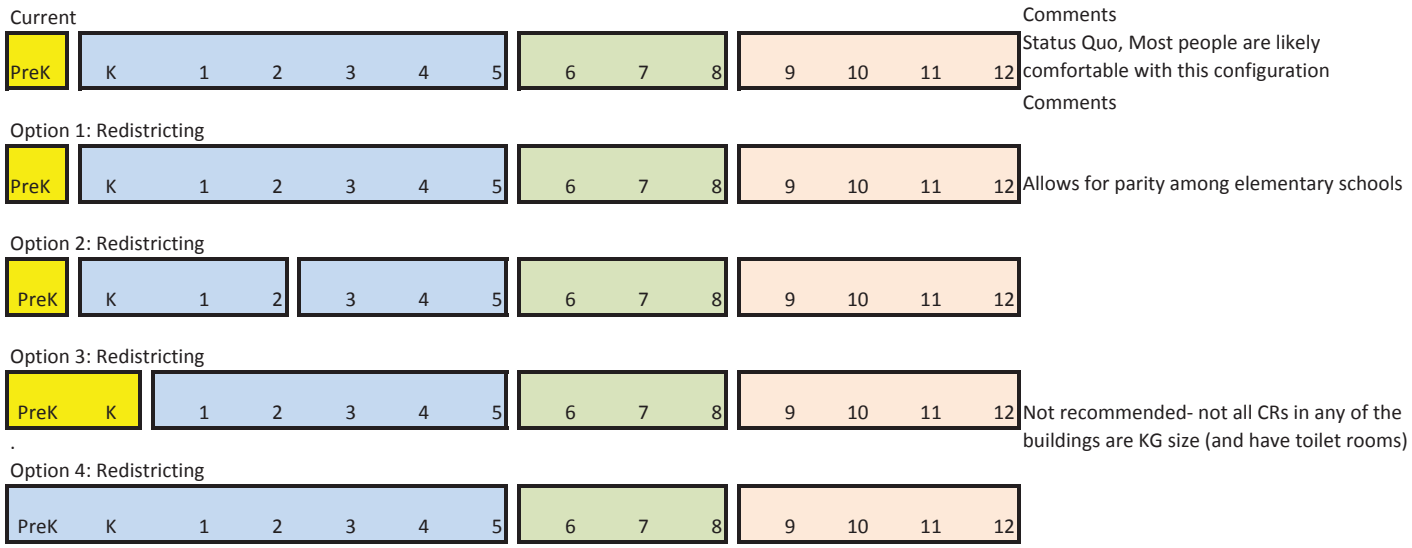


Exhibit 1.1

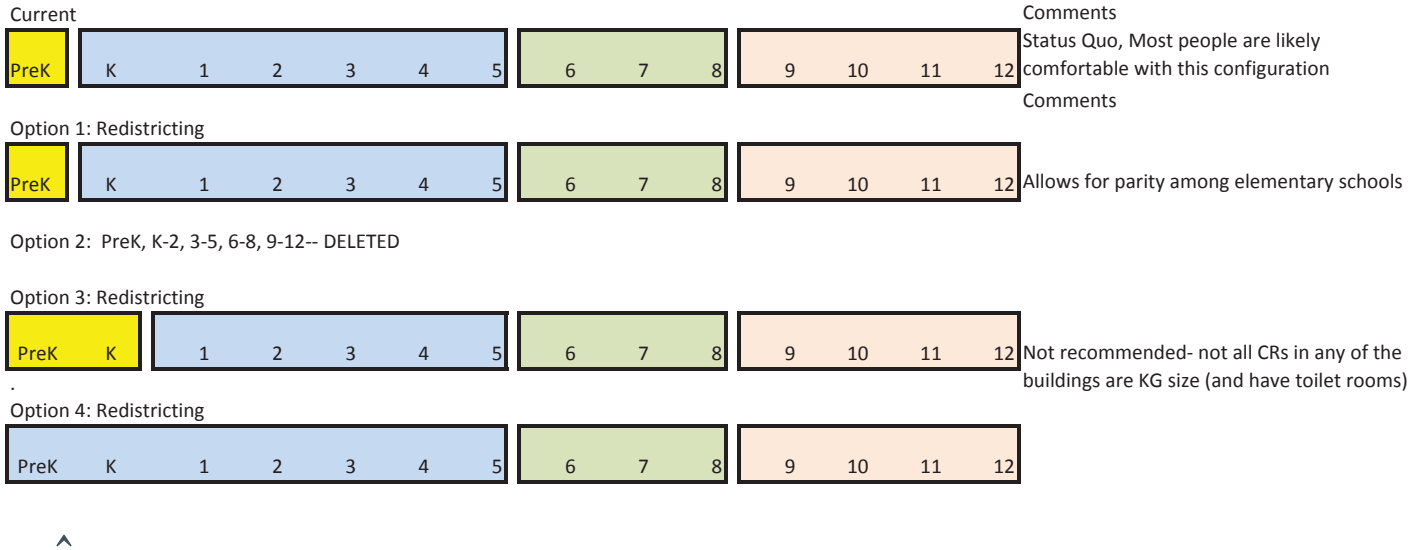


Exhibit 1.2

1.5
Educational Program Discussion

Existing Building Capacities

SMMA reviewed the current number of existing classrooms and calculated the existing capacity at each school based on the guidelines and typical class sizes set forth by the MSBA for new construction projects. Required number of Art, Music and full-size SPED classroom spaces are accounted for in these existing capacity calculations even though these particular spaces are shared or housed in repurposed spaces currently. (Deerfield, Sheehan and Hanlon)

Detailed summaries of existing spaces as compared the MSBA standards are included in Appendix 6.4 of this Report. A summary of this information is found in the table below:

	Current 2014-2015 Population *(% Building Usage)*	2024/2025 Forecasted Enrollment Cropper Report *(% Building Usage)*	Design Enrollment *(% Building Usage)*	Existing GSF (including Modulars)	Existing Building Capacity **Based on current MSBA standards 18 students (K) 23 students (1-5)*
Deerfield ES	247 *(113%)*	223 *(102%)*	229 *(105%)*	35,078 (2 Sections)	218
Sheehan ES	373 *(105%)*	292 *(82%)*	318 *(89%)*	49,586 (3 Sections)	356
Hanlon ES	226 *(104%)*	219 *(100%)*	224 *(103%)*	34,280 (2 Sections) Extended Day	218
Martha Jones ES	295 *(89%)*	249 *(75%)*	264 *(79%)*	50,796 (2+ Sections)	333
Downey ES	250 *(75%)*	215 *(65%)*	228 *(68%)*	50,692 (2+ Sections)	333
Total for District (K-5)	1,391 *(97%)*	1,198 *(85%)*	1,.263 *(89%)*		1,458
Thurston MS	798 *(105%)*	698 *(92%)*	725 *(96%)*	92,278	759

Program Deficiencies

In addition to the calculated program deficiencies of the physical space as defined in the detailed MSBA space summaries (Appendix 6.4), various meetings were conducted by SMMA with school principals, administration and key staff members at each school to determine what the educational goals are and how the existing facilities meet and/or hinder the delivery of these educational goals. Through these discussions there were various patterns that began to emerge. Notes generated from these meetings are located in Appendix 6.3 of this Report.

The following are some of the patterns that were noted:

- At Deerfield, Hanlon and Sheehan; in particular, specialty programs such as Art, Music, Literacy and Math Coach are either sharing spaces or utilizing spaces that were not intended for office or group instruction.
- There is a desire for more break-out spaces located in close proximity to classrooms for small group instruction and intervention services.
- The existing IPad/ laptop cart process that is employed at the Elementary School level is problematic.
- Handicap accessibility, specifically at Deerfield, Hanlon and Sheehan is an issue.
- There is a general lack of storage and custodial space at all schools.
- The Elementary grades would like SmartBoards while they are currently under-utilized at the High School level.
- HVAC Issues, specifically at Deerfield, Hanlon and Sheehan have a negative impact on learning.

Other Programs and Considerations

PreKindergarten (PreK)

PreKindergarten, hereafter referred to as PreK, is centralized in one program and is currently located at the High School. The options for this program are discussed in Section 2 of this Report.

Extended Day

Extended Day is a private after school program that serves Westwood students and families. It operates solely out of Hanlon Elementary school, located in the modular classroom addition.

District Wide Special Education Programs

In addition to the customary Special Education programs (SPED) located in each of the seven schools in the district, there are also district-wide programs housed at a few of the elementary school locations. These programs are described below. The options included in this report include some additional classrooms and areas to serve special education students. At the next level of programming and design, all special education requirements should be reviewed in detail, including all of the special education programs discussed.

- FOCUS: Currently located at Deerfield Elementary, the Focus program was created to accommodate severely physically handicapped students. There are three students from the PreK program enrolled in the Focus program.
- LBLD: Currently located at Sheehan Elementary, this program serves students with language based learning disabilities.
- PEER: Located at Downey Elementary, PEER serves students with autism spectrum disorder.
- STAR: Located at Downey Elementary, the STAR program services students with emotional and behavioral issues.
- WABA: Located at Downey Elementary, the WABA program serves students with autism spectrum disorder who require highly individualized services.

1.6
Facilities Assessment

The Elementary School Buildings and Sites included in the Facilities Assessment Study:

- Deerfield Elementary
- Sheehan Elementary
- Hanlon Elementary
- Downey Elementary
- Martha Jones Elementary
- Thurston Middle School

Westwood High School was not included in this Assessment due to being relatively new construction.

The full Facilities Assessment Report is included in Appendix 6.2 of this Report.

Deerfield Elementary School

Built in 1953 with modular classrooms added around 2008, Deerfield is structurally sound with masonry bearing walls and steel truss roof structure. The roof was recently replaced; however, all of the exterior windows except for the modulars are the original aluminum framed, single pane windows that are in need of replacement.

Although a chair lift was installed to access the lower Gymnasium in 2011, there are still various accessibility issues that exist within the building. Some of these issues include: insufficient accessible parking spaces, inaccessible building entry points, interior door clearance issues, and inaccessible toilet rooms. Due to the level of renovations required and the associated costs, the building will have to be made fully accessible in accordance with the State Building Code and MAAB (Massachusetts Architectural Access Board) regulations.

Except for recent replacement of one of the steam boilers and water heater, much of the plumbing and HVAC infrastructure in the 1953 portion of the building is original and nearing the end of its useful life.

Sheehan Elementary School

Built in 1948 with a sizeable addition constructed in 1967, Sheehan is structurally sound with masonry bearing walls and steel truss roof structure. The roof was recently replaced; however, all of the exterior windows are the original aluminum framed, single pane windows that are in need of replacement.

Some of these issues include: insufficient accessible parking spaces and building entry doors at classrooms, interior door clearance issues, inaccessible toilet rooms. Due to the level of renovations required and the associated costs, the building will have to be made fully accessible in accordance with the State Building Code and MAAB (Massachusetts Architectural Access Board) regulations.

Much of the existing plumbing and HVAC infrastructure and components are original and nearing the end of their useful life.

Hanlon Elementary School

Built in 1951 with modular classrooms added around 2004, Hanlon is structurally sound with masonry bearing walls and a wood framed roof structure. The roof is in poor condition and requires replacement. All of the windows except for the modulars are the original steel and wood framed, single pane windows that are in need of replacement as well.

Although a chair lift was installed to access the stage, there are still various accessibility issues that exist within the building. Some of these issues include: insufficient accessible parking spaces and building entry doors at classrooms, interior door clearance issues, and inaccessible toilet rooms.

Except for recent replacement of one of the steam boilers, much of the plumbing and HVAC infrastructure in the 1951 portion of the building is original and nearing the end of its useful life.

Downey Elementary School

Built in 1957 with a major addition and renovation completed in 2001, Downey is structurally sound with masonry bearing walls and a steel framed roof structure. The overall condition of the building is good.

Martha Jones Elementary School

Built in 1957 with a major addition and renovation completed in 2001, Martha Jones is structurally sound with a combination of concrete pan joist supported by concrete columns and steel framed structures. The overall condition of the building and its elements is good.

Thurston Middle School

The school facility consists of a multi-level school building constructed in 1939 and renovated and added to in stages with the most recent work done in 2009. The multiple additions to the school have not been consistent with the original design for the school and only addressed the functional and educational needs of the school.

1.7
Options Development

The Master Plan options were developed as part of a three tiered approach as defined by the District. The matrix illustrated in Exhibit 1.x provides a diagrammatic representation of the options that were explored in this Study.

The base options, defined as ***Status Quo*** investigates only necessary code and systems upgrades required.

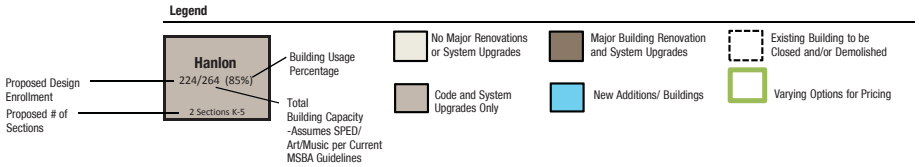
The second tier, ***Satisfy Educational Program***, is intended to match the number of classrooms and resulting student populations with the capacity of the core spaces and non-core academic spaces, such as: Gym, cafeteria, library, music and art, as well as properly provide for special education. Satisfying the educational program may have slightly different implications at each school.

Finally, the third tier, ***Consolidate***, explores options for constructing a new elementary school by consolidating 2-3 of the existing elementary districts. Redistricting approaches were also explored in each of the consolidation options.

Each of these options are explored in depth in Section 2 of this Report.

Westwood School District Options Summary

Updated 4/28/2015
10 Year Capital Needs Plan



		Elementary Schools						Middle School	High School	Grand Totals per Options Project Costs	Potential MSBA Reimbursement 31% minimum base rate
Status Quo											
Necessary Code and System Upgrades Only Including:											
Accessibility Upgrades *Building Code Compliance* *MEP Systems Upgrades as Rqd* *Window Replacement as Rqd*	Option A-1	K-5 Deerfield 229/218 (105%) 2 Sections K-5 $9,205,895	Sheehan 318/356 (89%) 3 Sections K-5 Elevator $16,572,434	K-5 Hanlon 224/218 (103%) 2 Sections K-5 $10,974,470	K-5 Martha Jones 264/333 (79%) 2 Sections K-5 $1,242,650	Downey 228/333 (68%) 2 Sections K-5 $1,194,430		6-8 Thurston 725/759 (95%) $23,507,250	9-12 Westwood HS 970	Option A-1 $62,697,129	Accellerated Repairs: Boilers, Roof, Windows 31%
Satisfy Educational Program											
Necessary Code and System Upgrades, Renovations/Additions	Option B-1	K-5 Deerfield 229/264 (87%) 2 Sections K-5 Library, Music, Art $14,115,061	Sheehan 318/356 (89%) 3 Sections K-5 Elevator $20,728,128	K-5 Hanlon 224/264 (85%) 2 Sections K-5 Library, Music, Art $12,661,350	K-5 Martha Jones 264/333 (79%) 2 Sections K-5 $1,242,650	Downey 228/333 (68%) 2 Sections K-5 Sm Grp Space $1,297,399		6-8 Thurston 725/759 (95%) $28,199,438	9-12 Westwood HS 970	Option B-1 $78,244,025	Major Renovations Only 1 project 31%
Redistricting *Relocate Extended Day Program*	Option B-3	1-5 Deerfield 189/218 (87%) 2 Sections 1-5 Library $13,512,041	Sheehan 322/356 (90%) 3 Sections 1-5 Elevator $20,728,128	Pre-K/ K Hanlon 240/264 (91%) 10 Sections K/4 Pre-K Library, Music, Art $12,661,350	1-5 Martha Jones 294/333 (88%) 3 Sections 1-5 $1,242,650	Downey 273/310 (88%) 2 Sections 1-5 Sm Grp Space Extended Day $1,297,399		6-8 Thurston 725/759 (95%) $28,199,438	9-12 Westwood HS 970	Option B-3 $77,641,005	Major Renovations Only 1 project 31%
Consolidate											
Necessary Code and System Upgrades, Renovations/Additions Redistricting, New Building(s)	Option C-1a	K-5 Deerfield	New Sheehan 590 Students 4 Sections K-5/Pre-K 86,000 $46,332,500	K-5 Hanlon 224/264 (85%) 2 Sections K-5 Library, Music, Art $12,661,350	K-5 Martha Jones 264/333 (79%) 2 Sections K-5 $1,242,650	Downey 228/333 (68%) 2 Sections K-5 Sm Grp Space $1,297,399		6-8 Thurston 725/759 (95%) $28,199,438	9-12 Westwood HS 970	Option C-1a $89,733,336	$43,400,836 $32,413,550 $75,814,386
Four Elementary Schools *Sheehan and Deerfield Districts Combined* *Hanlon, MJ, Downey Districts remain as is*	Option C-1d	K-5 Deerfield	Sheehan	K-5 New Hanlon 800 Students 6 Sections K-5/Pre-K 115,000 $60,375,000	K-5 Martha Jones 264/333 (79%) 2 Sections K-5 $1,242,650	Downey 228/333 (68%) 2 Sections K-5 Sm Grp Space $1,297,399		6-8 Thurston 725/759 (95%) * $28,199,438	9-12 Westwood HS 970	Option C-1d $91,114,486	$30,739,486 $43,480,288 $74,219,774
Three Elementary Schools *Sheehan, Hanlon and Deerfield Districts Combined* *MJ, Downey Districts remain as is*	Option C-1e	K-5 Deerfield	Sheehan	K-5 New Hanlon 550 Students 4 Sections K-5/Pre-K 84,000 $45,255,000	K-5 Martha Jones 373/396 (94%) 3 Sections K-5 3 CR Addition $2,461,368	Downey 373/396(94%) 3 Sections K-5 Sm Grp Space 4 CR Addition $3,404,375		6-8 Thurston 725/759 (95%) * $28,199,438	9-12 Westwood HS 970	Option C-1e $79,320,180	$34,065,180 $33,151,333 **$67,216,513**
Three Elementary Schools *Redistricting for Parity*											

The Deerfield site is not preferred for a new school option due to localized wetlands, site configuration, and phased construction (temporary modulars rqd)

* New Thurston 725/759 — 120,000 SF — $62,725,000

Proposed new Middle School on Existing Sheehan Site. No add'l land purchase required due to consilidation of Elem Schools If additional land is available then a proposed new Middle School is feasible in all Options

Options Discussion by School Elementary Schools 2

Options Discussion by School
Elementary Schools

2.1
Introduction

The Elementary School Buildings and Sites included in this section:

- Deerfield Elementary
- Sheehan Elementary
- Hanlon Elementary
- Downey Elementary
- Martha Jones Elementary

Each of the school buildings were analyzed for the physical building component conditions (i.e. roofs, windows, doors, structure), MEP systems condition (i.e. plumbing, mechanical and electrical systems), potential code issues, existing building capacity, and educational program delivery. Each of these factors were considered in the development of each of the Master Plan Options.

Likewise, each of the school sites were reviewed for opportunities and constraints which will be discussed in more detail in Section 2.4 Consolidation Options.

Opportunities include land adjacent to the school that can be built upon; building infrastructure and core that can accept building additions.

Constraints include wetlands and wetland setbacks; topography that may preclude additions; floor plans that are difficult to expand or would require complex construction phasing; density and impact to the existing neighborhood; impact to existing fields; or other difficult conditions.

Included in this section are site plans that show existing conditions including wetlands and other site constraints. Also included are conceptual site and floor plans of the Options explored.

2.2
Status Quo Options Explored
Elementary Schools

Option A-1

Option A-1 is illustrated on the Master Plan Options Matrix (Exhibit 1x and Appendix 6.5) under ***Status Quo***. This option assumes that the grade configuration and district boundaries are to remain as they exist currently. This option identifies only component and system upgrades to address deferred maintenance in addition to any code required upgrades as part of the base scope of work. The goal is to provide a plan that will extend the life of these buildings/sites for at least the next 20 years. From an educational programming and capacity stance, the facilities will essentially continue to operate as they do currently. Reconfiguration of existing spaces and/or additions of space are not considered in this option unless required for code reasons.

Deerfield Elementary

At 35,078 square feet, Deerfield contains two sections of grades K-5. As noted in the Facilities Assessment and summarized in Section 1.6 of this Report, major systems and code upgrades will be required in the near future in order to maintain this facility for the next 20 years. Although the building is well maintained currently, much of the existing plumbing and HVAC piping and components are original to the building and nearing the end of their useful service life.

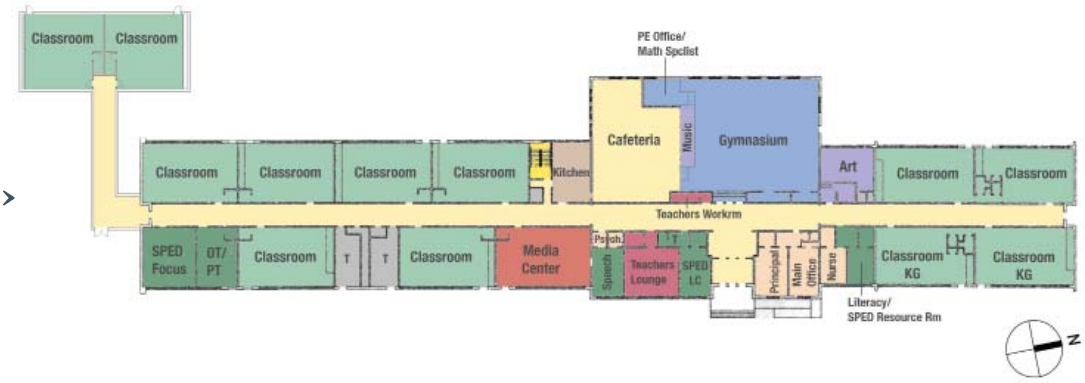
The scope of work for Option A-1 is limited to only those necessary upgrades which include the following:

- Full Accessibility Upgrade: Due to the level of these base renovations, the Massachusetts State Building Code will require compliance with accessibility codes as governed by the Massachusetts Architectural Access Board (521 CMR). MAAB states that if construction costs exceed 30% of the full and fair cash value of the building, then the entire building is required to comply (and be upgraded to comply) with 521 CMR, Access Board Regulations. Some of these upgrades include the following:
  - Install ramps at all exterior landings
  - Install new pipe handrails with extensions at all ramps/stairs
  - Reconfigure all Toilet Rooms (HC fixtures/stalls/grab bars)
  - Provide all new ADA compliant door hardware (lever handles)
  - Relocate walls to meet required door pull/push side clearances
  - Provide wing walls at all projections into accessible paths, i.e. drinking fountains
  - New ADA sinks and casework at existing sink locations
  - Install non-slip surface required on wood steps (modulars)
  - Provide new HC Signage throughout
  - Reconfigure stair nosings (no abrupt nosings)
  - Site Components:
    - Accessible paths to all site elements (even fields- if on the same site)
    - Accessible path (not wood chips) to all playground structures
    - Minor reconfiguration of walkways to meet slope requirements
    - Provide required HC Parking spaces (re-stripe parking lot)
- Required Building Code Upgrades:
  - Install new railings and guardrails
  - Install fire protection/ sprinkler system
  - Upgrade fire alarm system and devices
  - Install new compliant exit signage
  - Hazardous Materials Abatement

- MEP Upgrades:
  - Full HVAC Replacement (i.e. piping, boilers, exhaust system and unit ventilators), except at modulars
  - Replace all original electrical feeders, panels and receptacles
  - Upgrade existing paging system for full coverage
  - Install lighting control system (with master remote program) and occupancy sensors
  - Install new wireless master clock system
  - Upgrade existing communications wiring to support current industry standards
  - Replace all existing original non-compliant plumbing fixtures
  - Test existing underground sanitary piping for leakage, backup and pipe aging conditions
  - Insulate all existing plumbing piping to remain
  - Install hot water recirculation system to all plumbing fixtures
- Security Upgrades:
  - Install card access system at exterior doors
  - Upgrade security cameras and building alarm systems
  - Install lockdown-type door hardware to interior classroom and office doors
- Building Upgrades:
  - Replace all original windows (except at modulars)
  - Minor brick patching and repointing as required
- Site Upgrades:
  - Minor repaving of existing bituminous walkways
  - Install new fire hydrant at the west side of the site to provide adequate coverage

Exhibit 2.1
Deerfield Elementary School
Site Plan

Exhibit 2.2
Deerfield Elementary School
First Floor Plan



Sheehan Elementary

At 49,586 square feet, Sheehan contains 3 full sections of grades K-5. As noted in the Facilities Assessment and summarized in Section 1.6 of this Report, major systems and code upgrades will be required in the near future in order to maintain this facility for the next 20 years. Although the building is well maintained currently, much of the existing plumbing and HVAC piping and components are original to the building and nearing the end of their useful service life.

The scope of work for Option A-1 is limited to only those necessary upgrades which include the following:

- Full Accessibility Upgrade (Construction costs exceed 30% of building value-MAAB)
  - Install new elevator (Addition) and chair lift at Stage
  - Install ramps at all exterior landings
  - Install new pipe handrails with extensions at all ramps/ stairs
  - Reconfigure all Toilet Rooms (HC fixtures/ stalls/ grab bars)
  - Provide all new ADA compliant door hardware (lever handles)
  - Relocate walls to meet required door pull/push side clearances
  - Provide wing walls at all projections into accessible paths- i.e. drinking fountains
  - New ADA sinks and casework at existing sink locations
  - Install ADA compliant drinking fountains
  - Provide new HC Signage throughout
  - Reconfigure stair nosings (no abrupt nosings)
  - Site Components:
    - Accessible paths to all site elements (even fields- if on the same site)
    - Accessible path (not wood chips) to all playground structures
    - Reconfiguration/regrading/repaving of walkways to meet slope requirements
    - Provide required HC Parking spaces (re-grading/paving/striping)
- Building Code Upgrades:
  - Install new railings and guardrails
  - Structural analysis (required with roof replacement)
  - Install sprinkler system
  - Upgrade fire alarm system and devices
  - Install new compliant exit signage
  - Hazardous Materials Abatement
- MEP Upgrades:
  - Full HVAC Replacement (i.e. piping, boilers and unit ventilators)
  - Replace all original electrical feeders, panels and receptacles
  - Upgrade existing paging system for full coverage
  - Install lighting control system (with master remote program) and occupancy sensors
  - Install new wireless master clock system
  - Upgrade existing communications wiring to support current industry standards
  - Replace all existing original non-compliant plumbing fixtures
  - Test existing underground sanitary piping for leakage, backup and pipe aging conditions
  - Replace all existing hot/cold water plumbing piping and insulation
  - Install hot water recirculation system to all plumbing fixtures
- Security Upgrades:
  - Install card access system at exterior doors
  - Upgrade security cameras and building alarm systems
  - Install lockdown-type door hardware to interior classroom and office doors

- Building Upgrades:
  - Replace all windows
  - Roof Replacement
- Site Upgrades:
  - Minor repaving of existing bituminous walkways
  - Repave and restripe parking lots
  - Re-pave/stripe basketball courts

Exhibit 2.3
Sheehan Elementary School
Site Plan

Exhibit 2.4
Sheehan Elementary School
Basement Floor Plan

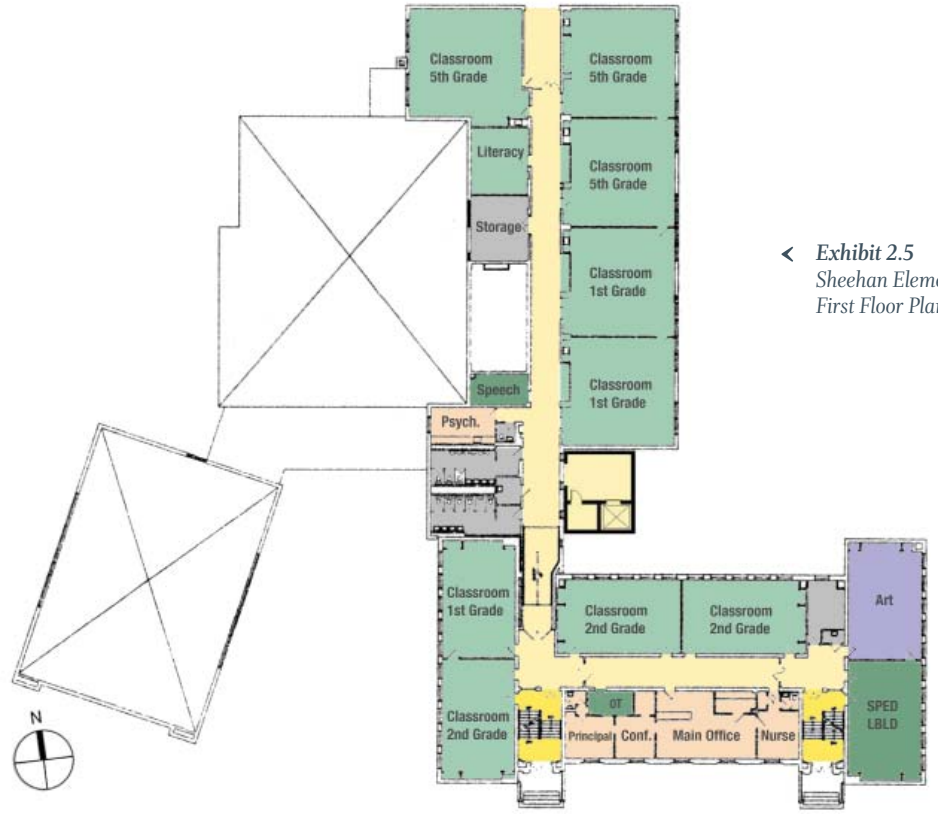


Exhibit 2.5
Sheehan Elementary School
First Floor Plan

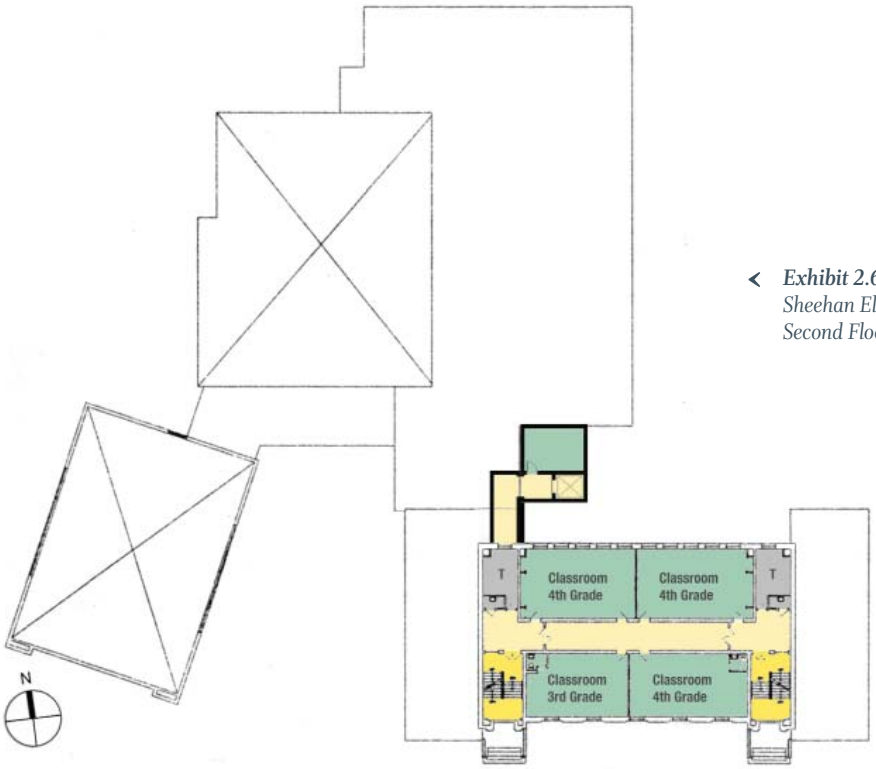


Exhibit 2.6
Sheehan Elementary School
Second Floor Plan

Hanlon Elementary

At 34,280 square feet, Hanlon contains two sections of grades K-5. As noted in the Facilities Assessment and summarized in Section 1.6 of this Report, major systems and code upgrades will be required in the near future in order to maintain this facility for the next 20 years. Although the building is well maintained currently, much of the existing plumbing and HVAC piping and components are original to the building and nearing the end of their useful service life.

The scope of work for Option A-1 is limited to only those necessary upgrades which include the following:

- Full Accessibility Upgrade (Construction costs exceed 30% of building value-MAAB)
  - Install ramps at all exterior landings
  - Install new pipe handrails with extensions at all ramps/ stairs
  - Reconfigure all Toilet Rooms (HC fixtures/ stalls/ grab bars)
  - Provide all new ADA compliant door hardware (lever handles)
  - Relocate walls to meet required door pull/push side clearances
  - Provide wing walls at all projections into accessible paths- i.e. drinking fountains
  - New ADA sinks and casework at existing sink locations
  - Install non-slip surface required on wood steps (modulars)
  - Provide new HC Signage throughout
  - Reconfigure stair nosings (no abrupt nosings)
  - Site Components
    - Accessible paths to all site elements (even fields- if on the same site)
    - Accessible path (not wood chips) to all playground structures
    - Minor reconfiguration of walkways to meet slope requirements and add detectable warning strips
    - Provide compliant HC Parking spaces (regrading/paving/striping at one space)

- Building Code Upgrades:
  - Install new railings and guardrails
  - Structural analysis (required with roof replacement)
  - Upgrade fire alarm system and devices
  - Install new compliant exit signage
  - Hazardous Materials Abatement
- MEP Upgrades:
  - Full HVAC Replacement (i.e. piping, boilers and unit ventilators)
    - Consider converting existing HVAC system to RTUs (with AC)
    - Provide option to convert UV system to include AC
  - Replace all original electrical feeders, panels and receptacles
  - Upgrade existing paging system for full coverage
  - Install lighting control system (with master remote program) and occupancy sensors
  - Install new wireless master clock system
  - Upgrade existing communications wiring to support current industry standards
  - Replace all existing original non-compliant plumbing fixtures
  - Test existing underground sanitary piping for leakage, backup and pipe aging conditions
  - Insulate all existing plumbing piping to remain
  - Install hot water recirculation system to all plumbing fixtures
- Security Upgrades:
  - Install card access system at exterior doors
  - Upgrade security cameras and building alarm systems
  - Install lockdown-type door hardware to interior classroom and office doors
- Building Upgrades:
  - Replace all original windows (except at modulars)
  - Roof Replacement (except at modulars)
- Site Upgrades:
  - Minor repaving of existing bituminous walkways (re-stripe parking lot)
  - Install new fire hydrant at the west side of the site to provide adequate fire protection coverage

Exhibit 2.7
Hanlon Elementary School
Site Plan

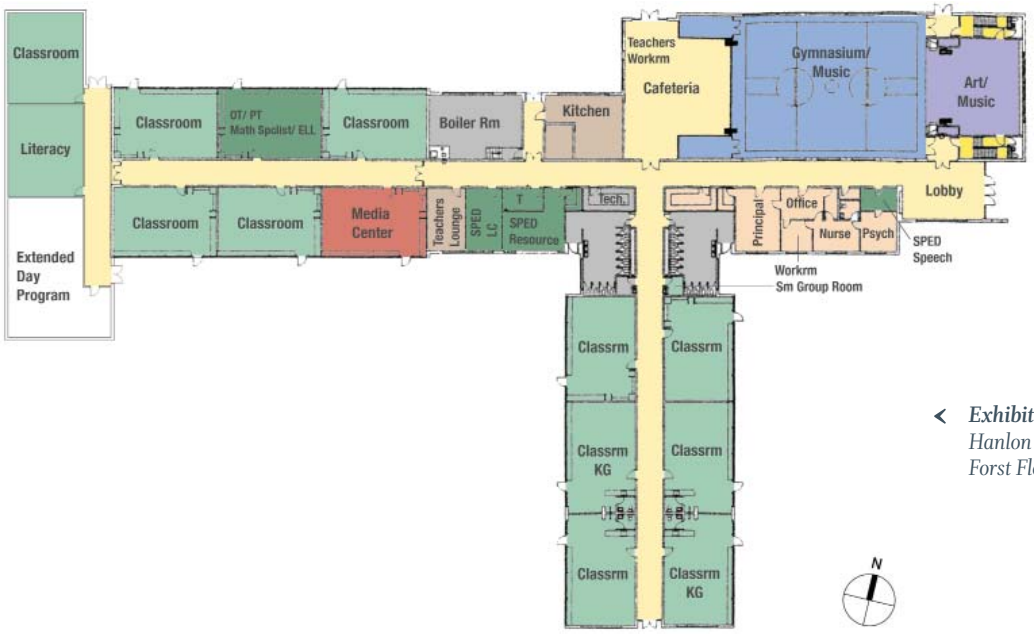


Exhibit 2.8
Hanlon Elementary School
Forst Floor Plan

Martha Jones Elementary

At 50,796 square feet, Martha Jones currently contains two sections of grades K-2 and 3 sections of grades 3-5. As noted in the Facilities Assessment and summarized in Section 1.6 of this Report, a major renovation and addition was completed in 2001. As part of this renovation, all major systems were upgraded and a sizeable xx square foot addition was constructed to handle the increasing enrollment that was being experienced at that time. Although the building and its systems are currently in good condition, there are some recommended upgrades that would address some deferred maintenance items as well as infrastructure upgrades that would bring this building up to the same level of renovations of Deerfield, Hanlon and Sheehan as proposed in Option A-1.

The scope of work for Option A-1 for Martha Jones is proposed as follows, but not necessarily limited to:

- MEP Upgrades:
  - HVAC Controls added or upgraded (with master remote access)
  - Upgrade lighting control systems for master remote access
  - Upgrade existing communications wiring to support current industry standards
  - Minimal electrical- old panel replacement (Kitchens)
  - Replace any original plumbing fixtures
- Security Upgrades:
  - Install card access system at exterior doors
  - Upgrade security cameras and building alarm systems

Exhibit 2.9
Martha Jones Elementary School
Site Plan

Exhibit 2.10
Martha Jones Elementary School
First Floor Plan

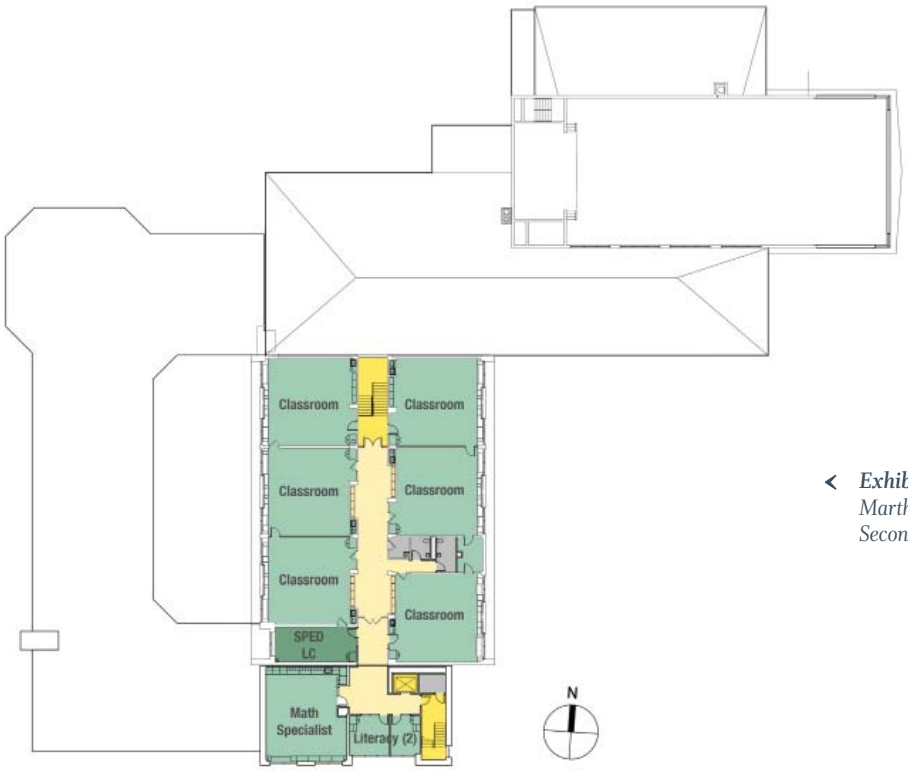


Exhibit 2.11
Martha Jones Elementary School
Second Floor Plan

Downey Elementary

At 50,692 square feet, Downey currently houses two sections of grades K-4 and 3 sections of grade 5. As noted in the Facilities Assessment and summarized in Section 1.6 of this Report, a major renovation and addition was completed in 2001. As part of this renovation, all major systems were upgraded and a sizeable xx square foot addition was constructed to handle the increasing enrollment that was being experienced at that time. Although the building and its systems are currently in good condition, there are some recommended upgrades that would address some deferred maintenance items as well as infrastructure upgrades that would bring this building up to the same level of renovations of Deerfield, Hanlon and Sheehan as proposed in Option A-1.

The scope of work for Option A-1 for Downey is proposed as follows, but not necessarily limited to:

- MEP Upgrades:
  - HVAC Controls added or upgraded (with master remote access)
  - Upgrade lighting control systems for master remote access
  - Upgrade existing communications wiring to support current industry standards
  - Minimal electrical- old panel replacement (Kitchens)
  - Replace any original plumbing fixtures
- Security Upgrades:
  - Install card access system at exterior doors
  - Upgrade security cameras and building alarm systems

Exhibit 2.12 >
Downey Elementary School
Site Plan

Exhibit 2.13 <
Downey Elementary School
First Floor Plan

2.3
Satisfy Educational Program Options Explored

Options B-1 and B-3 are illustrated on the Master Plan Options Matrix (Exhibit 1x and Appendix 6.5) under ***Satisfy Educational Program***. These options do not necessarily assume that the grade configuration and district boundaries are to remain as they exist currently. These options include all of the code and system upgrade scope as identified in Option A-1; but in addition, these options include the necessary building modifications and additions required to meet the educational programming needs of the school district. Each school was also evaluated against the current guidelines set forth by the MSBA (Massachusetts School Building Authority).

Option B-1

Option B-1 does assume that the current grade configuration and district boundaries remain as is

Deerfield Elementary

Deerfield currently contains two full sections of grades K-5. In general, most of the classrooms meet or exceed the MSBA guidelines; however, two of the first grade classrooms are slightly smaller than these guidelines but within acceptable standards. Most of the core spaces are grossly undersized as compared to the MSBA guidelines for a building that supports a classroom capacity of 229 students. These spaces include: gymnasium, media center, health office (nurse), some special education classrooms, tutorial spaces, and others. The current art space is also approximately 50% undersized and is not handicapped accessible from the main corridor. Music does not have a dedicated space and music classes are either conducted in the gymnasium, cafeteria or in corridors.

At Deerfield, Option B-1 proposes a 6,200 square foot addition that will accommodate a new media center as well as dedicated art and music spaces. A new kitchen is proposed within the addition as a result of the new corridor access. Within the existing building, approximately 30% of the existing walls and spaces will be reconfigured to accommodate other program needs such as supplementary break out spaces, teacher and custodial support spaces, dedicated specialist and SPED spaces, and additional administration space.

Other building improvements, infrastructure and site updates are added in this option including: new classroom casework, new interior doors, electrical upgrades as required to support the new addition, updated finishes, improved site circulation and drop-off/pick-up loop, additional security and technology features to support modern educational demands.

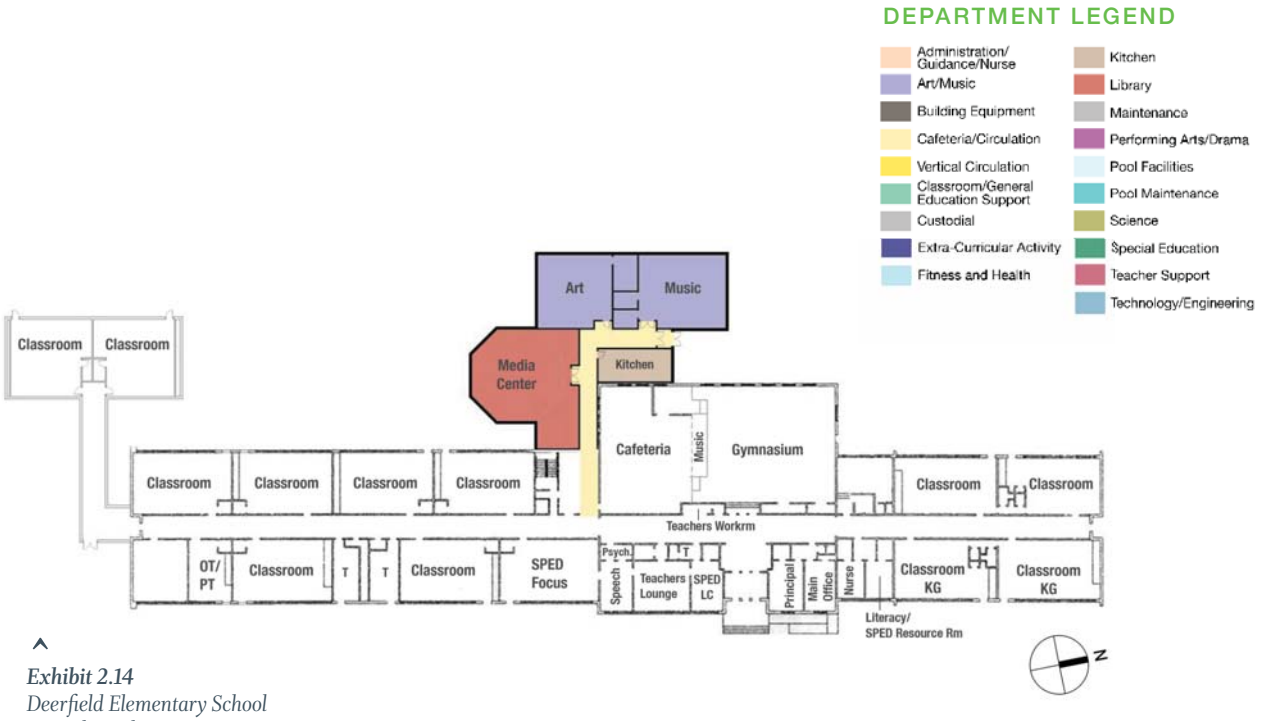


Exhibit 2.14
Deerfield Elementary School
First Floor Plan – Option B1

Sheehan Elementary

As the largest elementary school in the District, Sheehan currently has three full sections of grades K-5. In the original 1948 portion of the building, classrooms are approximately 25% smaller than the recommended square footage per MSBA guidelines which is very tight with the larger class sizes that they are currently experiencing. The classrooms in the 1968 addition are sized appropriately within acceptable standards. The gymnasium, art room and administration suite (including the nurse's suite) are undersized as compared to the MSBA guidelines for a building that supports a classroom capacity of 318 students; however, they are functional. Music does not have a dedicated space and music classes are currently conducted on the stage in the cafeteria.

Perhaps the greatest educational programming need at Sheehan would be more break-out type spaces for intervention and specialist tutoring. Currently, closets and corridors are being utilized.

At Sheehan, Option B-1 proposes only a 1,561 square foot elevator and entry addition similar to Option A-1. Within the existing building, approximately 30% of the existing walls and spaces will be reconfigured to accommodate other program needs such as supplementary break out spaces, teacher and custodial support spaces, dedicated specialist and SPED spaces, and additional administration space.

Other building improvements, infrastructure and site updates are added in this option including: new classroom casework, new interior doors, electrical upgrades as required to support the new addition, updated finishes, improved site circulation and drop-off/pick-up loop, additional security and technology features to support modern educational demands.

Exhibit 2.15
Sheehan Elementary School
Basement Floor Plan – Option B1

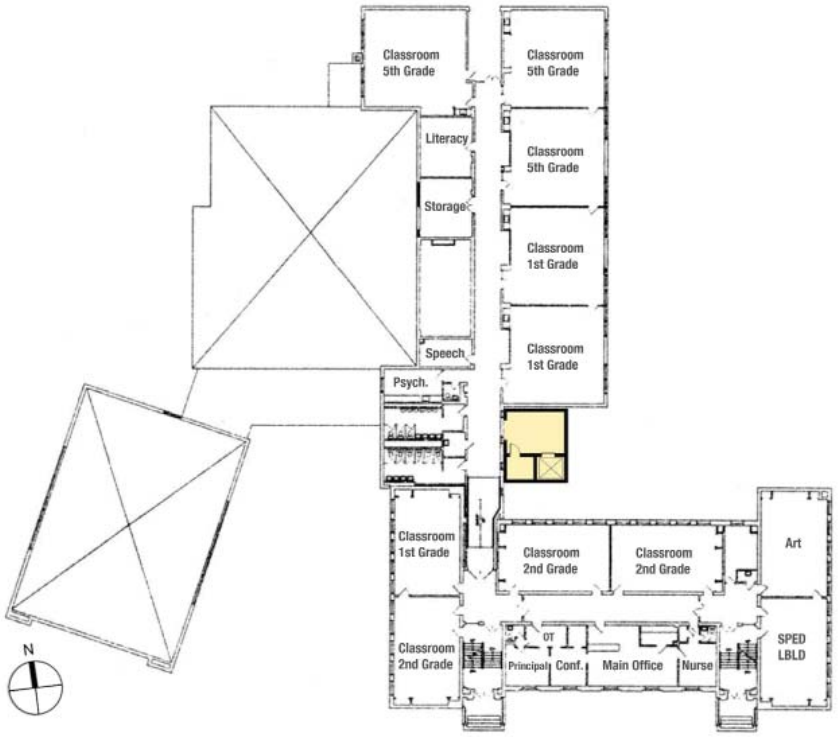


Exhibit 2.16
Sheehan Elementary School
First Floor Plan – Option B1

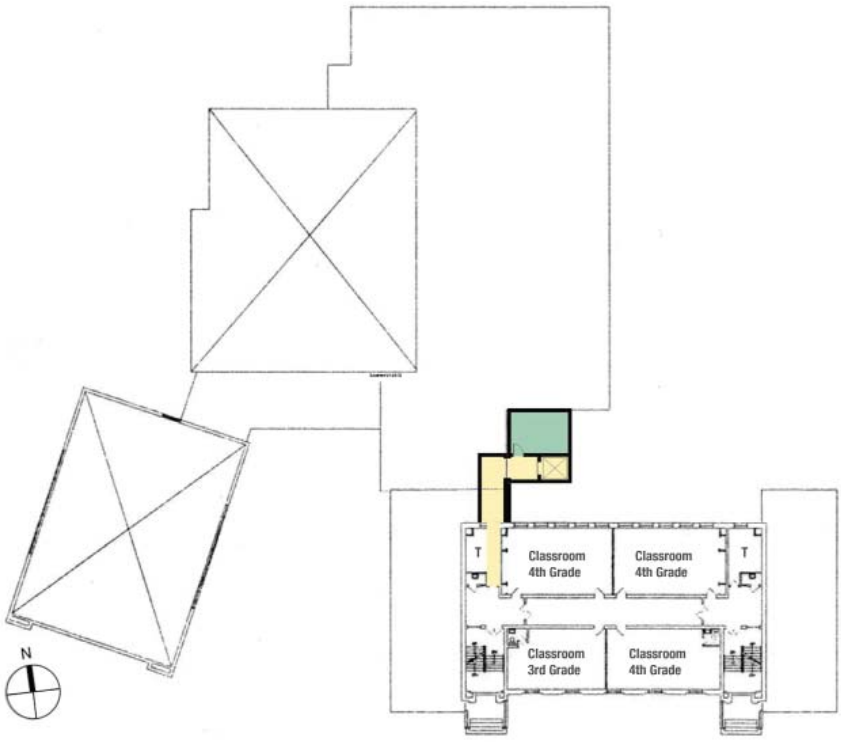


Exhibit 2.17
Sheehan Elementary School
Second Floor Plan – Option B1

Hanlon Elementary

Hanlon contains two sections of grades K-1 and 3-5 with one single section of grade 2. Most of the classrooms are slightly smaller than MSBA guidelines but within acceptable standards except for the two kindergarten classrooms which are approximately 25% undersized. The gymnasium, media center, administration and nurse's suites are well undersized as compared to the MSBA guidelines for a building that supports a classroom capacity of 224 students. The current art space is located on the stage and is shared with music. This space is not handicapped accessible. When art and music classes conflict, music classes are conducted in the gymnasium.

Exhibit 2.18
Hanlon Elementary School
First Floor Plan – Option B1

Martha Jones Elementary

Martha Jones currently contains two sections of grades K-2 and 3 sections of grades 3-5. Major renovations were completed in 2002 which included the addition of three kindergarten classrooms, art classroom, music suite, media center, elevator and elevator lobby, administrative spaces and expansion of the existing cafetorium space to accommodate the increased capacity. Although enrollment had peaked during the 2009-2010 year at 359 students, current enrollment is down to 294 students and a projected enrollment of 249 students by the 2024-2025 school year. During the most recent peak, the art and music rooms had to be converted into general education classrooms to deal with this increased capacity thus leaving art/music "on a cart." Currently, art and music have regained their dedicated classroom spaces and existing classroom and support spaces are adequate for the current and projected enrollment numbers. As a result, no major renovations are proposed as part of this series of options.

Downey Elementary

Downey currently houses two sections of grades K-4 and three sections of grade 5. Major renovations were completed in 2002 which included the addition of three kindergarten classrooms, art classroom, media center, and multiple special education offices and classroom space. Enrollment peaked during the 2009-2010 year at 279 students while current enrollment is down to 250 students. Enrollment is proposed to continue to steadily decrease to 215 students by the 2024-2025 school year. Current capacity is sufficient and as a result of the recent decrease in enrollment, classroom space has become available for the various SPED programs offered by the District. Downey accommodates the following SPED programs: STAR, WABA, and PEER.

Through the programming meetings with the principal and staff members, it was noted that the existing Reading Room (also referred to as the Solarium) is underutilized due to the lack of acoustical separation from the corridor. A need for additional small group instruction/ break-out spaces was also identified. Option B-1 proposes to create three small break-out spaces within the under-utilized solarium space.

Exhibit 2.19
Downey Elementary School
First Floor Plan – Option B1

Option B-3

Option B-3 assumes redistricting of all elementary school districts to support a revised grade reconfiguration as follows: PreK and K at Hanlon, Grades 3-5 at Deerfield, Sheehan, Martha Jones and Downey. The middle and high school grade configurations will remain as grades 6-8 and 9-12, respectively.

Deerfield Elementary

By reducing the number of grades housed at Deerfield from two sections of K-5 to two sections of 1-5, two existing classroom spaces are available to be converted to dedicated art and music spaces. This reduces the size of the addition required as compared to Option B-1. Refer to Exhibit 2.20 for conceptual floor plan.

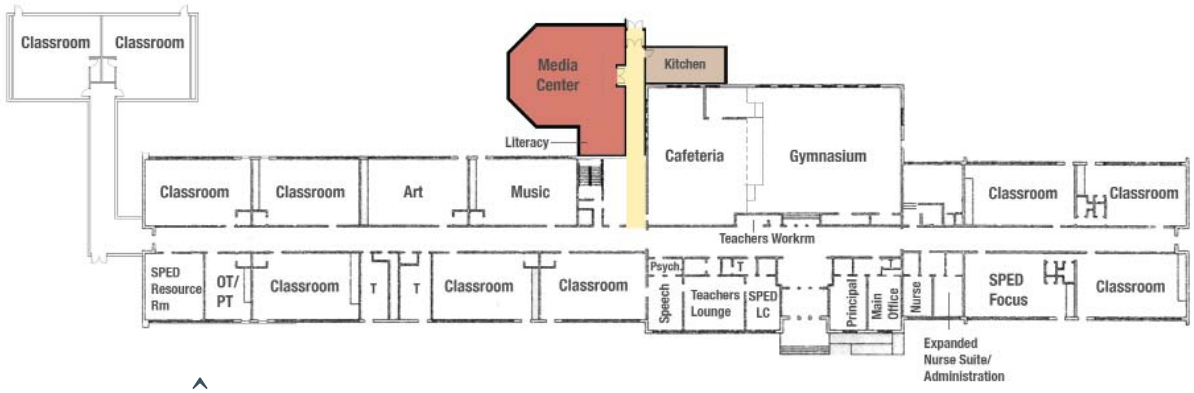


Exhibit 2.20
Deerfield Elementary School
Proposed First Floor Plan – Option B3
Grades 1-5 (2 Sections)

Hanlon Elementary

The advantage of redistricting is that the class sizes can be equalized. Currently, kindergarten class sizes vary greatly from one district to the next. Based on the proposed design enrollment, 11 sections of kindergarten at a PreK-K Hanlon would produce class sizes of approximately 17 students.

The PreK program for Westwood is located at the High School. Relocating this program to Hanlon would have the added benefit of freeing up classroom space at the High School which is experiencing an enrollment bubble, projecting to peak by FY2018-2019. Enrollment should slowly decline after 2019, however, it will not reach current enrollment numbers until 2024. The preschool program currently has three classroom spaces attached to the High School; however, space for large group play is limited to the High School Gymnasium or the Gymnasium lobby area. In addition, intervention and special education program/office space is limited.

Option B-3 proposes 4 Pre-K classrooms as there has been interest for more paid tuition students in the past, but current space limits the number of paid tuition students they can take. About 50% of the preschool population is SPED students.

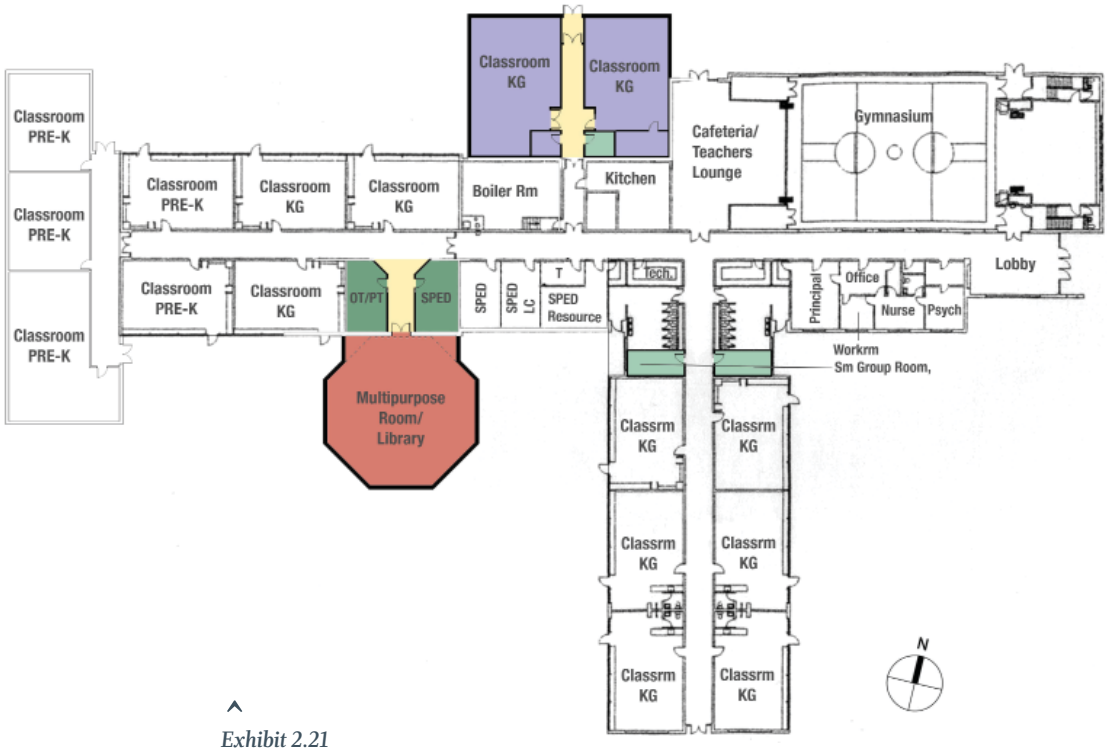


Exhibit 2.21
Hanlon Elementary School
First Floor Plan – Option B3

Sheehan Elementary

Option B-3 would free up 3 kindergarten classroom spaces in Sheehan, allowing for Music to have a dedicated classroom space. The two remaining classroom space would be utilized for the Extended Day program which will be relocated from Hanlon Elementary.

Martha Jones and Downey Elementary

Option B-3 would free up 2 kindergarten classroom spaces in both Martha Jones and Downey, allowing space for possible future special education or afterschool programs.

Below is a summary of existing classroom space available at each of the elementary schools and how that would be impacted by an exclusively PreK-K building at Hanlon:

Existing	Deerfield	Sheehan	Hanlon	Martha Jones	Downey
Current Gen. Ed. Classrooms	12	18	12	15	13
Current SPED/Speciality Classrooms*	1	2	2	3	5
Extended Day Program	-				
Available Classrooms	0	0	0	0	0

Option B-3	Deerfield	Sheehan	Hanlon	Martha Jones	Downey
Current Gen. Ed. Classrooms	9	15	16 (PreK-K)	13	11
SPED/Speciality Classrooms*	4	2	-	3	5
Extended Day Program	-	2	-		
Available Classrooms	0	0	0	2	2

*=SPED/Specialty spaces include SPED district-wide programs, general education intervention spaces such as Literacy and Math Intervention sharing or utilizing a full size classroom space, Art and Music.

2.4
Consolidation Options Explored

Options C-1a, C-1d and C-1e are illustrated on the Master Plan Options Matrix (Appendix 6.5) under Consolidate. These options do not necessarily assume that the grade configuration and district boundaries are to remain as they exist currently. These options include all of the code and system upgrade scope as identified in Option A-1; but in addition, these options include the necessary building modifications, additions and potential consolidation required to meet the educational programming needs of the school district and to optimize current building usage. Each school was also evaluated against the current guidelines set forth by the MSBA (Massachusetts School Building Authority).

Site Constraints and Opportunities

Deerfield Elementary

The school sits on a 10.55 acre parcel adjacent to additional municipally-owned land housing the newly constructed Westwood Library, former site of the Colburn School. The school site is relatively flat, however, reportedly experiences flooding on occasion. There are some localized wetlands along the northern boundary of the site. The building is accessible from Deerfield Avenue with a private driveway connection to High Street.

This site was explored for the potential new school site; however, due to site constraints such as localized wetlands, the density of the surrounding residential neighborhoods, and the current building placement on the site, the siting of a new building without impact to the existing school and neighbors would be challenging. Therefore, this option would most likely require complex construction phasing including temporary modular classrooms for all or parts of the construction sequence.

Sheehan Elementary

The school sits on a 4.3 acre parcel adjacent to a 6.25 acre municipally-owned recreational parcel to the east with multiple ballfields and a skating rink. The recreational parcel is bounded by Buckminster Pond to the east. There is a small floodplain associated with the pond that encroaches slightly onto the municipal parcel. The school entrance is located on Pond Street with an additional driveway for staff parking off of High Street.

Hanlon Elementary

The school is located on an 8.6 acre site adjacent to Town-owned forest called Lowell Woods that is used for recreational purposes (walking trails, etc) Much of the site is relatively flat and open in the area where the school and ballfields are sited. There are some minor rock outcroppings that were observed along the northwest portion of the site where the site borders the Town-owned forest. The site is accessible from Gay Street.

Martha Jones Elementary

This school sits on an 8.9 acre parcel adjacent to a large municipally-owned Town forest parcel with walking trails. Additions and renovations were completed in 2002. Site improvements included new play structures, ballfield upgrades and an enhanced bus drop-off and pick-up area. Expansion potential is limited due to a large wetland system that includes Martha Jones Pond along the northern, western, and southern property boundaries.

Downey Elementary

This school sits on a 9.8 acre site that slopes down from Downey Street to the east. The school and site are accessible only from Downey Street. Additions and renovations were completed in 2002. Site improvements included new play structures and ballfields. Expansion potential is limited due to a small localized wetland in the northern corner of the site, steep slopes along the eastern property lines, limited parking areas, and the location of the new ballfield.

Option C-1a

Option C-1a assumes the current grade configuration except that the PreK program would move to the new Sheehan School. Sheehan and Deerfield districts are consolidated while Hanlon, Martha Jones and Downey districts remain as is. As illustrated in Exhibit 2-20, Option C-1a proposed the construction of a new 540 student/ 4 section elementary school (grades K to 5) and the relocated PreK program onto the Town-owned land to the east of the existing Sheehan school site. The new school would be built on the current ballfields, allowing for simplified construction phasing. One the new school is constructed, the original Sheehan school would be demolished so that new fields could be located on that portion of the site. Another option would be to turn over the existing school or portions of the original building to the Town for another use; however, there would be limited space for the construction of new ballfields. The Deerfield school would be turned over to the Town, demolition or renovation costs to the Deerfield school are not included in the cost estimates for this option.

Modest renovations to Martha Jones and Downey would still be assumed, similar to the Options discussed in Section 2.3 of this report.

This Option does not mitigate the current issue of inconsistency in class sizes between schools/districts.

Exhibit 2.22
Sheehan Elementary School
Site Plan – Option C1a

Option C-1d

Option C-1d assumes the current grade configuration except that the PreK program would move to the new Hanlon School. This option would consolidate the Deerfield, Sheehan and Hanlon districts while Martha Jones and Downey districts would remain as is. As illustrated in Exhibit 2-21, Option C-1d proposed the construction of a new 800 student/ 6 section elementary school (grades K to 5) and the relocated PreK program onto the Town-owned land to the west/northwest of the existing Hanlon school site. The first phase of construction would be clearing the existing wooded area to accommodate the new building which would be constructed while maintaining school functions in the existing building. Once the new building is constructed, the existing Hanlon school would be demolished to make way for new parking which would be sized to accommodate all the parking for the fields and the new school, thus allowing for the elimination of all the existing on street parking along Gay Street. The Deerfield and Sheehan schools would be turned over to the Town, demolition or renovation costs of these buildings are not included in the cost estimates for this option.

Modest renovations to Martha Jones and Downey would still be assumed, similar to the Options discussed in Section 2.3 of this report.

This Option does not mitigate the current issue of inconsistency in class sizes between schools/districts.

Exhibit 2.23
Hanlon Elementary School
Site Plan – Option C1d

Option C-1e

Option C-1e assumes the current grade configuration except that the PreK program would move to the new Hanlon School. As illustrated in Exhibits 2-22 through 2-24, Option C-1e proposed the construction of a new 540 student/4 section elementary school (grades K to 5) and the relocated PreK program onto the Town-owned land to the west/northwest of the existing Hanlon school site. The first phase of construction would be clearing the existing wooded area to accommodate the new building which would be constructed while maintaining school functions in the existing building. Once the new building is constructed, the existing Hanlon school would be demolished to make way for new parking which would be sized to accommodate all the parking for the fields and the new school, thus allowing for the elimination of all the existing on street parking along Gay Street. The Deerfield and Sheehan schools would be turned over to the Town, demolition or renovation costs of these buildings are not included in the cost estimates for this option.

To create more parity between the three remaining schools, Option C-1e proposes modest bricks and mortar additions to both Martha Jones and Downey to allow for a full 3 sections of grades K-5. With the recent renovations completed in 2002, the core spaces and infrastructure should be sized appropriately to accommodate these additional classroom spaces. Existing playground areas and structures would have to be relocated as they would be impacted by the proposed new addtions.

This option, unlike Options C-1a and C-1d, would create consistency in class sizes by redistricting all existing elementary school districts. In addition, building usage and capacity could be maximized at Martha Jones and Downey. Other busing and operational costs were not studied and are not included in the proposed cost estimates.

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Exhibit 2.24
Hanlon Elementary School
Site Plan – Option C1e

Exhibit 2.25
Martha Jones Elementary School
Site Plan – Option C1e

Exhibit 2.26
Downey Elementary School
Site Plan – Option C1e

Options Discussion by School Middle Schools 3

Options Discussion by School
Middle School

3.1
Introduction

Thurston Middle School consists of a multi-level school building constructed in 1939 and renovated and added to in stages with the most recent work done in 2011 including the installation of six modular classrooms on the northeast side of the building. The multiple additions have not been consistent with the original design for the school and only addressed the functional and educational needs at the time. The building area is approximately 92,278 GSF and has 798 students in grades 6-8. The building faces west towards High Street and has a tower structure that houses a cell phone communication antenna.

Although the building capacity is maximized at present, enrollment projections indicate a steady decline in middle school enrollment over the next ten years. Options for renovations will be discussed in Section 3.2.

	Current 2014-2015 Population *(% Building Usage)*	2024-2025 Forecasted Enrollment Cropper Report *(% Building Usage)*	Design Enrollment *(% Building Usage)*	Existing GSF (Including Modulars)	Existing Building Capacity **Based on current MSBA standards 18 Students (K) 23 Students (1-5)*
Thurston Middle School	**798** ***(105%)***	**698** ***(92%)***	**725** ***(96%)***	**92,278**	**759**

3.2
Middle School Option Explored

Thurston Middle School

Option A-1 is illustrated on the Master Plan Options Matrix (Exhibit 1x and Appendix 6.5) under Status Quo. This option assumes that the grade configuration and district boundaries are to remain as they exist currently. This option identifies only component and system upgrades to address deferred maintenance in addition to any code required upgrades as part of the base scope of work. The goal is to provide a plan that will extend the life of these buildings/sites for at least the next 20 years. From an educational programming and capacity stance, the facilities will essentially continue to operate as they do currently. Reconfiguration of existing spaces and/or additions of space are not considered in this option unless required for code reasons.

At 35,078 square feet, Deerfield contains two sections of grades K-5. As noted in the Facilities Assessment and summarized in Section 1.6 of this Report, major systems and code upgrades will be required in the near future in order to maintain this facility for the next 20 years. Although the building is well maintained currently, much of the existing plumbing and HVAC piping and components are original to the building and nearing the end of their useful service life.

The scope of work for Option A-1 is limited to only those necessary upgrades which include the following:

- Square Footage Breakdown:
  - Original Building (renovations 2001): 52,000
  - 1997 Additions: 21,000
  - 2009 Modular Additions: 12,400 SF
  - 2011 Modular Additions: 7,000 SF
- Accessibility Upgrades **(Original portions of the building)**
  - Install ramps at all exterior landings
  - Install new pipe handrails with extensions at all ramps/ stairs
  - Reconfigure Toilet Rooms (HC fixtures/ stalls/ grab bars)
  - Provide all new ADA compliant door hardware (lever handles)
  - Relocate walls to meet required door pull/push side clearances
  - Provide wing walls at all projections into accessible paths- i.e. drinking fountains
  - New ADA sinks and casework at existing sink locations
  - Install non-slip surface required on wood steps (modulars)
  - Provide new HC Signage throughout
  - Reconfigure stair nosings (no abrupt nosings)
  - Site Components
    - Accessible paths to all site elements (even fields- if on the same site)
    - Minor reconfiguration of walkways to meet slope requirements
    - Provide required HC Parking spaces
- Building Code Upgrades: **(Original and 1997 portions of the building)**
  - Install new railings and guardrails
  - Structural analysis (if roof replacement)
  - Add fire alarm devices required per Code
  - Hazardous Materials Abatement
- MEP Upgrades: **(Original and 1997 portions of the building)**
  - HVAC Replacement (i.e. piping, boilers and unit ventilators) at original portions
  - Replace all original electrical feeders, panels and receptacles >30 yrs old
  - Install lighting control system (with master remote program) and occupancy sensors
  - Replace all existing original non-compliant plumbing fixtures
- Building Upgrades: **(Original and 1997 portions of the building)**
  - Replace all original windows (except at modulars)
  - Roof Replacement (except at modulars)

Option B-1

From and educational programming standpoint, Thurston Middle School is currently experiencing a "bubble" in enrollment numbers with a current enrollment of approximately 800 students. Enrollment projections (Appendix 6.1) indicate that by FY2019-2020 enrollment will be down by 12.5% and remain fairly steady to FY2024-2025. A six classroom modular addition was constructed in 2011 to alleviate some of the overcrowding that has been experienced as a result of increased enrollment; however, there are still some improvements to be made to address educational goals and program needs.

For instance, small group instruction space and more space for SPED programs is desirable. The cafeteria annex, built in 2009 to accommodate the 10,000 SF modular classroom addition is often used as classroom space. In addition, the media center and courtyards are used as overflow teaching spaces.

Option B-1 is illustrated on the Master Plan Options Matrix (Appendix 6.5) under ***Satisfy Educational Program*** indicates a higher level of building renovations as compared to Option A-1 to address some of these educational concerns. In addition to code and system upgrades, there would be a certain level of interior plan reconfiguration to address existing undersized classroom spaces, replace classroom casework, new interior doors and hardware, create additional SPED and small group spaces, relocate administration to be more centrally located, and address existing site and pick-up/drop-off issues.

New Middle School

Although plans for a new middle school are not directly included in this study as the need to address the issues at the elementary school level are more pressing, a cost estimate for a new middle school based on MSBA guidelines for building size and space is included. As noted in the Master Plan Options Matrix (Appendix 6.5) a potential option would be to locate a new middle school on the Sheehan site, if Options C-1d or C-1e is selected. No additional land purchase would be required due to the elementary school consolidation.

Because the construction of a new middle school would likely be expensive, it is anticipated that the Town will approach this project as an MSBA Capital project. The MSBA process will require a Feasibility Study to explore multiple options ranging from: no work to complete renovations to new construction. Therefore, the nature of a middle school project cannot be determined at this time. For planning purposes:

725 students (projected), using the MSBA Summary of Spaces format, yield a building size of approximately 125,000 gross square feet. The cost estimate for a building of that size would be approximately $62,750,000.

Preliminary discussions with the School Administration and select School Committee members have indicated that a major project at the middle school would be a number of years down the road, and the primary focus currently would be to address the issues at the elementary school level.

Exhibit 3.1
Thurston Middle School
Site Plan

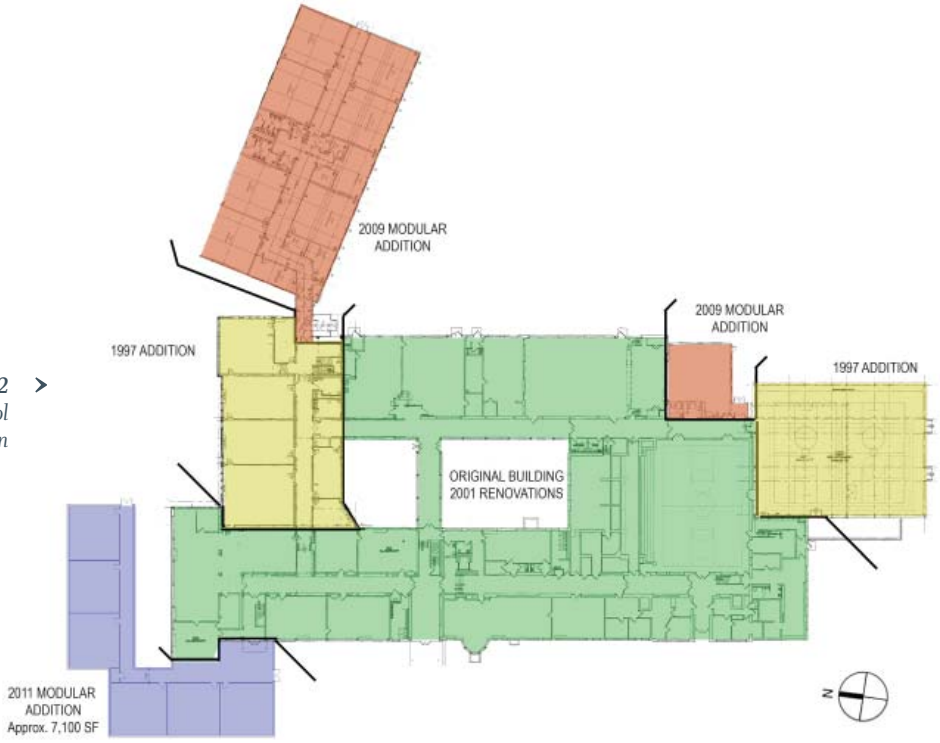

Exhibit 3.2
Thurston Middle School
First Floor Plan

Westwood High School 4

4.1 Introduction

Westwood High School

4.1 Introduction

Westwood High School was newly constructed approximately ten years ago and although programming sessions were held with High School staff and administration, major renovation projects are not projected within the next ten years, and any programming and infrastructure upgrades required to handle the short-term increase in enrollment will not be included in this study.

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SMMA

Timelines | Costs 5

Options Matrix | Timelines | Costs

5.1
Capital Needs Schedule

Through the master planning process, preferred options and project priorities were briefly discussed. In order to effectively plan out the potential design and construction schedules or each project, there will need to be a continued discussion and decisions made regarding preferred options, potential funding sources and Town involvement in the decision making process.

Discussions with the School Administration and select School Committee members have suggested that an elementary school project or projects would be the main priority. In particular, Sheehan, Deerfield and Hanlon will need to be addressed due to the the aging infrastructure and systems within these buildings.

Just a base level of renovations that would be required to address only the code and building systems will require a substantial budget. Massachusetts School Building Authority (MSBA) grant funding may be available for some portions of these upgrades through their Accelerated Repair Program (windows, boilers, roofs). However, these repairs will not address the educational needs of the schools. MSBA funding is also available for major renovation projects and possible new school buildings through their Core Program. Educational programs will be evaluated against MSBA guidelines and addressed in the Core Program.

To enter into the MSBA grant program, a Statement of Interest (SOI) must be filed for each school that will be impacted by the potential master plan preferred option. This is the first step in the Application Process. The purpose of the SOI is to ascertain from communities whether they believe they have any deficiencies in their school facility (facilities) that meets one or more of the statutory priorities and evaluate the urgency of each of these deficiencies. The primary SOI must be filed for the most urgent (priority) school even though multiple schools may be addressed as part of the overall plan/project. Once an SOI is voted and approved through the MSBA, the District will be invited to enter into the Eligibility Period.

At this time, Westwood has not submitted a statement of interest for any of the school facilities. The SOI process is already closed for FY2015. Enrollment into the FY2016 SOI process is anticipated to open early January 2016.

Cost Estimates prepared, and discussed in Section 5.2 of this report do not reflect any potential MSBA grant funding.

5.2
Cost Model

Once Preferred Options were identified, VJ Associates developed cost estimates based on the conceptual scope of work and plan diagrams as discussed in Sections 2 and 3 of this report. The VJ Associates estimates can be found in Appendix, Section 6.6.

All options were estimated on a square foot basis for school construction, inclusive of current prevailing wage rates for construction in this market and represents a reasonable opinion of cost. Costs vary due to fluctuating market conditions, lack of surplus bidders, and perception of risk and material availability. "Construction costs" or "hard" costs include direct construction costs, construction managers (CM) overhead and profit and contingencies, hazardous materials testing and monitoring, and other construction testing.

To determine the total "project costs" or "soft" costs, a 35% markup was added to the estimated construction costs to cover all additional project costs including furnishings and equipment (FF&E), technology and computers, design fees, Owner's project managers' fees, commissioning, site survey and geotechnical borings, miscellaneous expenses and owner's contingency.

Total project costs for the preferred options are included in the Master Plan Options Matrix (Appendix 6.5), but are also summarized in the chart below:

City or Town	Deerfield	Sheehan	Hanlon	Martha Jones	Downey	Thurston Middle School	Total Project Cost per Option
Option A-1	$9,205,895	$16,572,434	$10,974,470	$1,242,650	$1,194,430	$23,507,250	$62,697,129
Option B-1	$14,115,061	$20,728,128	$12,661,350	$1,242,650	$1,297,399	$28,199,438	$78,244,025
Option B-3	$13,512,041	$20,728,128	$12,661,350	$1,242,650	$1,297,399	$28,199,438	$77,641,005
Option C-1a	-	$46,332,500	$12,661,350	$1,242,650	$1,297,399	$28,199,438	$89,733,336
Option C-1d	-	-	$60,375,000	$1,242,650	$1,297,399	$28,199,438	$91,114,486
Option C-1e	-	-	$45,255,000	$2,461,368	$3,404,375	$28,199,438	$79,320,180

Escalation costs were factored into each of the options based on a construction start of summer 2017 and a at a 4% rate compounded annually. Once the Town develops a selection and priority of projects with construction dates, project costs need to be escalated to the construction start date.

Appendix 6

Demographics Study Report 6.1

Cropper GIS Consulting, LLC

Westwood Public Schools, MA
Demographic Study

November 2014

McKibben Demographics

Cropper GIS

Table of Contents

Executive Summary

1. Westwood Public School's fertility rates over the life of the forecasts are below replacement levels. (TFR=1.71 for the district vs. 2.1 for replacement level)

2. Most of the in-migration to the district occurs in the 0-4 and 30-to-44 year old age groups.

3. The locally born 18-to-24 year old population continues to leave the district, going to college or moving to other urban areas.

4. The primary factors causing the districts' enrollment to decrease are the small pre-school age cohorts aging into the school system. A secondary factor is the low rate of in-migration of young families ages 25 to 34.

5. Changes in year-to-year total enrollment (particularly until 2024) will primarily be due to the size of the cohorts entering the school system (grades K and 1) in relation to the size of the cohorts leaving the system (grade 12).

6. As the existing young families begin to age and similar sized grade cohorts begin to enter into the school system, total enrollment will begin to stabilize after 2024.

7. Even if the district continues to have a modest level of new home construction, the rate and magnitude of existing home sales will become the increasingly dominant factor affecting the amount of population and enrollment change.

8. Total enrollment is forecasted to decrease by 153 students, or -4.8%, between 2014-15 and 2019-20. Total enrollment will decline by 159 students, or -5.2%, from 2019-20 to 2024-25.

INTRODUCTION

By demographic principle, distinctions are made between projections and forecasts. A projection extrapolates the past (and present) into the future with little or no attempt to take into account any factors that may impact the extrapolation (e.g., changes in fertility rates, housing patterns or migration patterns) while a forecast results when a projection is modified by reasoning to take into account the aforementioned factors.

To maximize the use of this study as a planning tool, the ultimate goal is not simply to project the past into the future, but rather to assess various factors' impact on the future. The future population and enrollment growth of each school district is influenced by a variety of factors. Not all factors will influence the entire school district at the same level. Some variables may affect different areas at dissimilar magnitudes and rates causing changes at varying points of time within the same district. Forecaster's judgment based on a thorough and intimate study of the district has been used to modify the demographic trends and factors to more accurately predict likely changes. Therefore, strictly speaking, this study is a forecast, not a projection; and the amount of modification of the demographic trends varies between different areas of the district as well as within the timeframe of the forecast.

To calculate population forecasts of any type, particularly for smaller populations such as a school district or its attendance areas, realistic suppositions must be made as to what the future will bring in terms of age specific fertility rates, housing composition, family structure changes and residents' demographic behavior at certain points of the life course. The demographic history of the school district and its interplay with the social and economic history of the area is the starting point and basis of most of these suppositions particularly on key factors such as the age structure of the area. The unique nature of each district's and attendance area's demographic composition and rate of change over time must be assessed and understood to be factors throughout the life of the forecast series. Moreover, no two populations, particularly at the school district and attendance area level, have exactly the same demographic characteristics.

The manifest purpose of these forecasts is to ascertain the demographic factors and their magnitudes that will ultimately influence the enrollment levels in the district's schools. There are of course, other non-demographic factors that affect enrollment levels over time. These factors include, but are not limited to transfer policies within the district; student transfers to and from neighboring districts; placement of "special programs" within school facilities that may serve students from outside the attendance area; state or federal mandates that dictate the movement of students from one facility to another (No Child Left Behind is an excellent example of this factor); the development of charter schools in the district; the prevalence of home schooling in the area; and the dynamics of local private schools.

Unless the district specifically requests the calculation of forecasts that reflect the effects of changes in these non-demographic factors, their influences are held constant for the life of the forecasts. Again, the main function of these forecasts is to determine what impact demographic changes will have on future enrollment. It is quite possible to calculate special "scenario" forecasts to measure the impact and magnitude of school policy modifications as well as planned economic and financial changes. However in this case the results of these population and enrollment forecasts are meant to represent the most likely scenario for demographic changes over the next 10 years in the district and its attendance areas.

The first part of the report will examine the assumptions made in calculating the 10 year population forecasts for the Westwood Public Schools. Since the results of the population forecasts drive the subsequent enrollment forecasts, the assumptions listed in this section are paramount to understanding the area's demographic dynamics. The remainder of the report is an explanation and analysis of the district's population forecasts and how they will shape the district's grade level enrollment forecasts.

DATA

The data used for the forecasts come from a variety of sources. Enrollments by grade and attendance centers were provided by the Westwood Public Schools for school years 2008-2009 to 2014-15. Birth and death data were obtained from the Massachusetts Department of Public Health for the years 2000 through 2012. The net migration values were calculated using Internal Revenue Service migration reports for the years 2000 through 2011. The data used for the calculation of migration models came from the United States Bureau of the Census, 2005 to 2010, and the models were designed using demographic and economic factors. The base age-sex population counts used are from the results of the 2010 Census.

Recently the Census Bureau began releasing annual estimates of demographic variables at the block group and tract level from the American Community Survey (ACS). There has been wide scale reporting of these results in the national, state and local media. However, due to the methodological problems the Census Bureau is experiencing with their estimates derived from ACS data, particularly in areas with a population of less than 60,000, the results of the ACS are not used in these forecasts. For example, given the sampling framework used by the Census Bureau, each year only 150 of the over 5,200 current households in the district would have been included. For comparison, 800 households in the district were included in the sample for the long form questionnaire in the 2000 Census. As a result of this small sample size, the ACS survey results from the last 5 years must be aggregated to produce the tract and block group estimates.

To develop the population forecast models, past migration patterns, current age specific fertility patterns, the magnitude and dynamics of the gross migration, the age specific mortality trends, the distribution of the population by age and sex, the rate and type of existing housing unit sales, and future housing unit construction are considered to be primary variables. In addition, the change in household size relative to the age structure of the forecast area was addressed. While there was a drop in the average household size in Norfolk County as well as most other areas of the state during the previous 20 years, the rate of this decline has been forecasted to slow over the next ten years.

ASSUMPTIONS

For these forecasts, the mortality probabilities are held constant at the levels calculated for the year 2010. While the number of deaths in an area are impacted by and will change given the proportion of the local population over age 65, in the absence of an extraordinary event such as a natural disaster or a breakthrough in the treatment of heart disease, death rates rarely move rapidly in any direction, particularly at the school district or attendance area level. Thus, significant changes are not foreseen in district's mortality rates between now and the year 2024. Any increases forecasted in the number of deaths will be due primarily to the general aging of the district's population and specifically to the increase in the number of residents over age 65.

Similarly, fertility rates are assumed to stay fairly constant for the life of the forecasts. Like mortality rates, age specific fertility rates rarely change quickly or dramatically, particularly in small areas. Even with the recently reported rise in the fertility rates of the United States, overall fertility rates have stayed within a 10% range for most of the last 40 years. In fact, the vast majority of year to year change in an area's number of births is due to changes in the number of women in child bearing ages (particularly ages 20-34) rather than any fluctuation in an area's fertility rate.

The total fertility rate (TFR), the average number of births a woman will have in her lifetime, is estimated to be 1.71 for the total district for the ten years of the population forecasts. A TFR of 2.1 births per woman is considered to be the theoretical "replacement level" of fertility necessary for a population to remain constant in the absence of in-migration. Therefore, over the course of the forecast period, fertility will not be sufficient, in the absence of net in migration, to maintain the current level of population within the Westwood Public Schools.

A close examination of data for Westwood Public Schools has shown the age specific pattern of net migration will be nearly constant throughout the life of the forecasts. While the number of in and out migrants has changed in past years for Westwood Public Schools (and will change again over the next 10 years), the basic age pattern of the migrants has stayed nearly the same over the last 40 years. Based on the analysis of data it is safe to assume this age specific migration trend will remain unchanged into the future. This pattern of migration shows high out-migration occurring in the locally born 18-to-24 year old age group as young adults leave the area to go to college or move to other urban areas. The second group of out-migrants is those householders aged 70 and older who are downsizing their residences. Most of the local in-migration occurs in the 0-4 and 30-44 age groups (bulk of which is from areas within 50 miles of the city of Westwood) primarily consisting of younger adults.

As the city of Westwood is not currently contemplating any major expansions or contractions, the forecasts also assume the current economic, political, transportation and public works infrastructure (with a few notable exceptions), social, and environmental factors of Westwood Public Schools and its attendance areas will remain the same through the year 2024.

Below is a list of assumptions and issues that are specific to the town of Westwood and Westwood Public Schools. These issues have been used to modify the population forecast models to more accurately predict the impact of these factors on each area's population change. Specifically, the forecasts for Westwood Public Schools assume that throughout the study period:

a. There will be no short term economic recovery in the next 18 months and the national, state or regional economy does not go into deep recession at any time during the 10 years of the forecasts; (Deep recession is defined as four consecutive quarters where the GDP contracts greater than 1% per quarter)
b. Interest rates have reached a historic low and will not fluctuate more than one percentage point in the short term; the interest rate for a 30 year fixed home mortgage stays below 5.5%;
c. The rate of mortgage approval stays at 1999-2002 levels and lenders do not return to "sub-prime" mortgage practices;
d. There are no additional restrictions placed on home mortgage lenders or additional bankruptcies of major credit providers;
e. The rate of housing foreclosures does not exceed 125% of the 2005-2007 average of Norfolk County for any year in the forecasts;
f. All currently planned, platted, and approved housing developments are built out and completed by 2023. All housing units constructed are occupied by 2024;
g. The unemployment rates for Norfolk County will remain below 6.5% for the 10 years of the forecasts;
h. The rate of students transferring into and out of Westwood Public Schools will remain at the 2008-09 to 2014-15 average;
i. The inflation rate for gasoline will stay below 5% per year for the 10 years of the forecasts;
j. There will be no building moratorium within the district;
k. Businesses within the district and Norfolk County will remain viable;
l. The number of existing home sales in the district that are a result of "distress sales" (homes worth less than the current mortgage value) will not exceed 20% of total homes sales in the district for any given year;
m. Housing turnover rates (sale of existing homes in the district) will remain at their current levels. The majority of existing home sales are made by home owners over the age of 55;
n. Private school and home school attendance rates will remain constant;
o. The recent decline in new home construction has ended and building rates have stabilized;
p. The rate of foreclosures for commercial property remains at the 2004-2007 average for Norfolk County;

If a major employer in the district or in the Greater Norfolk County area closes, reduces or expands its operations, the population forecasts would need to be adjusted to reflect the changes brought about by the change in economic and employment conditions. The same holds true for any type of natural disaster, major change in the local infrastructure (e.g., highway construction, water and sewer expansion, changes in zoning regulations etc.), a further economic downturn, any additional weakness in the housing market or any instance or situation that causes rapid and dramatic population changes that could not be foreseen at the time the forecasts were calculated.

The high proportion of high school graduates from Westwood Public Schools that attend college or move to urban areas outside of the district for employment is a significant demographic factor. Their departure is a major reason for the extremely high out-migration in the locally born 18-to-24 age group and was taken into account when calculating these forecasts. The out-migration of graduating high school seniors is expected to continue over the period of the forecasts and the rate of out-migration has been forecasted to remain the same over the life of the forecast series. Given that the district will have progressively larger graduation classes over the next 10 years, (the 12th grade classes over the last four years have averaged 218, the average 12th grade class in 2021 to 2024 should be approximately 249) the number of out migrants from the district will increase.

Finally, all demographic trends (i.e., births, deaths, and migration) are assumed to be linear in nature and annualized over the forecast period. For example, if 1,000 births are forecasted for a 5-year period, an equal number, or proportion of the births are assumed to occur every year, 200 per year. Actual year-to-year variations do and will occur, but overall year to year trends are expected to be constant.

METHODOLOGY

The population forecasts presented in this report are the result of using the Cohort-Component Method of population forecasting (Siegel, and Swanson, 2004: 561-601) (Smith et. al. 2004). As stated in the **INTRODUCTION**, the difference between a projection and a forecast is in the use of explicit judgment based upon the unique features of the area under study. Strictly speaking, a cohort projection refers to the future

population that would result if a mathematical extrapolation of historical trends. Conversely, a cohort-component forecast refers to the future population that is expected because of a studied and purposeful selection of the components of change (i.e., births, deaths, and migration) and forecast models are developed to measure the impact of these changes in each specific geographic area.

Five sets of data are required to generate population and enrollment forecasts. These five data sets are:

1. a base-year population (here, the 2010 Census population for Westwood Public Schools and its attendance areas);
2. a set of age-specific fertility rates for each attendance area to be used over the forecast period;
3. a set of age-specific survival (mortality) rates for each attendance area;
4. a set of age-specific migration rates for each attendance area; and
5. Historical enrollment figures by grade.

The most significant and difficult aspect of producing enrollment forecasts is the generation of the population forecasts in which the school age population (and enrollment) is embedded. In turn, the most challenging aspect of generating the population forecasts is found in deriving the rates of change in fertility, mortality, and migration. From the standpoint of demographic analysis, Westwood Public Schools and its ten elementary attendance center districts are classified as "small area" populations (as compared to the population of the state of Massachusetts or to that of the United States). Small area population forecasts are more complicated to calculate because local variations in fertility, mortality, and migration may be more irregular than those at the regional, state or national scale. Especially challenging is the forecast of the migration rates for local areas, because changes in the area's socioeconomic characteristics can quickly change from past and current patterns (Peters and Larkin, 2002.)

The population forecasts for Westwood Public Schools and it attendance areas were calculated using a cohort-component method with the populations divided into male and female groups by five-year age cohorts that range from 0-to-4 years of age to 85 years of age and older (85+). Age and sex specific fertility, mortality, and migration models were constructed to specifically reflect the unique demographic characteristics of each of Westwood Public Schools' attendance areas as well as the total school district.

The enrollment forecasts were calculated using a modified average survivorship method. Average survivor rates (i.e., the proportion of students who progress from one grade level to the next given the average amount of net migration for that grade level) over the previous five years of year-to-year enrollment data were calculated for grades two through twelve. This procedure is used to identify specific grades where there are large numbers of students changing facilities for non-demographic factors, such as private school transfers or enrollment in special programs.

The survivorship rates were modified or adjusted to reflect the average rate of forecasted in and out migration of 5-to-9, 10-to-14 and 15-to-17 year old cohorts to each of the attendance centers in Westwood Public Schools for the period 2005 to 2010. These survivorship rates then were adjusted to reflect the forecasted changes in age-specific migration the district should experience over the next five years. These modified survivorship rates were used to project the enrollment of grades 2 through 12 for the period 2010 to 2015. The survivorship rates were adjusted again for the period 2015 to 2020 to reflect the predicted changes in the amount of age-specific migration in the districts for the period.

The forecasted enrollments for kindergarten and first grade are derived from the 5-to-9 year old population of the age-sex population forecast at the elementary attendance center district level. This procedure allows the changes in the incoming grade sizes to be factors of forecasted population change and not an extrapolation of previous class sizes. Given the potentially large amount of variation in Kindergarten enrollment due to parental choice, changes in the state's minimum age requirement, and differing district policies on allowing children to start Kindergarten early, first grade enrollment is deemed to be a more accurate and reliable starting point for the forecasts. (McKibben, 1996) The level of the accuracy for both the population and enrollment forecasts at the school district level is estimated to be $\pm$2.0% for the life of the forecasts.

RESULTS AND ANALYSIS OF THE POPULATION FORECASTS

From 2010 to 2020, the populations of Westwood Public Schools, Norfolk County; the state of Massachusetts, and the United States are forecasted to change as follows; Westwood Public Schools will decrease by -2.0%, Norfolk County will grow by 7.5% Massachusetts will increase by 5.1%; and the United States increase by 8.4% (see Table 1).

Table 1: Forecasted Population Change, 2010 to 2020

	2010	2015	2020	10-Year Change
U.S. (in millions)	308	322	334	8.4%
Massachusetts	6,547,629	6,692,000	6,883,000	5.1%
Norfolk County	670,850	695,200	721,400	7.5%
Westwood Public Schools	14,564	14,340	14,270	-2.0%

A number of general demographic factors will influence the growth rate of Westwood Public Schools during this period, and include the following:

a. The Baby Boom generation will have passed through prime childbearing ages by 2003, thereby reducing the overall proportion of the population at risk of having children;
b. The remaining population in childbearing ages (women ages 15-45) will have fewer children;
c. The locally born 18-to-24 year old population, in prime childbearing ages, will continue to leave the area to go to college or to other urban areas, with the magnitude of this out-migration flow slowly increasing; and,
d. The district will experience continued increase in housing stock, with an average of 30 new units being built each year through 2018. New housing construction will continue after that point, with an average of 20 units built per year until 2024.

Westwood Public Schools will continue to experience significant in-migration (movement of new young families into the district) over the next 10 years. However, the size and age structure of the pool of potential in-migrants will change and the effects of the in-migration of families on population growth will be greatly offset by the continued steady growing out-migration of young adults as graduating seniors continue to leave the district.

From 2010 to 2015, the district's total population is forecasted to decrease by 224 or -1.6% to 14,340. From 2015 to 2020, the population is forecasted to continue to decrease by an additional 70 persons or -0.5%. During the ten years of the forecasts, three of the five elementary attendance areas are forecasted to decrease in population with the decline rates ranging from -6.8% in the Deerfield area to -1.1% in the Downey area (See Table 2 for population forecast results of each elementary attendance area).

While all elementary areas will see some amount of gross in-migration, (primarily in the 24-to-39 age group,) all areas also will continue to see gross out-migration. This out-migration primarily will be young adults, 18-to-24 years old, as graduating seniors continue to leave the district to go to college or seek employment in larger urban areas. Consequently, most of the attendance areas will experience a modest reduction in their average household size.

As stated in the **ASSUMPTIONS** and emphasized above, the impact of the high proportion of high school graduates that leave the district to continue on to college or to seek employment in large urban areas is significant to the size and structure of the future population of the district. Up to 70% of all births occur to women between the ages of 20 and 29. As the graduating seniors continue to leave the district, the number of women at risk of childbirth during the next decade declines. Consequently, along with the district's fertility rate below the replacement level, the relatively small number of non-college women in the district ages 20-29 will keep the number of births declining at a modest rate despite the district having a stable population (see the population pyramids in the appendix of this report for a graphic representation of the age distributions of the district and all of the attendance areas).

Table 2: Forecasted Elementary Area Population Change, 2010 to 2020

	2010	2015	*2010-2015 Change*	2020	*2015-2020 Change*	*2010-2020 Change*
Deerfield	2,886	2,730	*-5.7%*	2,690	*-1.5%*	*-6.8%*
Downey	2,851	2,850	*0.0%*	2,820	*-1.1%*	*-1.1%*
Hanlon	2,191	2,220	*1.3%*	2,260	*1.8%*	*3.1%*
Martha Jones	3,052	3,040	*-0.4%*	3,060	*0.7%*	*0.3%*
Sheehan	3,584	3,500	*-2.4%*	3,440	*-1.7%*	*-4.0%*
District Total	14,564	14,340	*-1.6%*	14,270	*-0.5%*	*-2.0%*

As a general rule of thumb, for every two seniors that leave the district, one new household must move into the district to replace the young adults that

have left and to replace their lost potential fertility. Over the course of the forecast period, the average number of graduating seniors will be approximately 250 per year and at least 75% of them will move out of the district within three years of graduation. Using the general rule, approximately 90 new families will be required to move into the district every year or 900 new families for the ten-year study period to replace the graduating seniors and their lost fertility. It is forecasted that the impact of the steadily increasing out-migration of young adults will continue to be mostly offset by young family in-migration and that the total number of births will continue to slightly decline throughout the forecast period.

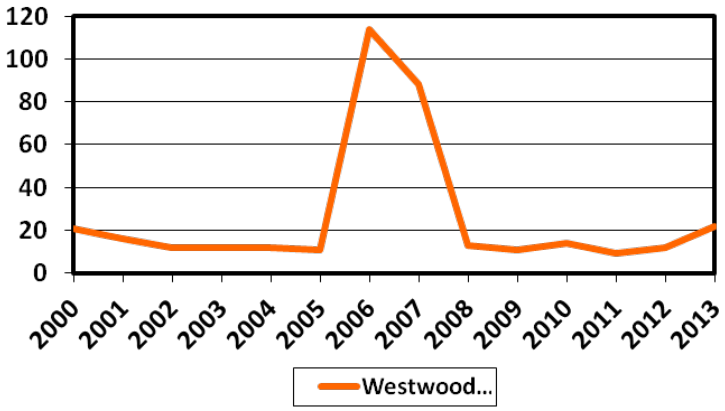
Another factor that needs to be considered is the birth dynamics of the last twenty years. An examination of national birth trends shows there was a large "Baby Boomlet" born between 1980 and 2000. This Boomlet was nearly as large as the Baby Boom of the 1950s and 1960s. However, unlike the Baby Boom, the Boomlet was a regional and not a national phenomenon (McKibben, et. al. 1999). Because Massachusetts had a rather modest Baby Boomlet, most of the expected enrollment growth will have to result from in-migration and not from an increase in the grade cohort size.

Table 3: Household Characteristics by Elementary Area, 2010 Census

	HH w/ Pop Under 18	% HH w/ Pop Under 18	Total Households	Household Population	Persons Per Household
Deerfield	363	30.3%	1199	2861	2.39
Downey	395	42.6%	928	2851	3.07
Hanlon	327	42.8%	764	2188	2.86
Martha Jones	480	49.1%	979	3052	3.12
Sheehan	527	38.6%	1363	3584	2.63
District Total	**2092**	**40.0%**	**5233**	**14536**	**2.78**

Clearly, the dominant factor that has affected the population growth rates of Westwood Public Schools over the last 20 years has been the number, pace and cost of existing home sales and the number of new homes constructed. However, the dynamics of this in migration flow are more complex than many realize. There is a common misconception that any changes in the economy, housing market or transportation system will have an immediate impact of the size of an area's population and the total impact of that change will be experienced immediately.

Chart 1: Residential Building Permits, Norfolk County, 2000 to 2013



This "delayed demographic reaction" is a key issue when attempting to ascertain the impact and duration of a trend. While it is true that the households moving into these new housing units bring many school age (particularly elementary) children into the district, they also bring many preschool age children as well. Consequently, the full impact of the growth in existing home sales and new home construction is not seen immediately in elementary enrollment as it takes three to seven years for all of the children to age into the schools. This is a key issue since the number of births in Westwood Public Schools is insufficient to maintain current enrollment levels.

Of additional concern are the issues of the district's aging population and the growing number of "empty nest" households, particularly in the Martha Jones attendance area. For example, after the last school age child leaves high school, the household becomes an "empty nest" and most likely will not send any more children to the school system. In most cases, it takes 20 to 30 years before all original (or first time) occupants of a housing area move out and are replaced by new, young families with children. This principle also applies to children leaving elementary school and moving on to middle school. Households can still have school age children in the district's school, but also in effect be "empty nest" of elementary age children.

Table 4: Householder Characteristics by Elementary Districts, 2010 Census

	Percentage of Householders aged 35-54	Percentage of Householders aged 65+	Percentage of Householders Who Own Homes
Deerfield	31.9%	49.8%	83.5%
Downey	46.3%	28.9%	97.3%
Hanlon	49.4%	24.4%	86.2%
Martha Jones	53.5%	22.9%	97.0%
Sheehan	39.6%	36.0%	77.3%
District Total	**43.1%**	**33.8%**	**87.2%**

Note as well the stabilization in the median age of the population in Westwood Public Schools and all of its attendance areas (see population forecasts in the appendix for the median age for each forecast year). The district as a whole will see the median age of its population stay roughly the same from 43.9 in 2010 to 43.4 in 2025. This stable level in median age is due to the assumed continued out migration of elderly homeowners who sell their existing homes to younger families (ages 30 to 44) with children (See Table 4).

As a result of the "empty nest" syndrome, the attendance areas in Westwood Public Schools will see a stable median age of their populations, even while the district as a whole continues to attract some new young families. It should be noted that many of these "childless" households are single persons and/or elderly (See Table 5). Consequently, even if many of these housing units "turnover" and attract households of similar characteristics, they will add little to the number of school age children in the district. Furthermore, many of the empty nest households will "down size" to smaller households within the district. In these cases new housing units may be built in an area, yet there is no corresponding increase in school enrollment.

There are several additional factors that are responsible for the difference between growth in population and growth in housing stock. Included among these factors are: people building new "move up" or retirement homes in the same area or district, (an important point since the children in move up homes tend to be of middle or high school age); children moving out of their parents homes and establishing residence in the same area; the increase in single-individual households; and divorce, with both parents remaining in the same area.

Table 5: Single Person Households and Single Person Households over age 65 by Elementary Districts, 2010 Census

	Percentage of Single Person Households	Percentage of Households single person and 65+
Deerfield	37.2%	32.6%
Downey	13.4%	7.8%
Hanlon	18.7%	8.1%
Martha Jones	12.7%	7.7%
Sheehan	25.6%	18.5%
District Total	**22.7%**	**16.3%**

RESULTS AND ANALYSIS OF ENROLLMENT FORECASTS

Elementary Enrollment (K-5)

The total K-5 elementary enrollment of the district is forecasted to decrease from 1,391 in 2014-15 to 1,273 in 2019-20, a drop of 118 students or 8.5%. From 2019-20 to 2024-25, elementary enrollment is expected to decline by an additional 75 students to 1,245. This will represent a -5.9% decrease over the five-year period. All five of the elementary attendance areas will experience a net decrease in enrollment over the next ten years (see Table 6).

The reason for this declining pattern in elementary enrollment is the convergence of the effects of three factors, all reaching their peak influence roughly by 2019. These factors are the existence of a "dearth" of population in the pre-school ages, the reversal of cohort sizes in the elementary grades and the aging out of households that currently have children under the age of 10. Each of these factors will contribute in part to the growth in elementary enrollment until 2024 and the slight decline afterwards.

There is currently a dearth of population in the district's pre-school population compared to the existing 2 to 7 year old population. An excellent example of this impact of the trend is shown in the single year of age counts of the district from the 2010 Census (See Table 7). The population at age six is closely related to the combined 1st grade enrollment of the public and private students in the district (as it is for all ages and elementary grades). However, note the relatively lower number of residents from age one to four, particularly when compared to the cohort sizes of the age 5 and 7 populations. This trend is an indication of the proportion of households in each area that will produce

elementary age students over the next five years. Despite a substantial in-migration of young families with children under the age of five, these very small "pre-school aged cohorts" will result in a decline in elementary enrollments over the next five to ten years.

Table 6: Total Elementary Enrollment, 2014, 2019, 2024

	2014	2019	2014-2019 Change	2024	2019-2024 Change	2014-2024 Change
Deerfield	247	225	-8.9%	223	-0.9%	-9.7%
Downey	250	227	-9.2%	215	-5.3%	-14.0%
Hanlon	226	228	0.9%	219	-3.9%	-3.1%
Martha Jones	295	264	-10.5%	249	-5.7%	-15.6%
Sheehan	373	314	-15.8%	292	-7.0%	-21.7%
District Total	**1,391**	**1,273**	-8.5%	**1,198**	-5.9%	**-13.9%**

Secondly, over the last several years, one of the main reasons elementary enrollment was decreasing was due to the fact that the number of children entering Kindergarten and 1st grade was smaller than the number leaving elementary school after completing 5th grade. This trend will continue over at least the next five years. Over the next five years the incoming 1st grade cohorts will average 243 students in size whereas the outgoing 5th grade cohorts have averaged only 211. As long as this imbalance continues (and it is forecasted to do so for at least the next five years) there will be growth in the elementary grades.

The third factor is the rise of the number of empty nest households in the district. In 2010 the district had 43.1% of their households headed by people ages 35-54 (The ages most people have school aged children). The district's proportion of households in these age groups has dropped over the last five years as people aged and the households became empty nest. Unfortunately, the large bubble of now empty nest households, (particularity empty of elementary age students) will not reach their 70s during the life of these forecasts. Post 70 year old households are the stage of life when most downsize, allowing new young families with children to move in.

Table 7: Age Under One to Age Ten Population Counts, by Year of Age, by Elementary Attendance Area: 2010 Census

	Under 1 year	1 year	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10 years
Deerfield	20	16	23	40	24	41	44	45	49	58	52
Downey	22	20	31	23	41	40	51	53	39	52	60
Hanlon	21	22	33	21	48	29	43	43	43	40	54
Martha Jones	20	28	29	40	45	53	54	68	65	74	70
Sheehan	26	45	36	57	39	65	73	65	55	64	60
Total	**109**	**131**	**152**	**181**	**196**	**228**	**264**	**274**	**251**	**288**	**295**

The demographic factors that will become the most influential over the next ten years are the growth rate of empty nest household in the attendance areas, the number of sales of new and existing homes, the rate and magnitude of existing housing unit "turn over," the relative size of the elementary and pre-school age cohorts and each area's fertility rate. Each of these factors will vary in the scale of their influence and timing of impact on the enrollment trends of any particular elementary area.

As more elementary attendance areas become completely dependent upon existing home sales to attract new families, the overall elementary enrollment trend of the district will decline. Areas such as Hanlon will see their elementary enrollments peak by the end of the decade and then slowly decline. Thus, the best primary short- and long-term indicator for enrollment change in most of the attendance area will be the year-to-year rate of housing turnover. If the Total Fertility Rates of all the attendance areas remain at their current low levels (and they are forecasted to do so) they will insure that enrollments will continue to see slowing growth (or outright declines) even if the levels of net out-migration are greatly reduced.

It is important to note that not all new housing construction results in an increase in elementary enrollment. Frequently in cases where the new home construction is primarily move up houses (priced $417,000 or higher, the lower limits of a jumbo mortgage until 2008) the impact on enrollment is felt more at the middle and high school levels than at the elementary level. These homes are usually purchased by families who have completed their childbearing and the children they do have tend to be ages 10 and older.

Yet equally important are the factors of housing turn-over and "family formation."
Areas with existing homes that have a large proportion of housing units owned by their residents and have a large proportion of their homeowners age 65 or older are prime candidates to experience a growing amount of housing turn-over. In Westwood Public Schools an area

such as Deerfield Elementary is an excellent example of this trend. This area, which would normally see a larger drop in its enrollment numbers as the number of households with school age children decline, will see more moderate changes in its student populations as young families move into formerly empty nest housing units.

Additionally, sub-areas that are characterized by the relatively high percentage of rental housing units and large concentrations of young adults tend to have more stable population distribution and enrollment trends. In these cases, young adults or the newly married, move to these areas and establish households. Because the population is in prime child bearing ages, these areas also have both a high absolute number of births and a higher than the district average birth rate. Later, as family size increases, these families often move to single family homes--usually (relatively) moderately priced single family homes in other parts of the school district.

Middle School Enrollment (Grades 5-8)

The total middle school enrollment for the district is forecasted to drop from 798 in 2014-15 to 702 in 2019-20, a 96 student or 12.0% decrease. Between 2019-20 and 2024-25 middle school enrollment is forecasted to decline to 698, a decrease of 4 students or 0.5%. The difference in the size of the individual grade cohorts and the aging of students through the school system are the primary reasons why the middle school enrollment trends deviate from those of the elementary grades.

There are currently smaller grade cohorts enrolled in the elementary school grades compared to those in the middle schools' grade cohorts. As these elementary school cohorts "age" into middle school and larger middle school cohorts age into high school, they increase the overall middle school enrollment level. Note how the size of the incoming 5th grade class is usually smaller than the previous year's 8th grade class, which has now moved on to high school. As long as this "wave" in the enrollment pattern exists, there will be to some degree, an increase in middle school enrollment at least until the 2020-21 school years.

After the 2020-2021 school years, this cohort trend moderates. There will then be grade cohorts entering the middle school grades that are much closer in size compared to those leaving. The result is a stabilization of the middle school enrollment until 2024.

A secondary but equally important factor is the number of "move up" homes being built in the district. These homes selling in excess of $417,000 tend to have children in the late elementary and middle school ages. Thus, the effect on enrollment from a new housing development with these types of homes would be first seen at grades five through eight. However, as the number of move up homes being constructed in the district declines over the next 10 years, the impact of in-migration will be reduced regarding year to year middle school enrollment trends.

High School Enrollment

Enrollment at the high school level is forecasted to grow from 971 in 2014-15 to 1,032 in 2019-20, an increase of 43 students or 4.3%. After 2019-20, the high school enrollment trend will reverse and begin to decline. The net result for the five-year period 2019-20 to 2024-25 will be a decrease of 80 students to 952 or 7.8%.

The aforementioned effects of changes in cohort size on middle school enrollment are also affecting the growth patterns of the high school population. The difference is that the bulk of the "dearth" cohort sizes will not begin to reach 9th grade until the 2019-20 school year. Over the next five years, the slightly larger sized grade cohorts that are in the middle school enrollment begin to enter high school. Until the larger sized cohorts of students pass through the high school grades, there will be growth in the enrollment at the district's high school, ending in 2019. After that point, high school enrollment will begin to rise.

It is important to note that the vast majority of this future high school enrollment growth will be a result of students aging into those grades. Specifically, students who already live in the district (and not in-migration of students ages 14 to 18) will be the primary cause of the forecasted increase in high school enrollment. Additionally, as was mentioned earlier, these forecasts represent the demographic changes that will affect high school enrollment. Any changes in the district's student transfer policy and/or changes in special high school level programs will need to be added or subtracted from the forecast result

High school enrollment is the most difficult of all the grade levels to project. The reason for this is the varying and constantly changing dropout rates, particularly in grades 10 and 11. For these forecasts the dropout rates at the high school were calculated for each grade over the last five years. These five-year averages were then held constant for the life of the forecast. The effects of any policy changes dealing with any school's dropout rates, program placement or reassignment of

former students to new grade levels will need to be added or subtracted from the forecast results.

REFERENCES

McKibben, J.
The Impact of Policy Changes on Forecasting for School Districts. Population Research and Policy Review, Vol. 15, No. 5-6, December 1996

McKibben, J., M. Gann, and K. Faust.
The Baby Boomlet's Role in Future College Enrollment. American Demographics, June 1999.

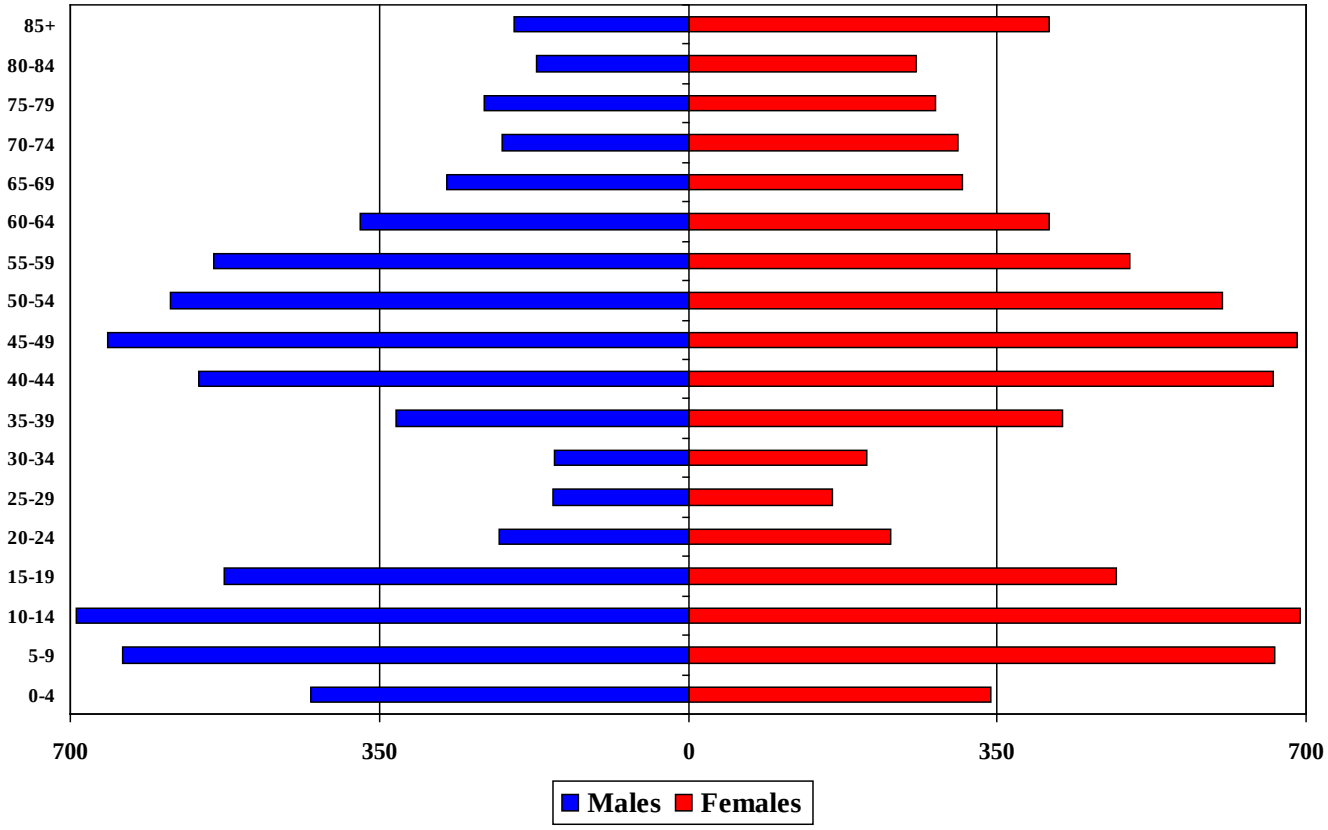
Peters, G. and R. Larkin
Population Geography. 7th Edition. Dubuque, IA: Kendall Hunt Publishing. 2002.

Siegel, J. and D. Swanson
The Methods and Materials of Demography: Second Edition, Academic Press: New York, New York. 2004.

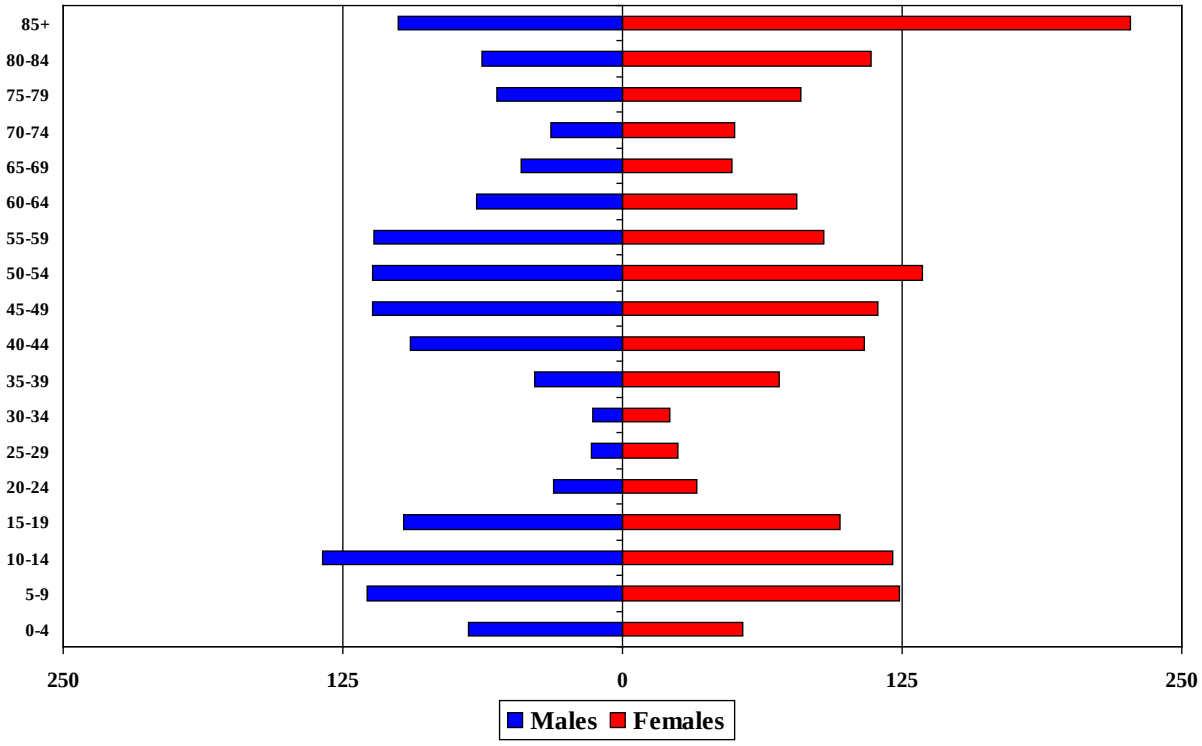
Smith, S., J. Tayman and D. Swanson
State and Local Population Projections, Academic Press, New York, New York. 2001.

Appendix A: Population Pyramids (Age/Sex)

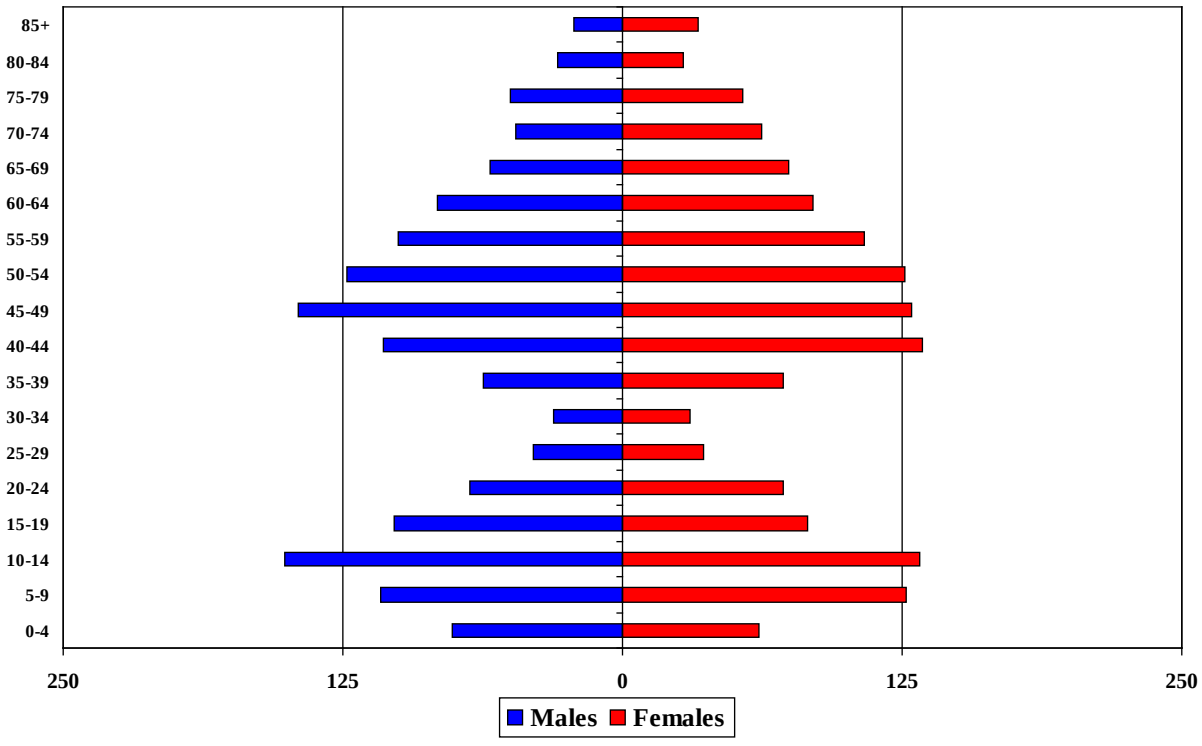
Westwood, MA Total Population – 2010 Census



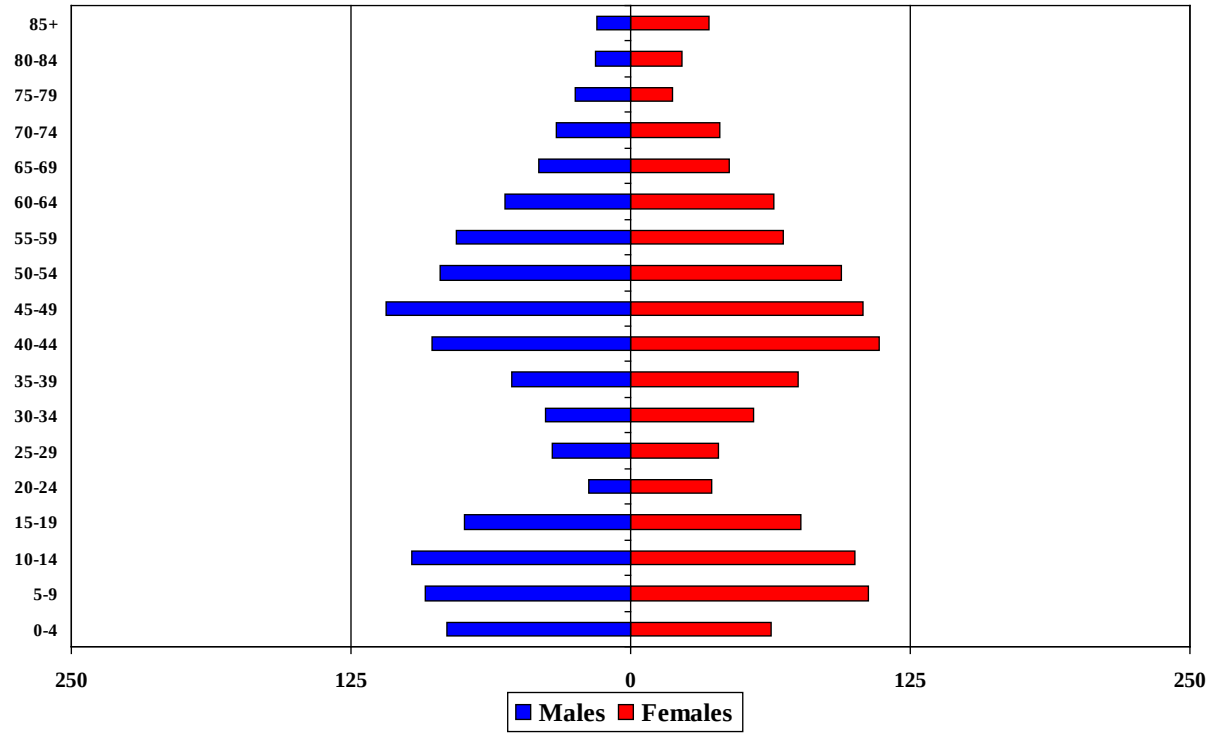
Deerfield School Total Population – 2010 Census



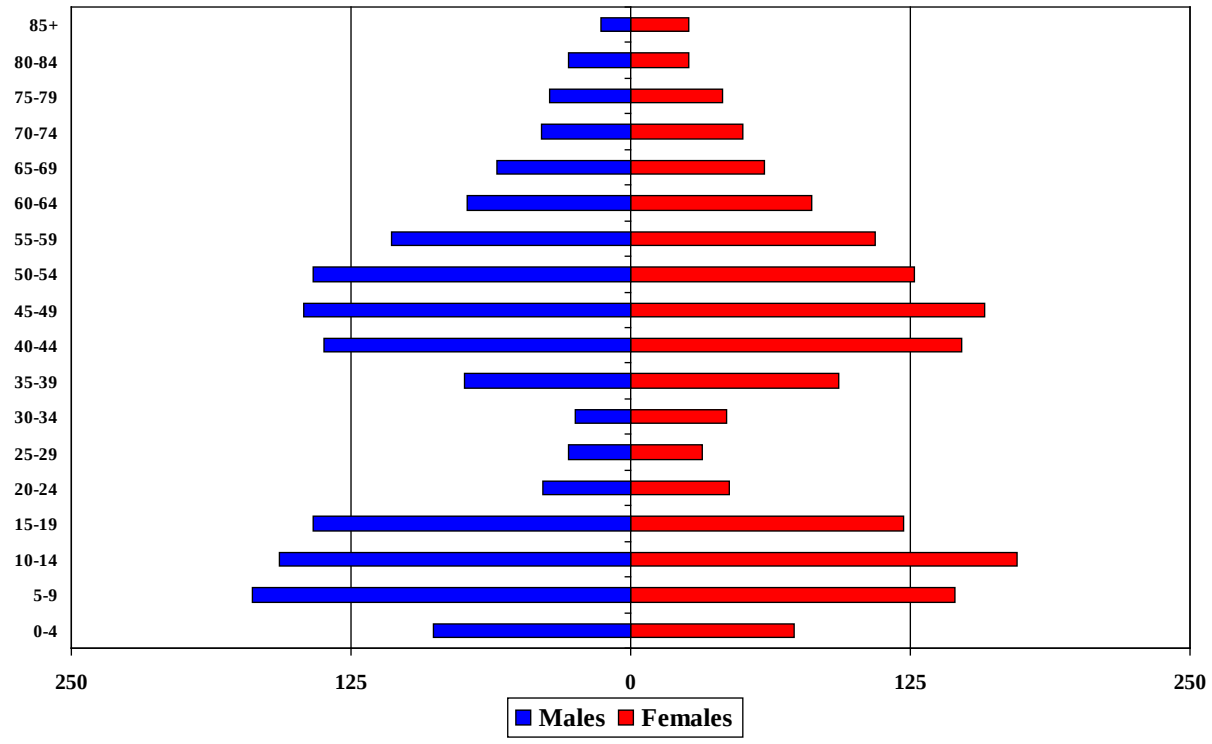
Downey School Total Population – 2010 Census



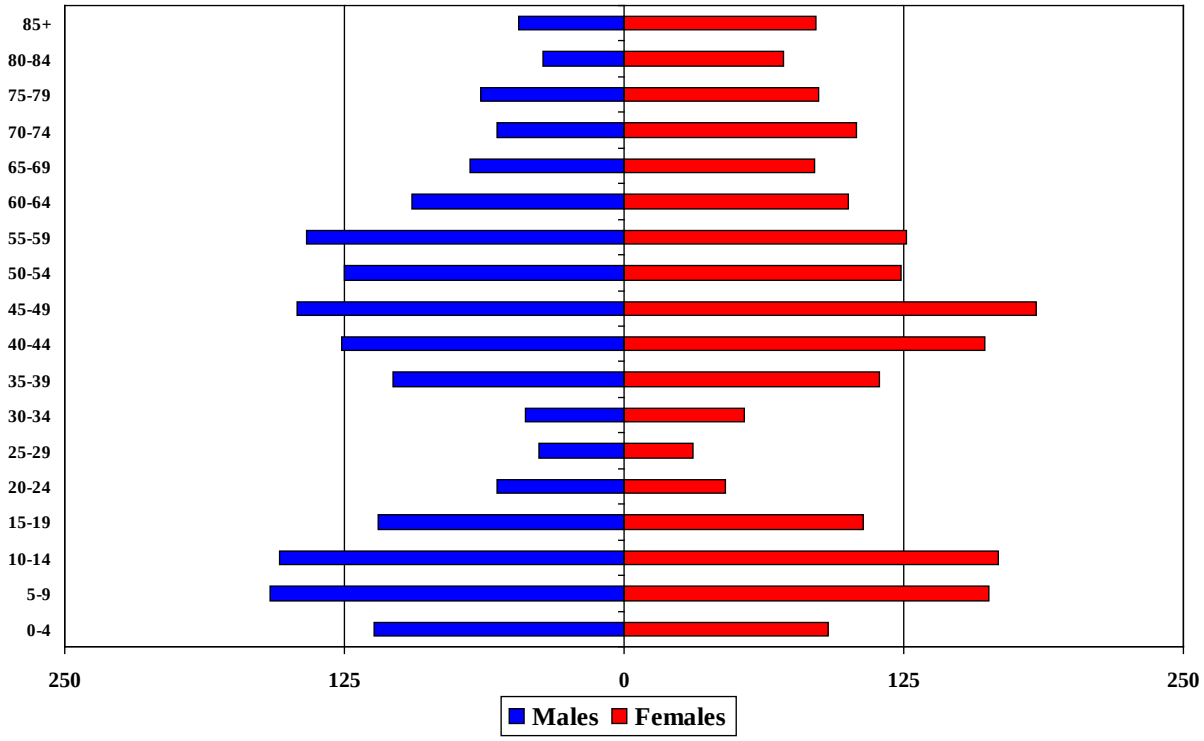
Paul Hanlon School Total Population – 2010 Census



Martha Jones School Total Population – 2010 Census



Sheehan School Total Population – 2010 Census



Appendix B: Enrollment Forecast Tables

Westwood Public Schools: Total District Enrollment

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
PK	49	46	47	47	47	47	47	47	47	47	47	47	47	47	47
K	217	225	184	211	206	207	201	195	189	185	186	184	180	178	181
1	243	226	235	207	213	220	218	212	206	200	196	194	192	188	186
2	268	250	230	249	209	218	224	222	216	210	207	203	201	199	195
3	232	274	253	240	252	211	220	225	223	217	215	212	207	205	202
4	255	243	274	264	248	257	217	224	231	228	226	224	221	216	214
5	260	268	244	273	263	250	259	217	226	233	232	230	228	225	220
Total: PK-5	1524	1532	1467	1491	1438	1410	1386	1342	1338	1320	1309	1294	1276	1258	1245
Change		8	-65	24	-53	-28	-24	-44	-4	-18	-11	-15	-18	-18	-13
%-Change		0.5%	-4.2%	1.6%	-3.6%	-1.9%	-1.7%	-3.2%	-0.3%	-1.3%	-0.8%	-1.1%	-1.4%	-1.4%	-1.0%
	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
6	261	263	276	253	272	268	255	264	221	231	240	239	237	235	232
7	223	262	260	273	255	267	263	250	259	217	229	238	237	235	233
8	257	225	257	257	271	250	262	258	245	254	215	227	236	235	233
Total: 6-8	741	750	793	783	798	785	780	772	725	702	684	704	710	705	698
Change		9	43	-10	15	-13	-5	-8	-47	-23	-18	20	6	-5	-7
%-Change		1.2%	5.7%	-1.3%	1.9%	-1.6%	-0.6%	-1.0%	-6.1%	-3.2%	-2.6%	2.9%	0.9%	-0.7%	-1.0%
	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
9	211	257	210	254	247	276	255	267	263	250	262	221	234	243	242
10	227	218	257	211	257	251	280	259	271	267	256	269	227	240	249
11	224	222	215	256	214	252	246	274	254	266	264	253	266	225	238
12	212	225	224	211	253	210	247	241	269	249	263	261	250	263	223
Total: 9-12	874	922	906	932	971	989	1028	1041	1057	1032	1045	1004	977	971	952
Change		48	-16	26	39	18	39	13	16	-25	13	-41	-27	-6	-19
%-Change		5.5%	-1.7%	2.9%	4.2%	1.9%	3.9%	1.3%	1.5%	-2.4%	1.3%	-3.9%	-2.7%	-0.6%	-2.0%
	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Total: PK-12	3139	3204	3166	3206	3207	3184	3194	3155	3120	3054	3038	3002	2963	2934	2895
Change		65	-38	40	1	-23	10	-39	-35	-66	-16	-36	-39	-29	-39
%-Change		2.1%	-1.2%	1.3%	0.0%	-0.7%	0.3%	-1.2%	-1.1%	-2.1%	-0.5%	-1.2%	-1.3%	-1.0%	-1.3%

Forecasts Developed November 2014

Green cells (2014-15 and earlier) are historical data

Blue cells (2015-16 and later) are forecasted years

Deerfield Elementary

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
K	39	37	41	28	41	37	36	35	34	33	35	36	36	36	36
1	42	41	38	47	30	38	39	38	37	36	35	36	37	37	38
2	43	44	41	44	46	31	39	40	39	38	37	36	37	38	38
3	36	45	42	40	45	45	30	38	39	38	37	36	35	36	37
4	46	40	45	49	41	47	47	31	40	41	40	39	38	37	38
5	45	50	36	46	44	40	46	46	30	39	40	39	38	37	36
Total K-5	251	257	243	254	247	238	237	228	219	225	224	222	221	221	223
Change		6	-14	11	-7	-9	-1	-9	-9	6	-1	-2	-1	0	2
% Change		2.4%	-5.4%	4.5%	-2.8%	-3.6%	-0.4%	-3.8%	-3.9%	2.7%	-0.4%	-0.9%	-0.5%	0.0%	0.9%

Forecasts Developed November 2014

Green cells (2014-15 and earlier) are historical data

Blue cells (2015-16 and later) are forecasted years

Downey Elementary

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
K	33	43	28	38	29	36	35	35	34	33	32	32	31	31	32
1	47	34	46	30	45	35	37	36	36	35	34	33	33	32	32
2	51	47	40	47	30	48	37	39	38	38	38	37	36	36	35
3	46	52	50	42	48	31	49	38	40	39	40	40	38	37	37
4	50	46	52	52	43	49	32	50	39	41	40	41	41	39	38
5	52	53	49	52	55	45	51	33	52	41	43	42	43	43	41
Total K-5	279	275	265	261	250	244	241	231	239	227	227	225	222	218	215
Change		-4	-10	-4	-11	-6	-3	-10	8	-12	0	-2	-3	-4	-3
% Change		-1.4%	-3.6%	-1.5%	-4.2%	-2.4%	-1.2%	-4.1%	3.5%	-5.0%	0.0%	-0.9%	-1.3%	-1.8%	-1.4%

Forecasts Developed November 2014

Green cells (2014-15 and earlier) are historical data

Blue cells (2015-16 and later) are forecasted years

Hanlon Elementary

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
K	35	36	23	47	36	40	39	38	37	37	37	36	35	34	35
1	36	36	39	23	39	40	42	41	40	39	39	38	37	36	35
2	43	37	35	45	22	37	38	40	39	38	38	38	37	36	35
3	39	41	36	38	46	21	36	36	38	37	37	37	37	36	35
4	37	41	40	38	43	47	22	37	37	39	39	39	39	39	38
5	36	37	41	40	40	44	48	22	38	38	41	41	41	41	41
Total K-5	226	228	214	231	226	229	225	214	229	228	231	229	226	222	219
Change		2	-14	17	-5	3	-4	-11	15	-1	3	-2	-3	-4	-3
% Change		0.9%	-6.1%	7.9%	-2.2%	1.3%	-1.7%	-4.9%	7.0%	-0.4%	1.3%	-0.9%	-1.3%	-1.8%	-1.4%

Forecasts Developed November 2014

Green cells (2014-15 and earlier) are historical data

Blue cells (2015-16 and later) are forecasted years

Martha Jones Elementary

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
K	49	52	38	46	38	43	42	40	39	38	38	37	36	36	36
1	49	50	54	41	48	43	45	44	42	41	40	40	39	38	37
2	62	51	49	55	44	50	45	47	46	44	43	42	42	41	40
3	61	64	54	55	55	46	52	47	49	48	47	46	45	45	43
4	69	64	63	53	56	54	45	51	46	48	49	48	47	46	46
5	69	68	65	60	54	55	53	44	50	45	49	50	49	48	47
Total K-5	359	349	323	310	295	291	282	273	272	264	266	263	258	254	249
Change		-10	-26	-13	-15	-4	-9	-9	-1	-8	2	-3	-5	-4	-5
% Change		-2.8%	-7.4%	-4.0%	-4.8%	-1.4%	-3.1%	-3.2%	-0.4%	-2.9%	0.8%	-1.1%	-1.9%	-1.6%	-2.0%

Forecasts Developed November 2014

Green cells (2014-15 and earlier) are historical data

Blue cells (2015-16 and later) are forecasted years

Sheehan Elementary

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
K	61	57	54	52	62	51	49	47	45	44	44	43	42	41	42
1	69	65	58	66	51	64	55	53	51	49	48	47	46	45	44
2	69	71	65	58	67	52	65	56	54	52	51	50	49	48	47
3	50	72	71	65	58	68	53	66	57	55	54	53	52	51	50
4	53	52	74	72	65	60	71	55	69	59	58	57	56	55	54
5	58	60	53	75	70	66	61	72	56	70	59	58	57	56	55
Total K-5	360	377	375	388	373	361	354	349	332	329	314	308	302	296	292
Change		17	-2	13	-15	-12	-7	-5	-17	-3	-15	-6	-6	-6	-4
% Change		4.7%	-0.5%	3.5%	-3.9%	-3.2%	-1.9%	-1.4%	-4.9%	-0.9%	-4.6%	-1.9%	-1.9%	-2.0%	-1.4%

Forecasts Developed November 2014

Green cells (2014-15 and earlier) are historical data

Blue cells (2015-16 and later) are forecasted years

Thurson Middle School

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
6	261	263	276	253	272	268	255	264	221	231	240	239	237	235	232
7	223	262	260	273	255	267	263	250	259	217	229	238	237	235	233
8	257	225	257	257	271	250	262	258	245	254	215	227	236	235	233
Total: 6-8	741	750	793	783	798	785	780	772	725	702	684	704	710	705	698
Change		9	43	-10	15	-13	-5	-8	-47	-23	-18	20	6	-5	-7
% Change		1.2%	5.7%	-1.3%	1.9%	-1.6%	-0.6%	-1.0%	-6.1%	-3.2%	-2.6%	2.9%	0.9%	-0.7%	-1.0%

Forecasts Developed November 2014

Green cells (2014-15 and earlier) are historical data

Blue cells (2015-16 and later) are forecasted years

Westwood High School

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
9	211	257	210	254	247	276	255	267	263	250	262	221	234	243	242
10	227	218	257	211	257	251	280	259	271	267	256	269	227	240	249
11	224	222	215	256	214	252	246	274	254	266	264	253	266	225	238
12	212	225	224	211	253	210	247	241	269	249	263	261	250	263	223
Total: 9-12	874	922	906	932	971	989	1028	1041	1057	1032	1045	1004	977	971	952
Change		48	-16	26	39	18	39	13	16	-25	13	-41	-27	-6	-19
% Change		5.5%	-1.7%	2.9%	4.2%	1.9%	3.9%	1.3%	1.5%	-2.4%	1.3%	-3.9%	-2.7%	-0.6%	-2.0%

Forecasts Developed November 2014

Green cells (2014-15 and earlier) are historical data

Blue cells (2015-16 and later) are forecasted years

Appendix C: Population Forecast Tables

Westwood Public Schools

Males	2010	2015	2020	2025
0-4	427	320	310	300
5-9	641	670	560	510
10-14	694	680	700	590
15-19	526	540	540	560
20-24	214	290	300	310
25-29	154	220	270	300
30-34	151	240	280	360
35-39	331	300	370	420
40-44	554	380	350	430
45-49	658	540	380	370
50-54	587	640	530	360
55-59	538	570	620	520
60-64	372	480	520	560
65-69	274	300	400	420
70-74	210	200	210	310
75-79	231	150	150	160
80-84	172	150	100	80
85+	197	170	140	110
Total	6,931	6,840	6,730	6,670

Females	2010	2015	2020	2025
0-4	342	310	300	280
5-9	664	590	560	510
10-14	693	690	620	580
15-19	485	530	560	480
20-24	230	240	310	330
25-29	163	220	240	310
30-34	203	230	310	320
35-39	424	360	390	430
40-44	662	470	410	450
45-49	689	660	470	420
50-54	605	680	650	460
55-59	501	580	660	630
60-64	408	470	560	630
65-69	311	340	400	490
70-74	306	260	290	350
75-79	281	250	220	240
80-84	258	210	200	150
85+	408	410	390	350
Total	7,633	7,500	7,540	7,410

Total	2010	2015	2020	2025
0-4	769	630	610	580
5-9	1,305	1,260	1,120	1,020
10-14	1,387	1,370	1,320	1,170
15-19	1,011	1,070	1,100	1,040
20-24	444	530	610	640
25-29	317	440	510	610
30-34	354	470	590	680
35-39	755	660	760	850
40-44	1,216	850	760	880
45-49	1,347	1,200	850	790
50-54	1,192	1,320	1,180	820
55-59	1,039	1,150	1,280	1,150
60-64	780	950	1,080	1,190
65-69	585	640	800	910
70-74	516	460	500	660
75-79	512	400	370	400
80-84	430	360	300	230
85+	605	580	530	460
Total	14,564	14,340	14,270	14,080
Median Age	43.9	44.4	43.4	42.6

	2010 to 2015	2015 to 2020	2020 to 2025
Births	450	450	450
Deaths	1,030	950	920
Natural Increase	-580	-500	-470
Net Migration	390	370	330
Change	-190	-130	-140

Differences between period Totals may not equal Change due to rounding.

Deerfield Elementary

Males	2010	2015	2020	2025
0-4	69	50	60	60
5-9	114	120	110	100
10-14	134	120	130	110
15-19	98	110	100	110
20-24	31	40	50	50
25-29	14	30	40	50
30-34	13	30	50	60
35-39	39	60	80	90
40-44	95	40	60	80
45-49	112	90	40	60
50-54	112	110	90	40
55-59	111	110	100	90
60-64	65	100	100	100
65-69	45	60	90	90
70-74	32	30	40	70
75-79	56	20	20	30
80-84	63	40	10	10
85+	100	80	50	30
Total	1,302	1,240	1,220	1,230

Females	2010	2015	2020	2025
0-4	54	50	50	50
5-9	124	110	110	100
10-14	121	130	120	110
15-19	97	90	110	90
20-24	33	40	40	60
25-29	25	30	40	40
30-34	21	40	50	60
35-39	70	70	90	90
40-44	108	70	70	90
45-49	114	110	70	60
50-54	134	110	110	70
55-59	90	130	110	100
60-64	78	90	130	100
65-69	49	70	80	120
70-74	50	40	60	70
75-79	80	40	30	50
80-84	111	60	30	20
85+	227	210	170	130
Total	1,584	1,490	1,470	1,410

Total	2010	2015	2020	2025
0-4	123	100	110	110
5-9	237	230	220	200
10-14	255	250	250	220
15-19	195	200	210	200
20-24	64	80	90	110
25-29	38	60	80	90
30-34	34	70	100	120
35-39	109	130	170	180
40-44	203	110	130	170
45-49	226	200	110	120
50-54	246	220	200	110
55-59	201	240	210	190
60-64	142	190	230	200
65-69	94	130	170	210
70-74	82	70	100	140
75-79	137	60	50	80
80-84	174	100	40	30
85+	327	290	220	160
Total	2,886	2,730	2,690	2,640
Median Age	49.1	48.4	44.4	42.6

	2010 to 2015	2015 to 2020	2020 to 2025
Births	90	90	90
Deaths	330	250	210
Natural Increase	-240	-160	-120
Net Migration	90	90	80
Change	-150	-70	-40

Differences between period Totals may not equal Change due to rounding.

Downey Elementary

Males	2010	2015	2020	2025
0-4	76	60	60	60
5-9	108	120	90	90
10-14	151	120	120	100
15-19	102	110	80	90
20-24	68	90	100	70
25-29	40	70	80	100
30-34	31	60	80	100
35-39	62	50	80	100
40-44	107	60	50	80
45-49	145	110	60	50
50-54	123	140	100	60
55-59	100	120	140	100
60-64	83	90	110	130
65-69	59	70	80	90
70-74	48	50	50	60
75-79	50	40	40	40
80-84	29	30	20	20
85+	22	20	20	20
Total	1,404	1,410	1,360	1,360

Females	2010	2015	2020	2025
0-4	61	60	60	50
5-9	127	100	90	90
10-14	133	130	110	100
15-19	83	90	100	80
20-24	72	70	80	90
25-29	36	70	70	80
30-34	30	50	90	80
35-39	72	50	70	100
40-44	134	70	50	80
45-49	129	130	70	50
50-54	126	130	130	70
55-59	108	120	120	130
60-64	85	100	120	120
65-69	74	70	90	100
70-74	62	70	60	80
75-79	54	50	60	50
80-84	27	40	40	40
85+	34	40	50	50
Total	1,447	1,440	1,460	1,440

Total	2010	2015	2020	2025
0-4	137	120	120	110
5-9	235	220	180	180
10-14	284	250	230	200
15-19	185	200	180	170
20-24	140	160	180	160
25-29	76	140	150	180
30-34	61	110	170	180
35-39	134	100	150	200
40-44	241	130	100	160
45-49	274	240	130	100
50-54	249	270	230	130
55-59	208	240	260	230
60-64	168	190	230	250
65-69	133	140	170	190
70-74	110	120	110	140
75-79	104	90	100	90
80-84	56	70	60	60
85+	56	60	70	70
Total	2,851	2,850	2,820	2,800
Median Age	43.6	44.8	42.5	40.6

	2010 to 2015	2015 to 2020	2020 to 2025
Births	90	100	100
Deaths	170	180	190
Natural Increase	-80	-80	-90
Net Migration	80	70	60
Change	0	-10	-30

Differences between period Totals may not equal Change due to rounding.

Hanlon Elementary

Males	2010	2015	2020	2025
0-4	82	70	60	60
5-9	92	120	100	90
10-14	98	100	120	110
15-19	74	80	80	110
20-24	19	30	30	40
25-29	35	20	30	30
30-34	38	60	40	50
35-39	53	40	60	50
40-44	89	70	60	70
45-49	109	90	70	60
50-54	85	110	90	60
55-59	78	80	100	80
60-64	56	70	80	90
65-69	41	40	60	60
70-74	33	30	30	40
75-79	25	20	20	20
80-84	16	20	20	10
85+	15	10	10	10
Total	1,038	1,060	1,060	1,040

Females	2010	2015	2020	2025
0-4	63	60	60	60
5-9	106	100	100	90
10-14	100	110	100	110
15-19	76	80	90	90
20-24	36	30	40	50
25-29	39	40	30	40
30-34	55	60	60	50
35-39	75	60	70	60
40-44	111	90	80	80
45-49	104	110	90	70
50-54	94	100	110	90
55-59	68	90	100	110
60-64	64	70	90	100
65-69	44	50	50	80
70-74	40	30	40	40
75-79	19	30	30	30
80-84	23	10	30	20
85+	35	40	30	30
Total	1,153	1,160	1,200	1,200

Total	2010	2015	2020	2025
0-4	145	130	120	120
5-9	198	220	200	180
10-14	198	210	220	220
15-19	150	160	170	200
20-24	55	60	70	90
25-29	74	60	60	70
30-34	93	120	100	100
35-39	128	100	130	110
40-44	200	160	140	150
45-49	213	200	160	130
50-54	179	210	200	150
55-59	146	170	200	190
60-64	121	140	170	190
65-69	85	90	110	140
70-74	74	60	70	80
75-79	44	50	50	50
80-84	39	30	50	30
85+	50	50	40	40
Total	2,191	2,220	2,260	2,240
Median Age	41.4	41.6	42.1	41.0

	2010 to 2015	2015 to 2020	2020 to 2025
Births	80	70	70
Deaths	120	120	120
Natural Increase	-40	-50	-50
Net Migration	70	70	60
Change	30	20	10

Differences between period Totals may not equal Change due to rounding.

Martha Jones Elementary

Males	2010	2015	2020	2025
0-4	88	60	60	60
5-9	169	140	120	110
10-14	157	170	150	120
15-19	142	130	150	120
20-24	39	70	60	80
25-29	28	40	70	60
30-34	25	40	50	80
35-39	74	50	60	70
40-44	137	100	70	90
45-49	146	130	100	80
50-54	142	140	130	90
55-59	107	140	140	130
60-64	73	100	130	130
65-69	60	60	80	110
70-74	40	40	40	60
75-79	36	30	30	30
80-84	28	20	20	20
85+	13	20	20	20
Total	1,503	1,480	1,480	1,460

Females	2010	2015	2020	2025
0-4	73	60	60	60
5-9	145	130	120	110
10-14	173	150	130	120
15-19	122	150	130	110
20-24	44	50	80	50
25-29	32	40	50	80
30-34	43	40	60	60
35-39	93	70	70	80
40-44	148	120	90	90
45-49	158	150	120	100
50-54	127	160	140	110
55-59	109	120	150	140
60-64	81	100	120	150
65-69	60	70	90	110
70-74	50	50	60	80
75-79	41	40	40	50
80-84	26	30	30	30
85+	26	30	40	40
Total	1,550	1,560	1,580	1,570

Total	2010	2015	2020	2025
0-4	161	120	120	120
5-9	313	270	240	220
10-14	330	320	280	240
15-19	264	280	280	230
20-24	83	120	140	130
25-29	60	80	120	140
30-34	68	80	110	140
35-39	167	120	130	150
40-44	285	220	160	180
45-49	304	280	220	180
50-54	269	300	270	200
55-59	216	260	290	270
60-64	154	200	250	280
65-69	120	130	170	220
70-74	90	90	100	140
75-79	77	70	70	80
80-84	54	50	50	50
85+	39	50	60	60
Total	3,052	3,040	3,060	3,030
Median Age	41.4	43.0	43.4	44.0

	2010 to 2015	2015 to 2020	2020 to 2025
Births	90	90	90
Deaths	150	160	170
Natural Increase	-60	-70	-80
Net Migration	60	60	60
Change	0	-10	-20

Differences between period Totals may not equal Change due to rounding.

Sheehan Elementary

Males	2010	2015	2020	2025
0-4	112	80	70	60
5-9	158	170	140	120
10-14	154	170	180	150
15-19	110	110	130	130
20-24	57	60	60	70
25-29	38	60	50	60
30-34	44	50	60	70
35-39	103	100	90	110
40-44	126	110	110	110
45-49	146	120	110	120
50-54	125	140	120	110
55-59	142	120	140	120
60-64	95	120	100	110
65-69	69	70	90	70
70-74	57	50	50	80
75-79	64	40	40	40
80-84	36	40	30	20
85+	47	40	40	30
Total	1,684	1,650	1,610	1,580

Females	2010	2015	2020	2025
0-4	91	80	70	60
5-9	163	150	140	120
10-14	167	170	160	140
15-19	107	120	130	110
20-24	45	50	70	80
25-29	31	40	50	70
30-34	54	40	50	70
35-39	114	110	90	100
40-44	161	120	120	110
45-49	184	160	120	140
50-54	124	180	160	120
55-59	126	120	180	150
60-64	100	110	100	160
65-69	85	80	90	80
70-74	104	70	70	80
75-79	87	90	60	60
80-84	71	70	70	40
85+	86	90	100	100
Total	1,900	1,850	1,830	1,790

Total	2010	2015	2020	2025
0-4	203	160	140	120
5-9	322	320	280	240
10-14	320	340	340	290
15-19	217	230	260	240
20-24	102	110	130	150
25-29	70	100	100	130
30-34	98	90	110	140
35-39	217	210	180	210
40-44	287	230	230	220
45-49	330	280	230	260
50-54	249	320	280	230
55-59	269	240	320	270
60-64	195	230	200	270
65-69	153	150	180	150
70-74	161	120	120	160
75-79	151	130	100	100
80-84	107	110	100	60
85+	133	130	140	130
Total	3,584	3,500	3,440	3,370
Median Age	44.2	44.1	43.9	43.8

	2010 to 2015	2015 to 2020	2020 to 2025
Births	100	100	100
Deaths	260	240	230
Natural Increase	-160	-140	-130
Net Migration	90	80	70
Change	-70	-60	-60

Differences between period Totals may not equal Change due to rounding.

Appendix D: Live Attend Analysis

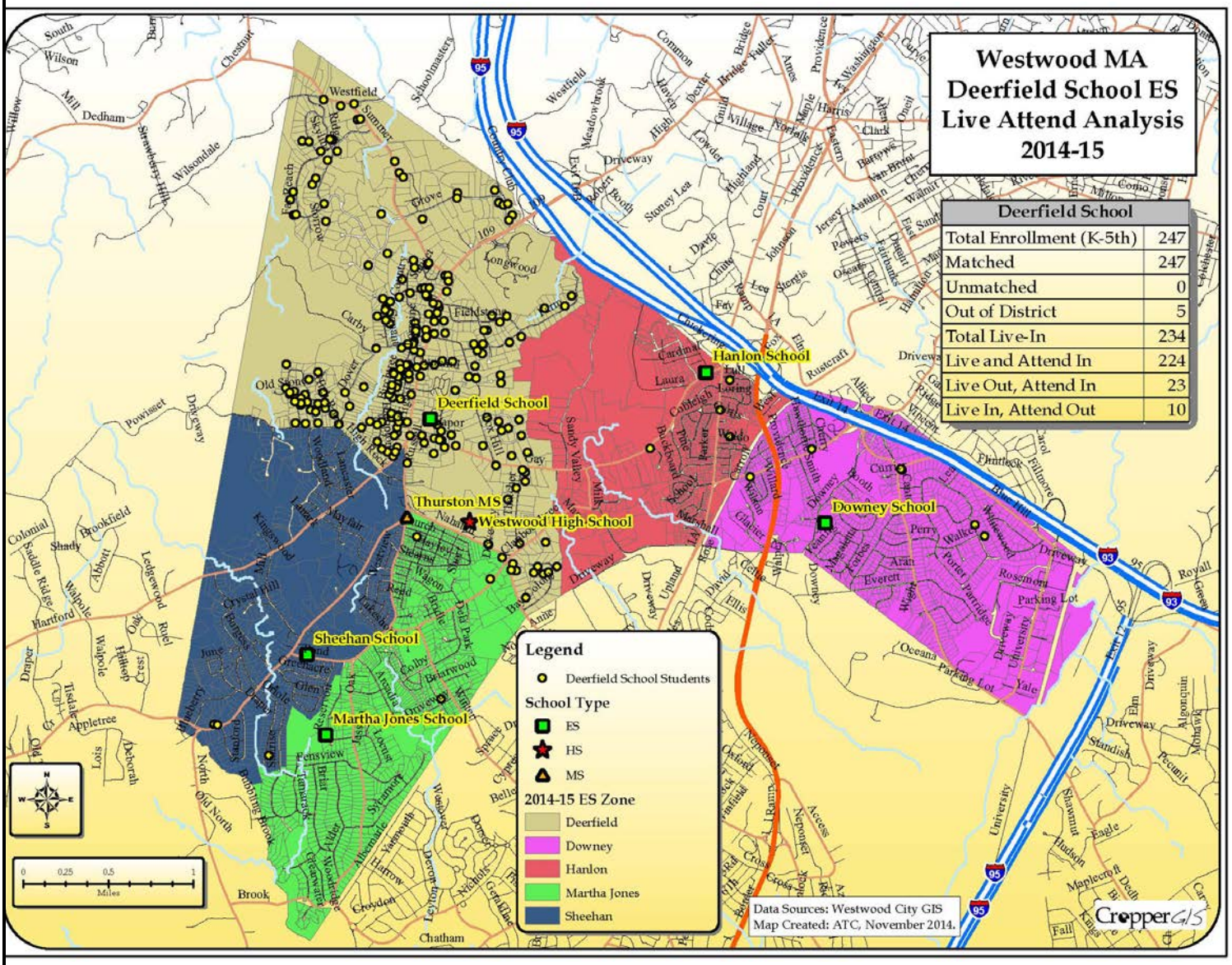
This map series focuses on illustrating the geographic distribution of Westwood Public Schools' 2014-2015 students in relation to school attendance boundaries.

Here is an example of a map from this series.

Basic Map Elements

The legend explains how different features are represented, either by a point (e.g. schools and students), or by an area/polygon (e.g. attendance boundaries). The scale bar references the distance ratio of the map in relation to the real world.

Please note that each yellow dot represents a student's address, at which, multiple students could reside. Therefore, counting the number of dots shown on the map might not reflect the student population accurately.



Live-Attend Tables

Each map has a table listing various statistics about the student data in this region. Here is a guide for reading this table:

Deerfield School	
Total Enrollment (K-5th)	247
Matched	247
Unmatched	0
Out of District	5
Total Live-In	234
Live and Attend In	224
Live Out, Attend In	23
Live In, Attend Out	10

Total Enrollment – number of students attending Deerfield ES.

Matched – number of students attending Deerfield ES whose addresses were located by the GIS, and placed on the map.

Unmatched - number of students whose addresses were not able to be located, and have not been placed on the map.

Out of District – number of students who live outside of the Westwood Public School boundaries, yet attend this school.

Total Live-In – number of students who live within the school's attendance boundary, who are in the K-5th grade cohort. The 'total-live in' statistic here indicates there are 234 K-5th grade students living within the Deerfield ES attendance boundary.

Live and Attend In – number of K-5th students who live within the attendance boundary, and also attend that school. In this example, 224 K-5th grade students who live within the Deerfield ES attendance boundary also attend Deerfield ES.

Live Out, Attend In – number of K-5th students who live outside of the Deerfield ES attendance boundary, but attend Deerfield ES. Any student records that are unmatched are not included in this count, since it is not known whether or not these unmatched students live within or outside the attendance boundary in question. Due to the methods used to calculate the statistics in this table, this is the only circumstance where this is relevant.

Live In, Attend Out – number of K-5th students who live inside the Deerfield ES attendance boundary, yet attend a different elementary school.

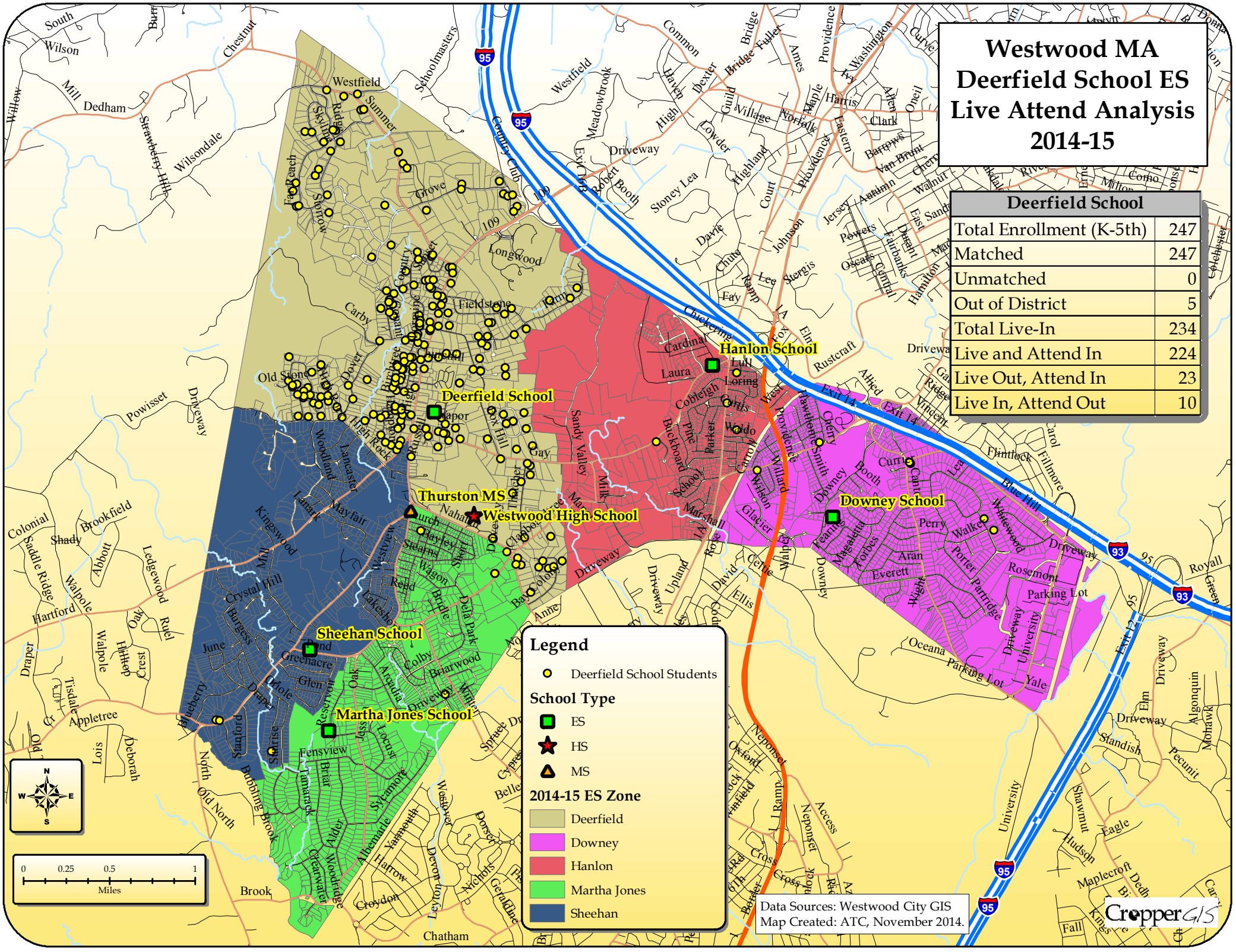
LIVE ATTEND MATRIX

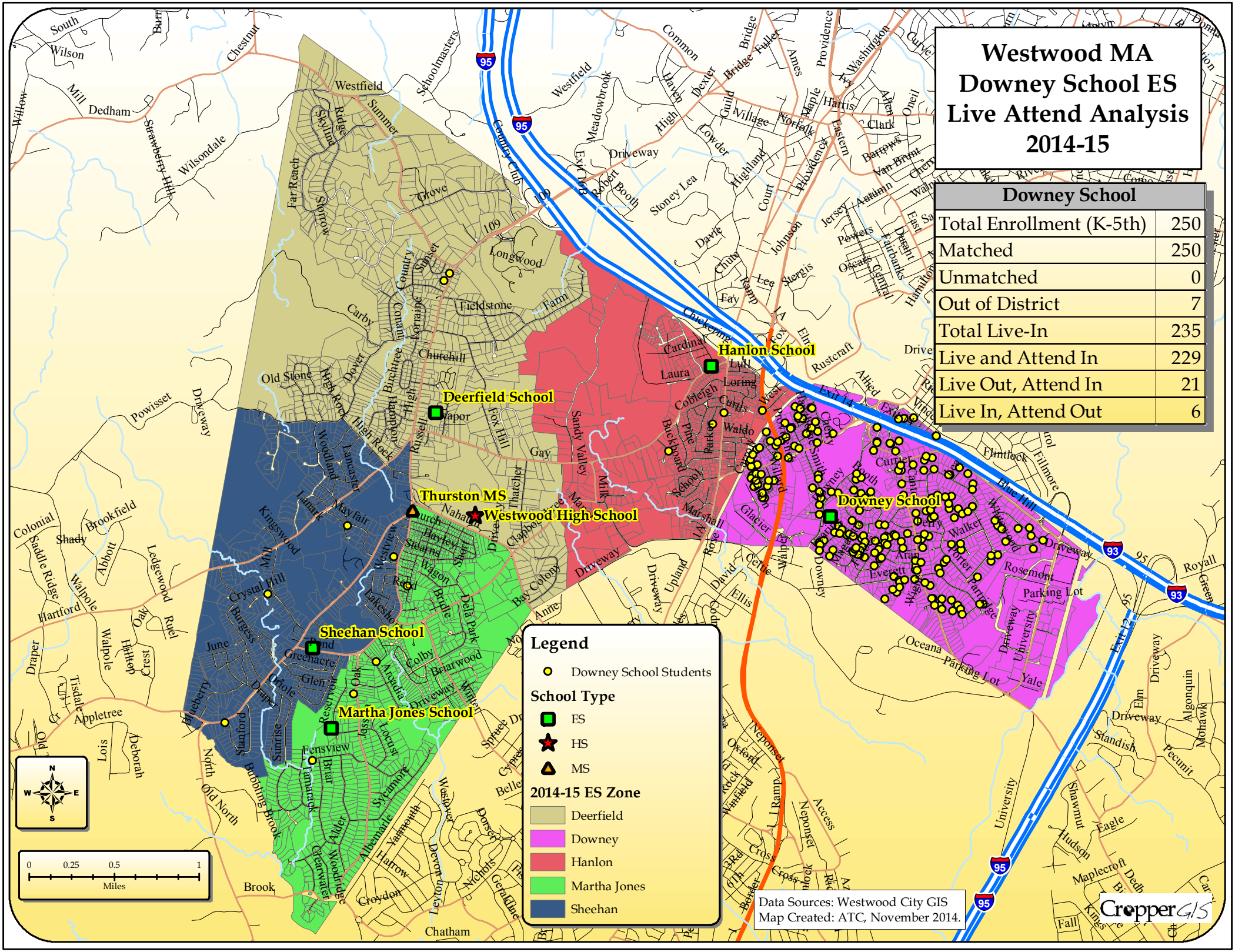
The tables below give details on the schools that students attend and the school zones where they live. The schools of attendance are listed on the left while the zones where students live schools of attendance are listed on the top line. The first table includes all students in Kindergarten through Fifth Grade. The numbers highlighted in green are counts of students who attend the assigned schools for the zones where they live.

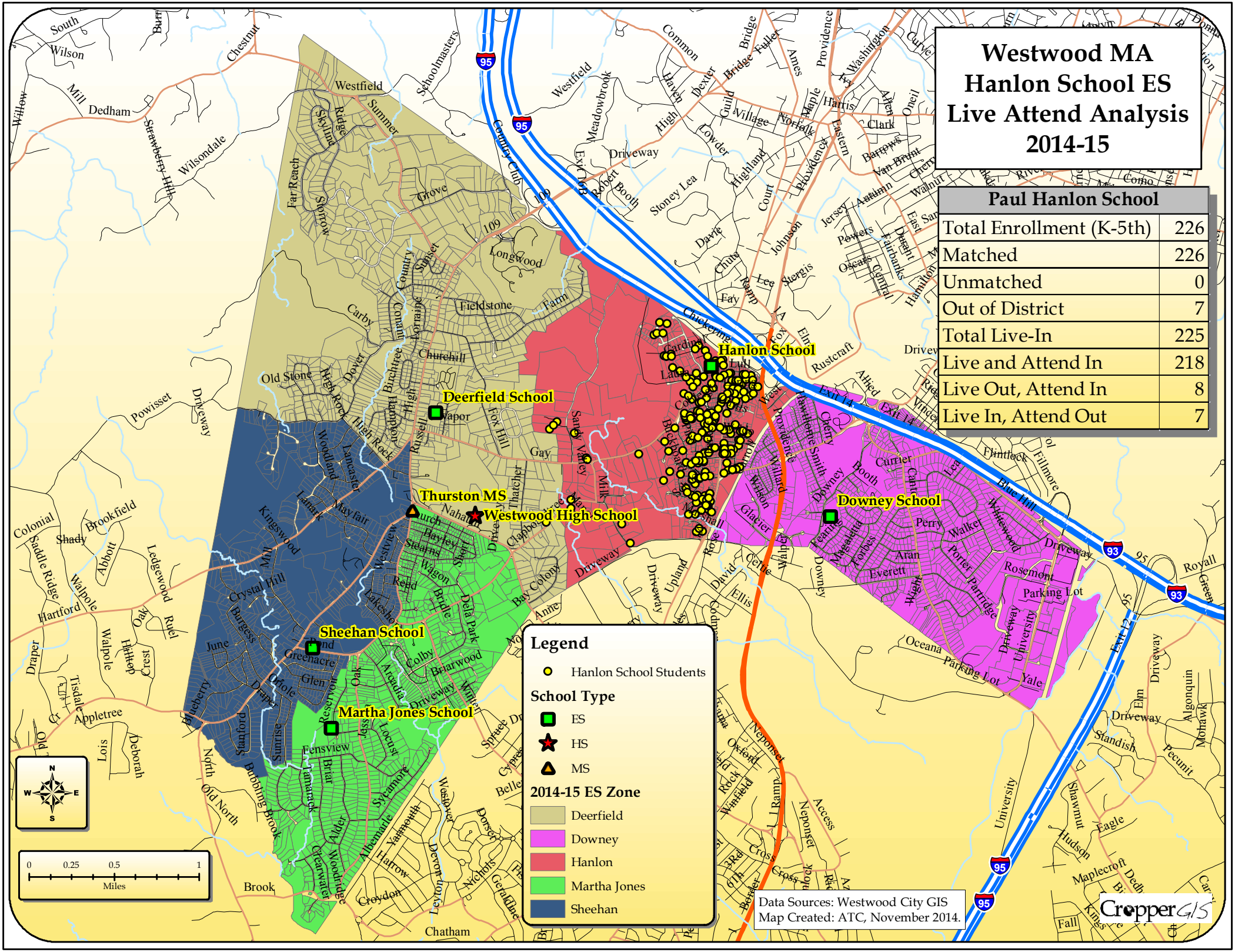
K-5th Matrix

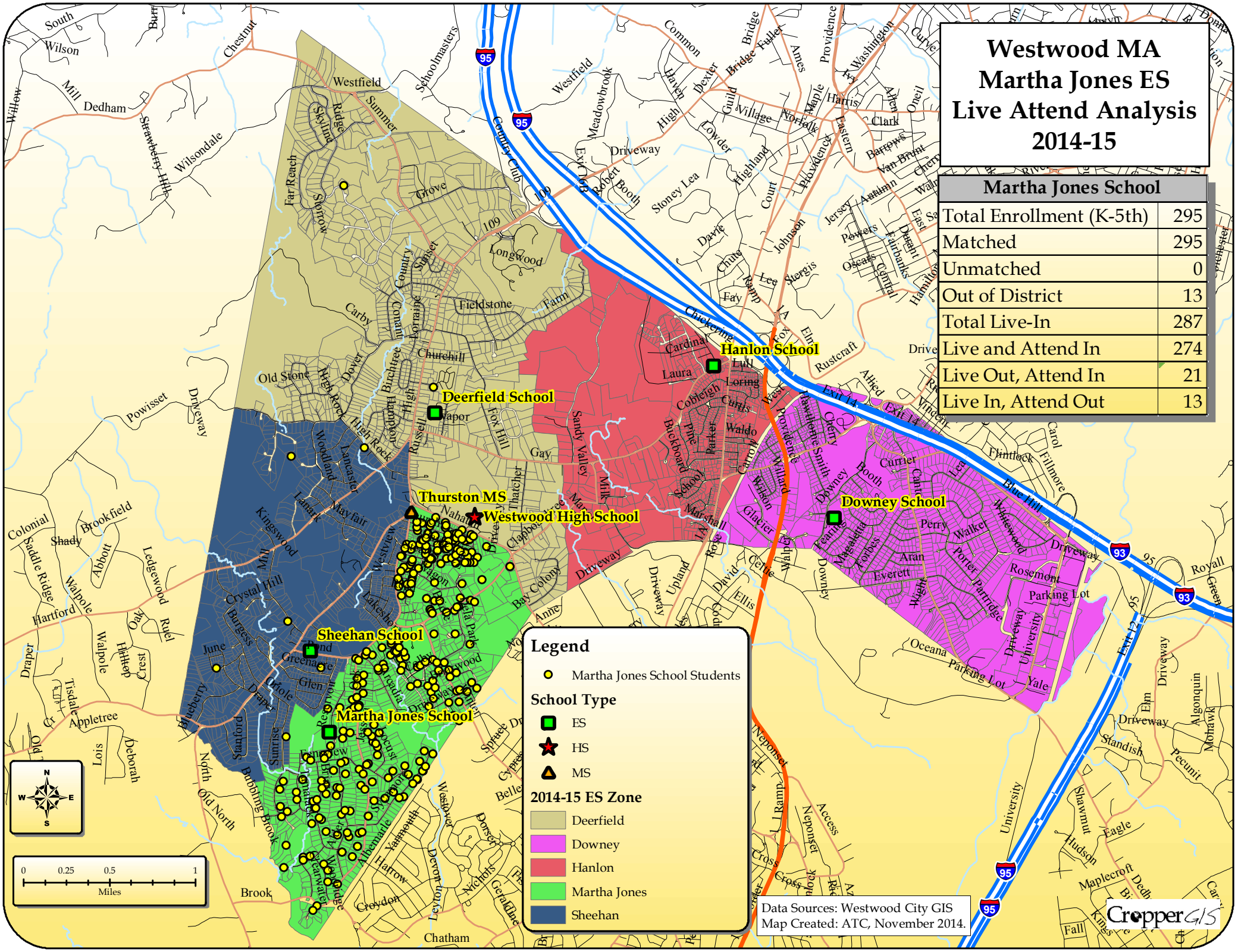
Where Students Live

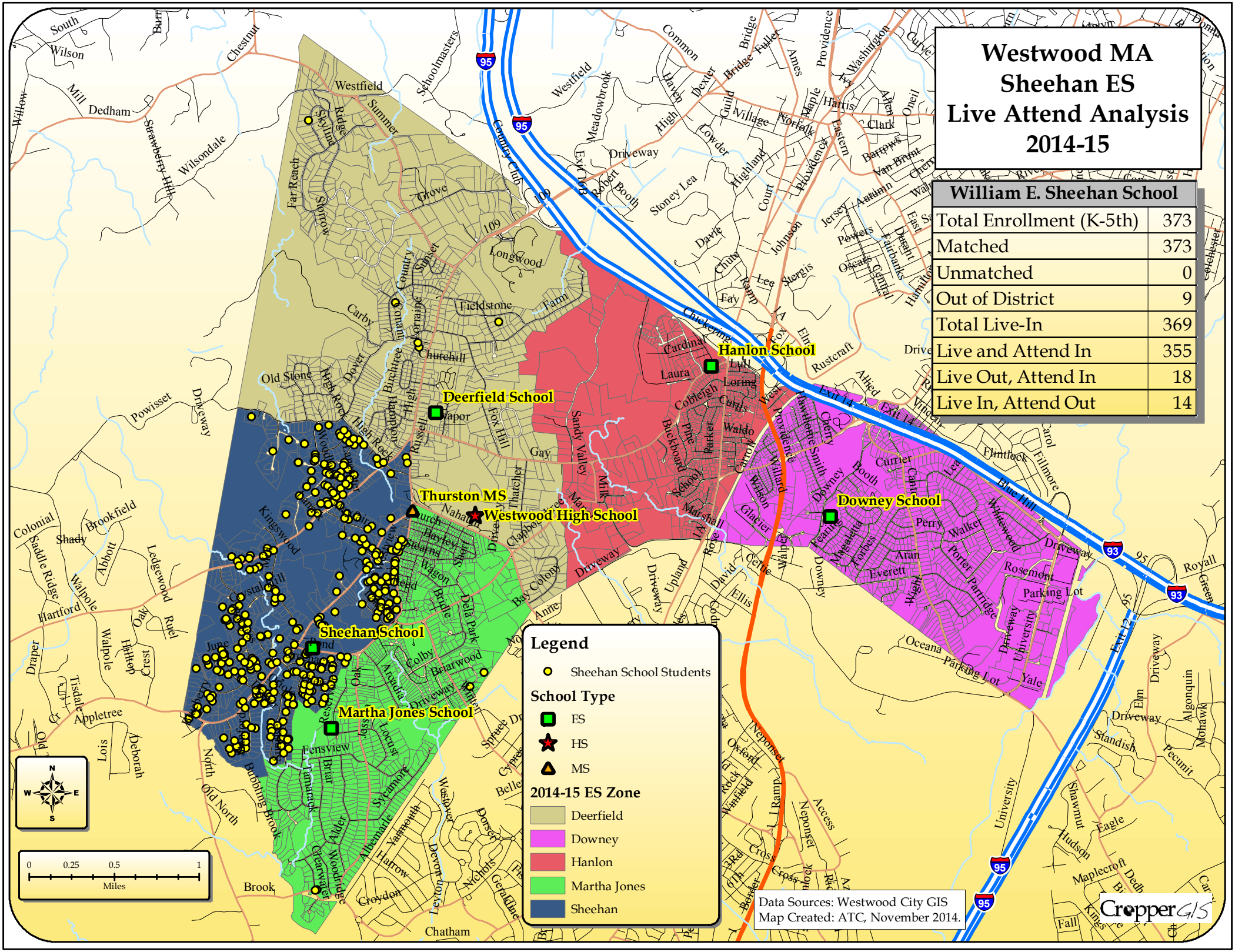
Where Students Attend	Total Live In (K-5th)	Deerfield	Downey	Hanlon	Martha Jones	Sheehan	Out of District	Live Out Attend In
Total Attending (K-5th)		**234**	**235**	**225**	**287**	**369**	**41**	
DEERFIELD SCHOOL	**247**	224	6	4	5	3	5	23
DOWNEY SCHOOL	**250**	2	229	3	4	5	7	21
PAUL HANLON SCHOOL	**226**	1		218			7	8
MARTHA JONES SCHOOL	**295**	2			274	6	13	21
WILLIAM E. SHEEHAN SCHOOL	**373**	5			4	355	9	18
Live In Attend Out		**10**	**6**	**7**	**13**	**14**		


Westwood MA
Deerfield School ES
Live Attend Analysis
2014-15
Deerfield School
Total Enrollment (K-5th) 247
Matched 247
Unmatched 0
Out of District 5
Total Live-In 234
Live and Attend In 224
Live Out, Attend In 23
Live In, Attend Out 10
Hanlon School
Deerfield School
Thurston MS
Westwood High School
Downey School
Sheehan School
Martha Jones School
Legend
Deerfield School Students
School Type
ES
HS
MS
2014-15 ES Zone
Deerfield
Downey
Hanlon
Martha Jones
Sheehan
0 0.25 0.5 1
Miles
Data Sources: Westwood City GIS
Map Created: ATC, November 2014.
CropperGIS


Westwood MA
Downey School ES
Live Attend Analysis
2014-15
Downey School
Total Enrollment (K-5th) 250
Matched 250
Unmatched 0
Out of District 7
Total Live-In 235
Live and Attend In 229
Live Out, Attend In 21
Live In, Attend Out 6
Hanlon School
Deerfield School
Thurston MS
Westwood High School
Downey School
Sheehan School
Martha Jones School
Legend
Downey School Students
School Type
ES
HS
MS
2014-15 ES Zone
Deerfield
Downey
Hanlon
Martha Jones
Sheehan
0 0.25 0.5 1
Miles
Data Sources: Westwood City GIS
Map Created: ATC, November 2014.
CropperGIS


Westwood MA
Hanlon School ES
Live Attend Analysis
2014-15
Paul Hanlon School
Total Enrollment (K-5th) 226
Matched 226
Unmatched 0
Out of District 7
Total Live-In 225
Live and Attend In 218
Live Out, Attend In 8
Live In, Attend Out 7
Hanlon School
Deerfield School
Thurston MS
Westwood High School
Sheehan School
Martha Jones School
Downey School
Legend
Hanlon School Students
School Type
ES
HS
MS
2014-15 ES Zone
Deerfield
Downey
Hanlon
Martha Jones
Sheehan
0 0.25 0.5 1
Miles
Data Sources: Westwood City GIS
Map Created: ATC, November 2014.
CropperGIS


Westwood MA
Martha Jones ES
Live Attend Analysis
2014-15
Martha Jones School
Total Enrollment (K-5th) 295
Matched 295
Unmatched 0
Out of District 13
Total Live-In 287
Live and Attend In 274
Live Out, Attend In 21
Live In, Attend Out 13
Hanlon School
Deerfield School
Thurston MS
Westwood High School
Downey School
Sheehan School
Martha Jones School
Legend
Martha Jones School Students
School Type
ES
HS
MS
2014-15 ES Zone
Deerfield
Downey
Hanlon
Martha Jones
Sheehan
0 0.25 0.5 1
Miles
Data Sources: Westwood City GIS
Map Created: ATC, November 2014.
CropperGIS


Westwood MA
Sheehan ES
Live Attend Analysis
2014-15
William E. Sheehan School
Total Enrollment (K-5th) 373
Matched 373
Unmatched 0
Out of District 9
Total Live-In 369
Live and Attend In 355
Live Out, Attend In 18
Live In, Attend Out 14
Hanlon School
Deerfield School
Thurston MS
Westwood High School
Downey School
Sheehan School
Martha Jones School
Legend
Sheehan School Students
School Type
ES
HS
MS
2014-15 ES Zone
Deerfield
Downey
Hanlon
Martha Jones
Sheehan
0 0.25 0.5 1
Miles
Data Sources: Westwood City GIS
Map Created: ATC, November 2014.
CropperGIS

Facilities Assessment Report 6.2
SMMA

SECTION 2
FACILITIES ASSESSMENT

2.1 DEERFIELD ELEMENTARY SCHOOL

The following is a summary of the existing conditions at the Deerfield Elementary School. This report is based on our site visit on October 29, 2014.

SITE

Parking Lots/Access Drives

Total number of parking spaces is 70 (68 standard spaces, 2 accessible spaces).

The West Parking Lot is in overall good-fair condition. Bituminous pavement shows minimal wear and some longitudinal and fatigue cracking along the west edge. The striping is clearly visible. No perimeter curbing exists. The lot contains 34 standard parking spaces. The area also serves the dumpster loading/unloading and service area. The building does not have a loading dock.

The North Parking Lot is in overall good condition. It appears this area was paved within the last two years and shows no signs of wear or cracking. Striping is clearly visible. No perimeter curbing exists. Vehicles utilizing this parking area are accessing directly from a traveled way, which is not ideal for safety. The lot contains 21 parking spaces (20 standard spaces and 1 accessible space).

The Front bus loop/parking area is in overall fair condition. The bituminous pavement shows some wear and contains some edge cracking and transverse cracking. Striping is clearly visible. Perimeter curbing exists only on the outside edge and consists of concrete curbing in fair condition. There is some plow damage and deterioration visible on the curbing. A section of new concrete curbing in front of the building was installed within the past two years and is in good condition. The area contains 15 parallel parking spaces (14 standard spaces and 1 accessible spaces). The loop is one-way, and signage prohibits vehicular traffic from 8:00-8:30 AM and 2:30-3:00 PM.

Walkways

The bituminous walkway adjacent to the North Parking lot is in fair overall condition. The east portion shows some wear and minor cracking, while the west portion contains more significant cracking.

The bituminous walkway around the perimeter of the north wing of the building is in overall good-fair condition, showing some wear and containing minor cracking.

The bituminous walkway around the front bus loop/parking area is in overall good-fair condition, showing minor wear and containing very few cracks. A portion of this walkway in front of the main entrance was paved in the past two years and is good

condition. A new accessible curb cut also exists, but there is no crosswalk across the drive.

The bituminous walkway that runs east to west from the modular building across the grass playfields is in overall poor condition due to significant edge and transverse cracking.

The bituminous walkway around the south and east side of the building is in overall good-fair condition, showing minor wear and containing few cracks.

The ramp at the main entrance is in overall good-fair condition, except that concrete has broken away at one of the handrail posts, diminishing the structural integrity of the handrail. Moisture dripping onto the surface at the top of the ramp was observed which could lead to a slip hazard in winter time.

Circulation

Pick-up and drop-off operations were not observed. Buses utilize the designated one-way loop on the east side of the school.

Accessibility

1. Parking

    a. Three accessible spaces are required for MAAB compliance, and only two are provided.

    b. The parallel parking space in the bus loop also does not meet MAAB criteria (lack of safe area and crosswalk). Slope of accessible space in northern lot should be further investigated to determine if it exceeds MAAB slope requirements.

2. Building Egress Points

    a. Six building egress points on the west side of the building are not accessible due to stairs (and lack of edge protection for one). Two are wood stairs at the modular building, and the remaining four are concrete stairs. Concrete stairs are in overall fair condition and show some signs of wear and deterioration. One handrail on the wood ramp has loosened from its supports.

    b. Four building egress points on the east side of the building are not accessible due to stairs (and lack of edge protection for one). One is a wood stair at the modular building, and the remaining three are concrete stairs. The concrete stairs are in overall fair condition and show some signs of wear, cracking, and deterioration.

    c. Building egress on the north side of the building is not accessible due to 1”+ vertical lip between the ramp and the level landing in front of the door. It appears the short ramp section may have settled over time, causing the elevation difference.

3. Walkways

    a. Two locations along the northern walkway lack detectable warning strips where it ties into parking and roadway areas.

    b. Some of the play structures in the wood fiber play area are not MAAB compliant due to a lack of accessible paths to them (see Play Areas section below).

Utilities

1. Drainage

    a. Runoff from the front bus loop flows off-site and is captured in a catch basin on Deerfield Ave.

    b. It appears a portion of the runoff from the northern parking lot/roadway flows off-site unmitigated.

    c. 2”-3” inches of standing water was observed at the exterior egress to the boiler room (located in lower level). A small area drain did not appear clogged at the surface, so pipe may be blocked further down.

    d. All roof runoff appears to be captured in downspouts that tie into the drainage system.

    e. No known issues or concerns with flooding.

2. Sewer - School is connected to Town Sewer. No known issues or concerns with sewer distribution.

3. Water - No known issues or concerns with water distribution system.

4. Fire Protection – Two hydrants observed on the east side of the school along Deerfield Ave, both within 300’ of the school. There was no hydrant observed on the west side of the school. A large portion of the back (or west) side of the building is beyond the recommended 300’ to a hydrant, and therefore, overall coverage for the building does not appear adequate.

5. Electric/Telecommunications – Several loose, tangled wires observed hanging over the boiler room egress pit. No other known site electrical or telecommunication issues.

6. Gas – Natural gas service is available at the school. The gas meter is located on the east side of the building.

7. Lighting – Site lighting consists of building mounted fixtures, and pole mounted street lights spilling onto the school property. There are no known site lighting issues.

Play Areas

The main bituminous play area west of the building is in overall good-fair condition. Pavement shows some wear and isolated areas of cracking. Pavement markings are quite faded.

The basketball court is in overall good condition, with the pavement showing minimal wear and no observed cracking. Stain and striping is still clearly visible. Basketball hoop poles are leaning inward and may need to be reset in concrete to correct.

The engineered wood fiber play area consists of several play structures. There is a bituminous path that provides access to the wood fiber area, and there is one rubberized path to the swing structure. The remaining play structures lack accessible paths, and therefore are not considered MAAB compliant.

The grass playfields and associated structures appear to be in overall good condition, except that backstops have been partially disassembled. It appears that the baseball fields are no longer in use, as the dirt infields have partially grown in with grass. No accessible path is provided to team benches or spectator bleachers, and therefore, the area is not MAAB compliant.

SEAM AND LONGITUDINAL CRACKING IN WEST PARKING LOT

EDGE CRACKING AND ADJACENT RUTTING IN LANDSCAPE AREA AT FRONT BUS LOOP/PARKING AREA

CRACKING AND HEAVING IN WALKWAY ADJACENT TO NORTHERN PARKING AREA

NON-ACCESSIBLE BUILDING EGRESS POINT ON WEST SIDE OF BUILDING

HANGING WIRES AND STANDING WATER AT BOTTOM OF LOWER LEVEL EGRESS

ARCHITECTURE

SMMA visited the site in the afternoon of October 20, 2014. The weather was mild and cloudy. The school facility consists of a single level load bearing masonry school building with a gable roof constructed in 1953 and renovated in 1995. Modular classrooms were added 30 years ago to the south end of the school. The building area is approximately 35,078 GSF and contains 247 students in grades K-5. The building faces west to Deerfield Avenue. The bus drop-off and pick-up is the loop drive in front of the school, and visitor parking is around the loop drive. Staff and teacher parking are on the east side of the school on both sides of the service drive. The main entry to the school is clearly identified by a large projecting canopy and the entrance is raised two steps above the drive and there is a ramp. The north side is at grade level. The modular classrooms have a wood ramp and wood steps at three entries. The paved play area is located to the south of the building. The service area is in rear of the building and is not visible from Deerfield Avenue.

Enclosure

The roof is a medium sloped gabled roof with a flat roof section over the center. The roof has been replaced recently. There are six to eight inches of loose insulation in the attic. The gabled roof drains to gutters and the downspouts and leaders drain to storm drainage. The roof overhangs the east and west sides of the building. The modular building attached at the south end has two classrooms and a connecting corridor. The 1953 building's walls are load bearing masonry construction with brick exterior and concrete masonry interior. The windows are single glazed steel framed awning style and there is glass block infill above the windows. The entry is aluminum storefront with fixed glass sidelights. There is a mechanical room in the basement with access from a corridor adjacent to the kitchen and from the exterior. The boiler room shows signs it is subject to flooding.

Interior

The interior partitions are typically painted masonry or glazed block wainscot with painted masonry above. Flooring typically is vinyl composition tile in the corridors and classrooms and seamless flooring in the restrooms. Ceilings are suspended acoustical tile with surface mounted light fixtures on concealed spline acoustical tile in the corridors and recessed fixtures in the classrooms. The kitchen has vinyl composition tile floors and painted CMU walls. The gymnasium has cementitious cellulose fiber (Tectum) panel ceiling and recessed lights. There is a wood stage and folding wood partitions in the gym. Door frames are typically hollow metal. The interior doors are wood and some have wire glass vision panels. All doors are in poor condition. The hardware is also in poor condition. Classroom casework is in poor condition. There are no privacy screens between urinals. There is a utility tunnel under the school with floor access doors in classrooms.

Circulation

The building is single floor with a foyer and full length corridor and double doors at the main entry and ends. Some classrooms, the gym, and the modular classrooms

have direct outdoor access. The gymnasium is on a lower level than the corridor. There is an enclosed lift from the corridor to the gymnasium. There is a ramp access to the modular classrooms. Classrooms with outside access at the north end have grade level access to the outside and classrooms with outside access at the south end have landings with steps.

Accessibility

There are no power door operators located at the accessible entry on the accessible route to the building. Door hardware varies in the building with knobs and lever handles throughout the facility. There is a wheelchair lift to the gym level. Other non-compliant items are:

- Wood steps at modular classrooms needs non-slip surface.
- Abrupt level changes greater than ½" at north entry.
- Classroom sinks with bubblers are not compliant.
- Not all accessible toilets are compliant code.
- Missing signage.
- Projections into walkway space.

Security

Steel framed windows and exterior classroom doors have locking hardware. Exterior doors have exit devices (panic hardware) and are locked to prevent unauthorized entry. There is an intercom with remote release at the main entry. The Office /Reception area has visual control of the entry and the entry vestibule. The school has a corridor located motion detection intrusion alarm and 3 cameras. Classroom door hardware does not have classroom side lock-down feature.

NO PRIVACY SCREENS AT URINALS

STRUCTURAL

Purpose

The purpose of this report is to broadly describe the existing structure, comment on the structural integrity of the building and comment on the structural code issues related to any future renovations and expansions.

Basis of the Report

This report is based on visual observations during our site visit on October 13, 2014. As of this writing, there are no drawings or documents relating to the original structure available for review. There are limited layout plans of the general architectural configuration.

During our site visit, we did not remove any finishes; therefore, our understanding of the structure is limited and may have to be further refined as design of any renovation evolves.

Building Description

The school, opened in 1953, has a single story structure housing classrooms, administrative offices, cafeteria and gymnasium/auditorium. The foundations are cast-in-place concrete foundations with a concrete slab-on-grade at the 1st floor level. There is a boiler room below the kitchen with cast-in-place reinforced concrete walls and precast concrete plank. The roof is framed with large steel trusses, creating an attic space between the top and bottom of the truss. Steel roof decking spans approximately eight feet between the trusses, and was recently installed as part of a re-roofing renovation, which replaced the previous concrete decking. The trusses are likely supported by the masonry walls at the exterior and main corridor of the building. It was not determined if the trusses bear directly on the masonry, or on steel columns within the masonry walls. There is a modular addition on the south wing of the school, constructed with conventional modular wood framing.

Lateral Force Resisting System

There appears to be no deliberately designed lateral force resisting system as part of the original structural design. Currently, lateral loads (wind loads, potential seismic forces) are resisted by the exterior and interior masonry walls. This is fairly typical of school structures built in this time period, as deliberate lateral force resisting systems (i.e. shear walls, brace frames, moment frames) were not addressed by the building code until 1973.

Existing Conditions

There building appears to be in sound structural condition with no substantial structural defects. The recent replacement of the concrete roof with metal deck most likely provided the roof with additional live load (snow load) capacity by reducing the self-weight of the decking. The new roofing itself should have mitigated

any potential leaks to keep moisture out and help to preserve the integrity of the existing structural elements.

Primary Structural Code Issues Related to the Existing Structure

If any repairs, renovations or additions are made to the structure, a check for compliance with the Massachusetts State Building Code (780 CMR, Chapter 34 "Existing Structures") is required. The intent of 780 CMR, Chapter 34 is to permit repairs, alterations, additions and/or a change of use without requiring full compliance with the code for new construction. However, depending on the scope of any proposed renovations, a comprehensive structural analysis may need to be performed to determine the impact on the existing structural system. Due to the fact that the lateral force resisting system of the structure is, by default, the interior and exterior masonry walls, any modifications to them will need to be thoroughly reviewed to determine if seismic upgrades to the lateral system is required as a result of proposed building alterations. If any future additions are planned for this building, they should be seismically isolated from the existing structure.

Summary

The existing structure appears to be in sound condition and is performing satisfactorily. A thorough investigation of the existing structure is required if, by nature of the proposed renovations:

1) The capacity of the lateral force resisting system is decrease a (i.e. reduce the amount of, or configuration of the existing masonry walls;
2) There is an increase the seismic loads on the building (i.e. additional building mass in or on top of the structure, such as mechanical roof top units);
3) There is an increase in the effects of the wind loads on the building (i.e. additional roof top mechanical units/roof screens or other projections collecting wind and transferring additional lateral forces to the existing masonry walls).

PLUMBING SYSTEMS

Plumbing Fixtures

The majority of the existing plumbing fixtures in place within the building are original. Some have been replaced with newer battery sensor type flush valves and lavatory faucets (Refer plumbing pic 1). Water closets are floor mounted, vitreous china units with a mix of manual and battery sensor operated flush valves. Stall type urinals are no longer allowed and not compliant.

Some flush valves have been retrofitted with new Rubbermaid Retrofit Kits (battery sensor type flush valves), (Refer plumbing pic 1). The Nurse's room water closet is a floor mounted, vitreous china. Urinals in the toilet core rest rooms are vitreous china, wall hung units with manual operated flush valves. The flush valves are exposed in the room.

Lavatories are wall hung, vitreous china with hot and cold faucets that are either metering or manually operated. Some existing lavatories have been retrofitted with self-metering manual push down Chicago faucets (Refer plumbing pic 2).

The kitchen hand-washing sink is a stainless steel, wall hung unit with a hot and cold gooseneck spout faucet with wrist blade handles. Kitchen scullery sinks are floor standing, stainless steel with coved inside corners. Kitchen food prep sinks with or without food disposer requires an indirect waste (not hard connected) to assure no cross contamination with sanitary sewer and food upon any waste back up (Refer plumbing pic 3).

Classroom sinks are stainless steel, self-rimming single compartment basins with a swing spout faucet with separate hot and cold handles. Several of the existing classrooms have self-rimming stainless steel sinks with standard manual type faucets. These require reducing and limiting the hot water to a maximum of 110 degrees F hot water to dispense at the faucets. Kindergarten class room sinks are not receiving hot water at a timely manner or temperature at their faucets.

Mop basins are floor type, molded stone units with hot and cold faucet with hot and cold handles and elevated vacuum breaker. Custodian's closet mop service basin faucet does not have any integral vacuum breakers (Refer plumbing pic 4). Drinking fountains are a mix of stainless steel and vitreous china, non-recessed non-electric water coolers are single level units with push button activation. Several existing water drinking fountains (non-chilled) on each floor do not include alcove-recessed with high-low handicapped accessible configurations (Refer plumbing pic 5).

Exterior hose bibs are frost proof type. No emergency eyewash / shower stations are located in the mechanical room or nurse's room. Existing original core restrooms are outdated as far back as the original school building was constructed in 1953 and do not meet MAAB requirements.

Roof Storm Drainage

External roof drain systems are presently discharging into site storm boot systems.

Sanitary

The majority of the existing building sanitary waste system, which drains by gravity, is in poor condition. The sanitary effluent discharges below grade to the site sewer drain distribution system.

Existing underground (buried) piping could be not be observed, however the entire underground (buried) sanitary sewer should be tested for any leakage, backup and pipe aging condition by executing static pressure tests and video camera inspections.

A dedicated grease waste line is not in place for the school building. Currently point of use internal floor recessed grease trap is collecting the grease laden effluent from the 3 pot sink.

The above ground sanitary drainage and vent for the school building is currently using cast iron hub and spigot joints (3" or larger). Piping smaller than 3 inch is piped using DWV copper pipe.

Domestic Cold Water Service

Insulation at most piping is of adequate thickness and in fair condition. Some insulation has been removed at locations where repairs have occurred. Some of this insulation was not replaced.

Piping is not adequately labeled throughout the building. Vacuum breakers are present at the majority of fixtures as required by code. Original 1953 construction gate valves are in fair condition. Ball valves installed during the 1995 remodeling are in good condition.

Valve tags are not present throughout the building. Piping is adequately supported where observed either by hangers or floor supports.

Hard water deposits were noted at multiple fixtures throughout the facility with the heaviest of the deposits being at the backflow preventers. The hard water deposits could be causing deterioration of the piping wall thickness throughout the facility.

The existing main domestic water supply enters the basement boiler room complete with one water meter assembly located above just within the tunnel opening from the boiler room. No backflow preventer present for the domestic potable water distribution side. No protected lawn and garden irrigation system or systems required.

The two existing site irrigation systems are currently being fed from reduced pressure-principle backflow preventer located within the food service cafeteria area.

Existing boiler cold water make-up is currently being fed from reduced pressure-principle backflow preventers for HVAC equipment.

The domestic cold water piping distribution within the building supplying the original systems are distributed with "L" type copper tube with wrought or cast copper fittings. The majority of the piping is not insulated to prevent condensation on piping and prevent deterioration of the pipe to extend their life expectancy.

Domestic Hot Water Service

One gas fired 80% thermal efficiency storage water heater was installed in 2012, which is supplying the kitchen area fixtures and the remainder of the building.

The unit is RUUD model no. PH2-75F with 72 gallon storage. This water heater is missing a thermostatic hi/lo mixing valve station. Storage temperature is required to be a minimum of 140 degrees F. Temperature gauges not present to confirm. Cafeteria employee hand wash sinks would require tempering down to 110 degrees F. and all other kitchen plumbing fixtures / equipment to have a 140 degree F hot water system.

The existing domestic hot water distribution system to the original school building does not have a hot water circulation system to the plumbing fixtures. Not having a hot water recirculation system would require a piping heat trap present (Refer plumbing pic 5). No dead legs were observed with more than 12" in length.

The existing domestic hot water is distributed in "L" type copper tube with wrought or cast copper fittings. The majority of the existing hot water (HW) piping is not insulated.

Natural Gas

A new gas service location is present; this service enters the existing basement boiler room and feeds the gas fired boilers and water heater. It appears to be regulated down to low pressure (11" WC). The exterior pressure regulator and gas meter are mounted on the exterior of the building and supported by a concrete house pad. The gas meter and primary pressure regulator are owned by the gas utility company.

The basement boiler room gas supply currently feeds the gas fired domestic water heater and the gas fired heating boilers. Food service equipment within the kitchen area is currently all electric operating.

The existing gas piping appears to be distributed in ASTM A53 schedule 40 black steel pipe.

PLMBG. PIC 1

PLMBG. PIC 2

PLMBG. PIC 3

PLMBG. PIC 4

PLMBG. PIC 5

FIRE SPRINKLER SYSTEMS

Fire Protection System

There are no existing fire sprinkler systems.

MECHANICAL

HVAC System

Boiler Plant

Deerfield Elementary School is a steam heated building served by two Weil McLain Series 88 Boilers. One of the boilers is obviously newer than the other and was a replacement several years ago. The condensate receiver/boiler feed tank is an uninsulated steel tank with duplex pumps. It is located below the steel grid iron stairs to the exterior door which makes access and servicing the unit difficult. The tank show signs of deterioration with a trail of rust around the gasket and along at least one seam.

Steam is distributed to the unit ventilators and other terminal equipment via as series of tunnels that follow the building perimeter. There are three such tunnels leaving the boiler room. The boiler room itself and the tunnel leading toward the front of the building have been abated for asbestos. The piping in the back two tunnels is covered with air cell insulation and mudded plaster on the joints. Both these insulation materials are asbestos containing. Judging by the crushed insulation near the tunnel entrances it is probable the soil in the tunnels has been contaminated with insulation debris. When the abatement was done the pipes within the boiler room were reinsulated with molded fiberglass but it appears to terminate just a foot or two into the one abated tunnel and the rest of the tunnel piping appears to be uninsulated. The boiler stack breeching carrying the exhaust product to the chimney was never reinsulated after the abatement. Subsequent repairs to piping in the boiler room such as around the pumps and condensate tank have also not been reinsulated.

The classrooms each have an old Herman Nelson Unit Ventilator (UV) under the window. The rest of the exterior wall is covered with books shelves which appear to have been hand build. The pneumatic controls are largely non-operational and the units typically run wild with the outdoor air damper and heating control valve both wide open. Lacking a functional thermostat teachers routinely turn the fan of the UV off when the room begins to overheat and back on as the room cools off. Steam traps may be under the unit or below in the tunnel. In the asbestos laden tunnel they are inaccessible but even when above the floor they have not been properly maintained and significant energy is lost as the steam blows by the traps.

MEDIA CENTER UNIT VENTILATOR. UVS ARE TYPICALLY NEARLY OBSCURED WITH FURNITURE, STACKED TEXTBOOKS AND OTHER TEACHING RESOURCES.

The classroom ventilation is balanced via small exhaust grilles in the ceilings of the student coat cubbies in the back of each classroom. The condition of the exhaust fans serving this system though is in dubious condition. Exhaust grilles in the cubbies of several classrooms are ducted together and vented into the attic. A large fan at either end of the building then exhausts air from the attic itself.

At the end of the building there are two modular classrooms added around 2008. The modular classrooms are heated and ventilated via exterior wall hung Heating and Ventilating (H&V) units. The H&V units were originally propane fire but have recently been converted to natural gas. The new gas pipe is routed through the attic and then across the modular unit roof.

ELECTRICAL SYSTEMS

A site visit was made on October 13, 2014 to review the existing electrical systems.

Electric Service

Existing electric service initiates from existing utility pole-mounted transformer located in front of the school building, in a tree area. The service riser conduit shows some tear-downs and rusting parts which possibly contributes to on-going issues with water leaks at the main service equipment located in basement, identified by the electrical department.

Power Distribution Equipment

The utility transformer secondary feeder runs underground towards the school building and terminates in a 400 Amp Main Service Disconnect located in the existing boiler room at basement level. It's manufactured by Siemens. It was recently

replaced upon its failure, appears to be in good and operational condition. The service from the main service disconnect extends to the main power distribution panel named “kitchen panel”, located adjacent to the main disconnect switch. The “kitchen panel” is rated 400 Amp at 120/240v 1 phase 3 wire system, appears to be in good and operational condition.

The existing electric service usage may have reached the maximum available capacity, and therefore it may not be insufficient for any future school upgrades. Most of the new elementary schools with partial air conditioning are designed for approximately 7-9 W/SF, while the existing Deerfield Elementary school’ s electrical service can support approximately 3 W/SF based on existing electrical service size, voltage configuration and building SF size.

Power from the “kitchen panel” in the boiler room is distributed to all sub-panels located throughout the school building. The majority of the sub-panels appear to be “old”. If they’re “original” to the building, they must be dated 1953. The “really old” panel appears to be the one located the kitchen area – a 200 Amp 120/240v 1 phase 3 wire, manufactured by Federal Pacific, which is obsolete. Two other “older looking” panels are located in the Art classroom and the “copy center” in the Admin area. There are a few “newer” panels, which appear to be in good and operational condition. It is assumed that power feeders to all “old” panels are “original”.

Majority of receptacles appear to be “original”. It is assumed that branch wiring feeding receptacles has never been replaced. Branch wiring to classrooms’ unit ventilators appear to be “original” too.

Quantities of receptacles in classrooms appear to be inadequate, and therefore multiple pieces of equipment are plugged into the same receptacles utilizing plug strips.

The on-going issue of “arcing receptacles” was brought to our attention by Facilities. Apparently, during “plugging-in and unplugging” of the computer charging carts, the utilized receptacles “arc”, which leads to their continuous damage followed by their failure and replacement.

The on-going issue of unit ventilators’ motors failing was brought to our attention by Facilities. Each time a unit ventilator motor fails and needs replacement, the “original” wiring doesn’t match the “retrofitted” motor, and a new 240/120v step down transformer is required to be added inside of the unit ventilator’s enclosure.

Interior Lighting and Controls

The existing school lighting system consists mostly of fluorescent recessed, pendant and surface-mounted lensed luminaries. Fluorescent linear lighting fixtures were recently retrofitted with T8 lamps and matching ballasts, and a new LED lighting system was installed in the Gym. In general, the lighting system provides adequate illumination levels throughout, except for Cafeteria.

Occupancy sensors were recently installed in classrooms, corridors and in a few administration offices. Typical classroom is equipped with two rows of recessed lensed 3-lamp 2'x4' luminaries, controlled by two toggle switches in "by-row" manner.

Dedicated corridor lights are controlled by standard wall-mounted toggle switches, while the remaining corridor lights are controlled via new occupancy sensors and respective wall-mounted "occupancy sensor switches". The remaining school areas are controlled by local switches only.

It was brought to our attention by Facilities that the currently installed occupancy control system (manufactured by Lutron, battery-operated) consisting of ceiling-mounted and wall-mounted devices with associated occupancy sensor switches may not operate properly, especially in larger classroom areas. It is unclear if the issue relates to the "sensor motion coverage" ability or product quality itself.

Emergency Egress Lighting and Exist Signs

Existing emergency egress lighting system currently incorporates emergency battery units and remote light heads, and appears to be adequate.

Existing exit signs concept and layout does not comply with code: many exist signs are not self-illuminating (printed), and there are locations in the building where exit signs are missing.

Fire Alarm System

The current fire alarm system is a "retrofitted original" – it's a combination of "older" and "newer" fire alarm equipment and wiring. In general it appears to be adequate, although a few areas are lacking initiating and/or signaling devices. There are no signaling devices in classrooms. The FACP appears to be new, addressable, LCD type, manufactured by ADT. The retrofitted fire alarm system is connected to Fire department alarm loop via exterior wall-mounted Master box, and it is hard-wired.

Exterior Lighting and Controls

Exterior building-mounted lights are provided at egress doors and along the building perimeter. In general, they are in good operational condition, but not full cutoff distribution type. The lights are controlled via time clock located. There is no site lighting at the parking lot areas.

Major Electrical Concerns

1. Majority of power distribution panels are old/beyond their life expectancy, and some panels became obsolete. Power feeders associated with “old” panels are beyond their life expectancy (fig 1).

2. Existing exit signs concept and layout does not comply with code: many exist signs are not self-illuminating (printed), and there are locations in the building where exit signs are missing (fig 2).

3. Existing utility power service is 400Amp at 120/240 1 phase 3 wire system. It may have reached the maximum available capacity.

4. Quantities of receptacles in classrooms and similar educational spaces are inadequate. Majority of receptacles and associated wiring appear to be beyond their life expectancy.

5. Existing lighting control system does not comply with current energy code: although there are occupancy sensors in classrooms and a few offices, the rest of lights are controlled by switches only (no occupancy sensors). Also, there are no daylight sensors in the building.

FIG 1: OLD PANELS

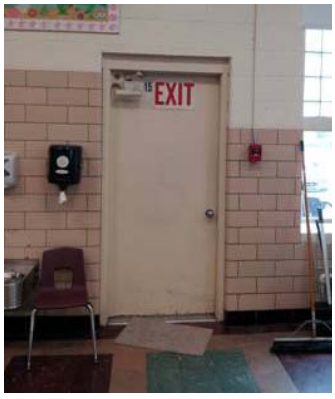


FIG 2: PRINTED EXIT SIGN

Communication Systems

The Deerfield School is connected to the High School via fiber optic cable. The High School serves as the data and telephone service hub for the school district. Verizon FIOS is the primary Internet Service Provider (ISP). Comcast is the secondary (ISP).

Data communications in the Deerfield School are distributed from a single location referred to as the server room which is adjacent to the kitchen. The equipment is installed on a shelf that is not protected, leaving the system vulnerable to damage or tampering. The room is not air conditioned, potentially reducing the useful life of the equipment.

All classrooms in the school have Wi-Fi access. Approximately 10% of the non-classroom spaces have limited Wi-Fi service. The current Wi-Fi coverage is adequate. Every classroom will be equipped with a projector over the course of the current school year.

The telephone switch for the school is capable of transmitting and receiving both digital and analog signals. This equipment is installed in a closet adjacent to the gym. The telephone system performs adequately.

The voice and data cable infrastructure is a combination of Category 5 and 5e rated cable. Category 5 cable is no longer a recognized standard in the industry as it does not have the capacity to transmit data at the current industry standard of 1-Gigabit per second.

Cable TV over Verizon FIOS is available to the School. However, the CATV services are not distributed to the classrooms at this time.

The paging system is comprised of speakers in every classroom. There are no speakers in the corridors or common areas (i.e. gym, cafeteria). The system is currently on a single All-Call zone with no capability of paging a single classroom or wing of the school. The facilities department has submitted a request for upgrades to the system.

The clocks are a combination of original wired devices and independent battery operated devices. Maintaining a common time standard throughout the building is not possible.

Security Systems

The Intrusion Detection System is comprised of door contacts at all exterior doors and Sonitrol sound detection devices distributed in the Corridors only. Rooms with windows to the exterior are not equipped with sound or motion detection devices leaving them vulnerable to intrusion. The detection system is armed and disarmed by use of a keypad. There is no card access system in the building.

The main entrance is locked during the day. Visitors press a button at the door which is equipped with an analog CCTV camera. The signals from the button and

CCTV camera are transmitted to the main office where an attendant can see who is at the door and remotely unlock the door once they establish that the visitor can enter the building. The facilities dept. plans to extend this capability to the principal's office. The school has been wired for three IP-CCTV cameras.

Summary

1. The single Tel/Data Server Room is not adequately secure. The network equipment sits on a shelf in the room and is not rack mounted. The room is not air conditioned, potentially reducing the useful life of the equipment.

2. The Category 5 cable infrastructure does not perform at standards that newer equipment demands.

3. The paging system currently serves classrooms only. Corridors and public areas do not receive announcements. Paging is limited to all-call only.

4. The clock system is a mix of older wired devices and battery powered devices meaning the clocks are not always synchronized.

5. CATV service is available at the school but not distributed throughout the building.

6. The school currently has intrusion detection devices in the corridors, leaving classrooms vulnerable to break-ins.

7. There is no card access system in the school. The main entrances is equipped with a CCTV camera, intercom and door release button controlled at the front desk. The school is wired for three CCTV camera locations.

2.2 DOWNEY ELEMENTARY SCHOOL

The following is a summary of the existing conditions at the Downey Elementary School. This report is based on our site visit on October 29, 2014.

SITE

Parking Lots/Access Drives

The total number of on-site parking spaces is 62, plus an additional 16 off-site parallel parking spaces in the Downey Street right-of-way in front of the school. Therefore, the total number of available parking spaces for the school is 78 (75 standard spaces, 3 accessible spaces).

The south parking lot and access drive is in overall fair condition. Bituminous pavement shows some wear and there are several areas of mild to moderate fatigue and block cracking. The striping is clearly visible. The lot contains 40 parking spaces (39 standard spaces and 1 accessible space). No perimeter curbing exists in the parking area, except at the accessible space. There is vertical granite curbing on both sides of the access drive leading to the parking lot and it is in overall good-fair condition (grout between most joints is missing or deteriorated). The area also serves as the dumpster loading/unloading and service area that contains a loading dock. The concrete at the loading dock is in fair condition due to some observed cracks and spalling at the surface.

The front bus loop/parking area (west of building) is in overall good-fair condition, except that the area from the angled parking area northward is in fair condition. The bituminous pavement shows minor wear and contains some edge cracking and isolated areas of fatigue cracking. In the northern portion, more fatigue cracking was observed. Striping is clearly visible. Vertical granite curbing lines both sides of this area and is in overall good-fair condition. The area contains 15 parallel parking spaces and 7 angled parking spaces (20 standard spaces and 2 accessible spaces). The loop is one-way, and signage prohibits car traffic from 2:30-3:30 PM.

The parallel parking area along Downey Street is in overall good condition. The bituminous pavement shows minimal wear and cracking. The striping is clearly visible. The lot contains 16 parking spaces. The adjacent vertical granite curbing is in good overall condition.

Walkways

The bituminous walkway along the perimeter of the front bus loop is in overall good condition, showing minor wear and cracking.

The concrete plaza at the front entrance and bituminous walkway that leads to the gymnasium doors are in overall good condition, showing minor wear.

The bituminous walkways around the north side of the building and the walkways leading to the playfields are in overall good condition, showing minor wear and cracking.

The bituminous walkways on either side of the access drive leading to the south parking lot area are in overall good-fair condition. The pavement shows some signs of wear and minimal cracking.

The bituminous walkways along Downey Street adjacent to the parallel parking area and the parent pick-up/drop-off lane are in good overall condition, showing minimal wear and cracking.

The gravel path from the front bus loop/parking area to the play fields is in poor condition. The gravel and stone are loose and eroded. One of the swing gates that controls access to the path is broken. The path is not considered accessible. The bituminous walkway along the east side of the building is in overall good condition, showing minor wear and cracking.

Circulation

Pick-up and drop-off operations were not observed. Buses utilize the designated one-way loop on the west side of the school.

Parent's drop-off and pick-up in the designated lane on Downey Street.

Accessibility

Parking

1. If the parking spaces on Downey Street are considered as designated for school parking, then four (4) accessible parking spaces are required for the 78 total parking spaces provided. If those spaces are not considered as part of the school parking, then three (3) accessible parking spaces are required for the 62 total parking spaces. Three accessible spaces are currently provided. Additional information is required to determine whether the three (3) accessible spaces provided are adequate for MAAB compliance.
2. Building Egress points – All exterior building egress points are accessible except for the boiler room door.

Walkways

1. Two curb cuts on either side of access drive to south parking area do not have detectable warning strips.
2. The curb cut at the front entrance to the school does not have a detectable warning strip.
3. The curb cut across from the two angle accessible spaces and the curb cut at the path to the playfields do not have detectable warning strips.
4. The curb cut at the north end of the front bus loop does not have a detectable warning strip.

5. Some of the play structures in the wood fiber play area are not MAAB compliant due to a lack of accessible paths to them (see Play Areas section below).

Utilities

1. Drainage
    a. Erosion of the steep embankment was observed between the southwest corner of the soccer field and northern end of the front bus loop/parking area.
    b. Erosion of gravel path from front bus loop/parking area to the play field was observed.
    c. Wet areas (some standing water) observed along the east face of the building. This may be due to the adjacent grass slope pitching towards the building, as well as the runoff from the steep upland slope percolating into the ground and then building up when it reaches the building foundation wall.
    d. The catch basin south of play fields does not appear to be capturing much runoff due to grading and erosion around the rim.
    e. All roof runoff appears to be captured in downspouts that tie into the drainage system.
2. Sewer – School is connected to Town Sewer. No known issues or concerns with sewer distribution.
3. Water – No known issues or concerns with water distribution system.
4. Fire Protection – Two hydrants observed within 300' of the school, one is northwest of the building on Downey Street and one is southeast of the building adjacent to the parking lot. Over 90% of the building is within 300' of either hydrant, and therefore hydrant coverage appears to be adequate. A fire department connection was observed on the south face of the building.
5. Electric/Telecommunications – No known site electrical or telecommunication issues. A transformer was observed southeast of the building. There is curbing protecting the transformer, but no bollards.
6. Gas – Natural gas service is available at the school. The gas meter is located on the west side of the building.
7. Lighting – Site lighting consists of pole mounted lights, bollard lights, and building mounted fixtures. Some deterioration of concrete light pole bases observed.

Play Areas

The main bituminous play area north of the building is in overall fair condition. The bituminous pavement shows some wear and areas of block and transverse cracking. Some pavement markings are faded. Groundcover in adjacent landscape areas is in overall poor condition and appears eroded.

The basketball court is in overall fair-poor condition, with the pavement containing two areas of significant longitudinal and transverse cracking. The remaining areas contain minimal cracking. Color treatment is quite faded, but striping is still clearly visible. Basketball hoop structures appear to be in good condition.

The engineered wood fiber play areas north and northwest of the building, consist of several play structures. There is a bituminous path that provides access to each of the wood fiber areas, but there are no accessible paths provided to any of the actual structures. Therefore, the areas are not MAAB compliant. Structures appear to be in overall good condition, except some steps and "bridge" crossings are showing rust. Areas are bound by concrete curbing.

The grass playfields and associated structures appear to be in overall good condition. There are two paved paths that lead to the playfields, but no path is provided to either team bench area and therefore lacks full MAAB compliance.

The bituminous tennis courts are in overall good-fair condition. The pavement contains some minor fatigue cracking and surface shows some wear. Nets and perimeter fencing appear to be in overall good condition.

FATIGUE AND BLOCK CRACKING IN SOUTH PARKING LOT

LACK OF ACCESSIBLE PATHS TO PLAY STRUCTURES

EROSION OF STEEP SLOPE ADJACENT TO PLAYFIELDS

ERODED GRAVEL ACCESS PATH TO GRASS PLAYFIELDS; LACK OF DETECTABLE WARNING PANELS

STANDING WATER ALONG BACK (WEST) SIDE OF BUILDING

ARCHITECTURE

SMMA visited the site on the afternoon of October 23, 2014. The weather was cool and raining. The school facility consists of a one level school load bearing masonry building constructed in 1957 and renovated in 2000. The building area is approximately 50,692 GSF and has 298 students in grades K-5. The building faces east towards Downey Street. There is a separate bus lane in front of the school, and visitor parking is also in the drop-off lane. Staff and teacher parking is on the south side of the building, the service drive and kitchen staff parking is on the south side and the service area is visible from the front of the building. The main entry is at grade level and entries around the building are also at grade level. The main entry is protected by a large canopy and other entries are typically recessed. The playing fields are to the north of the school and there is a paved play area to the north of the building.

Enclosure

The 1957 school building was renovated in 2000 and this work included an addition to the west. The gabled sloped roof over the classroom parts of the building is black rubber with a gravel cover. There is a high gabled sloped rubber roof over the cafeteria and gymnasium. The downspouts and leaders drain to site storm system. There is a low sloped roof over the corridor at the gymnasium and cafeteria. This roof recently failed and was replaced. The building walls are load bearing masonry construction with brick and cast stone veneer. Typical construction of the new part of the building includes rigid wall insulation. The brick veneer is in good condition. Window openings are single hung aluminum frames with insulated glass. The town is repairing the counter balances throughout the facility.

Interior

The interior partitions are painted gypsum board with ceramic tile wainscot in the corridors and are generally in good condition. The kitchen, restrooms, and stairwells have ceramic tile wall cover. Classrooms are painted masonry or gypsum board at the exterior walls and painted gypsum board interior partitions. Floor covering is typically vinyl composition tile in the corridors and classrooms. Some floor tile has “bubbled up”. There are ceramic tile mosaics floors in the restrooms. The entry floor is stone. There is carpet in the media center and offices. The kitchen has a quarry tile floor and ceramic tile cove base. Door frames are typically hollow metal. The interior wood doors are in good condition. The hardware is also in good condition. Ceilings are acoustic ceiling tiles with recessed light fixtures. Classroom casework is in poor condition due to drying out because of problems with the mechanical system controls. The toilet partitions have been replaced and subject to rough use. Some work is required to maintain alignment, repair hinges, and braces are needed.

Circulation

This is a single story school with ramps. There is a wheel chair lift to the stage. Some exterior doors stick due to building settlement.

Accessibility

All building entries are accessible and there is an accessible route from parking, bus drop-off, and playing fields. Door hardware uses lever handles throughout the facility. There is a wheelchair lift at the stage. No other accessibility related issues were noted.

Security

Aluminum operable windows have locking hardware. Exterior doors have exit devices (panic hardware) and are locked to prevent unauthorized entry. The main entry doors have an intercom with remote release. The school has a corridor located motion detection intrusion alarm and 3 cameras. The Office /Reception area has visual control of the entry and the entry vestibule. Classroom door hardware does not have classroom side lock-down.

DRY ENVIRONMENT CONDITIONS CAUSE FLOOR AND CABINET PROBLEMS

STRUCTURAL

Purpose

The purpose of this report is to broadly describe the existing structure, comment on the structural integrity of the building and comment on the structural code issues related to any future renovations and expansions.

Basis of the Report

This report is based on visual observations during our site visit on October 13, 2014 and the structural design drawings for the 2000 addition. The design drawings relating to the original portion of the building were not available for review. During our site visit, the only finishes that were removed were a few ceiling tiles to verify the structural framing system; therefore, our understanding of the original portion of the structure is limited and may have to be further refined as the design of any renovation evolves.

Building Description

The original portion of the building was constructed in 1957 and a major addition/renovation was completed in 2000. The foundations of both the original building and the addition consist of cast-in-place concrete walls and footings, with the original portion including a basement boiler room. The existing building is framed with open web steel joists that support metal roof decking. Additional framing is comprised of wide flange steel beams and girders, supported by structural steel columns. The 2000 addition uses similar structural steel elements to frame the single story structure.

Lateral Force Resisting System

The 2000 addition included diagonal steel braced frames to resist the lateral wind and seismic forces. The addition is structurally independent from the existing building, as an expansion joint exists where the two portions of the building meet. There appears to be no deliberately designed lateral force resisting system as part of the original structural design, as it was constructed prior to 1973 when it became a requirement of the building code. The lateral loads for this portion of the building (wind loads, potential seismic forces) are resisted by the exterior and interior masonry walls.

Existing Conditions

There building appears to be in sound structural condition with no substantial defects.

Primary Structural Code Issues Related to the Existing Structure

If any repairs, renovations or additions are made to the structure, a check for compliance with the Massachusetts State Building Code (780 CMR, Chapter 34 “Existing Structures”) is required. The intent of 780 CMR, Chapter 34 is to permit

repairs, alterations, additions and/or a change of use without requiring full compliance with the code for new construction. However, depending on the scope of any proposed renovations, a comprehensive structural analysis may need to be performed to determine the impact on the existing structural system. Due to the fact that the lateral force resisting system of the original portion of the building is, by default, the interior and exterior masonry walls, any modifications to them will need to be thoroughly reviewed to determine if seismic upgrades to the lateral system are required as a result of proposed building alterations. If any future additions are planned for this building, they should be seismically isolated from the existing structure.

Summary

The existing structure appears to be in sound condition and is performing satisfactorily. A thorough investigation of the existing structure is required if, by nature of the proposed renovations:

1) The capacity of the lateral force resisting system is decrease (i.e. reduce the amount of, or configuration of the existing masonry walls;

2) There is an increase the seismic loads on the building (i.e. additional building mass in or on top of the structure, such as mechanical roof top units);

3) There is an increase the effects of the wind loads on the building (i.e. additional roof top mechanical units/roof screens or other projections collecting wind and transferring additional lateral forces to the existing masonry walls).

PLUMBING SYSTEMS

Plumbing Fixtures

The majority of the existing plumbing fixtures in place within the building are original. Some have been replaced with newer battery sensor type flush valves and lavatory faucets (Refer plumbing pic 1).

Water closets are floor mounted, vitreous china units with a mix of manual and battery sensor operated flush valves. Stall type urinals are no longer allowed and not compliant.

Some flush valves have been retrofitted with new Rubbermaid Retrofit Kits (battery sensor type flush valves), (Refer plumbing pic 1).

The Nurse's room water closet is a floor mounted, vitreous china.

Urinals in the toilet core rest rooms are vitreous china, wall hung units with manual operated flush valves. The flush valves are exposed in the room.

Lavatories are wall hung, vitreous china with hot and cold faucets that are either metering or manually operated. Some existing lavatories have been retrofitted with self-metering manual push down Chicago faucets (Refer plumbing pic 2).

The kitchen hand-washing sink is a stainless steel, wall hung unit with a hot and cold gooseneck spout faucet with wrist blade handles. Kitchen scullery sinks are floor standing, stainless steel with coved inside corners. Kitchen food prep sinks with or without food disposer requires an indirect waste (not hard connected) to assure no cross contamination with sanitary sewer and food upon any waste back up (Refer plumbing pic 3).

Classroom sinks are stainless steel, self-rimming single compartment basins with a swing spout faucet with separate hot and cold handles. Several of the existing classrooms have self-rimming stainless steel sink with standard manual type faucets. These require reducing and limiting the hot water to a maximum of 110 degrees F hot water to dispense at the faucets. Kindergarten class room sinks are not receiving hot water at a timely manner or temperature at their faucets.

Mop basins are floor type, molded stone units with hot and cold faucet with hot and cold handles and elevated vacuum breaker. Custodian's closet mop service basin faucet does not have any integral vacuum breakers (Refer plumbing pic 4).

Drinking fountains are a mix of stainless steel and vitreous china, non-recessed.

Non-electric water coolers are single level units with push button activation. Several existing water drinking fountains (non-chilled) on each floor do not include alcove-recessed with high-low handicapped accessible configurations. Exterior hose bibs are frost proof type (Refer plumbing pic 5).

There is no emergency eyewash / shower station located in mechanical room or nurse's room. The existing original core restrooms are outdated as far back as the original school building was constructed in 1957 and do not meet MAAB requirements.

Roof Storm Drainage

External roof drain systems are presently discharging into site storm boot systems.

Sanitary

The majority of the existing building sanitary waste system, which drains by gravity, is in poor condition. The sanitary effluent discharges below grade to the site sewer drain distribution system.

Existing underground (buried) piping could be not be observed, however the entire underground (buried) sanitary sewer should be tested for any leakage, backup and pipe aging condition by executing static pressure tests and video camera inspections.

A dedicated grease waste line is not in place for the school building. Currently point of use internal floor recessed grease trap is collecting the grease laden effluent from the 3 pot sink.

The above ground sanitary drainage and vent for the school building is currently using cast iron hub and spigot joints (3" or larger). Piping smaller than 3 inch is piped using DWV copper pipe.

Domestic Cold Water Service

Insulation at most piping is of adequate thickness and in fair condition. Some insulation has been removed at locations where repairs have occurred. Some of this insulation was not replaced.

Piping is not adequately labeled throughout the building. Vacuum breakers are present at the majority of fixtures as required by code. Original 1957 construction gate valves are in fair condition. Ball valves installed during the 2000 remodeling are in good condition.

Valve tags are not present throughout the building. Piping is adequately supported where observed either by hangers or floor supports. Hard water deposits were noted at multiple fixtures throughout the facility with the heaviest of the deposits being at the backflow preventers.

The hard water deposits could be causing deterioration of the piping wall thickness throughout the facility.

The existing main domestic water supply enters the basement boiler room complete with one water meter assembly located above just within the tunnel opening from the boiler room. No backflow preventer present for the domestic potable water distribution side. No protected lawn and garden irrigation system or systems installed for site.

Existing boiler cold water make-up is currently being fed from reduced pressure-principle backflow preventers for HVAC equipment.

The domestic cold water piping distribution within the building supplying the original systems is distributed with "L" type copper tube with wrought or cast copper fittings. The majority of the piping is insulated to prevent condensation on piping and prevent deterioration of the pipe, to extend its life expectancy.

Domestic Hot Water Service

One gas fired storage water heater was installed in 2004, which is supplying the kitchen area fixtures and the remainder of the building.

This unit is an A.O. Smith model no. BTR-120-118 with 71 gallon storage. This water heater is missing a thermostatic hi/lo mixing valve station. Storage temperature is required to be a minimum of 140 degrees F. Temperature gauges not present to confirm. Cafeteria employee hand wash sinks would require tempering down to 110 degrees F. and all other kitchen plumbing fixtures / equipment to have a 140 degree F hot water system.

The existing domestic hot water distribution system to the school building does have a hot water circulation system to the plumbing fixtures.

No dead legs were observed with more than 12" in length.

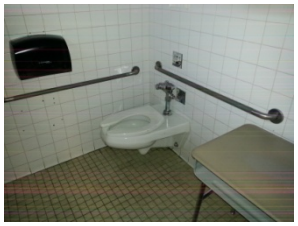
The existing domestic hot water is distributed in "L" type copper tube with wrought or cast copper fittings. The majority of the existing hot water (HW) piping is not insulated.

Natural Gas

A gas service location is present; this service enters the existing basement boiler room and feeds the gas fired boilers and water heater. It appears to be regulated down to low pressure (11" WC). The exterior pressure regulator and gas meter are mounted on the exterior of the building and supported by a concrete house pad. The gas meter and primary pressure regulator are owned by the gas utility company.

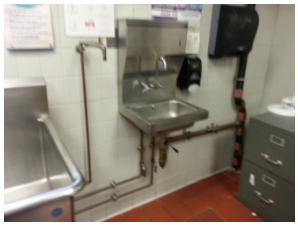
The basement boiler room gas supply currently feeds the gas fired domestic water heater and the gas fired heating boilers. Food service equipment within the kitchen area is currently all electric operating.

The existing gas piping appears to be distributed in ASTM A53 schedule 40 black steel pipe.

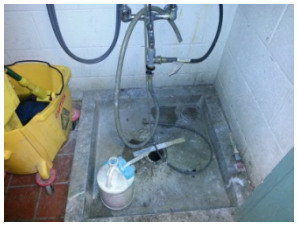


PLMBG. PIC 1

PLMBG. PIC 2



PLMBG. PIC 3



PLMBG. PIC 4

PLMBG. PIC 5

FIRE SPRINKLER SYSTEMS

Sprinklers

The school building is currently being served from an 8" fire service line from the street water main. Cross connection control is provided by use of a 4" AMES 1000SS Silver-bullet double check valve assembly backflow preventer on the fire

service as it enters the building located in the sprinkler room (Refer to fire protection pic 2).

The entire school building appears to be fully protected throughout with a dry automatic fire suppression system.

A dry system has been observed with a dry alarm check valve riser located within the sprinkler room, providing coverage throughout the entire school (Refer to fire protection pic 1).

A fire department connection was observed on the school building next to the entrance to the dedicated sprinkler room exterior door. This system appears to have been designed in accordance with NFPA Standard 13, the Massachusetts State Building Code and the Westwood Fire Department requirements.

Sprinklers are supplied from a one zone control valve riser, consisting of a monitored shut-off valve and flow switch. Inspector's tests are provided at remote locations. The sprinkler zone control valves will report sprinkler flow to the fire alarm system on an entire building zone basis (below 52,000 sq. ft. requirement per zone).

Fire Protection System

Fire protection dry system piping was installed with schedule 40 (non-galvanized) piping with threaded fittings for piping sizes 2" and less and for sizes 2½" and larger, schedule 10 piping with roll grooved fittings and couplings are used.

All valves controlling the flow of water are equipped with supervisory devices that report to the Fire Alarm system.

Existing kitchen hood is not currently protected with a dry agent "Ansul R-102" packaged hood suppression type system.

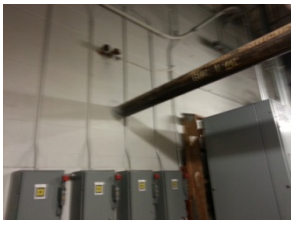
Dry system alarm check valve riser flow test information was not obtained from the test tag conducted by TYCO Sprinkler Grinnell dated Unk.:

- Static Pressure: Unk. psi
- Residual Pressure: Unk. psi
- Flow: Unk. GPM

The school building was observed not having a fire pump present, nor is it being suggested one is required.

FIRE PROT. PIC 1

FIRE PROT. PIC 2



FIRE PROT. PIC 3

MECHANICAL

HVAC System

In 1999, the Downey School was extensively renovated with an addition and at that time, the entire HVAC system was upgraded. Three A.O. Smith Legend boilers were installed in an N+1 arrangement, so, even on the coldest days, two boilers are intended to provide sufficient heat to maintain space comfort. The third boiler would be a standby in the event one of the others is off line for any reason. Boiler #2 was subsequently replaced in 2012 with a pair of stacked HTP boilers.

Each boiler has its own circulating pump which would only run when the boiler is active and a pair of constant volume secondary pumps circulates the water to the building. The UVs are located under a window and are surrounded by continuous book shelves that appear to have been field constructed. The classrooms each have a Trane unit ventilator and there is an exhaust grille located near the door. These are ducted into the corridor and to a central fan.

The DDC system in this school has not been maintained, the computer where the head end resided has disappeared with the critical software and local controllers have often been disabled. The control valves and outside air dampers are frozen in an open position and the teachers regulate temperature by turning the UV fan on and off. In a few rooms, there does not appear to be sufficient flow to maintain temperature in colder conditions.

The Cafetorium has and H&V unit with exposed spiral duct along the exterior wall. Return grilles on the interior wall are then ducted back to the unit.

There are several smaller rooms toward the front of the building that are no longer used for the purpose they were designed for and the ventilation is inadequate. In particular, there is a 7ft. x 8 ft. room still labeled as “storage” that is used for special education tutoring which has no ventilation at all.

ELECTRICAL SYSTEMS

A site visit was made on October 13, 2014 to review the existing electrical systems.

Electric Service

Existing electric service was recently upgraded. It is currently in good and operational condition.

Power Distribution Equipment

The utility transformer secondary feeder runs underground towards the school building and terminates in the Main Switchboard (MSB) located in existing boiler room. The switchboard is manufactured by Square D. It is rated at 120/208v 3 phase 4 wire system and equipped with an 800 Amp Main Circuit breaker (MCB). The

switchboard appears to be in good and operational condition. The power service from the MSB is distributed to all sub-panels located throughout the school building.

The existing electric service capacity shall be adequate for current and future school program upgrades, based on existing service size and voltage configuration.

The majority of the sub-panels appear to be in good and operational condition, except for a two-section panel PK-1 located in the kitchen area.

All receptacles appear to be new and in good condition. A few receptacles in kitchen area were noticed to be non-GFCI which is not in compliance with the current electrical code (MEC).

Interior Lighting and Controls

The existing school lighting system consists mostly of fluorescent recessed-, pendant- and surface-mounted luminaries. All building lights appear to be new, in good and operational condition. Fluorescent linear lights are equipped with T8 lamps. Downlights are equipped with compact fluorescent lamps.

The typical classroom is equipped with three rows of recessed parabolic 3-lamp fluorescent 2'x4' luminaries controlled by two toggle switches. The 2'x4' 3-lamp fixtures are double-switched. There are no occupancy sensors.

All corridor lights are controlled by wall-mounted key-operated switches. There are no occupancy sensors.

The remaining school areas are controlled by local switches only.

Emergency Egress Lighting and Exist Signs

Existing emergency egress lighting system currently incorporates emergency battery units and remote light heads, and appears to be adequate.

Existing exit signs are LED type.

Fire Alarm System

Existing fire alarm system is manufactured by Cerbrus Pyrotronics. It appears to be new, except for the "older" Master box. In general, the quantity of initiating and signaling devices appears to be adequate, and they are in good and operational condition. The existing fire alarm system is connected to Town alarm loop via exterior wall-mounted Master box, and it is hard-wired.

Exterior Lighting and Controls

Exterior building-mounted lights are provided at all egress doors and along the building perimeter. Roadways and parking lots are illuminated by bollards and pole-mounted lights, equipped with metal halide lamps. All exterior lights are controlled by one common time clock located adjacent to panel L3 in the boiler room.

Major Electrical Concerns

1. Kitchen panel is old/beyond its life expectancy. Power feeder associated with this panel is beyond its life expectancy (fig 1).

2. Kitchen receptacles are non-GFCI type and have no GFCI protections (circuit breakers), which is not in compliance with the current electrical code (MEC), (fig 2).

3. Existing lighting control system does not comply with the current energy code: there are no occupancy sensors, no daylight sensors, and no programmable lighting control system for interior lights.

FIG 1: OLD PANELS

FIG 2: KITCHEN RECEPTACLES

Communication Systems

The Downey School is connected to the High School via fiber optic cable. The High School serves as the data and telephone service hub for the School District. Verizon FIOS is the primary Internet Service Provider (ISP). Comcast is the secondary (ISP).

The Downey School is equipped with a Communications Service Entrance Room located adjacent to the boiler room on the east side of the building and a data closet located on the west side of the building. The two rooms are connected via fiber optic cable. The network equipment is rack mounted in secured, air conditioned rooms.

All classrooms in the School have Wi-Fi access. Approximately 10% of the non-classroom spaces have limited Wi-Fi service. The current Wi-Fi coverage is adequate. Every classroom will be equipped with a projector over the course of the current school year.

The telephone switch for the school is capable of transmitting and receiving both digital and analog signals and it performs adequately.

The voice and data cable infrastructure is a combination of Category 5 and 5e rated cable. Category 5 cable is no longer a recognized standard in the industry as it does not have the capacity to transmit data at the current industry standard of 1-Gigabit per second.

Cable TV over Verizon FIOS is available to the school; however, the CATV services are not distributed to the classrooms at this time.

The paging system is comprised of two-way speakers in every classroom as well as one-way speakers in the corridors and common areas (i.e. gym, cafeteria) and exterior speakers to broadcast announcements to the play grounds. The system is relatively new (13-years in service) and performs well.

The clocks are operated from a central master control system and appear to be in good working condition.

Security Systems

The Intrusion Detection System is comprised of door contacts at all exterior doors and Sonitrol sound detection devices distributed throughout. The detection system is armed and disarmed by use of a keypad. There is no card access system in the building.

The main entrance is locked during the day. Visitors press a button at the door to activate a two-way intercom and one-way video transmission to the attendant's desk in the main office. The attendant established verbal contact and is able to see who is at the door. Once the visitor is cleared for entry, the attendant remotely unlocks the door and the visitor enters the school.

The school has been wired for three IP-CCTV cameras.

Summary

2. The Category 5 station cabling and fiber optic backbone cable between the two data rooms do not perform at standards that newer equipment demands.

2. CATV service is available at the school but not distributed throughout the building.

3. There is no card access system in the school.

4. The main entrance is equipped with a two-way intercom and one-way video transmission to the attendant's desk in the Main Office. The attendant established verbal contact and is able to see who is at the door. Once the visitor is cleared for entry, the attendant remotely unlocks the door and the visitor enters the School.

5. The school is wired for three CCTV camera locations.

2.3 HANLON ELEMENTARY SCHOOL

The following is a summary of the existing conditions at the Hanlon Elementary School. This report is based on our site visit on October 29, 2014.

SITE

Parking Lots/Access Drives

Total number of parking spaces is 59 (56 standard spaces, 3 accessible spaces).

The South Parking Lot is in overall good condition. Bituminous pavement shows minimal wear and cracking, and striping is clearly visible. The adjacent vertical granite curbing along west side is in good condition. The lot contains 41 standard parking spaces.

The North Parking Lot is in overall fair-poor condition. The bituminous pavement against the building (to approximately 15' out) appears relatively new and is in good condition. The remaining bituminous area shows significant wear, and contains extensive fatigue cracking. Some isolated heaving was also observed. A 3'-4' strip along the northern edge of the parking consists of gravel, and it appears that area is necessary to allow for two rows of parking to fit with sufficient aisle width. The northern row of parking is not striped. No perimeter curbing exists, and there is no separation or wheel stop for the southern row against the building. The lot contains 13 striped spaces, though the area can accommodate approximately 32 vehicles. One accessible spaces is provided, however, the slope exceeds MAAB requirements. Striping is clearly visible. An extension of this parking lot is the loading/service area, where a single dumpster was observed, as well as a metal storage container. Two vehicles were observed parking in this area as well, though no striping exists.

The Front bus loop/parking areas is in good overall condition. This area was paved within the last year and shows no signs of wear. The area contains 5 parallel parking spaces (3 standard spaces and 2 accessible spaces). This loop is one-way, and signage prohibits vehicular traffic from 8:15-9:00 AM and 2:45-3:30 PM. The area lacks sufficient separation from the front building entrance as there is no curbing or bollards.

Walkways

Bituminous walkway adjacent to South Parking Lot is in overall good condition, showing only minor wear and very few cracks.

The bituminous walkway around the south and southeast portions of the building is in good overall condition. The pavement seems relatively new, however there are areas of small spread cracking that appear to have occurred during installation. The cracks have not lead to pavement deterioration.

The bituminous walkway along west side of Gay Street is in overall good condition, showing only minor wear and very few cracks.

The bituminous walkway along the north and south side of the school's west wing are in overall good condition, showing minor wear and containing few transverse cracks.

Circulation

Pick-up and drop-off operations were not observed. Buses utilize the designated one-way loop on the east side of the school. It appears that parents pick-up and drop off along the southern parking area off of Gay Street.

Accessibility

1. Parking - The number of accessible parking spaces meets MAAB requirements, however, one of the spaces exceeds MAAB slope requirements and is therefore non-compliant.

2. Building Egress Points

    a. Four building egress points on the north side of the building are not accessible due to steps and lack of edge protection.

    b. One door on the southeast side of the building is not accessible due to steps and lack of edge protection.

    c. Five building egress points on southwest side of building are not accessible due to steps and lack of edge protection.

    d. The north and south egress points to the modular building utilize wooden ramps. The north ramp is in fair condition due to a loose rail and soft footing in some places. The south ramp is also in fair condition due to a loose handrail.

3. Walkways

    a. The sidewalk curb cuts at both the entrance drive and exit drive off of Gay Street lack detectable warning panels.

    b. The sidewalk curb cut for the crosswalk across Gay Street (near the southwest corner of the building) lacks a detectable warning panel.

    c. The bituminous walkway in front of the main building entrance lacks a detectable warning panel prior to entering the driveway/bus loop.

4. Play Areas – The wood fiber play areas are not MAAB compliant due to lack of paved paths to areas, and lack of accessible paths to various structures (refer to play areas section below).

Utilities

1. Drainage – Runoff from a majority of the North Parking Lot and front bus loop appears to flow off-site untreated. No known issues or concerns with flooding.

2. Sewer – School is connected to Town Sewer. No known issues or concerns with sewer distribution.
3. Water- No known issues or concerns with water distribution system.
4. Fire Protection – One hydrants was observed on the east side of Gay Street, approximately 125' away from the east side of the school. Overall coverage for the building does not appear adequate, as several portions of the building are greater than 300' feet away from the hydrant. Fire department connection observed on the north side of the building.
5. Electric/Telecommunications – No known site electrical or telecommunication issues.
6. Gas – Natural gas service is available at the school. The gas meter is located on the north side of the building.
7. Lighting – Site lighting consists of building mounted fixtures.

Play Areas

The main bituminous play area (southwest of building) is in overall good condition. Pavement shows minimal wear and cracking.

The basketball court is in overall good condition, with the pavement showing minimal wear and no observed cracking. Stain and striping is still visible, but slightly faded. Basketball hoop structures appear to be sound.

There are two playground areas, each consisting of play structures installed on an engineered wood fiber surface. The first, containing a climbing dome, is bounded by wood logs. The second, containing a large multi-structure and a swing set, is bounded by plastic logs. No bituminous walkways are provided to either play area, and there are no accessible paths to the actual structures. Therefore, the playground is not considered MAAB compliant.

The grass playfields and associated structures appear to be in overall good-fair condition. No accessible path is provided to team benches or spectator bleachers, and therefore, the area is not MAAB compliant.

FATIGUE CRACKING AND HEAVING/SETTLEMENT IN NORTH PARKING LOT

GRAVEL EXTENSION OF PARKING AREA WITH NO CURBING

LACK OF DETECTABLE WARNING PANEL AT CURB CUT ONTO GAY STREET

LACK OF ACCESSIBLE PATH TO SOME PLAY AREAS AND STRUCTURES

NON-ACCESSIBLE BUILDING EGRESS ON SOUTH SIDE OF BUILDING

ARCHITECTURE

SMMA visited the site on the late afternoon of October 20, 2014. The weather was mild and cloudy. The school facility consists of a single level load bearing masonry school building with a low sloped roof constructed in 1951 and renovated in 2003. Four modular classrooms were added to the west end of the school ten years ago. The building area is approximately 34,280 GSF and has 226 students in grades K-5. The building faces south to Gay Street. The bus loop is on the east side of the school, and visitor parking is around the drive. Staff and teacher parking is on the north side of the site, the service drive and kitchen staff parking is also on the north side. The main entry is at grade level, other entries are grade level, and the modular classrooms have a wood ramp. The paved play area is located to the south of the building. Entries are recessed and the main entry is protected by a large canopy. The service area is in the parking lot on the north side of the building and is partially visible from the front of the building.

Enclosure

The school is a T-shaped single story building. The roofs are low sloped black rubber with gravel cover and the roof over the cafeteria is raised approximately 5'. The low slope roofs drain internally. The black rubber roof membrane is in bad condition and is currently being repaired. The building walls are load bearing masonry construction with brick exterior. There are some large cracks visible on the interior of the building. There are glass blocks with inset steel framed windows in the cafeteria gymnasium. Window openings are single glazed steel frames with awning type vents. The entry is aluminum doors and frames in a wood framed opening with fixed glass. There are utility tunnels under the building. The wood roof structure in the classroom part is a few inches above the acoustic ceiling. There are exposed steel beams in the cafeteria/gym.

Interior

The interior partitions are typically painted masonry. Flooring is vinyl composition tile in the corridors and classrooms and ceramic tile mosaics or sheet vinyl in the restrooms. Ceilings are suspended acoustical tile with surface mounted light fixtures. There is carpet in the media center and offices. The kitchen has sheet vinyl and vinyl composition tile floors, rubber cove base, and painted CMU walls. Door frames are typically hollow metal. The interior wood doors are new. The hardware is also in poor condition. Classroom casework is in poor condition. There are no privacy screens between urinals.

Circulation

Building is single floor with double loaded corridor and double doors at the ends of the corridors. Some classrooms have direct outdoor access. Corridor smoke doors are on magnetic hold open devices.

Accessibility

There are no power door operators located at the accessible entry on the accessible route to the building. Door hardware varies in building knobs and lever handles throughout the facility. There is a wheelchair lift at the stage. In general, there is compliance with earlier codes, however, since the previous renovation was completed the codes have changed and full code compliance will be required if new renovations are done. Other non-compliant items are:

- Wood ramp at modular classroom needs non-slip surface.
- Classroom sinks with bubblers are not compliant.
- Not all toilets are code compliant.
- Missing signage.
- Projections and equipment parked in walkway space.

Security

Steel framed windows and exterior classroom doors can be locked. The school has a corridor located motion detection intrusion alarm. Exterior doors have exit devices (panic hardware) and are locked to prevent unauthorized entry. The entry doors have an intercom with remote release. The Office /Reception area has visual control of the entry and the entry vestibule. Classroom door hardware does not have classroom side lock-down feature.

BRICK AND GLASS BLOCK REPOINTING REQUIRED

SINGLE GLAZED WINDOWS AND RUSTING STEEL FRAMES

STRUCTURAL

Purpose

The purpose of this report is to broadly describe the existing structure, comment on the structural integrity of the building and comment on the structural code issues related to any future renovations and expansions.

Basis of the Report

This report is based on visual observations during our site visit on October 13, 2014. As of this writing, there are no drawings or documents relating to the original structure available for review. There are limited layout plans of the general architectural configuration.

During our site visit, we did not remove any finishes; therefore, our understanding of the structure is limited and may have to be further refined as design of any renovation evolves.

Building Description

The school, constructed in 1951, has a single story structure housing classrooms, administrative offices, cafeteria and gymnasium/auditorium. The foundations are cast-in-place concrete foundation walls with a concrete slab-on-grade and a structured concrete slab above the basement crawl spaces and boiler room. The roofs of classrooms and corridors are framed with wood decking supported by wood joists that bear on masonry walls. On the perimeter of the school above the classroom windows, the wood joists are supported by steel beams which, in turn, are supported by steel columns.

Lateral Force Resisting System

There is no deliberately designed lateral force resisting system as part of the original structural design. Currently, lateral loads (wind loads, potential seismic forces) are resisted by the exterior and interior masonry walls. This is fairly typical of school structures built in this time period, as deliberate lateral force resisting systems (i.e. shear walls, brace frames, moment frames) were not addressed by the building code until 1973.

Existing Conditions

There building appears to be in sound structural condition with no substantial structural defects. There is significant cracking in the existing brick walls in the art room (formerly a stage for the auditorium) at the location where a steel roof beam bears on the wall.

Primary Structural Code Issues Related to the Existing Structure

If any repairs, renovations or additions are made to the structure, a check for compliance with the Massachusetts State Building Code (780 CMR, Chapter 34

"Existing Structures") is required. The intent of 780 CMR, Chapter 34 is to permit repairs, alterations, additions and/or a change of use without requiring full compliance with the code for new construction. However, depending on the scope of any proposed renovations, a comprehensive structural analysis may need to be performed to determine the impact on the existing structural system. Due to the fact that the lateral force resisting system of the structure is, by default, the interior and exterior masonry walls, any modifications to them will need to be thoroughly reviewed to determine if seismic upgrades to the lateral system are required as a result of proposed building alterations. If any future additions are planned for this building, they should be seismically isolated from the existing structure.

Summary

The existing structure appears to be in sound condition and is performing satisfactorily. A thorough investigation of the existing structure is required if, by nature of the proposed renovations:

1) The capacity of the lateral force resisting system is decrease (i.e. reduce the amount of, or configuration of the existing masonry walls;

2) There is an increase the seismic loads on the building (i.e. additional building mass in or on top of the structure, such as mechanical roof top units);

3) There is an increase the effects of the wind loads on the building (i.e. additional roof top mechanical units/roof screens or other projections collecting wind and transferring additional lateral forces to the existing masonry walls).

THE ORIGINAL LOAD BEARING BRICK WALLS IN THE ART ROOM (FORMERLY AND AUDITORIUM STAGE), ARE CRACKED BELOW WHERE A STEEL ROOF GIRDER BEARS ON THEM AT EACH END.

PLUMBING SYSTEMS

Plumbing Fixtures

The majority of the existing plumbing fixtures in place within the building are original. Some have been replaced with newer battery sensor type flush valves and lavatory faucets (Refer plumbing pic 1).

Water closets are floor mounted, vitreous china units with a mix of manual and battery sensor operated flush valves. Stall type urinals are no longer allowed and not compliant.

Some flush valves have been retrofitted with new Rubbermaid Retrofit Kits (battery sensor type flush valves), (Refer plumbing pic 1).

The Nurse's room sink is a wall mounted, vitreous china without any eyewash station (Refer plumbing pic 6).

Urinals in the toilet core rest rooms are vitreous china, wall hung units with manual operated flush valves. The flush valves are exposed in the room.

Lavatories are wall hung, vitreous china with hot and cold faucets that are either metering or manually operated. Some existing lavatories have been retrofitted with self-metering manual push down Chicago faucets (Refer plumbing pic 2).

The kitchen hand-washing sink is a stainless steel, wall hung unit with a hot and cold gooseneck spout faucet with wrist blade handles. Kitchen scullery sinks are floor standing, stainless steel with coved inside corners. Kitchen food prep sinks with or without food disposer requires an indirect waste (not hard connected) to assure no cross contamination with sanitary sewer and food upon any waste back up (Refer plumbing pic 3).

Classroom sinks are stainless steel, self-rimming single compartment basins with a swing spout faucet with separate hot and cold handles. Several of the existing classrooms have self-rimming stainless steel sink with standard manual type faucets. These require reducing and limiting the hot water to a maximum of 110 degrees F hot water to dispense at the faucets. Kindergarten class room sinks are not receiving hot water at a timely manner or temperature at their faucets.

Mop basins are above floor type, stainless steel units with hot and cold faucet with hot and cold handles and elevated vacuum breaker. Custodian's closet mop service basin faucet does not have any integral vacuum breakers (Refer plumbing pic 4).

Drinking fountains are a mix of stainless steel and vitreous china, non-recessed.

Non-electric water coolers are single level units with push button activation. Several existing water drinking fountains (non-chilled) on each floor do not include alcove-recessed with high-low handicapped accessible configurations
(Refer plumbing pic 5).

Exterior hose bibs are frost proof type. There is no emergency eyewash/shower station located in mechanical room or nurse's room. The existing original core restrooms are outdated as far back as the original school building was constructed in 1957 and do not meet MAAB requirements.

Roof Storm Drainage

External roof drain systems are presently discharging into site storm boot systems.

Sanitary

The majority of the existing building sanitary waste system, which drains by gravity, is in good condition. The sanitary effluent discharges below grade to the site sewer drain distribution system.

Existing underground (buried) piping could be not be observed, however the entire underground (buried) sanitary sewer should be tested for any leakage, backup and pipe aging condition by executing static pressure tests and video camera inspections.

A dedicated grease waste line is not in place for the school building. Currently point of use internal floor recessed grease trap is collecting the grease laden effluent from the 3 pot sink.

The above ground sanitary drainage and vent for the school building is currently using cast iron hub and spigot joints (3" or larger). Piping smaller than 3 inch is piped using DWV copper pipe.

Domestic Cold Water Service

Insulation at most piping is of adequate thickness and in fair condition. Some insulation has been removed at locations where repairs have occurred. Some of this insulation was not replaced.

Piping is not adequately labeled throughout the building. Vacuum breakers are present at the majority of fixtures as required by code. Original 1951 construction gate valves are in fair condition. Ball valves installed during the 2003 remodeling are in good condition.

Valve tags are not present throughout the building. Piping is adequately supported where observed either by hangers or floor supports. Hard water deposits were noted at multiple fixtures throughout the facility with the heaviest of the deposits being at the backflow preventers.

The hard water deposits could be causing deterioration of the piping wall thickness throughout the facility.

The existing main domestic water supply enters the basement boiler room complete with one water meter assembly located within the boiler room. No backflow

preventer present for the domestic potable water distribution side. No protected lawn and garden irrigation system or systems installed for site.

Existing boiler cold water make-up is currently being fed from reduced pressure-principle backflow preventers for HVAC equipment.

The domestic cold water piping distribution within the building supplying the original systems are distributed with “L” type copper tube with wrought or cast copper fittings. The majority of the piping is insulated to prevent condensation on piping and prevent deterioration of the pipe, to extend its life expectancy.

Domestic Hot Water Service

One gas fired storage water heater was installed in 2004, which is supplying the kitchen area fixtures and the remainder of the building.

The unit is a RUUD “Ruudglas Pacemaker” model no. PE120-2-B with 119 gallon storage, having 240/208 volts / 4.5/3.38 KW. This water heater is missing a thermostatic hi/lo mixing valve station. This heater provides hot water to cafeteria food service area. Storage temperature is required to be a minimum of 140 degrees F. Temperature gauges not present to confirm. All other kitchen plumbing fixtures require having a minimum of 140 degree F hot water system.

The existing domestic hot water distribution system to the school building does have a hot water circulation system to the plumbing fixtures. Hot water piping heat trap is also missing. No dead legs were observed with more than 12” in length.

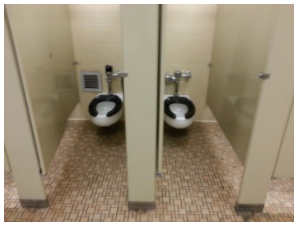
The existing domestic hot water is distributed in “L” type copper tube with wrought or cast copper fittings. The majority of the existing hot water (HW) piping is not insulated.

Natural Gas

A gas service location is present; this service enters the existing basement boiler room and feeds the gas fired boilers. It appears to be regulated down to low pressure (11” WC). The exterior pressure regulator and gas meter are mounted on the exterior of the building and supported by a concrete house pad. The gas meter and primary pressure regulator are owned by the gas utility company.

The basement boiler room gas supply currently feeds gas fired domestic water heater and the gas fired heating boilers. Food service equipment within the kitchen area is currently all electric operating.

The existing gas piping appears to be distributed in ASTM A53 schedule 40 black steel pipe.



PLMBG. PIC 1

PLMBG. PIC 2

PLMBG. PIC 3

PLMBG. PIC 4

PLMBG. PIC 5

PLMBG. PIC 6

FIRE SPRINKLER SYSTEMS

Fire Protection System

There are no existing fire sprinkler systems.

MECHANICAL

HVAC System

Boiler Plant

There are two Weil McLain steam boilers providing heat for this building. One boiler has been replaced in the past three years and at least one section of the other boiler was also replaced at this time.

The condensate receiver and pumps are in fair condition. However the piping particularly the condensate is in critically poor condition with multiple leaks being repaired each year in areas that are accessible. Other leaks are occurring in more difficult to access locations and catastrophic failure is a distinct possibility.

PATCHED STEAM PIPING. THE SMALLER DIAMETER CONDENSATE PIPE HAS BEEN REPLACED TO THE RIGHT OF THE UNION (JOINT).

Steam to the ancient Classroom Unit Ventilators (UVs) and other terminal equipment runs through a series of steam tunnels which generally follow the building perimeter. The piping in these tunnels was originally covered with a combination of Air Cell and Calcium/Magnesium style insulations.

Both of these products are asbestos containing. The insulation, where visible, is in poor condition often due to having been saturated by steam or condensate leaking from the decayed piping. Asbestos laden insulation materials are visible on the sand floor of the tunnels. The tunnels have hatches in many of the classrooms but must be considered confined spaces.

LOOKING DOWN INTO THE STEAM TUNNEL FROM A CLASSROOM HATCH. NOTICE THE DAMAGED ASBESTOS PIPE INSULATION AND DEBRIS ON THE FLOOR.

The gym and cafeteria are heated via finned radiation running several feet above the finish floor. Heating and ventilating units located in a closet were to provide the necessary ventilation. These are in poor condition.

The unit ventilators themselves are in poor condition with dampers and control valves locked into the open position. The original pneumatic controls are no longer working. Teachers attempt to regulate temperature by turning the UV fan on or off as the temperature falls or rises above the comfort level.

ELECTRICAL SYSTEMS

A site visit was made on October 13, 2014 to review the existing electrical systems.

Electric Service

Existing electric service initiates from existing utility pole-mounted transformer located across the street. The transformer secondary extends towards the school overhead via intermediate pole located adjacent to the school building, and then extends to school basement via underground raceway system. No issues related to outdoor service installation were observed.

Power Distribution Equipment

The utility transformer secondary feeder terminates in a 400 Amp Main Disconnect Switch located in existing boiler room at basement level. The service switch is manufactured by Frank Adams. I appear to be “original” and in poor condition, but operational. The service from the main disconnect switch extends to the main power distribution panel named “L-D”, located in the same area. The panel is rated 400

Amp at 120/208v 3 phase 4 wire system. It's manufactured by Siemens, appears to be in good and operational condition.

The existing electric service capacity shall be adequate for the current building program and building systems' load, however, it may not be sufficient for any future school upgrades or building additions.

Most of the new elementary schools with partial air conditioning are designed for approximately 7-9 W/SF, while the existing Hanlon Elementary school' s electrical service can support approximately 4 W/SF based on existing electrical service size, voltage configuration and building SF size.

Power from panel "L-D" is distributed to all sub-panels located throughout the school building. A dedicated electrical service is provided to existing 3-classroom modular building addition. Majority of the sub-panels appear to be "old", their locations are they follows: (2) panels near Music room, (6) panels in corridors, and (1) panel in the boiler room – they are in poor but operational condition. It is assumed that power feeders to all "old" panels are "original". The remaining few panels appear to be in good and operational condition.

The majority of receptacles appear to be "original". It is assumed that branch wiring feeding receptacles has never been replaced. A few receptacles in kitchen area were noticed to be non-GFCI which is not in compliance with the current electrical code (MEC). In a few classrooms it was noticed that receptacles near sinks were non-GFCI type too.

Quantities of receptacles in classrooms appear to be inadequate, and therefore multiple pieces of equipment are plugged into the same receptacles utilizing plug strips.

The on-going issue of "arcing receptacles" was brought to our attention by Facilities. Apparently, during "plugging-in and unplugging" of the computer charging carts, the utilized receptacles "arc", which leads to their continuous damage following by their failure and replacement.

Interior Lighting and Controls

Existing school lighting system consists mostly of "old" fluorescent surface-mounted wraparound fixtures. Lighting fixtures were recently retrofitted with T8 lamps and matching ballasts, and a new fluorescent lighting system was installed in Gym. In general, lighting system provides adequate illumination levels throughout, except for Music room and Cafeteria.

Occupancy sensors were recently installed in classrooms, corridors and in a few administration offices.

The typical classroom is equipped with three continuous rows of surface-mounted wraparound 2-lamp fixtures, controlled by three toggle switches in "by-row" manner.

Dedicated corridor lights are controlled by occupancy sensors and respective wall-mounted “occupancy sensor switches”. The remaining lights in corridors stay “on” all the time (“night lights”).

All other school spaces are controlled by local switches only.

It was brought to our attention by Facilities that the currently installed occupancy control system (manufactured by Lutron) consisting of ceiling-mounted and wall-mounted devices with associated occupancy sensor switches may not operate properly, especially in larger classroom areas. It is unclear if the issue relates to the “sensor motion coverage” ability or product quality itself.

Emergency Egress Lighting and Exist Signs

The existing emergency egress lighting system currently incorporates emergency battery units and remote light heads. In general, it appears to be adequate in most of locations, however, some areas need additional emergency lighting – gym, cafeteria, music room.

Existing exit signs concept and layout does not comply with code: many exist signs are not self-illuminating (printed), and there are locations in the building where exit signs are missing.

Fire Alarm System

The current fire alarm system is a “retrofitted original” – it’s a combination of “older” and “newer” fire alarm equipment and wiring. Smoke detection coverage appears to be inadequate for building without a proper fire protection system (sprinklers). Quantity of signaling devices (horn/strobes and strobe only devices) appears to be insufficient as well. There are no signaling devices in classrooms. The FACP appears to be new, zoned type, manufactured by Specalarm systems/Spectronics. The retrofitted fire alarm system is connected to Fire Department alarm loop via exterior wall-mounted Master box, and it is hard-wired.

Exterior Lighting and Controls

Exterior building-mounted lights are provided at egress doors and along the building perimeter. Lighting fixtures appear to be in poor condition and not full cutoff distribution type. The lights are controlled via time clock. There is no site lighting at parking lot areas.

Major Electrical Concerns

1. Majority of power distribution panels are old/beyond their life expectancy, and some panels became obsolete. Power feeders associated with “old” panels are beyond their life expectancy (fig 1).

2. Existing exit signs concept and layout does not comply with code: many exist signs are not self-illuminating (printed), and there are locations in the building where exit signs are missing (fig 2).

3. Lighting levels in a few spaces appear to be inadequate (Cafeteria and Music).

4. Emergency lighting in some areas is inadequate (gym, cafeteria, music room).

5. Quantities of receptacles in classrooms and similar educational spaces are inadequate. Majority of receptacles and associated wiring appear to be beyond their life expectancy.

6. Existing lighting control system does not comply with current energy code: although there are occupancy sensors in classrooms and a few offices, the rest of lights are controlled by switches only (no occupancy sensors). Also, there are no daylight sensors in the building.

FIG 1: OLD PANELS

FIG 2: EXISTING EXIT SIGNS

FIG 3: INADEQUATE LIGHTING LEVELS

Communication Systems

The Hanlon School is connected to the High School via fiber optic cable. The High School serves as the data and telephone service hub for the school district. Verizon FIOS is the primary Internet Service Provider (ISP). Comcast is the secondary (ISP).

Data communications in the Hanlon School are distributed from a single wall mounted equipment cabinet. There is no air conditioning at this location.

All classrooms in the school have Wi-Fi access. Approximately 10% of the non-classroom spaces have limited Wi-Fi service. The current Wi-Fi coverage is adequate.

Every classroom will be equipped with a projector over the course of the current school year. The telephone switch for the school is capable of transmitting and receiving both digital and analog signals and it performs adequately.

The voice and data cable infrastructure is a combination of Category 5 and 5e rated cable. Category 5 cable is no longer a recognized standard in the industry as it does not have the capacity to transmit data at the current industry standard of 1-Gigabit per second.

Cable TV over Verizon FIOS is available to the school; however, the CATV services are not distributed to the classrooms at this time.

The paging system is comprised of speakers in every classroom. The corridors and gym are not equipped with speakers. The facilities dept. is planning to have speakers installed in these areas in the near future.

The clocks are a combination of original wired devices and independent battery operated devices. Maintaining a common time standard throughout the building is not possible.

Security Systems

The Intrusion Detection System is comprised of door contacts at all exterior doors and Sonitrol sound detection devices distributed in the corridors only. The detection system is armed and disarmed by use of a keypad. There is no card access system in the building.

The main entrance is locked during the day. Visitors press a button at the door to activate a two-way intercom and one-way video transmission to the attendant's desk in the main office. The attendant established verbal contact and is able to see who is at the door. Once the visitor is cleared for entry, the attendant remotely unlocks the door and the visitor enters the school.

The school has been wired for three IP-CCTV cameras.

Summary

1. The single Tel/Data Server Room is not air conditioned, potentially reducing the useful life of the equipment. The room is equipped with a wall mounted equipment rack.

2. The Category 5 cable infrastructure does not perform at standards that newer equipment demands.

3. The paging system currently serves classrooms only. Corridors and public areas do not receive announcements. Paging is limited to all-call only.

4. The clock system is a mix of older wired devices and battery powered devices meaning the clocks are not always synchronized.

5. CATV service is available at the school but not distributed throughout the building.

6. There is no card access system in the school.

7. The main entrance is equipped with a two-way intercom and one-way video transmission to the attendant's desk in the Main Office. The attendant established verbal contact and is able to see who is at the door. Once the visitor is cleared for entry, the attendant remotely unlocks the door and the visitor enters the School. The school is wired for three CCTV camera locations.

2.4 MARTHA JONES ELEMENTARY SCHOOL

The following is a summary of the existing conditions at the Martha Jones Elementary School. This report is based on our site visit on October 29, 2014.

SITE

Parking Lots/Access Drives

Total number of parking spaces is 61 (58 standard spaces, 3 accessible spaces).

The north parking lot is in overall good-fair condition. Bituminous pavement shows some wear and occasional cracking, and striping is clearly visible. Sloped granite curbing along north and west sides of lot are in good condition. Lot contains 8 standard parking spaces, though additional vehicles parked in non-designated areas were observed. It appeared this was during after-hours pick-up. The loading dock is accessible from this area, and the loading/unloading of dumpsters is also situated in this area.

The south parking lot is in overall fair condition. Bituminous pavement shows some signs of wear and contains seam cracking as well as some minor heaving/settling adjacent to the curbing. Sloped granite curbing in overall good condition. The lot contains 25 parking spaces (24 standard and 1 accessible space). Striping is clearly visible.

The bus lane east of the school is in overall good-fair condition. Bituminous pavement shows minimal signs of wear and minor cracking. Adjacent vertical granite curb in good condition.

The east parking lot and parent drop-off/pick-up lane in overall fair condition. Bituminous pavement shows some wear and contains isolated areas of fatigue cracking, particularly along the east edge adjacent to the sloped granite curbing. The vertical granite curb and slope granite curb area in overall good condition, except for a couple of dislodged slope granite pieces. Area contains 28 parking spaces (26 standard spaces and 2 accessible spaces). Striping is clearly visible. The southern end of the area that connects to the southern parking lot is in fair-poor condition and contains more significant fatigue cracking.

The northern access drive (Reservoir Road) is in overall poor condition. Bituminous pavement shows significant wear and fatigue cracking. Curb along west side consists of slope granite, and is in overall good condition. Curb along east side consists of bituminous berm, and is in overall fair condition.

Walkways

The concrete sidewalk between parent queuing lane and bus queuing lane is in overall good-fair condition. Concrete shows some signs of wear and minor spalling, but no cracking or settling.

The concrete sidewalk/plaza on the west side of bus lane that leads to main entrance is in overall fair condition. Some portions show only minor wear, while other portions show significant spalling and deterioration. Some areas would classify as tripping hazards.

The bituminous walkway that loops around the west and south sides of the building and leads to the play areas is in overall good condition with very few cracks.

The bituminous walkway that encompasses a portion of the baseball field is in good overall condition with very few cracks.

The bituminous walkways that connect the bituminous play area east of the school to the sidewalk at the bus queuing area are in fair condition. The pavement contains some fatigue cracking. Walkways appear to be greater than 5%, and do not have handrails.

Circulation

Pick-up and drop-off operations were not observed. Buses utilize the designated one-way lane that is segregated from the designated parent lane by a median strip and chain link fence.

Accessibility

1. Parking - The number of accessible parking spaces meets MAAB requirements. Three spaces are required, and three are provided. The spaces appear to meet all MAAB criteria.

2. Building Egress Points
    a. Double doors on north side of gymnasium are not accessible due to steps
    b. Double doors on the west side of building to play area may not meet accessibility requirements. It appears that there is not a sufficient level landing at the doors before a 5%-7%. If greater than 5%, handrails are required, but not currently provided.
    c. Double doors on south side of building (adjacent to south parking lot) is not accessible due to the threshold being approximately 1" higher than the walkway grade.
3. Walkways
    a. The walkways to the main bituminous play (east of play area) appear to exceed MAAB slope requirements.
    b. Five (5) walkway curb cut locations at the intersection of Reservoir Road and Spruce Drive (southeast of building) lack detectable warning panels.
    c. The walkway curb cut to the building front plaza and entrance area lacks a detectable warning panel. An approximate 1 SF area of pavement wearing surface if front of the curb cut has deteriorated, creating a potential tripping hazard or obstruction for wheelchairs.

d. The two walkway curb cuts north of the school (at the intersection with Reservoir Road) lack detectable warning panels.

4. Play Areas – The play structures within wood fiber play areas are not considered accessible due to lack of accessible paths to certain structures.

Utilities

1. Drainage – No known issues or concerns with drainage system.
2. Sewer – School is connected to Town Sewer. No known issues or concerns with sewer distribution.
3. Water- No known issues or concerns with water distribution system.
4. Fire Protection – Two hydrants were observed on the north side of the School. A third hydrant was observed just north of Reservoir Road on Spruce drive, approximately 300' east of the school. Overall coverage appears adequate, but a portion of the southern face of the building appears to be greater than 300' away from the nearest hydrant. Fire department connection observed on the north side of the building.
5. Electric – It appears that electric is routed underground to the building from a utility pole in the northeast corner of the Site.
6. Gas – Natural gas service is used at the school. The gas meter is located on the north side of the building, around the corner from the loading area.
7. Lighting – Site lighting consists of pole mounted lights, bollard lights, and building mounted fixtures. Some concrete light pole bases show deterioration.

Play Areas

The main bituminous play area (southeast of building) is in overall good-fair condition. Pavement shows minimal wear and contains some seam cracking.

The basketball court is in overall good-fair condition and contains only a few isolated cracks in the bituminous pavement. Stain and striping is still visible, but faded. Basketball hoop structures appear to be sound.

The Playground consists of several types of play structures, installed on an engineered wood fiber surface. Areas are bounded by concrete curbing with openings for access. Bituminous walkways are provided to each wood chip area, but there are no accessible paths to the actual structures. Therefore, the playground is not considered MAAB compliant.

The baseball field and associated structures appear to be in overall good condition. No accessible path is provided to team benches or spectator bleachers, and therefore, the area is not fully MAAB compliant.

CONCRETE DETERIORATION IN PLAZA/WALKWAY NEAR FRONT ENTRANCE

LACK OF ACCESSIBLE PATHS TO PLAY STRUCTURES

FATIGUE CRACKING AND SETTLEMENT ALONG EDGE OF EAST PARKING LOT

CONCRETE DETERIORATION AT WALKWAY ADJACENT TO BUS LANE

LACK OF DETECTABLE WARNING PANEL AT BUS LOOP CURB CUT, AND PAVEMENT CRACKING

WALKWAY TO BITUMINOUS PLAY AREA/BASKETBALL COURT EXCEEDS MAAB SLOPE REQUIREMENTS

ARCHITECTURE

SMMA visited the site on the afternoon of October 20, 2014. The weather was mild and sunny. The school facility consists of a two level load bearing masonry school building constructed in 1957 and renovated in 2001 with an addition. The building area is approximately 50,796 SF and has 295 students in grades K-5. The building faces east toward Martha Jones Road. There is a separate bus lane in front of the school, and angled visitor parking off the one way road. Staff and teacher parking is on the south side of the site, the service drive and kitchen staff parking is on the north side. The main entry is at grade level and there is a paved play area at the front of the building. Other entries around the building are also at grade level. The main entry is protected by a large canopy and other entries are recessed. The playing fields are to the west and south of the school. The service area is not visible from the front of the building.

Enclosure

There is a high sloped gable roof over the cafeteria and gymnasium. The roof covering is black rubber and it drains to gutters. The roofs over the classroom parts of the building are low sloped black rubber and there is a monitor above the media center. The low slope roofs drain internally. The roof has been patched around the monitor above the library and some leakage persists. A small amount of ponding on the monitor roof was observed. The addition has cavity wall construction with brick and cast stone veneer, and load bearing CMU masonry. Typical construction of the new part of the building has rigid wall and roof insulation. The brick veneer is in good condition with some fine cracks showing in the cast stone sills. There are visible cracks in the mortar joints in the glass block corners. Window openings are single hung aluminum frames with insulated glass. The Owner is repairing the counter balances throughout the facility.

Interior

The interior partitions are painted gypsum board above ceramic tile wainscot in the corridors. The classrooms are painted gypsum board. The kitchen, restrooms, and stairwells have ceramic tile wall cover. Floor covering is typically vinyl composition tile in the corridors and classrooms and ceramic tile mosaics in the restrooms. The entry floor is stone. There is carpet in the media center and offices. The kitchen has quarry tile floor and ceramic tile cove base. Door frames are typically hollow metal. The interior wood doors are in good condition. The hardware is also in good condition. Ceilings are typically acoustic ceiling tiles with recessed light fixtures. Classroom casework is in good condition. The toilet partitions have been replaced with solid plastic and are subject to rough use. Some work is required to maintain alignment, repair hinges, and braces are needed. The toilet automatic flush-o-meters were omitted from the emergency power system and not flushable during power outage conditions.

Circulation

Interior stairs and ramps are code compliant. The elevator cab dimension is 54” X 80” with a 42” entrance.

Accessibility

All building entries are accessible and there is an accessible route from parking, bus drop-off, and playing fields. Door hardware is lever handles throughout the facility. The elevator will not accommodate a 24” X 84” gurney. There is a wheelchair lift at the stage. No other accessibility related issues were noted.

Security

Aluminum operable windows have locking hardware. The school has a corridor located motion detection intrusion alarm and 3 cameras. Exterior doors have exit devices (panic hardware) and are locked to prevent unauthorized entry. The entry doors have an intercom with remote release. The Office /Reception area has visual control of the entry and the entry vestibule. Classroom door hardware does not have classroom side lock-down feature.

A FEW HAIRLINE CRACKS IN GLASS BLOCK MORTAR JOINTS

ROOF LEAKS AT MONITOR IN THE LIBRARY

STRUCTURAL

Purpose

The purpose of this report is to broadly describe the existing structure, comment on the structural integrity of the building and comment on the structural code issues related to any future renovations and expansions.

Basis of the Report

This report is based on visual observations during our site visit on October 13, 2014 and the structural design drawings for the 2001 addition. The design drawings relating to the original portion of the building were not available for review. During our site visit, the only finishes that were removed were a few ceiling tiles to verify the structural framing system; therefore, our understanding of the original portion of the structure is limited and may have to be further refined as the design of any renovation evolves.

Building Description

The original portion of the building was constructed in 1957 and a major addition/renovation was completed in 2001. The foundations of both the original building and the addition consist of cast-in-place concrete walls and footings, with the original portion including a basement boiler room. The pre-2001 portion of the building appears to be is framed with two separate structural systems. The two story classroom wing consists of a cast-in-place concrete pan-joist system supported by concrete columns and foundations. The administration wing, boiler room roof and gymnasium roof are framed with metal roof deck supported by steel girders and beams, and in turn are supported by structural steel columns. The 2001 classroom addition uses similar structural steel elements and incorporated diagonal steel bracing in the design to resist lateral loads. The 2001 addition also included an expansion of the gymnasium, which added an addition ridge frame system to match the original construction.

Lateral Force Resisting System

The 2001 addition included diagonal steel braced frames to resist the lateral wind and seismic forces. The addition is structurally independent from the existing building, as an expansion joint exists where the two portions of the building meet. There appears to be no deliberately designed lateral force resisting system as part of the original structural design, as it was constructed prior to 1973 when it became a requirement of the building code. The lateral loads for this portion of the building (wind loads, potential seismic forces) are resisted by the exterior and interior masonry walls.

Existing Conditions

There building appears to be in sound structural condition with no substantial structural defects.

Primary Structural Code Issues Related to the Existing Structure

If any repairs, renovations or additions are made to the structure, a check for compliance with the Massachusetts State Building Code (780 CMR, Chapter 34 "Existing Structures") is required. The intent of 780 CMR, Chapter 34 is to permit repairs, alterations, additions and/or a change of use without requiring full compliance with the code for new construction. However, depending on the scope of any proposed renovations, a comprehensive structural analysis may need to be performed to determine the impact on the existing structural system. Due to the fact that the lateral force resisting system of the original portion of the building is, by default, the interior and exterior masonry walls, any modifications to them will need to be thoroughly reviewed to determine if seismic upgrades to the lateral system are required as a result of proposed building alterations. If any future additions are planned for this building, they should be seismically isolated from the existing structure.

Summary

The existing structure appears to be in sound condition and is performing satisfactorily. A thorough investigation of the existing structure is required if, by nature of the proposed renovations:

1) The capacity of the lateral force resisting system is decrease (i.e. reduce the amount of, or configuration of the existing masonry walls;

2) There is an increase the seismic loads on the building (i.e. additional building mass in or on top of the structure, such as mechanical roof top units);

3) There is an increase the effects of the wind loads on the building (i.e. additional roof top mechanical units/roof screens or other projections collecting wind and transferring additional lateral forces to the existing masonry walls).

PLUMBING SYSTEMS

Plumbing Fixtures

Majority of the existing plumbing fixtures in place within the building are original. Some have been replaced with newer battery sensor type flush valves and lavatory faucets (Refer plumbing pic 1).

Water closets are floor mounted, vitreous china units with a mix of manual and battery sensor operated flush valves. Stall type urinals are no longer allowed and not compliant.

Some flush valves have been retrofitted with new Rubbermaid Retrofit Kits (battery sensor type flush valves), (Refer plumbing pic 1).

The Nurse's room sink is wall mounted with a dedicated eyewash station. Eye wash station is inoperable and the tempering water system is not functional (Refer plumbing pics 5 & 6).

Urinals in the toilet core rest rooms are vitreous china, wall hung units with manual operated flush valves. The flush valves are exposed in the room.

Lavatories are wall hung, vitreous china with hot and cold faucets that are either metering or manually operated. Some existing lavatories have been retrofitted with self-metering manual push down Chicago faucets (Refer plumbing pic 2).

The kitchen hand-washing sink is a stainless steel, wall hung unit with a hot and cold gooseneck spout faucet with wrist blade handles. Kitchen scullery sinks are floor standing, stainless steel with coved inside corners. Kitchen food prep sinks with or without food disposer requires an indirect waste (not hard connected) to assure no cross contamination with sanitary sewer and food upon any waste back up (Refer plumbing pic 3).

Classroom sinks are stainless steel, self-rimming single compartment basins with a swing spout faucet with separate hot and cold handles. Several of the existing classrooms have self-rimming stainless steel sink with standard manual type faucets. These require reducing and limiting the hot water to a maximum of 110 degrees F hot water to dispense at the faucets. Kindergarten class room sinks are not receiving hot water at a timely manner or temperature at their faucets.

Mop basins are floor type, molded stone units with hot and cold faucet with hot and cold handles and elevated vacuum breaker. Drinking fountains are a mix of stainless steel and vitreous china, non-recessed. Electric water coolers are bi-level units with push button activation. Exterior hose bibs are frost proof type.

There is no emergency eyewash/shower station located in mechanical room or nurse's room. Custodian's closet mop service basin faucet does not have any integral vacuum breakers (Refer plumbing pic 4).

Existing original core restrooms are outdated as far back as the original school building was constructed in 1957 and do not meet MAAB requirements.

Roof Storm Drainage

External roof drain systems are presently discharging into site storm boot systems.

Sanitary

The majority of the existing building sanitary waste system, which drains by gravity, is in good condition. The sanitary effluent discharges below grade to the site sewer drain distribution system.

Existing underground (buried) piping could be not be observed, however the entire underground (buried) sanitary sewer should be tested for any leakage, backup and pipe aging condition by executing static pressure tests and video camera inspections.

A dedicated grease waste line is not in place for the school building. Currently point of use internal floor recessed grease trap is collecting the grease laden effluent from the 3 pot sink.

The above ground sanitary drainage and vent for the school building is currently using cast iron hub and spigot joints (3" or larger). Piping smaller than 3 inch is piped using DWV copper pipe.

Domestic Cold Water Service

Insulation at most piping is of adequate thickness and in fair condition. Some insulation has been removed at locations where repairs have occurred. Some of this insulation was not replaced.

Piping is not adequately labeled throughout the building. Vacuum breakers are present at the majority of fixtures as required by code. Original 1957 construction gate valves are in fair condition. Ball valves installed during the 2001 remodeling are in good condition.

Valve tags are not present throughout the building. Piping is adequately supported where observed either by hangers or floor supports.

Hard water deposits were noted at multiple fixtures throughout the facility with the heaviest of the deposits being at the backflow preventers. The hard water deposits could be causing deterioration of the piping wall thickness throughout the facility.

The existing main domestic water supply enters the basement boiler room complete with one water meter assembly located within the boiler room. No backflow preventer present for the domestic potable water distribution side. No protected lawn and garden irrigation system or systems installed for site.

Existing boiler cold water make-up is currently being fed from reduced pressure-principle backflow preventers for HVAC equipment.

The domestic cold water piping distribution within the building supplying the original systems are distributed with "L" type copper tube with wrought or cast copper fittings. The majority of the piping is insulated to prevent condensation on piping and prevent deterioration of the pipe, to extend its life expectancy.

Domestic Hot Water Service

One gas fired storage water heater was installed in 2011, which is supplying the kitchen area fixtures and the remainder of the building.

There is an A.O. Smith model no. BTR-198-118 with 99 gallon storage, having 119 CFH gas consumption and a thermal efficiency of 80%. This heater provides hot water to cafeteria food service area and remainder of the school. Storage temperature is required to be a minimum of 140 degrees F. Temperature gauges not present to confirm. All other kitchen plumbing fixtures require having a minimum of

140 degree F hot water system. 120 degrees F. to be distributed to all entire building with the exception of tempered emergency water feeding emergency equipment.

The existing domestic hot water distribution system to the school building does have a hot water circulation system to the plumbing fixtures. Hot water piping heat trap is also missing. No dead legs were observed with more than 12" in length.

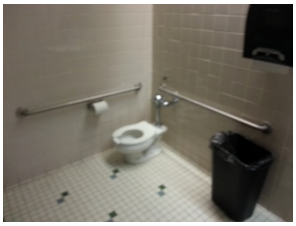
The existing domestic hot water is distributed in "L" type copper tube with wrought or cast copper fittings. The majority of the existing hot water (HW) piping is not insulated.

Natural Gas

A gas service location is present; this service enters the existing basement boiler room and feeds the gas fired boilers. It appears to be regulated down to low pressure (11" WC). The exterior pressure regulator and gas meter are mounted on the exterior of the building and supported by a concrete house pad. The gas meter and primary pressure regulator are owned by the gas utility company.

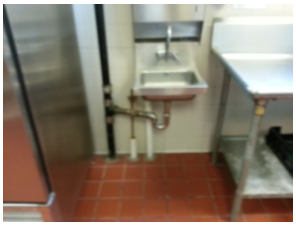
The basement boiler room gas supply currently feeds gas fired domestic water heater and the gas fired heating boilers. Food service equipment within the kitchen area is currently all electric operating.

The existing gas piping appears to be distributed in ASTM A53 schedule 40 black steel pipe.

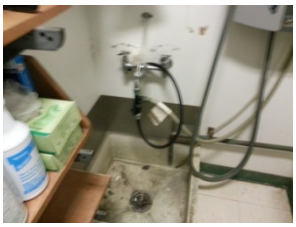


PLMBG. PIC 1

PLMBG. PIC 2



PLMBG. PIC 3



PLMBG. PIC 4

PLMBG. PIC 5

PLMBG. PIC 6

FIRE SPRINKLER SYSTEMS

Sprinklers

The school building is currently being served from a 6" fire service line from the street water main. Cross connection control is provided by use of a 4" double check valve assembly backflow preventer on the fire service as it enters the building located in the boiler room (Refer to fire protection pics 1, 2 & 3).

The entire school building appears to be fully protected throughout with a dry automatic fire suppression system.

A dry system has been observed with a dry alarm check valve riser located within the sprinkler room, providing coverage throughout the entire school (Refer to fire protection pic 1).

A fire department connection was not observed on the school building or site.

This system appears to have been designed in accordance with NFPA Standard 13, the Massachusetts State Building Code and the Westwood Fire Department requirements.

Sprinklers are supplied from a one zone control valve riser, consisting of a monitored shut-off valve and flow switch. Inspector's tests are provided at remote locations. The sprinkler zone control valves will report sprinkler flow to the fire alarm system on an entire building zone basis (below 52,000 sq. ft. requirement per zone), (Refer to fire protection pics 1).

Fire Protection System

Fire protection dry system piping was installed with schedule 40 (non-galvanized) piping with threaded fittings for piping sizes 2" and less and for sizes 2½" and larger, schedule 10 piping with roll grooved fittings and couplings are used.

All valves controlling the flow of water are equipped with supervisory devices that report to the Fire Alarm system.

Existing kitchen hood is not currently protected with a dry agent "Ansul R-102" packaged hood suppression type system (Refer to fire protection pic 4).

Dry system alarm check valve riser flow test information was not obtained from the test tag conducted by TYCO Sprinkler Grinnell dated Unk.:

- Static Pressure: Unk. psi
- Residual Pressure: Unk. psi
- Flow: Unk. GPM

School building was observed not having a fire pump present, nor is it being suggested one is required.

FIRE PROT. PIC 1

FIRE PROT. PIC 2

FIRE PROT. PIC 3

FIRE PROT. PIC 4

MECHANICAL

HVAC System

The HVAC systems for the entire school were upgraded in 2000 when the addition was built.

The boiler plant consists of three one million BTUH, Lochinvar Power Fin, condensing, hot water boilers. Each boiler has an individual 43 GPM primary pump and there are two 130 GPM secondary pumps to circulate water to the terminal equipment. The hot water is mixed with approximately 30% propylene glycol to prevent freezing of piping and coils located on the roof. The secondary pumps are on VFD drives.

The Classrooms are served by heating only unit ventilators (UVs). The Invensyis hot water control valves on the UVs reportedly all failed within five years, many were replaced and failed a second time. The controls are now by-passed and the valves manually set and left open.

There are four hot water heating and ventilating units that serve specific areas. The 4800 CFM cafeteria unit is located in an adjoining mechanical room. The 3600 CFM gymnasium unit is located in the storage room while the other two units serving the Library (2500 CFM) and 1650 CFM Elevator units are on the roof.

The office area is served by 1600 CFM five ton air handler above the ceiling with a remote condensing unit on the roof.

There are four toilet and eight general exhaust fans scattered across the roof at the time of the visit nine or ten of these were running. One of the fans that was not working served the boys, girls and faculty toilet rooms south of the library. The boys bathroom in particular smelled badly.

The art room is treated as a normal classroom with a UV and no special ventilation. The corridors have Runtal baseboard radiation.

The building was equipped with a Honeywell Direct Digital Control Energy Management System in 2000. This system is largely disabled at this time. As previously mentioned UV hot water control valves have been by-passed and teachers typically control room temperature by manipulating the fan. Somewhere along the line the head end computer was lost along with the resident programing.

ELECTRICAL SYSTEMS

A site visit was made on October 13, 2014 to review the existing electrical systems.

Electric Service

Existing electric service was recently upgraded. The new utility transformer secondary feeder is in good and operational condition. However, as it was brought

to our attention by Facilities, the utility service primary side does experience accidental failures a few times a year due to breaking the utility primary overhead wires. The Facilities expressed their desire to add the emergency generator supporting critical loads.

Power Distribution Equipment

The utility transformer secondary feeder runs underground towards the school building and terminates in the Main Switchboard (MSB) located in existing boiler room. The switchboard is manufactured by GE. It is rated at 120/208v 3 phase 4 wire system and equipped with an 800 Amp Main Circuit breaker (MCB). The switchboard appears to be in good and operational condition. The power service from the MSB is distributed to all sub-panels located throughout the school building.

The existing electric service capacity shall be adequate for current and future school program upgrades, based on existing service size and voltage configuration.

Majority of the sub-panels appear to be in good and operational condition, except for one of two panels located in the kitchen area.

All receptacles appear to be new and in good condition. A few receptacles in kitchen area were noticed to be non-GFCI which is not in compliance with the current electrical code (MEC).

Interior Lighting and Controls

Existing school lighting system consists mostly of fluorescent recessed-, pendant- and surface-mounted luminaries. All building lights appear to be new, in good and operational condition. Fluorescent linear lights are equipped with T8 lamps. Downlights are equipped with compact fluorescent lamps.

The typical classroom is equipped with three rows of recessed parabolic 3-lamp fluorescent 2'x4' luminaries and downlights with compact fluorescent lamps. All lights are controlled by three toggle switches. The 2'x4' 3-lamp fixtures are double-switched. There are no occupancy sensors.

All corridor lights are controlled by standard wall-mounted toggle switches. There are no occupancy sensors. The remaining school areas are controlled by local switches only.

Emergency Egress Lighting and Exist Signs

Existing emergency egress lighting system currently incorporates emergency battery units and remote light heads, and appears to be adequate. Existing exit signs are LED type.

Fire Alarm System

Existing fire alarm system is manufactured by Simplex. It appears to be new, except for the "older" Master box. In general, the quantity of initiating and signaling devices

appears to be adequate, and they are in good and operational condition. The existing fire alarm system is connected to Town alarm loop via exterior wall-mounted Master box, and it is hard-wired.

Exterior Lighting and Controls

Exterior building-mounted lights are provided at all egress doors and along the building perimeter. Roadways and parking lots are illuminated by bollards and pole-mounted lights, equipped with metal halide lamps. All exterior lights are controlled by four time clocks located adjacent to panel LP2 in the boiler room.

Major Electrical Concerns

1. One of Kitchen panels appear to be old/beyond its life expectancy. Power feeder associated with this panel is beyond its life expectancy (fig 1).
2. Kitchen receptacles are non-GFCI type and have no GFCI protections (circuit breakers) which is not in compliance with the current electrical code (MEC), (fig 2).
3. Existing lighting control system does not comply with the current energy code: there are no occupancy sensors, no daylight sensors, and no programmable lighting control system for interior lights.

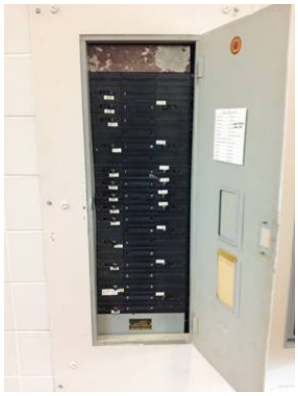


FIG 1: OLD PANEL

FIG 2: NON-GFCI RECEPTACLES

Communication Systems

The Martha Jones School is connected to the High School via fiber optic cable. The High School serves as the data and telephone service hub for the school district. Verizon FIOS is the primary Internet Service Provider (ISP). Comcast is the secondary (ISP).

Data communications in the Martha Jones School is equipped with a Communications Service Entrance/Data Room located within the custodian's office on the east side of the building and a data closet located in the new addition of the building near the library. The two rooms are connected via fiber optic cable. The

network equipment is rack mounted in secured rooms. There is no air conditioning in the data rooms, potentially reducing the useful life of the equipment.

All classrooms in the school have Wi-Fi access. Approximately 10% of the non-classroom spaces have limited Wi-Fi service. The current Wi-Fi coverage is adequate.

Every classroom will be equipped with a projector over the course of the current school year.

The telephone switch for the school is capable of transmitting and receiving both digital and analog signals. This equipment is installed in a closet adjacent to the gym. The telephone system performs adequately.

The voice and data cable infrastructure is a combination of Category 5 and 5e rated cable. Category 5 cable is no longer a recognized standard in the industry as it does not have the capacity to transmit data at the current industry standard of 1-Gigabit per second.

Cable TV over Verizon FIOS is available to the school however the CATV services are not distributed to the classrooms at this time.

The paging system is comprised of two-way speakers in every classroom. The corridors and common areas (i.e. gym, cafeteria) are equipped with one-way paging speakers. The system can be accessed via telephone, giving teachers the capability to make paging announcements from the classroom. The system is currently on a single All-Call zone with no capability of paging a single classroom or wing of the school. The Facilities Department is in the process of adding multiple zone capability to the system.

The clocks are operated by a master clock system and are in good working condition.

Security Systems

The Intrusion Detection System is comprised of door contacts at all exterior doors and Sonitrol sound detection devices distributed throughout. The detection system is armed and disarmed by use of a keypad. There is no card access system in the building. Three doors are equipped with proximity card readers. The doors and cards are programmed by the town.

The main entrance is locked during the day. Visitors press a button at the door to activate a two-way intercom and one-way video transmission to the attendant's desk in the main office. The attendant established verbal contact and is able to see who is at the door. Once the visitor is cleared for entry, the attendant remotely unlocks the door and the visitor enters the school.

The school has three IP-CCTV cameras used to monitor the exterior of the building.

Summary

1. The Category 5 station cabling and fiber optic backbone cable between the two data rooms do not perform at standards that newer equipment demands.

2. The two rooms are not air conditioned, potentially reducing the useful life of the equipment.

3. CATV service is available at the school but not distributed throughout the building.

4. The paging system is limited to all-call only.

5. Three doors are equipped with proximity card readers. The doors and cards are programmed by the Town.

6. The main entrance is equipped with a two-way intercom and one-way video transmission to the attendant's desk in the Main Office. The attendant established verbal contact and is able to see who is at the door. Once the visitor is cleared for entry, the attendant remotely unlocks the door and the visitor enters the School.

7. The School has three IP-CCTV cameras used to monitor the exterior of the building.

2.5 SHEEHAN ELEMENTARY SCHOOL

The following is a summary of the existing conditions at the Sheehan Elementary School. This report is based on our site visit on October 29, 2014.

SITE

Parking Lots/Access Drives

The total number of spaces 56 (55 standard spaces, 1 accessible space).

The east parking lot is in overall good condition. Bituminous pavement shows minimal wear and cracking, and striping is clearly visible. Lot does not have any perimeter curbing. Some areas have woods posts along the perimeter. Posts are aging, but do not appear to be deteriorating. Lot contains 31 parking spaces (all standard spaces).

The front parking lot/bus loop is in overall good-fair condition. Bituminous pavement shows some signs of wear and contains areas of minor cracking. More extensive fatigue cracking exists along the southern edge of the loop (where parallel parking spaces are) and in isolated areas. The concrete entrance and exit aprons are in poor condition and severely cracked. No curbing exists on either side of the loop, and some minor rutting/damage to lawn area south of spaces was observed. The area contains 9 parallel parking spaces (8 standard and 1 accessible space). Striping is clearly visible. The loop is one way (east to west), and signage prohibits cars from entering between 8:15-9:00 AM and between 2:30 – 3:00 PM.

The northwest parking lot and access drive (west of swing gates) is in overall fair-poor condition, except for the four (4) spaces that appear to have been re-paved recently. A majority of pavement contains significant fatigue cracking, and some potholes are beginning to form in isolated areas. The area contains 12 standard parking spaces, and striping is clearly visible. The area also serves as the loading/unloading area for dumpsters, and a metal storage container is also present.

The northwest parking lot (east of swing gates) in overall good condition. Bituminous pavement shows minimal wear and cracking, and striping is clearly visible. Lot contains 4 standard parking spaces.

Walkways

The bituminous walkway between the front bus loop and both the east parking lot and main bituminous play area is in overall good condition. The pavement shows minimal wear and cracking.

The bituminous walkway between the front bus loop and the front entrance to the west addition is in overall good-fair condition. The pavement shows some wear and minor seam cracking.

The bituminous walkway from the east parking lot to the bituminous rink is in fair condition, due to minor heaving and cracking.

The bituminous walkway that runs from the main bituminous play area to a northern portion of the grass playfields is in overall good condition. The pavement shows minimal wear and cracking.

The concrete walkway along Pond Street is in overall fair condition. The concrete shows some wear and deterioration and contains cracking.

The bituminous walkway from the northwest parking lot to the northwest building egress is in good-fair condition and shows some wear and minor cracking.

The bituminous walkway from the basketball courts to the sidewalk along High Street is in overall fair condition due to surface wear and transverse cracks.

Circulation

Pick-up and drop-off operations were not observed. Bus loading and unloading occurs in the front loop.

Accessibility

1. Parking
    a. The number of accessible parking spaces does not meet MAAB requirements. Three spaces are required, and only one is provided.
    b. Existing space is not compliant, as it does not provide safe zone for someone exiting or entering their vehicle.
2. Building Egress Points
    a. Several building egress locations are not accessible due to the presence of steps.
    b. Both front doors off of the bus loop are not accessible, due to steps. Handrail is non-compliant.
    c. Both doors that provide access to the eastern bituminous play area are not accessible.
    d. One door on north side of building is not accessible.
    e. Two doors on west side of building are not accessible.
3. Walkway - Detectable warning panels are missing from the following locations
    a. Walkway at High Street curb cut
    b. Walkway at all three Pond Street curb cuts (to east parking lot, entrance and exit to front bus loop).
4. Wood fiber play area is not accessible. There is no accessible path to the area, and accessible paths are not provided to play components.

Utilities

1. Drainage
    a. A portion of the roof runoff is surface discharged from downspouts near the two front stair entrances. Runoff from front parking lot/bus loop flows unmitigated to drainage system in Pond Street.
    b. Reports of drainage problem at exterior boiler room access noted. Observed area was filled with leaves, vegetation and debris. Did not observe the drain. It appears that a small portion of pavement at-grade contributes run-off to this area.
2. Sewer – School is connected to Town Sewer.
3. Water- No known issues with water distribution system.
4. Fire Protection – Two hydrants were observed in close proximity to the School. One is located on-site in the northwest parking lot, and the other is located on the opposite side of Pond Street near the entrance to the bus loop. The two locations provide adequate coverage for the School.
5. Electric & Telecommunications– Overhead electric enters the site and then transitions to underground at a pole adjacent to the eastern parking lot. No known site electric distribution issues.
6. Site Lighting – Site lighting is provided by building mounted fixtures and telephone pole mounted lights.

Play Areas

1. Main bituminous play area is in overall good condition. Pavement shows minimal wear and cracking.
2. Basketball Courts – Asphalt in overall fair/poor condition and contains significant cracking throughout. Stain and striping is still visible, but faded. Basketball hoop structures appear to be sound.
3. Playground consist of several types of play structures, installed on an engineered wood fiber surface. Area is bounded by plastic logs. The playground does not meet MAAB accessibility requirements, as there is no accessible path to the overall area, and there are not accessible paths to the various play components.
4. Bituminous rink (east school) is in overall poor condition and contains significant cracking throughout. Striping is still visible, but faded. Chain link fence surrounding area is overgrown and rusted in some areas.
5. Grass playfields are in overall good condition. Portions of the field do not meet MAAB accessibility requirements due to a lack of paved paths to seating areas and team benches.

Miscellaneous Site Features

The fenced in gardening and patio areas appears to be in good-fair overall condition. The brick pavers and bituminous pavement show minimal signs of wear and

cracking. The wood garden beds appear to be in fair condition, and the surrounding landscaping is in fair condition.

The concrete stairs at the two front entrances appears to be in overall fair condition due to age and surface deterioration.

FATIGUE CRACKING IN NORTHWEST PARKING AREA/ACCESS DRIVE

FATIGUE AND TRANSVERSE CRACKING AT BASKETBALL COURTS

LOWER LEVEL PIT/EGRESS AT BOILER ROOM CLOGGED WITH DEBRIS AND VEGETATION

NON-ACCESSIBLE FRONT ENTRANCE AND NON-COMPLIANT HANDRAILS

BLOCK AND FATIGUE CRACKING AT CONCRETE ENTRANCE APRONS

NO ACCESSIBLE ROUTES PROVIDED TO THE WOOD-FIBER PLAY AREA AND STRUCTURES

ARCHITECTURE

SMMA visited the site on the afternoon of October 20, 2014. The weather was mild and sunny. The school facility consists of a three story load bearing masonry structure school building constructed in 1948, and a two level load bearing masonry and steel column addition constructed in 1967. The original building has a shingle covered gabled roof over the three story center part and flat roofs on the wings to each side. The 1967 addition has a low sloped roof over the classrooms and cafeteria, and a gabled roof over the gymnasium. This school is the largest of five elementary schools at approximately 49,586 GSF and has 373 students in grades K-5. The facility faces south to Pond Street and the front drive loop is used for bus drop-off and pick-up and visitor parking. At the building front, there are two small covered porches with landings at the mid-level between the first and second floors. There is an accessible entry on the west side, but it's not visible from the main entry. Grade level accessible entries are provided at several locations around the 1967 addition. The staff and teacher parking lot is on the west side. There is a paved play area on the west side between the building and the teacher parking lot. The playing fields are north and west of the facility. The service entry and drive is located on the east side, and there is parking for staff at this location. Trash containers are not visible from Pond Street.

Enclosure

The central part of the 1948 building and the 1967 gymnasium have medium pitched asphalt shingle roofs, the remainder of the roofs are low sloped rubber with gravel cover. Gable roofs drain to gutters and leaders drain to site storm system. There is some leakage from the leaders above the front canopies. The low slope roofs drain internally. There is some noticeable deterioration of the roof membrane. No ponding was observed. The shingle roofs appear to be in good condition. The 1948 building has load bearing brick and cast stone walls. The gabled end walls of the three story part form sloped parapets with chimneys at each end. Brick work appears to be in good condition although some deterioration of mortar exists and may require repointing in the future, especially on the west side of the 1948 building. The 1967 addition exterior is load bearing masonry wall with brick veneer. Windows in the 1948 building are awning style single glazed steel frames with glass block above. The steel frames are in poor shape, seriously rusted, leak, and cannot be repaired. The openings in the 1967 addition are fixed and single hung non-insulated aluminum windows and storefront.

Interior

The interior partitions in the 1948 building are painted masonry and are in fair to good condition. The 1967 additions partitions are painted CMU. Some wall cracks are visible. The 1967 kitchen, restrooms, and stairwells have ceramic tile wainscot. Floor covering in the 1948 building is vinyl asbestos tile in the corridors and classrooms and ceramic tile in restrooms. The 1967 addition has vinyl composition tile flooring in the corridors and classrooms and ceramic tile in restrooms. The

kitchen has quarry tile floor and base. Door frames in both buildings are typically hollow metal. The interior wood doors in both buildings are in poor condition. The hardware is also in poor condition. Ceilings in the 1948 building are typically exposed concrete waffle slab painted white with pendant light fixtures. The 1967 addition has acoustic ceiling tiles with recessed light fixtures. Classroom casework is in poor condition in the 1948 building and in good to fair condition in the 1967 addition. Wooden corridor hanger racks for the student coats and backpacks do not have compartments to separate students' coats. The boy's toilet on the second level of the 1948 building is being used as a storage room. The attic is also used for storage. Science classroom casework in the 1948 building is in poor condition.

Circulation

The exterior concrete stairs in the 1948 building do not have guards with handrail extensions and an intermediate hand rail. There is a step at the threshold. Interior concrete stairs in the 1948 building do not have 42" high guards, handrail extensions, and have abrupt stair nosings. Ramps have handrails. Stairs in the new building have terrazzo treads and landings with non-compliant stair nosings. The pickets are non-compliant, handrails are not continuous and do not have extensions. Stairs do not have 42" high guards between stair runs and at upper landing. There is an elevator in the 1967 addition connecting the first and second floors. The third level in the 1948 building is not accessible.

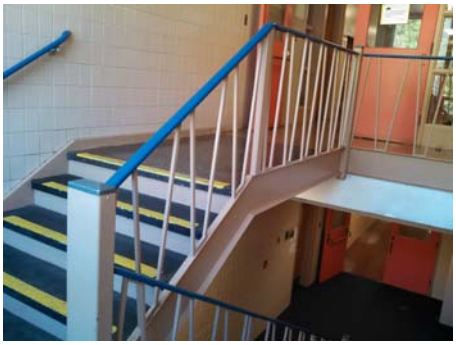
Accessibility

The 1948 building is only accessible through the 1967 addition. The first floor is accessible by ramp from the addition. The second floor of the 1948 building is accessible by ramp from the addition and elevator. There are no power door operators located at the accessible entry on the accessible route to the building. Interior door hardware is combination of knob and some lever handles. Elevator cab will accommodate a wheel chair, but is not sized for a gurney. Restrooms are accessible in the 1967 addition. The 1948 building does not have accessible toilets. Other non-compliant items are:

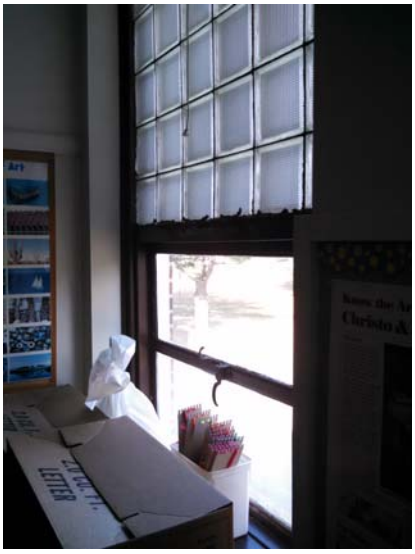
- Insufficient maneuvering space at some locations.
- Classroom sinks not compliant
- Not all toilets are accessible
- Missing signage
- Drinking fountains in the 1948 building
- Thresholds exceed ½" at some openings
- Stair and ramp handrails are not compliant
- Projection into walkway space exceeds limits.
- Access to cafeteria stage

Security

Aluminum and steel operable windows have locking hardware. Some of the steel window frames are rusted and latches are not secure. Exterior doors have exit devices (panic hardware) and are locked to prevent unauthorized entry. The school has a corridor located motion detection intrusion alarm. The entry doors have an intercom with remote release. The Office /Reception area is remote from the main entries, and does not have visual control of the entry and the entry vestibule. Outside the locked doors there is no other means to detect or prevent unauthorized entry. Classroom door hardware does not permit lock-down without the teacher leaving the classroom.



NON-COMPLIANT STAIR GUARD AND HAND RAILS



RUSTING STEEL FRAME WINDOWS IN GLASS BLOCK

STRUCTURAL

Purpose

The purpose of this report is to broadly describe the existing structure, comment on the structural integrity of the building and comment on the structural code issues related to any future renovations and expansions.

Basis of the Report

This report is based on visual observations during our site visit on October 13, 2014 and from structural design drawings from 1948 and drawings of the addition dated May 3, 1967.

Building Description

The original portion of the school is framed primarily by a cast-in-place concrete waffle slab system supported by perimeter masonry walls and interior steel girders and columns. The sloped roof above the attic space is framed with wood rafters supported by wood bearing partitions and steel trusses. The foundation consists of cast in place concrete walls and concrete spread footings. The two story addition is framed with structural steel beams and girders. At the classroom wing, the elevation floor slab consists of 4" composite slab (2½" concrete on 1½" metal deck), with 1½" metal roof deck at the roof level. The roof of the cafetorium is framed with 1½" roof deck on long-span open web steel joists, supported by steel girders and columns. The framing of the gymnasium roof consists of steel trusses that support steel purlins, and in turn, the 1½" metal roof deck.

Lateral Force Resisting System

There appears to be no deliberate designed lateral force resisting system as part of the original structural design or the addition. Currently, lateral loads (wind loads, potential seismic forces) are resisted by the exterior and interior masonry walls. This is fairly typical of school structures built in this time period, as deliberate designed lateral force resisting systems (i.e. shear walls, brace frames, moment frames) were not addressed by the building code until 1973.

Existing Conditions

The building appears to be in sound structural condition with no substantial defects. Several of the wood members in the attic have water stains, but none of the observed members showed any signs of rot or decay. It appears that any water infiltration issues in this space were resolved in a timely manner such that integrity of the structural members remains relatively unaffected. A few minor cracks were observed in the CMU walls at a few locations in the addition.

Primary Structural Code Issues Related to the Existing Structure

If any repairs, renovations or additions are made to the structure, a check for compliance with the Massachusetts State Building Code (780 CMR, Chapter 34

"Existing Structures") is required. The intent of 780 CMR, Chapter 34 is to permit repairs, alterations, additions and/or a change of use without requiring full compliance with the code for new construction. However, depending on the scope of any proposed renovations, a comprehensive structural analysis may need to be performed to determine the impact on the existing structural system. Due to the fact that the lateral force resisting system of the structure is, by default, the interior and exterior masonry walls, any modifications to them will need to be thoroughly reviewed to determine if seismic upgrades to the lateral system are required as a result of proposed building alterations. If any future additions are planned for this building, they should be seismically isolated from the existing structure.

Summary

The existing structure appears to be in sound condition and is performing satisfactorily. A thorough investigation of the existing structure is required if, by nature of the proposed renovations:

1) The capacity of the lateral force resisting system is decrease (i.e. reduce the amount of, or configuration of the existing masonry walls;

2) There is an increase the seismic loads on the building (i.e. additional building mass in or on top of the structure, such as mechanical roof top units);

3) There is an increase the effects of the wind loads on the building (i.e. additional roof top mechanical units/roof screens or other projections collecting wind and transferring additional lateral forces to the existing masonry walls).

PLUMBING SYSTEMS

Plumbing Fixtures

Majority of the existing plumbing fixtures in place within the building are original. Some have been replaced with newer battery sensor type flush valves and lavatory faucets (Refer plumbing pic 1).

Water closets are floor mounted, vitreous china units with a mix of manual and battery sensor operated flush valves. Stall type urinals are no longer allowed and not compliant.

Some flush valves have been retrofitted with new Rubbermaid Retrofit Kits (battery sensor type flush valves), (Refer plumbing pic 1).

The Nurse's room sink is wall mounted lavatory without any eyewash station. Eye wash station is inoperable and the tempering water system is not present.

Urinals in the toilet core rest rooms are vitreous china, wall hung units with manual operated flush valves. The flush valves are exposed in the room.

Lavatories are wall hung vitreous china with hot and cold faucets that are either metering or manually operated. Some existing lavatories have been retrofitted with self-metering manual push down Chicago faucets (Refer plumbing pic 2).

The kitchen hand-washing sink is a stainless steel, wall hung unit with a hot and cold gooseneck spout faucet with wrist blade handles. Kitchen scullery sinks are floor standing, stainless steel with coved inside corners. Kitchen food prep sinks with or without food disposer requires an indirect waste (not hard connected) to assure no cross contamination with sanitary sewer and food upon any waste back up (Refer plumbing pic 3).

Classroom sinks are stainless steel, self-rimming single compartment basins with a swing spout faucet with separate hot and cold handles. Several of the existing classrooms have self-rimming stainless steel sink with standard manual type faucets. These require reducing and limiting the hot water to a maximum of 110 degrees F hot water to dispense at the faucets. Kindergarten class room sinks are not receiving hot water at a timely manner or temperature at their faucets.

Mop basins are floor type, molded stone units with hot and cold faucet with hot and cold handles and elevated vacuum breaker. Drinking fountains are a mix of stainless steel and vitreous china, non-recessed. Non-electric water coolers are single level units with push button activation. Several existing water drinking fountains (non-chilled) on each floor do not include alcove-recessed with high-low handicapped accessible configurations (Refer plumbing pic 5).

Exterior hose bibs are frost proof type. There is no emergency eyewash/shower station located in mechanical room or nurse's room.

Custodian's closet mop service basin faucet does not have any integral vacuum breakers (Refer plumbing pic 4).

Existing original core restrooms are outdated as far back as the original school building was constructed in 1957 and do not meet MAAB requirements.

Roof Storm Drainage

No internal existing roof drains system for this school to report on. The existing pitched roof storm gutter system (external) currently discharges to site storm boots along the exterior walls of the school. Refer to area drain write up with in the sanitary section of this report.

Sanitary

The majority of the existing building sanitary waste system, which drains by gravity, is in poor condition. The sanitary effluent discharges below grade to the site sewer drain distribution system.

A duplex ejector (storm) was observed for ejecting ground/storm water. Observation could not be made at time of site visit for the boiler room entrance areaway drain due to debris covering up the entire areaway (Refer plumbing pic 3).

Existing underground (buried) piping could be not be observed, however the entire underground (buried) sanitary sewer should be tested for any leakage, backup and pipe aging condition by executing static pressure tests and video camera inspections.

A dedicated grease waste line is not in place for the school building. Currently point of use internal floor recessed grease trap is collecting the grease laden effluent from the 3 pot sink.

The above ground sanitary drainage and vent for the school building is currently using cast iron hub and spigot joints (3" or larger). Piping smaller than 3 inch is piped using DWV copper pipe.

Area drain could not be observed or verified if it ties back into the boiler room duplex sump basin. Areaway retention wall and surrounding grading is pitching towards the building. If it ties back into building this would be required to discharge into the sanitary drain system (Refer plumbing pic 8 and 9).

Domestic Cold Water Service

Insulation at most piping is of adequate thickness and in bad condition. Some insulation has been removed at locations where repairs have occurred. Some of this insulation was not replaced. Piping insulations are not present throughout the entire boiler room.

Piping is not adequately labeled throughout the building and vacuum breakers are present at the majority of fixtures as required by code. The original 1948 construction gate valves are in bad condition but the ball valves installed during the 1967 remodeling are in fair condition.

Valve tags are not present throughout the building. Piping is adequately supported where observed either by hangers or floor supports.

Hard water deposits were noted at multiple fixtures throughout the facility with the heaviest of the deposits being at the backflow preventers. The hard water deposits could be causing deterioration of the piping wall thickness throughout the facility.

The existing main domestic water supply enters the basement boiler room complete with dual water meter assemblies. No backflow preventer present for the domestic potable water distribution side. The other water meter assembly feeds the protected lawn and garden irrigation system.

Existing site irrigations systems are currently being fed from reduced pressure-principle backflow preventer located within the food service cafeteria area. Existing

boiler cold water make-up is currently being fed from reduced pressure-principle backflow preventers for HVAC equipment.

The domestic cold water piping distribution within the building supplying the original systems are distributed with “L” type copper tube with wrought or cast copper fittings. The majority of the piping is not insulated to prevent condensation on piping and deterioration of the pipe life expectancy. Exterior non-freeze wall hydrants are beyond their life expectancy (Refer plumbing pic 6).

Domestic Hot Water Service

One electric water heater was installed in 2010, which is being for the kitchen area fixtures. The remainder of the building is being supplied by cold water only.

The unit is a RUUD “Ruudglas Pacemaker” model no. PE2-80-2 with 80 gallon storage, having 240/208 volts / 4.5/3.38 KW. This water heater is missing a thermostatic hi/lo mixing valve station. This heater provides hot water to cafeteria food service area. Storage temperature is required to be a minimum of 140 degrees F. Temperature gauges not present to confirm. All other kitchen plumbing fixtures require having a minimum of 140 degree F hot water system. Electrical shut off switch panel appears to be too close to water piping. Refer to electrical report for determination.

Cafeteria employee hand wash sink hot water is being fed from a point of use electric water heater and shall not exceed a maximum of 110 degrees F.

The existing domestic hot water distribution system does not have a hot water circulation system to any plumbing fixtures. Heater would require a hot water piping heat trap; none currently present (Refer plumbing pic 5). No dead legs were observed with more than 12” in length.

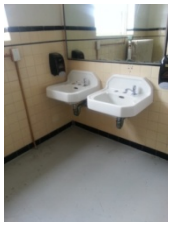
The existing domestic hot water is distributed in “L” type copper tube with wrought or cast copper fittings. The majority of the existing hot water (HW) piping is not insulated.

Natural Gas

One new gas service location is present. Service enters the existing basement boiler room and is regulated down to low pressure (11” WC). The exterior pressure regulator and gas meter are mounted on the exterior of the building and supported by a concrete house pad. The gas meter and primary pressure regulator are owned by the gas utility company.

The basement boiler gas supply currently feeds only the gas fired heating (HVAC) boilers. The existing gas piping appears to be distributed in ASTM A53 schedule 40 black steel pipe.

PLMBG. PIC 1



PLMBG. PIC 2

PLMBG. PIC 3

PLMBG. PIC 4

PLMBG. PIC 5

PLMBG. PIC 6

PLMBG. PIC 7

PLMBG. PIC 8

PLMBG. PIC 9

FIRE SPRINKLER SYSTEMS

Fire Protection System

There are no existing Fire Sprinkler Systems.

MECHANICAL

HVAC System

The building is heated via two Weil McLain 1188, cast iron, and steam boilers with a gross input of 3392 MBH each. The exact age of the boilers is unknown but they are in fair to good condition. The burners are dual fuel gas and oil, however the oil tanks have been removed and the boilers run exclusively on gas at the present time. The condensate receiver/boiler feed tank is uninsulated. A few of the steam traps were replaced last year but most of the terminal equipment traps are in need of servicing or replacement.

The original 1947 wing of the school is heated by directly by the steam. The newer 1967 wing is heated via a steam to hot water heat exchanger. The hot water is circulated by one of two base mounted centrifugal pumps. One of three expansion tanks has been abandoned in place. Missing pipe insulation around the heat exchanger and pumps is evidence of past maintenance.

Controls in the building are pneumatic and the compressor system was replaced two years ago. While the pneumatics work better in this school than most still much of the control on the terminal equipment is non-functional.

It has been reported that the water in the district is very corrosive and particularly at the Sheehan School it “eats” the pipe.

Visible insulation has been abated however it is assumed that insulation on concealed pipes will contain asbestos.

The heating and ventilation delivery in the 1947 wing is via ancient Herman Nelson unit ventilators with steam heat. While the fans typically run quietly the heating and outside air damper control are other issues. The dampers are typically non-functional and frozen into an open position. Most of the pneumatic controls are non-functional and there is evidence that the teachers often control temperature by manually disabling the fan when the room gets warm and then starting it again as the temperature drops.

The unit ventilators in the 1967 wing are American Air Filter (AAF) and hot water heated. Problems with the dampers and temperature control are similar to the Herman Nelson units.

Exhaust grilles in the ceiling of the coat cubby room in both wings were intended to remove excess air introduced by the unit ventilators. Virtually all of the exhaust fans are original or at least 20 year old. Several of the exhaust fans were not functioning at the time of the visit.

ELECTRICAL SYSTEMS

A site visit was made on October 13, 2014 to review the existing electrical systems.

Electric Service

Existing electric service initiates from existing utility pole-mounted transformer located adjacent to the school building. The transformer secondary extends via underground raceway system towards the existing Main Electric/Boiler room located in the school basement (ground floor). No issues related to outdoor service installation were observed.

Power Distribution Equipment

The utility transformer secondary feeder terminates in a 600 Amp Main Service Circuit Breaker, recently replaced. It is in good and operational condition. The service from the main circuit breaker extends to the main power distribution equipment (number of panels and breakers) located in the same room and throughout the building. All panels and circuit breakers (other than the main service breaker) are “old”, manufactured by Federal Pacific, appear to be in poor condition, but operational. It is assumed that all feeders to all panels throughout the building are “original”.

The existing electric service capacity shall be adequate for the current building program and building systems’ load, however, it may not be sufficient for any future school upgrades or building additions.

Most of the new elementary schools with partial air conditioning are designed for approximately 7-9 W/SF, while the existing Sheehan Elementary school’ s electrical

service can support approximately 3.5-4 W/SF based on existing electrical service size, voltage configuration and building SF size.

The majority of receptacles appear to be “original”. It is assumed that branch wiring feeding receptacles is also “original”. Receptacles in kitchen area were noticed to be non-GFCI which is not in compliance with the current electrical code (MEC). Non-GFCI receptacles and extension cords with non-GFCI outlets were observed in classrooms in close proximity to sinks.

Quantities of receptacles in classrooms appear to be inadequate, and therefore multiple pieces of equipment are plugged into the same receptacles utilizing plug strips.

The on-going issue of “arcing receptacles” was brought to our attention by Facilities. Apparently, during “plugging-in and unplugging” of the computer charging carts, the utilized receptacles “arc”, which leads to their continuous damaging following by their failing and replacement.

We were told that this school is one of two Westwood schools with large food refrigeration capacity, which advocates for the generator need.

Interior Lighting and Controls

The existing school lighting system consists of combination of “old” surface-mounted wraparound fixtures and pendant-mounted fluorescent wraparound and parabolic blade fixtures, and “replaced” surface- and pendant-mounted fluorescent wraparound fixtures. Attic has a few “old” incandescent lights. There are also some “newer” recessed lensed 2’x4’ fluorescent fixtures located mostly in the kitchen and library area. Overall, there is currently more of the “old” than “replaced” lights in the building. All fluorescent lights were recently retrofitted with T8 lamps and matching ballasts.

In general, lighting system provides adequate illumination levels throughout, except for Gym and Cafeteria. Gym is equipped with two different styles of lighting fixtures containing metal halide lamps. Lighting levels appears to be inadequate. Cafeteria lighting is a combination of 4’x4’ surface-mounted 6-lamp lights and retrofitted downlights, switched separately by toggle switches. Lighting levels appears to be inadequate. The “performance” lighting at stage are consists of two incandescent directional lights, switched only. There are no occupancy sensors in the building.

A typical classroom in 1967 building addition is equipped with four continuous rows of surface-mounted wraparound 2-lamp fixtures, controlled by three toggle switches in “by-row” manner. A typical classroom in “original” building area consists of two continuous rows of either surface- or pendant-mounted wraparound fixtures (this is the “replaced” version) or linear fluorescent fixtures with parabolic blades (“old” retrofitted lights). All classroom lights in “original” building are controlled by toggle switches in “by-row” manner.

All corridor lights are controlled by local switches. All other school spaces are controlled by local switches only.

Emergency Egress Lighting and Exist Signs

Existing emergency egress lighting system currently incorporates emergency battery units and remote light heads. In general, it appears to be adequate in most of locations, however, some areas need additional emergency lighting.

Existing exit signs concept and layout does not comply with code: many exist signs are not self-illuminating (printed), and there are locations in the building where exit signs are missing.

Fire Alarm System

Current fire alarm system is a “retrofitted original” – it’s a combination of “older” and “newer” fire alarm equipment and wiring. Smoke detection coverage appears to be inadequate for buildings without proper fire protection system (sprinklers). Quantity of signaling devices (horn/strobes and strobe only devices) appears to be insufficient as well. There are no signaling devices in classrooms. The FACP and the FA remote annunciator appear to be new, addressable, LCD type, manufactured by Fire-Lite Alarms/Honeywell. The retrofitted fire alarm system is connected to Fire Department via interior Radio Master Box and exterior antenna. The “old” exterior wall-mounted Master box appears to be abandoned in its existing location.

Exterior Lighting and Controls

Exterior building-mounted lights are provided at egress doors and along the building perimeter. Lighting fixtures appear to be in good operational condition, but not full cutoff distribution type. The lights are controlled via time clock.

Two flood lights are installed on the utility pole and serve as the school side parking lot lighting. It appears to be adequate, in good operational condition, although not of the full cutoff distribution type. Some further review in regards of the exterior parking lot lighting types, appropriate locations and controls is required.

Major Electrical Concerns

1. Majority of power distribution panels are old/beyond their life expectancy, and some panels became obsolete. Power feeders associated with “old” panels are beyond their life expectancy (fig 1).

2. Existing exit signs concept and layout does not comply with code: many exist signs are not self-illuminating (printed), and there are locations in the building where exit signs are missing (fig 2).

3. Receptacles near sinks and kitchen receptacles are non-GFCI type and have no GFCI protections (circuit breakers), which is not in compliance with the current electrical code (MEC).

4. Quantities of receptacles in classrooms and similar educational spaces are inadequate. Majority of receptacles and associated wiring appear to be beyond their life expectancy.

5. Emergency lighting in some areas is inadequate (ground floor spaces).

6. Fire alarm coverage (initiating and signaling devices) is inadequate (administration area, corridors, attic, etc.).

7. Existing lighting control system does not comply with current energy code: there are no occupancy sensors or programmable lighting control system, and there are no daylight sensors either.

FIG 1: OLD PANELS

FIG 2: EXISTING EXIT SIGNS

FIG 3: RECEPTACLES NEAR SINKS

Communication Systems

The Sheehan School is connected to the High School via fiber optic cable. The High School serves as the data and telephone service hub for the School District. Verizon FIOS is the primary Internet Service Provider (ISP). Comcast is the secondary (ISP).

The Sheehan School is equipped with a locking Communications Equipment Cabinet located in the library. The library is air conditioned using a window mounted unit. This same unit is the cooling source for the Communications Equipment Cabinet and will not be adequate as higher capacity equipment is introduced into the school.

All classrooms in the school have Wi-Fi access. Approximately 10% of the non-classroom spaces have limited Wi-Fi service. The current Wi-Fi coverage is adequate. Every classroom will be equipped with a projector over the course of the current school year.

The telephone switch for the school is capable of transmitting and receiving both digital and analog signals and it performs adequately.

The voice and data cable infrastructure is a combination of Category 5 and 5e rated cable. Category 5 cable is no longer a recognized standard in the industry as it does

not have the capacity to transmit data at the current industry standard of 1-Gigabit per second.

Cable TV over Verizon FIOS is available to the School however the CATV services are not distributed to the Classrooms at this time.

The paging system is comprised of speakers in every classroom. There are no speakers in the corridors or common areas (i.e. gym, cafeteria). The system is currently on a single All-Call zone with no capability of paging a single classroom or wing of the school. Teachers have paging capability from the classroom using the telephone interface.

The clocks are wireless. They are operated from a central master control that sets time using GPS technology and the system is in good working order.

Security Systems

The Intrusion Detection System is comprised of door contacts at all exterior doors and Sonitrol sound detection devices distributed in the Corridors only. Rooms with windows to the exterior are not equipped with sound or motion detection devices leaving them vulnerable to intrusion. The detection system is armed and disarmed by use of a keypad. There is no card access system in the building.

The Main Entrance is locked during the day. Visitors press a button at the door to activate a two-way intercom and one-way video transmission to the attendant's desk in the Main Office. The attendant established verbal contact and is able to see who is at the door. Once the visitor is cleared for entry, the attendant remotely unlocks the door and the visitor enters the School.

The School has been wired for three IP-CCTV cameras.

Summary

1. A single locking Communications Equipment Cabinet located in the Library. The Library is air conditioned using a window mounted unit. This same unit is the cooling source for the Communications Equipment Cabinet and will not be adequate as higher capacity equipment is introduced into the school.

2. The Category 5 cable infrastructure does not perform at standards that newer equipment demands.

3. The paging system currently serves classrooms only. Corridors and public areas do not receive announcements. Paging is limited to all-call only.

4. The clock system is operated from a central master control that sets time using GPS technology.

5. CATV service is available at the school but not distributed throughout the building.

6. There is no card access system in the school.

7. The main entrance is equipped with a two-way intercom and one-way video transmission to the attendant's desk in the Main Office. The attendant established verbal contact and is able to see who is at the door. Once the visitor is cleared for entry, the attendant remotely unlocks the door and the visitor enters the School.

8. The school is wired for three CCTV camera locations.

2.6 THURSTON MIDDLE SCHOOL

The following is a summary of the existing conditions at the Thurston Middle School. This report is based on our site visit on October 29, 2014.

SITE

Parking Lots/Access Drives

The total number of on-site parking spaces is 109 (104 standard spaces, 5 accessible spaces).

The east parking loop and parent queuing access drive is in overall good-fair condition. The bituminous pavement shows some minor wear and there are some isolated areas of mild fatigue cracking. The striping is clearly visible. The lot contains 14 perpendicular parking spaces and 39 angled parking spaces for a total of 53 parking spaces (48 standard spaces and 5 accessible spaces). Curbing along the east side of lot consists of bituminous curb in overall fair-poor condition due to plow damage (some pieces are broken and missing). Curbing along the west side and throughout the island is concrete curb in overall fair condition due to plow damage and deterioration in some areas. The area also serves as the dumpster loading/unloading and service area. The school does not have a loading dock. There is some pavement rutting in front of the dumpster area. There is no vertical curbing or bollards in front of the main entrance at the north end of this area and at the three (3) accessible parking spaces at the south end of this area.

The front bus loop/parking area (west of the building) is in overall good condition. The bituminous pavement shows minimal wear and cracking. Striping is clearly visible. Vertical granite curbing lines the east side of the area, as well as a portion of the west side near both the south entrance and north exit to the site. The granite curbing is in overall good condition. A portion of the remaining west side has no curbing, while the remaining portion where the parallel parking spaces are, has low profile bituminous berm that is in fair condition due to wear from plows. The area contains 27 perpendicular parking spaces, 17 parallel parking spaces, and 12 angled parking spaces, for a total of 56 spaces. The loop is one-way, and signage prohibits car traffic from the area in front of the building from 7:15-8:00 AM and from 1:00-4:00 PM.

Walkways

The bituminous walkway along the perimeter of the front bus loop is in overall good condition, showing minor wear and cracking A portion of the walkway at the southern end of the loop is concrete, and is in overall good-fair condition, showing some wear in parts. The remnants of a metal base of a parking sign was observed sticking out of the ground, adjacent to portion of concrete walkway, and poses a safety and tripping hazard.

The concrete walkway along High Street is in overall fair condition, showing some deterioration and cracking.

The bituminous plazas in front of the school are in overall good condition, showing only minor wear. The concrete sidewalk on the north end of the east parking loop is in overall good-fair condition, showing some wear. The bituminous walkway along the east edge of the east parking loop is in overall good condition, showing only minor wear. The bituminous walkway around the north edge of the school is in overall good condition, showing only minor wear.

Circulation

Pick-up and drop-off operations were not observed. Buses utilize the designated one-way loop on the west side of the school. Parent's drop-off and pick-up in the designated queuing area in the east parking loop.

Accessibility

1. Parking – There are five (5) accessible parking spaces provided on-site, which meets MAAB requirements for the 109 total parking spaces. There are no accessible parking spaces provided in close proximity to the main front egress on the west side of the building. The three accessible spaces just south of the gymnasium are not located near one of the main egress points on either the west or east side of the building. There is no curbing or wheel stops provided at the end of any of the accessible parking spaces.
2. Building Egress points –
    a. The southern front building egress is not accessible due to steps.
    b. Cafeteria (?) door on east side of building is not accessible due to step and lack of edge protection.
    c. The egress at the northeast corner of the modular building is not accessible due to stairs.
3. Walkways
    a. The walkway along High Street lacks detectable warning strips in three locations.
    b. A portion of the walkway along the front bus loop/parking area north of the school exceeds MAAB slope requirements and does not have a handrail. Where the walkway crosses the parking area for the old School House, there is no detectable warning strips provided.
    c. Where the front bus loop walkway intersects the entrance to the east parking loop, both curb cuts lack detectable warning strips.
    d. The concrete sidewalk on the north end of the east parking loop lacks detectable warning strips at the flush areas adjacent to parking spaces.
    e. The flush walkway area in front of the three accessible parking spaces (south end of the east parking loop) does not contain any detectable warning strips.

Utilities

1. Drainage
   a. It appears that runoff from the entire front bus loop/parking area discharges unmitigated and untreated to the Nahatan and High Street drainage systems.
   b. Some roof drains within the southern courtyard area discharge above grade. Pit to lower level egress appears very damp.
   c. No other known flooding or drainage issues.
2. Sewer – School is connected to Town Sewer. No known issues or concerns with sewer distribution.
3. Water- No known issues or concerns with water distribution system.
4. Fire Protection – Two hydrants observed within 300' of the school (one west of the building on High Street and one southeast of the building adjacent to the east parking loop). A majority of the north side of the building is beyond 300' from the closest hydrant, and therefore hydrant coverage appears to be inadequate.
5. Electric/Telecommunications – No known site electrical or telecommunication issues.
6. Gas – Natural gas service is available at the school. Gas pipeline markers were observed running across a portion of the grass playfields. The gas meter is located on the west side of the building.
7. Lighting – Site lighting consists of telephone pole mounted lights and building mounted fixtures. No known site lighting issues.

Play Areas

The grass playfields and associated structures (backstops, fences, bleachers, goals, etc.) appear to be in overall good condition. There is a paved path along the southwest perimeter of the fields, but no accessible paths around the remaining portions of the field or to the team benches and spectator seating areas. Therefore, the play fields lack full MAAB compliance.

Miscellaneous Site Features

The concrete ramps and landings on the east side of the building are in fair condition, and show some signs of deterioration and cracking.

PAVEMENT RUTTING AT DUMPSTER AREA

CONCRETE CURB DAMAGE/DETERIORATION NEAR NORTHEAST ENTRANCE

LACK OF CURBING, WHEELSTOPS AND BOLLARDS AT NORTHEAST ENTRANCE

WALKWAY ALONG FRONT BUS/PARKING LOOP THAT EXCEEDS MAAB SLOPE REQUIREMENTS

CURB RAMP LACKING DETECTABLE WARNING STRIP AT INTERSECTION OF FRONT BUS LOOP AND PARENT QUEUE LOOP

ARCHITECTURE

SMMA visited the site late afternoon of October 23, 2014. The weather was cool and raining. The school facility consists of a multi-level school building constructed in 1939 and renovated and added to in stages with the most recent work done in 2009. The multiple additions to the school have not been consistent with the original design for the school and only addressed the functional and educational needs of the school. The building area is approximately 92,278 GSF and has 798 students in grades 6-8. The building faces west towards High Street and has a tower structure that houses a cell phone communication antenna. The bus lane is in front of the school is shared with visitor parking. Staff and teacher parking and service drive are on the east side or rear of the building. The main entry is at grade level and identified by the large canopy, but it is remote from the administration office. Other entries around the building are at grade level. The playing fields are to the north and east of the school. The service area is not visible from High Street.

Enclosure

The facility is a composition of six connected buildings. The front consists of the original school; north end addition, south end gymnasium, and north end modular classrooms and are located on the west side. The east side or rear of the facility consists of the cafeteria/kitchen and the 8th grade classroom building. The facility is two stories in height. There are two courtyards between the front and the back. The roof over the classroom parts of the facility is low sloped black rubber. The boy's gymnasium has a gable roof with leaks at the gable ends. The building walls of the original and early additions are load bearing masonry construction with brick and stone exterior. The 8th grade classroom building has brick veneer cavity wall with metal stud construction and drywall finish. The west side near the entry and the chimney are areas for repointing and repair. There are other areas around the building needing attention. Expansion joints and sealant need to be checked, repaired, or replaced. Window openings in the original parts are single glazed single hung aluminum frames and single glazed awning type steel frame. The counter balances in the aluminum windows are failing and in constant repair. The single glazed steel frame windows are well past their useful life and should be replaced. The clad wood windows with insulated glass in the 8th grade building are in good condition. Both canopies at the south end of the gym have roof leaks resulting in damage to the soffit.

Interior

The interior partition materials and finishes vary throughout the facility. The partitions in the older parts of the facility are painted concrete block and glazed block. Other finishes found in the facility are: painted plaster, painted drywall, and ceramic tile. The condition of wall finishes is generally fair to good. The floor at the entry to the Administration area is red tile. The kitchen floor finish is vinyl tile. The office floor finish is carpet. The restroom floor finish is typically ceramic tile mosaics. The second floor finish in the original building is hard wood. Locker room floors are

concrete. Door frames are typically hollow metal. The interior wood doors are in poor condition. The hardware is also in poor condition. Many keys are required to access all parts of the building, and the collection of locksets is worn and problematic. Classroom ceilings are acoustic ceiling tiles with recessed light fixtures. The classroom casework in the older parts of the facility is in fair to good condition, this include three science classrooms and prep room in the original building. Fume hoods are not being used perhaps because middle school curriculum does not use caustic chemicals. Science casework in the new science classrooms is good. The toilet partitions have been replaced recently. Urinal screens are not installed. Lecture hall seating on steep risers does not have 42" high guards.

Vertical Circulation

This is a two story school with multiple levels, stairs, and ramps. There is one elevator and a wheel chair lift for the entire facility. In the older buildings, the stairs have abrupt nosings and need a 42" high guard between runs and the upper landing to comply with the current building code. Some handrails do not have extensions at landings.

Accessibility

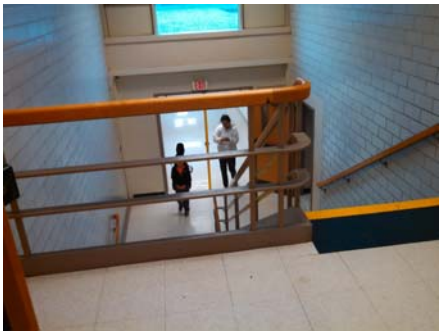
There are no power door operators located at the accessible entry on the accessible route to the building. Once inside the building most of the building is accessible, but access from the gymnasium to and from the girl's locker room is problematic. Interior door hardware is a combination of knobs and lever handles. Other non-compliant items are:

- Insufficient maneuvering space at some locations.
- Science and Art classroom sinks are not compliant
- Not all toilets are accessible
- Missing signage
- Drinking fountains
- Thresholds exceed ½"and some locations have steps.
- Stair and ramp handrails are not compliant

Security

All operable windows have locking hardware. Exterior doors have exit devices (panic hardware) and are locked to prevent unauthorized entry. The school has a corridor located motion detection intrusion alarm and 4 cameras. The entry doors have an intercom with remote release. The Office /Reception area has visual control of the entry, but this entry is not accessible. Classroom door hardware does not permit lock-down without the teacher leaving the classroom.

ATTIC LOUVER LEAK



NON-COMPLIANT GUARD AND HANDRAILS

REPOINT BRICKS AT MAIN ENTRY

SCIENCE LAB CASEWORK IS WRONG FOR MS

STRUCTURAL

Purpose

The purpose of this report is to broadly describe the existing structure, comment on the structural integrity of the building and comment on the structural code issues related to any future renovations and expansions.

Basis of the Report

This report is based on visual observations during our site visit on October 13, 2014, and structural design drawings of the 1997 addition/renovation, and the 2009 modular addition. Structural design drawings of the original construction and additions prior to 1997 were not available.

Building Description

The school, originally constructed in 1939, has undergone several additions and renovations and incorporates several structural systems. The original multistory 1939 portion appears to be comprised of wood joists supported by masonry walls and some supplemental steel girders and columns. This portion includes a cast in place concrete foundation visible in the basement and adjoining crawl spaces. The wood rafters that frame the roof are visible in the attic, as well as a portion of the steel trusses that support the roof above the gymnasium.

The framing above the cafeteria and kitchen area appears to be framed by a system of open web steel joists and structural steel beams and columns. The ground floor of this area appears consist of concrete slab-on-grade with no basement.

The addition to the north of the 1939 section that includes several classrooms and the library/media center is structured with cast-in-place concrete pan-joist system supported by cast-in-place concrete beams and columns. This two story portion of the building also appears to consist of a ground floor slab-on-grade with perimeter concrete foundation walls.

Construction drawings from 1997 indicate a two story classroom addition was constructed on the north side of the school that is framed with structural steel beams, girders and columns, supported by concrete foundation walls and isolated spread footings. The second floor slab consists of a 4½" thick concrete slab (2½" of concrete on 2" composite metal deck), and the roof beams are spanned with 1½" corrugated metal roof deck). This addition also includes diagonal steel brace frames as the designated lateral force resisting system. Also in 1997, a second gymnasium was constructed and framed with reinforced concrete masonry (CMU) walls that support long span steel joists. The CMU walls appear to be designed to resist lateral loads.

There are two modular additions at this school as well. On the North West side, primarily wood framed modular system was added and not construction documents are available for review. On the North East side, design documents of the 2009

modular addition are available for review. The modular framing of this addition consists of 1 ½" metal roof deck supported by light gauge metal purlins, which in turn are supported by structural steel girders and columns.

Lateral Force Resisting System

There appears to be no deliberately designed lateral force resisting system as part of the original structural design or the older additions. The lateral loads for these older sections of the building are resisted by the exterior and interior masonry walls. This is fairly typical of school structures built in this time period, as deliberate lateral force resisting systems (i.e. shear walls, brace frames, moment frames) were not addressed by the building code until 1973. The 1997 additions address lateral forces with detailed diagonal braces and masonry shear walls.

Existing Conditions

There building appears to be in sound structural condition with no substantial defects. There are some signs of water infiltration in the attic above the gymnasium, but this appears to be limited to the vertical surfaces of the masonry walls, as the wood members appear to be in good condition with no signs of rot or decay.

Primary Structural Code Issues Related to the Existing Structure

If any repairs, renovations or additions are made to the structure, a check for compliance with the Massachusetts State Building Code (780 CMR, Chapter 34 "Existing Structures") is required. The intent of 780 CMR, Chapter 34 is to permit repairs, alterations, additions and/or a change of use without requiring full compliance with the code for new construction. However, depending on the scope of any proposed renovations, a comprehensive structural analysis may need to be performed to determine the impact on the existing structural system. Due to the fact that the lateral force resisting system of the older portions of the structure are, by default, the interior and exterior masonry walls, any modifications to them will need to be thoroughly reviewed to determine if seismic upgrades to the lateral system are required as a result of proposed building alterations. If any future additions are planned for this building, they should be seismically isolated from the existing structure.

Summary

The existing structure appears to be in sound condition and is performing satisfactorily. A thorough investigation of the existing structure is required if, by nature of the proposed renovations:

1) The capacity of the lateral force resisting system is decrease (i.e. reduce the amount of, or configuration of the existing masonry walls;

2) There is an increase the seismic loads on the building (i.e. additional building mass in or on top of the structure, such as mechanical roof top units);

3) There is an increase the effects of the wind loads on the building (i.e. additional roof top mechanical units/roof screens or other projections collecting wind and transferring additional lateral forces to the existing masonry walls).

PLUMBING SYSTEMS

Plumbing Fixtures

Majority of the existing plumbing fixtures in place within the building are original. Some have been replaced with newer battery sensor type flush valves and lavatory faucets (Refer plumbing pic 1).

Water closets are floor mounted, vitreous china units with a mix of manual and battery sensor operated flush valves. Stall type urinals are no longer allowed and not compliant. Some flush valves have been retrofitted with new Rubbermaid Retrofit Kits (battery sensor type flush valves), (Refer plumbing pic 1).

The Nurse's room water closet is a floor mounted, vitreous china. Urinals in the toilet core rest rooms are vitreous china, wall hung units with manual operated flush valves. The flush valves are exposed in the room.

Lavatories are wall hung, vitreous china with hot and cold faucets that are either metering or manually operated. Some existing lavatories have been retrofitted with self-metering manual push down Chicago faucets (Refer plumbing pic 2).

The kitchen hand-washing sink is a stainless steel, wall hung unit with a hot and cold gooseneck spout faucet with wrist blade handles. Kitchen scullery sinks are floor standing, stainless steel with coved inside corners. Kitchen food prep sinks with or without food disposer requires an indirect waste (not hard connected) to assure no cross contamination with sanitary sewer and food upon any waste back up (Refer plumbing pic 3).

Classroom sinks are stainless steel, self-rimming single compartment basins with a swing spout faucet with separate hot and cold handles. Several of the existing classrooms have self-rimming stainless steel sink with standard manual type faucets. These require reducing and limiting the hot water to a maximum of 110 degrees F hot water to dispense at the faucets.

Mop basins are floor type, molded stone units with hot and cold faucet with hot and cold handles and elevated vacuum breaker. Drinking fountains are a mix of stainless steel and vitreous china, non-recessed. Non-electric water coolers are single level units with push button activation. Several existing water drinking fountains (non-chilled) on each floor do not include alcove-recessed with high-low handicapped accessible configurations (Refer plumbing pic 5).

Exterior hose bibs are frost proof type. The emergency eyewash/shower station located in mechanical room or nurse's room are non-functional. Custodian's closet mop service basin faucet does not have any integral vacuum breakers (Refer plumbing pic 4).

Existing original core restrooms are outdated as far back as the original school building was constructed in 1939 and do not meet MAAB requirements. Existing lab rooms currently have integral acid epoxy resin resistant built in sink bowls with faucets having integral vacuum breakers built into the faucets with serrated nozzle tips (Refer plumbing pic 10). The new portions of the building wings A and B constructed in the year 2009 are all in excellent condition (Refer plumbing pic 19).

Roof Storm Drainage

There are no internal existing roof drain systems from the original building to report on. The storm system exits at one or two points along each building and appears to connect to the site storm water system. Secondary (emergency) storm system is employed for the B wing of the new portion of the school discharging to grade for visual alarm maintenance awareness.

Sanitary

The majority of the existing buildings sanitary waste system, which drains by gravity and then connects to the existing site sewer system, appears to be in good condition.

Existing underground (buried) piping could be not be observed, however the entire underground (buried) sanitary sewer should be tested for any leakage, backup and pipe aging condition by executing static pressure tests and video camera inspections.

A dedicated grease waste line is not in place for the school building. Currently point of use internal floor recessed grease trap is collecting the grease laden effluent from the 3 pot sink.

The above ground sanitary drainage and vent for all three buildings are currently using cast iron hub and spigot joints (3” or larger). Piping smaller than 3 inch is piped using DWV copper pipe.

Domestic Cold Water Service

Insulation at most piping is of adequate thickness and in fair condition. Some insulation has been removed at locations where repairs have occurred. Some of this insulation was not replaced.

Piping is not adequately labeled throughout the building. Vacuum breakers are present at the majority of fixtures as required by code. Original 1939 construction gate valves are in fair condition, and the ball valves installed during the 2009 remodeling are in good condition. Valve tags are not present throughout the building. Piping is adequately supported where observed either by hangers or floor supports.

Hard water deposits were noted at multiple fixtures throughout the facility with the heaviest of the deposits being at the backflow preventers. The hard water deposits could be causing deterioration of the piping wall thickness throughout the facility.

The existing main domestic water supply enters the basement boiler room complete with a water meter assembly. No backflow preventer present with the water service.

Existing boiler cold water make-up is currently being fed from reduced pressure-principle backflow preventers for HVAC equipment.

The domestic cold water piping distribution within the building supplying the original systems and wing B are distributed with “L” type copper tube with wrought or cast copper fittings. The majority of the piping is insulated to prevent condensation on piping.

Domestic Hot Water Service

One indirect boiler water to water exchanger with cement lined steel storage tank and two electrical domestic storage water heaters are being used for the original building and the new portion of bldg. Breakdown provided below describing the hot water distribution systems.

1. Original base building: Original indirect storage with steam to water heat exchanger bundle has been recently relined with cement. Indirect cement lined storage tank is currently not insulated. Storage capacity is unknown, information not available (built in 1939). Tank has been recently repaired with cement lining.
2. Original 1939 building: One A.O. Smith electric storage water heater model no. DRE 120 with 119 gallon storage, having 240 volts / 6.0 KW. Installed approx. two years ago. This water heater is missing a thermostatic hi/lo mixing valve station. This heater appears to provide hot water to cafeteria food service area. Storage temperature is required to be a minimum of 140 degrees F. Temperature gauges not present to confirm. Cafeteria employee hand wash sinks would require tempering down to 110 degrees F.
3. New school “A” wing building, core restrooms: A.O Smith gas fired storage water heater (2009) model no. GPD-40 with 40 gallon storage and 40 CFH gas consumption. This heater provides hot water to the core restroom lavatories and mop sink (including staff lavatories).

The existing domestic hot water distribution system to the original school building does not appear to have a hot water circulation system to the plumbing fixtures. No dead legs were observed with more than 12” in length.

The existing domestic hot water is distributed in “L” type copper tube with wrought or cast copper fittings. The majority of the existing hot water (HW) piping is insulated for energy savings. Some portions of insulation are missing from some portions of the hot water piping.

Lab Systems

The original building doesn't appear to have a dedicated protected hot and cold water distribution system to the lab class room currently at this time.

Acid neutralization pretreatment system appears to have failed. Alarm panel was active and sending out a message PH out of specification. This system should be wired to building management system, not verifiable.

The existing lab class rooms do not currently have a tempered hot water system to the emergency equipment, due to the central emergency mixing station was taken off line.

Protected none tempered water is supplying the emergency combination eye wash/showers. Several are not MAAB/ADA compliant. In addition, the activation pull handles have been placed above adjacent cabinetry as to avoid obstructing into them. These need to be placed back in their correct installation positions (Refer to ANSI Z358.1-2009 for all installation requirements, including ADA clearances).

Existing acid waste / acid vent systems from the laboratory sinks currently discharge to a passive acid neutralizing lime chip tank system located on the first floor (ground) level portion of the building below the stair well. Piping appears to be Schedule 40 polyethylene (PE) with electrical heat fusion type fittings. This system is then connected to a floor recessed duplex ejector pump basin to be lifted to meet the sanitary building gravity invert. System then discharges by gravity, prior to connecting to the building sanitary main drain (Refer to plumbing pics 11 and 16).

Natural Gas

Two new gas service locations are present, one services and enters the existing basement boiler room and the other feeds the two new building additions. These both appear to be regulated down to low pressure (11" WC). The exterior pressure regulators and gas meter are mounted on the exterior of the building and supported by a concrete house pad. The gas meters and primary pressure regulators are owned by the gas utility company.

The basement boiler gas supply currently feeds the culinary gas stoves, class room lab gas turrets and gas fired heating boilers. New water heater and food service equipment in the kitchen area are currently all electric operating.

All lab class rooms are provided with emergency master gas shut off cabinets to shut down all gas turrets within class room. This includes electrical switch type EPO. Not push button types.

The existing gas piping appears to be distributed in ASTM A53 schedule 40 black steel pipe.

PLMBG. PIC 1

PLMBG. PIC 2

PLMBG. PIC 3

PLMBG. PIC 4

PLMBG. PIC 5

PLMBG. PIC 6

PLMBG. PIC 7

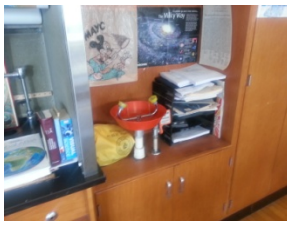
PLMBG. PIC 8

PLMBG. PIC 9

PLMBG. PIC 10

PLMBG. PIC 11

PLMBG. PIC 12



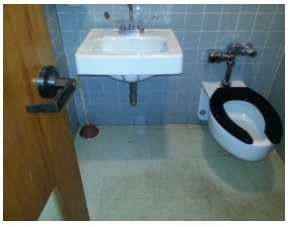
PLMBG. PIC 13

PLMBG. PIC 14

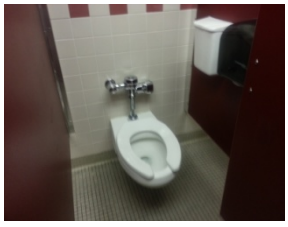
PLMBG. PIC 15

PLMBG. PIC 16

PLMBG. PIC 17



PLMBG. PIC 18



PLMBG. PIC 19

PLMBG. PIC 20

FIRE SPRINKLER SYSTEMS

Sprinklers

The school building is currently being served from an 8" fire service line from the Nahant Street water main. Cross connection control is provided by use of a 6" FEBCO model 806 type YD supervised double check detector check backflow preventer valve assembly on the fire service as it enters the building located in the boiler room (Refer to fire protection pic 4).

The entire school building (including the two newer A and B wings) appear to be fully protected throughout with a wet automatic fire suppression system.

Original School Building:

A dry system has been observed with a dry alarm check valve riser located on the upper floor custodial sink closet, providing coverage within the attic space below the original building attic space (Refer to fire protection pic 8).

A fire department connection was not observed on the school building. This system appears to have been designed in accordance with NFPA Standard 13, the Massachusetts State Building Code and the Westwood Fire Department requirements.

Sprinklers are supplied from sprinkler control valve stations, consisting of a monitored shut-off valve and flow switch. Inspector's tests are provided at remote locations. The original portion of the school building has one sprinkler control valve assembly located in the basement housed within a dedicated sprinkler valve room. These sprinkler zone control valves will report sprinkler flow to the fire alarm system on building zone for zone basis (Refer to fire protection pics 5 and 6).

Each floor area has existing fire hose valve cabinets presently at each floor level for the original school building portion (Refer to fire protection pics 6 and 7).

Fire Protection System

Fire protection wet system and dry system piping was installed with schedule 40 piping with threaded fittings for piping sizes 2" and less and for sizes 2½" and larger, schedule 10 piping with roll grooved fittings and couplings are used.

All valves controlling the flow of water shall be equipped with supervisory devices that report to the Fire Alarm system (Refer to fire protection pic 5).

Existing kitchen hood is not currently protected with a dry agent "Ansul R-102" packaged hood suppression type system.

Wet system alarm check valve riser flow test information was obtained test tag conducted by TYCO Sprinkler Grinnell dated 08.07.2014:

- Static Pressure: 60 psi
- Residual Pressure: 50 psi
- Flow: Unknown GPM

School building was observed not having fire pump present, nor it being suggested one is required.

FIRE PROT. PIC 1

FIRE PROT. PIC 2

FIRE PROT. PIC 3

FIRE PROT. PIC 4

FIRE PROT. PIC 5

FIRE PROT. PIC 6

FIRE PROT. PIC 7

FIRE PROT. PIC 8

MECHANICAL

HVAC System

The HVAC systems in Thurston are varied depending on the age of the addition or renovation.

Boiler Plant

The primary heat source the entire building except for the 7th and 8th grade modules is a pair of 3550 pounds/hr cast iron steam boilers. The condensate receiver/boiler feed tank has been replaced in the past two or three years and is in good condition. There was no evidence of a regular boiler water treatment program.

The boilers were last replaced in 1992 and are in fair condition. While there have been problems with one of the heat exchangers in the past they now appear to be in good condition and the pumps have been well maintained. The boilers are controlled by a local Honeywell “Energy Efficiency” panel.

A few of the steam traps were replaced last year but many others have not been serviced for many years and it is safe to assume that steam blows by.

There are two steam to hot water heat exchangers each with a pair of pumps that serve new/more recently renovated portions of the building. The larger hot water system serves the Cafeteria, Art Rooms and the area of the 1997 Addition. The small loop serves the back 1992 addition.

Any asbestos materials in the boiler room were abated at the time of the boiler replacement in 1992. Wherever there has been subsequent maintenance or repairs the piping is now uninsulated and approximately 25% of the hot piping in the boiler plant is bare. It is probable there is remaining asbestos insulation where pipes are concealed in walls or ceilings.

The buildings pneumatic controls have been problematic but some attempt has been made to maintain the compressors and air dryer. One of the two compressors on the air tank appears to be new.

HVAC Delivery Systems

Much of the original 1938 building is still serviced by steam unit ventilators (Nesbitt) supplemented by steam finned radiation. Some of the units were replace in the 1991 renovations. The controls at the room level are largely non-existent at this point, the pneumatics having failed years ago. Control valves and outside air dampers on the UVs are typically fixed in the open position. If boiler pressure drops below 15 psi more remote classrooms will become cold. At the time of the visit the attic exhaust fans serving the area were not working.

ORIGINAL HERMAN NELSON UNIT VENTILATOR

TYPICAL CLASSROOM VENTILATION EXHAUST OPENING ALMOST COMPLETELY BLOCKED BY A STORAGE CABINET.

The Auditorium is served by a Heating and ventilating unit which is in a recessed cavity in the attic. The heating coil failed several years ago but due to its location it cannot be accessed for repair or replacement.

The Science rooms in the 1938 portion of the building are still served with the original Unit Ventilator system and have no specialized exhaust systems.

The 1992 Addition is served by hot water unit ventilators equipped with DX cooling coils however no remote condensers were ever installed. It was reported that several of these how water coils froze causing considerable damage a year or two ago. The Pneumatic controls have since been abandoned and the outside air closed off and the heating valves manually set wide open. This “solution” leaves the wing without adequate ventilation.

The 1997 wing is also served by unit ventilators this time without cooling potential. As with all the UVs around the school the original pneumatic controls are non-operational and the control valves and outside air dampers are wide open. Local temperature control is accomplished by the individual teacher starting and stopping the UV fan.

The original portion of the gym has an attic H&V unit. The gym addition has two gas fired Renzor H&V units on the roof. These latter units have electric controls with an occupied timer.

The library has two Nesbit Unit ventilators and fin tube behind the perimeter book shelves and one interior ceiling mounted UV. The Thermostat for this latter unit was completely obscured behind books.

The Cafeteria Annex has a 10 ton with gas fired heat and DX cooling and local DDC control.

The large Art Room and Music Room each have 4 Modine Unit heaters, one in each corner and a floor level exhaust. It is reported that the hot water piping to these units is "rotted out."

The small art Room is carved out of a semi subterranean passage and a single unit ventilator and no dedicated exhaust. There have been persistent moisture problems related to the below grade location, rotting and leaking pipes not to mention drying of various art and sculpting materials. There was a strong musty odor in this room.

Several smaller special purpose rooms have been carved out of closet spaces or subdivided leaving areas with inadequate ventilation or temperature control.

The 7th grade modular units (circa 2001) have individual gas fired, Carrier, rooftop air conditioning units of 3-1/2 to 4 tons DX cooling. While showing their age, these units reportedly operate "pretty well". The ten newer 2009 8th grade modulars have individual Trane RTUs. Most of these units are 1400 CFM with a nominal 4 tons of cooling and gas furnace heat. RTU 7 is 5 tons and RTU10 10 tons.

ELECTRICAL SYSTEMS

A site visit was made on October 13, 2014 to review the existing electrical systems.

Electric Service

Four total electric services are provided to the school building - three services are dedicated for school's direct utilization, and the last one is supporting the cell tower installed at the school's roof. The three electric services for school are arranged as outlined further. Electric service #1 supports the "original" school building and the 1997 building addition. It initiates at the street pole and extends underground towards the existing NSTAR transformer located in an underground transformer vault in front of the school building. Electric service #2 was provided directly to Modular classroom building ("L-shape" building added at the "original" school left-front corner). Electric service #3 was provided to a 2009 building addition located at the back (designed as a modular building) via a new pad-mounted transformer. All three electric services dedicated for school use are metered separately. No issues related to outdoor services' installation were observed.

Power Distribution Equipment

Service #1: the transformer secondary feeder terminates in a 3-section 1200 Amp 120/208v 3 phase 4 wire Main Switchboard equipped with a 1200 Amp Main disconnect Switch and a number of branch circuit breakers. It's manufactured by GE, appears to be "old" and in poor condition, although operational. The service from switchboard extends to the main power distribution equipment located in the same room and to panels located throughout the "original" building and the 1997 school building addition.

Majority of the downstream panels in this area appear to be "old" and in poor condition, although operational. One panel in the main electric room ("DP-1"), three panels in the boiler room ("DL", "DP", DB"), all panels in the Maintenance area, and all panels in the 1997 school building addition and all modular buildings "are "newer" and in good operational condition, while the remaining panels throughout the building appear to be "old", although in operational condition.

Two panels located in janitor closet near Lobby 120 are in violation of electrical code clearance requirement. Two kitchen panels are also blocked by kitchen appliances, leaving no clearance in front of them, and one of them doesn't lock properly. Panels in both gyms are installed in very small closets allowing no appropriate clearances required per code. In addition, the same closets contain "old" lighting control equipment (boys gym).

Majority of panels are manufactured by GE. It is assumed that feeders to all "original" panels within "original" school building area are "original" ("old").

Service #2 terminates in a 400 Amp 120/240v 1 phase 3 wire panel equipped with a 400 Amp Main Circuit Breaker. It's manufactured by Square D, appears in good and operational condition. The service from main panel extends to downstream panels located throughout the L-shape Modular building. All downstream panels are in good operational condition.

Service #3 terminates in a 600 Amp 120/240v 1 phase 3 wire panel equipped with a 400 Amp Main Circuit Breaker. It's manufactured by Square D, appears in good and operational condition. The service from main panel extends to downstream panels located in electric closets of this are. All downstream panels are in good operational condition.

Majority of receptacles in "original" building area appear to be "original". It is assumed that branch wiring feeding receptacles here has never been replaced. Branch wiring to classrooms' unit ventilators appear to be "original" too.

Quantities of receptacles in classrooms located in "original" building and in classroom modular building at the school front appear to be inadequate (3-4 per classroom), and therefore multiple pieces of equipment are plugged into the same receptacles utilizing plug strips It is assumed that branch wiring feeding "original" receptacles is "original".

Receptacles in kitchen area were noticed to be non-GFCI which is not in compliance with the current electrical code (MEC). Non-GFCI receptacles were also observed in media center, life skills, and some other areas where they are installed in close proximity to sinks.

The usage of all three existing electric services may have reached or approaching the maximum available capacity, and therefore it may not be insufficient for any future school upgrades. A more detailed investigation will be needed in order to evaluate each of three electric services independently and address based on served SF areas. For record, most of the new middle schools with partial air conditioning are designed for approximately 8-10 W/SF.

Interior Lighting and Controls

Existing lighting system consists mostly of 2- and 3-lamp recessed type fluorescent lensed and parabolic lighting fixtures. All fluorescent lights were recently retrofitted with T8 lamps and matching ballasts, except for a few closets equipped with “older” T12 lamps.

In general, the existing school lighting system provides adequate illumination levels throughout, except for a few areas such as Art room located below Lecture room, Boys Gym, Nurse office area, egress passage from Boys’ and Girls’ locker rooms, where lighting shall be addressed. A few storage rooms near Administration office area have ceiling lights with pull chains and no switches. Boys Gym is equipped with recessed 4-lamp 2’x4’ fluorescent lighting fixtures. Illumination levels in Boys Gym appear to be inadequate, and in addition, the lighting control arrangement here consists of an “old” switch bank installed inside of the Gym’s electrical panel closet, which appears to be an issue with electrical code requirements for maintenance and working clearances. Girls gym is equipped with pendant 2’x4’ fluorescent lighting fixtures with wire guards. Lighting levels here are acceptable, however, the lighting control arrangement appears to be unacceptable – there are no local switches, and “control concept” is done by turning on/off circuit breakers in the power panel, which constantly “opened” for teacher’s access. It was also noticed that lighting in the boiler and pump rooms require some upgrading due to either lacking of lighting fixtures in appropriate locations or lights not operating.

Lighting in a typical classroom located consists of 2’x’4’ 2- or 3-lamp fluorescent fixtures, lensed and/or parabolic, controlled by toggle switches. Lighting levels here are adequate. All classrooms are equipped with occupancy sensors.

All corridor lights are controlled by local switches, either key-operated or toggle. All other school spaces are controlled by local switches only.

The Lecture room lighting is a combination of 6-lamp 4’x’4’ recessed fluorescent lensed lights, switched in “by-raw” manner via wall-mounted key-operated switches, and incandescent downlights. Illumination levels here are acceptable.

"Original cafeteria" area and kitchen are equipped with recessed 2'x4' 2-lamp lensed fluorescent fixtures, while the "Annex cafeteria" area has recessed 2'x4' 3-lamp parabolic fluorescent fixtures, all switched by toggle switches.

Emergency Egress Lighting and Exist Signs

Existing emergency egress lighting system is a combination of emergency battery units and remote light heads in "original" building and Modular classroom buildings, and integral emergency ballasts in 1997 school building addition. In general, it appears to be adequate, however, there are a few locations in the building required additional emergency lighting.

Existing exit signs are mostly LED type with integral back-up batteries. There are a few locations in the building where exit signs are missing or provided by a non-illuminating printed type.

Fire Alarm System

Current fire alarm system is a "retrofitted original" – it's a combination of "older" and "newer" fire alarm equipment and wiring. Smoke detection coverage appears to be adequate for buildings with a full coverage fire protection system (sprinklers), however, the quantity of signaling devices (horn/strobes and strobe only devices) appears to be insufficient in some building areas. There are no signaling devices in classrooms located in "original" building and in the front modular building, nurse office area and some other locations. The FACP appears to be new, addressable, LCD type, manufactured by EST. The retrofitted fire alarm system is connected to Fire Department via existing interior Radio Master Box and exterior antenna. The "old" exterior wall-mounted Master box appears to be abandoned in its existing location.

Exterior Lighting and Controls

Exterior building-mounted lights are provided at egress doors and along the building perimeter. Approximately half of these lights appear to be in poor condition, although operational.

There are two flood lights mounted on utility poles and one pole-mounted double-head light dedicated for parking lots. They appear to be in good condition.

All exterior lights are controlled via five time clocks located in different electric closets. In addition, the flood lights are wired via photocells.

Major Electrical Concerns

1. Majority of power distribution panels are old/beyond their life expectancy, and some panels became obsolete. A few panels (kitchen panels, janitor closet panels, gym panel) are installed in violation of the electrical code for clearances. Power feeders associated with “old” panels are beyond their life expectancy (fig 1).

2. Kitchen receptacles are non-GFCI type and have no GFCI protections (circuit breakers), which is not in compliance with the current electrical code (MEC), (fig 2).

3. Existing lighting control system does not comply with current energy code: although there are occupancy sensors in classrooms, the rest of lights are controlled by switches only (no occupancy sensors). Also, there are no daylight sensors in the building.

FIG 1: POWER DISTRIBUTION PANELS

FIG 2: KITCHEN RECEPTACLES

Communication Systems

The Thurston School is connected to the High School via fiber optic cable. The High School serves as the data and telephone service hub for the school district. Verizon FIOS is the primary Internet Service Provider (ISP). Comcast is the secondary (ISP).

Data communications in the Thurston School are distributed from three data closets. Two of the rooms are air conditioned. The third data closet room is not air conditioned, potentially reducing the useful life of the equipment. The data closets are interconnected via fiber optic cable.

All classrooms in the school have Wi-Fi access. Approximately 10% of the non-classroom spaces have limited Wi-Fi service. The current Wi-Fi coverage is adequate. Every classroom is equipped with a projector. 8th Grade classrooms are equipped with interactive white boards.

The telephone switch for the school is capable of transmitting and receiving both digital and analog signals and it performs adequately.

The voice and data cable infrastructure is a combination of Category 5 and 5e rated cable. Category 5 cable is no longer a recognized standard in the industry as it does not have the capacity to transmit data at the current industry standard of 1-Gigabit per second. Cable TV over Verizon FIOS is available in the Library.

The Paging System is comprised of speakers in every classroom. The system does not interface with the telephone switch making paging from the classrooms impossible. Although new speakers were added to classrooms and corridors that were renovated in 1997 the overall system is nearing the end of its useful life.

The clocks are battery operated. Maintaining a common time standard throughout the building is not possible.

Security Systems

The Intrusion Detection System is comprised of door contacts at all exterior doors and Sonitrol sound detection devices distributed in the corridors only. Rooms with windows to the exterior are not equipped with sound or motion detection devices leaving them vulnerable to intrusion. The detection system is armed and disarmed by use of a keypad.

The main entry and three other doors are equipped with proximity card readers. These units are relatively new and in good working order.

The main entrance is locked during the day. Visitors press a button at the door to activate a two-way intercom and one-way video transmission to the attendant's desk in the main office. The attendant established verbal contact and is able to see who is at the door. Once the visitor is cleared for entry, the attendant remotely unlocks the door and the visitor enters the school.

The School is equipped with three IP-CCTV cameras. Two cameras are installed in the building and one is mounted outside. The signals from the cameras are recorded onto a DVR system located at the High School. Local Police, the Facilities Dept. and IT Dept. have access privileges to view live and recorded footage. The current system is relatively new and in good working order.

Summary

1. The Category 5 station cabling and fiber optic backbone cable between the three data rooms do not perform at standards that newer equipment demands.
2. Two of the three data rooms are air conditioned. The third room is not air conditioned, potentially reducing the useful life of the equipment.
3. The Paging System does not interface with the telephone switch making paging from the classrooms impossible. Although new speakers were added to classrooms and corridors that were renovated in 1997 the overall system is nearing the end of its useful life.
4. The clocks are battery operated. Maintaining a common time standard throughout the building is not possible.
5. Cable TV over Verizon FIOS is available in the Library only.
6. The school currently has intrusion detection devices in the corridors, leaving classrooms vulnerable to break-ins.
7. The Main Entry and three other doors are equipped with proximity card readers.
8. The School is equipped with three IP-CCTV cameras – two inside the school and one outside.

Educational Planning Meeting Minutes 6.3

SMMA

PROJECT MINUTES

Project:	Westwood Public Schools	Project No.:	14065.00
Prepared by:	Jennifer Soucy	Meeting Date:	11/13/2014
Re:	Capital Needs- Business/Operations–Central Office	Meeting No:	1
Distribution:	JGS, PJP, MF (MF)		

Attendees: Pat Coleman, Ken Aries, Heath Petracca, Edward Frenette / SMMA, Jennifer Soucy / SMMA

E. Frenette introduced the project and goals for the educational portion of the overall Capital Needs master plan study.

E. Frenette referenced SMMA's original memo dated 10/16/2014. The following paraphrases the discussions in the framework of the questions provided:

1. What do you like about your current administration and/or teaching environment/ space?

- The small size of the school system allows things to get accomplished quicker and with less bureaucracy. It also creates a more personal interface and line of communication.

2. How much of the school/ grounds do you use for teaching? Corridors, public spaces, exterior spaces, etc.

- School grounds and public spaces are used out of necessity and lack of space.
- With the introduction of more specialist programs, smaller spaces including storage rooms and closets are being used for office and small group spaces. This displaces storage items- some exterior storage sheds have been added to the schools to alleviate the storage issues.
- Corridors are used for storage- Fire Marshall issues quarterly reports and this is typically listed.

3. What would you like to do that the current environment is hindering or preventing you from doing?

- Ride-on machines are desired at each school, but there is not the appropriate storage space at some locations. Presently, machines are caravanned to each school.

4. What subject adjacencies would you like to have? Are any existing adjacencies problematic?

- Martha Jones, Downey and HS have sufficient custodial space, distributed appropriately within the building.
- Sheehan's adjacencies are an issue. Currently, there is no elevator and not enough space to store custodial supplies on all levels.

5/6. What changes would improve project based learning and interdisciplinary opportunities? What changes would improve student centric learning opportunities? Self directed learning?

7. Thoughts on: sustainability of the school building? Integration of sustainability into the curriculum?

8. Student involvement in the programming and design process?

9/10. How would you like to integrate technology into the curriculum? 1:1 technology for every student?

11. Do you envision the exterior environment being part of the overall teaching environment? How?

12. Does the building environment allow for differentiated instruction?

13. Other thoughts?

- HVAC Issues are a problem in all buildings. Air conditioning would be beneficial, at least in those classrooms that are impacted by solar heat gain in the shoulder months. Some classrooms get upwards of 85 degrees.
- Currently, only the spaces that are utilized during the summer or particular SPED spaces have air conditioning units.

The information herein reflects the understanding reached. Please contact the author if you have any questions or are not in agreement with these Project Minutes.

PROJECT MINUTES

Project:	Westwood Public Schools	Project No.:	14065.00
Prepared by:	Jennifer Soucy	Meeting Date:	11/13/2014
Re:	Capital Needs- IT-Central Office	Meeting No:	1
Distribution:	JGS, PJP, MF (MF)		

Attendees: Steve Ouellette, Edward Frenette / SMMA, Jennifer Soucy / SMMA

E. Frenette introduced the project and goals for the educational portion of the overall Capital Needs master plan study.

E. Frenette referenced SMMA's original memo dated 10/16/2014. The following paraphrases the discussions in the framework of the questions provided:

1. What do you like about your current administration and/or teaching environment/ space?

- Westwood's investment towards technology is progressive.
- Commitment towards the Google platform and Chrome books

2. How much of the school/ grounds do you use for teaching? Corridors, public spaces, exterior spaces, etc.

- The District recently purchased 20 high top tables and placed them in corridors- open areas. These get used quite a bit.
- There is an appetite for more non-traditional learning opportunities.

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Project: **Westwood Public Schools**
Meeting Date: **11/13/2014**
Meeting No.: **1**

3. What would you like to do that the current environment is hindering or preventing you from doing?

- Interdisciplinary collaboration is limited due to the departmentalized nature of the building layout. Teachers' workrooms are broken down by department which fosters great collaboration within departments but little cross-discipline collaboration is happening. The Faculty Club rarely gets used.

4. What subject adjacencies would you like to have? Are any existing adjacencies problematic?

- No complaints

5/6. What changes would improve project based learning and interdisciplinary opportunities? What changes would improve student centric learning opportunities? Self directed learning?

- Current philosophy on technology is student-centric- put the technology in the hands of the students. Interactive white boards tend to be more teacher-centric.
- There are pockets of innovation happening although the teaching still tends to be more traditional/ conventional- stand and deliver.
- More flexible learning spaces and maker spaces would be beneficial. As the trend is towards digital, the need to even be present within the physical classroom is not necessary. Technology allows students to collaborate at anytime and from anywhere.

7. Thoughts on: sustainability of the school building? Integration of sustainability into the curriculum?

8. Student involvement in the programming and design process?

9/10. How would you like to integrate technology into the curriculum? 1:1 technology for every student?

- High school is 1:1 (implemented 2 years ago)
- Complete network upgrade 4 years ago at the HS. Elementary schools have been upgraded, but systems will have to be addressed prior to going 1:1.
- District Goal is to be 1:1 from Grades 3+ (not a 'take-home' model for the younger grades)
- Smart boards (interactive white boards) at the elementary school level are on a case by case basis- usually due to the teacher's interest. All elementary school classrooms have ceiling mounted projectors and ELMO (document cameras)
- Current IPad/ Laptop cart model in the elementary schools is not desirable. Some of the concerns with the current system were noted: scheduling issues with teachers, devices not properly returned to the carts, carts are stored in the hallway, too many devices stored within the carts. Ideally, devices would be stored in cabinets within the classrooms.

11. Do you envision the exterior environment being part of the overall teaching environment? How?

12. Does the building environment allow for differentiated instruction?

13. Other thoughts?

Project: **Westwood Public Schools**
Meeting Date: **11/13/2014**
Meeting No.: **1**

The information herein reflects the understanding reached. Please contact the author if you have any questions or are not in agreement with these Project Minutes.

PROJECT MINUTES

Project:	Westwood Public Schools	Project No.:	14065.00
Prepared by:	Jennifer Soucy	Meeting Date:	11/04/2014
Re:	Capital Needs- Principal Mtg–Sheehan School	Meeting No:	1
Distribution:	JGS, PJP, MF (MF)		

Attendees: Kristen Evans, Edward Frenette / SMMA, Jennifer Soucy / SMMA

E. Frenette introduced the project and goals for the educational portion of the overall Capital Needs master plan study.

E. Frenette referenced SMMA's original memo dated 10/16/2014. The following paraphrases the discussions in the framework of the questions provided:

- Current student population is 380
- 3 sections for every grade
- Average Class size is 22 students. Average of 24/25 students per class in 4th & 5th grade
- Sheehan is the largest elementary school in the District. All elementary schools vary in size
- Sheehan used to be only Grades 3-5 before the neighborhood school philosophy was implemented

1. What do you like about your current teaching environment/ space?

- Well maintained (given the age of the building c. 1948)
- Some classrooms are large enough to accommodate group work
- Unique- historical
- Great library space

-

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2. How much of the school/ grounds do you use for teaching? Corridors, public spaces, exterior spaces, etc.

- There is an existing exterior garden (Outdoor Learning Center- OLC) which was funded through a grant. Each class has their own space within the garden.
- Corridors are used often as break out and small group teaching spaces.
- OT uses the corridors as teaching space.
- Closets are being used as SPED offices, OT, small group spaces.
- Other SPED/ Intervention spaces have been carved out of the Library/ Media Center.

3. What would you like to do that the current environment is hindering or preventing you from doing?

- Teachers have adapted well to the building and do not let the physical environment prevent them from doing what they want.
- Music classroom is currently on the Stage in the Cafeteria and it is displaced if there are events or assemblies in the Cafeteria. Music needs a dedicated classroom space.
- Classroom sizes vary and some are too small to accommodate small group work.
- Specialists (SPED, Literacy, Math) do not have appropriately sized or even dedicated spaces. This can be limiting; however, the teachers make it work.

4. What subject adjacencies would you like to have? Are any existing adjacencies problematic?

- Library, Gymnasium and Cafeteria are located in the basement which is remote from the classroom spaces.

5/6. What changes would improve project based learning and interdisciplinary opportunities? What changes would improve student centric learning opportunities? Self directed learning?

- Larger classroom spaces would accommodate group learning and small break out spaces

7. Thoughts on: sustainability of the school building? Integration of sustainability into the curriculum?

8.Student involvement in the programming and design process?

9/10. How would you like to integrate technology into the curriculum? 1:1 technology for every student?

- A district-wide initiative was put into place approximately 5 years ago to infuse new technology into the schools.
- Elementary schools are not yet at 1:1
- Currently there are I-Pad and Laptop carts on each floor for teachers to sign out.
- Almost all classrooms have Mimeo projectors and document cameras (ELMO)

11. Do you envision the exterior environment being part of the overall teaching environment? How?

- The exterior of the building gets used quite a bit for teaching; for instance, the playground is utilized by

enrichment presenters so that interior programs are not displaced.

- OLC gets utilized quite a bit and is often integrated into the science curriculum.

12. Does the building environment allow for differentiated instruction?

- Yes- teachers have adapted to the building. Corridors are used for breakout spaces, standing desks are used to cater to specific student needs.

13. Other thoughts?

- Math specialist currently utilizes the Teacher's Workroom off of the Library. The space is small and can only accommodate up to 2 students. The location is also distracting for students with teachers coming and going.
- Literacy specialist has a space off of the Library/ Media Center- the existing glass block window does not allow for fresh air from the exterior.
- Art has its own dedicated space- almost taken away to accommodate a general CR given the growing population. The room size is adequate for 24 students
- HVAC Issues- Building is always either too hot or too cold and the 3rd floor gets unbearably hot in the shoulder months.
- The building in currently inaccessible- no elevator. One wheelchair-bound student was sent to Martha Jones a few years ago. Problematic still for students and staff on crutches and for transporting large items/carts, etc.
- The building is inefficient- cold in the winter and hot in the summer
- Leaky, rotting windows
- At the end of each year, the teachers give the principal a repair wish list that gets reviewed with Facilities. Facilities does a good job addressing as many issues as possible.

The information herein reflects the understanding reached. Please contact the author if you have any questions or are not in agreement with these Project Minutes.

PROJECT MINUTES

Project:	Westwood Public Schools	Project No.:	14065.00
Prepared by:	Jennifer Soucy	Meeting Date:	11/04/2014
Re:	Capital Needs- Staff Mtg–Sheehan School	Meeting No:	1
Distribution:	JGS, PJP, MF (MF)		

Attendees: Matthew Hagel, Katherine Burke, Christy Harrison, Edward Frenette / SMMA, Jennifer Soucy / SMMA

E. Frenette introduced the project and goals for the educational portion of the overall Capital Needs master plan study.

E. Frenette referenced SMMA's original memo dated 10/16/2014. The following paraphrases the discussions in the framework of the questions provided:

1. What do you like about your current teaching environment/ space?

- The character of the building is "homey" and is representative of the neighborhood
- K-5 neighborhood school model (vs. K-2, 3-5 model)

2. How much of the school/ grounds do you use for teaching? Corridors, public spaces, exterior spaces, etc.

- OLC (Outdoor Learning Center- garden) is integrated into the science curriculum.
- Hallways and corridors are often used for break out space.

3. What would you like to do that the current environment is hindering or preventing you from doing?

- 'Old' portion of the school houses smaller classrooms. These spaces are not large enough to accommodate small group centers. No sinks in classrooms.
- The "new" wing has larger classrooms that also have sinks.
- Art classroom- was originally a science classroom so there are sinks; however, the sinks are too small and counters are too high for an art classroom. Faucets have been updated.
- Specialist spaces have displaced what once were storage closets. Teachers have to keep items stored in their classrooms which take away from much needed teaching space.

4. What subject adjacencies would you like to have? Are any existing adjacencies problematic?

- Art supply closet is on the opposite side of the building from the Art classroom.
- K-5 general storage closet is centrally located.
- Adjoining doors between classrooms of the same grade level is desired to foster collaboration (currently adjoining doors do not exist)

5/6. What changes would improve project based learning and interdisciplinary opportunities? What changes would improve student centric learning opportunities? Self directed learning?

- Larger spaces to accommodate group learning and break out spaces
- Facility is not prohibiting any type of learning and the teachers learn to adapt

7. Thoughts on: sustainability of the school building? Integration of sustainability into the curriculum?

- The buildings HVAC system is inefficient and problematic
- Windows are old and do not have screens.
- At the end of each year, the teachers give the principal a repair wish list that gets reviewed with Facilities.
- Facilities does a good job addressing as many issues as possible.

9/10. How would you like to integrate technology into the curriculum? 1:1 technology for every student?

- No complaints.
- The combo I-Pad/ Laptop carts get used frequently.

11. Do you envision the exterior environment being part of the overall teaching environment? How?

- The exterior of the building gets used quite a bit for teaching.
- Recent landscape upgrades have made the exterior more inviting.

12. Does the building environment allow for differentiated instruction?

- Teachers have adapted to the building. Corridors are used for breakout spaces, standing desks are used to cater to specific student needs.

13. Other thoughts?

- There has been some recent furniture replacement
- Well-loved building
- Accessibility has been and continues to be an issue especially for children with broken legs/crutches.

Project: **Westwood Public Schools**
Meeting Date: **11/04/2014**
Meeting No.: **1**

The information herein reflects the understanding reached. Please contact the author if you have any questions or are not in agreement with these Project Minutes.

PROJECT MINUTES

Project:	Westwood Public Schools	Project No.:	14065.00
Prepared by:	Katy Lillich	Meeting Date:	11/06/2014
Re:	Capital Needs- Staff Mtg–Downey School	Meeting No:	1

Distribution:

Attendees: Deb Gallaher – Principal, Kathleen Gould – SPED Teacher, Edward Frenette / SMMA, Katy Lillich / SMMA

E. Frenette introduced the project and goals for the educational portion of the overall Capital Needs master plan study.

E. Frenette referenced SMMA's original memo dated 10/16/2014. The following paraphrases the discussions in the framework of the questions provided:

Student population currently 261. Formerly was 300 so they are "loose" right now.

1. What do you like about your current teaching environment/ space?

- The entire school is on a single level, so it is accessible (not completely handicapped accessible)
- The layout is easy to navigate and makes it easy to secure (safety).
- The site is within a neighborhood with some land around the school.
- Classrooms are a good size.
- They currently have two spaces for SPED (which are technically classrooms).
- They currently have ceiling mounted projectors in all classrooms.

2. How much of the school/ grounds do you use for teaching? Corridors, public spaces, exterior spaces, etc.

- Courtyard
  - Currently under-utilized and not integrated into curriculum.
  - Access directly from classrooms would help.
  - Layout not conducive to teaching (retaining wall and tables are not well placed for this use).

3. What would you like to do that the current environment is hindering or preventing you from doing?

- Need break-out spaces or Small Group Instruction.
  - The staff currently uses the Solarium but it needs better division for groups.
  - The Solarium is an open space so no acoustic separation.
  - Solarium can't be used for SPED without dividing walls for privacy and acoustical separation.
- Library
  - Could use moveable / flexible furniture.
  - This space needs more access to technology.
  - Multipurpose use (meetings, etc.)

4. What subject adjacencies would you like to have? Are any existing adjacencies problematic?

- ASD–currently have two spaces that are separated geographically.
- Sensory space is adjacent to Psychologist. There is not enough acoustic separation between loud and quiet spaces.
- Literacy Room has wrong proportions for the way it is used. Room is long and narrow; three adult staff each working with a student.

5/6. What changes would improve project based learning and interdisciplinary opportunities? What changes would improve student centric learning opportunities? Self-directed learning?

- Would like student specific furniture such as standing desks.
- There is a need for more break-out spaces for a variety of group sizes (from 3 to 10).

7. Thoughts on: sustainability of the school building? Integration of sustainability into the curriculum?

9/10. How would you like to integrate technology into the curriculum? 1:1 technology for every student?

- No complaints. Currently have interactive white boards in all classrooms (ceiling mounted projectors).
- Currently have 5 iPads per classroom.
- Sound systems are outdated. Announcements are inaudible outside the building.

11. Do you envision the exterior environment being part of the overall teaching environment? How?

- Courtyard would need better setup for teaching.
- Doors directly from classrooms would make it more accessible to the exterior.

12. Does the building environment allow for differentiated instruction?

- Need more break-out spaces.

13. Other thoughts?

- Nurse's suite is too big and poorly laid out.
- Confidentiality in Nurses' suite is a problem due to proximity to Main Office.
- Acoustics and confidentiality are concerns in Principals office due to proximity to the Main Office and Nurse suite.
- Solarium needs smaller spaces within, while maintaining light.
- Need more storage within classrooms.
- There is a 12 month curriculum but no AC in teaching spaces (only in administration).

The information herein reflects the understanding reached. Please contact the author if you have any questions or are not in agreement with these Project Minutes.

Project: **Westwood Public Schools**
Meeting Date: **11/06/2014**
Meeting No.: **1**

PROJECT MINUTES

Project:	Westwood Public Schools	Project No.:	14065.00
Prepared by:	Katy Lillich	Meeting Date:	11/06/2014
Re:	Capital Needs- Staff Mtg–Downey School	Meeting No:	1

Distribution:

Attendees: Tara Billini - Teacher, Judy Kress – Technology, Sidney Worthen – Literacy, Dawn Ninnerty – Sped Teacher, Edward Frenette / SMMA, Katy Lillich / SMMA

E. Frenette introduced the project and goals for the educational portion of the overall Capital Needs master plan study.

E. Frenette referenced SMMA's original memo dated 10/16/2014. The following paraphrases the discussions in the framework of the questions provided:

1. What do you like about your current teaching environment/ space?

- Single level so it is accessible and promotes a sense of community.
- There is good light.
- Classrooms are a good size.
- Student storage (in hall).

2. How much of the school/ grounds do you use for teaching? Corridors, public spaces, exterior spaces, etc.

- Courtyard
  - Currently under-utilized.
  - Access is difficult. Keys aren't always available.
  - Layout not conducive to teaching.

3. What would you like to do that the current environment is hindering or preventing you from doing?

- Need break-out spaces or Small Group Instruction–Solarium.
- Literary space needs a better space.
- Classroom furniture could be more flexible.
- Some soft seating in open areas.
- More flexibility of where technology is located within each room.

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4. What subject adjacencies would you like to have? Are any existing adjacencies problematic?

- Adjacencies are good.
- Need Staff bathroom.

5/6. What changes would improve project based learning and interdisciplinary opportunities? What changes would improve student centric learning opportunities? Self-directed learning?

- There is a need for more flexible furniture and either a variety of sizes or to be adjustable.
- Standing desks.

7. Thoughts on: sustainability of the school building? Integration of sustainability into the curriculum?

- Would like to incorporate Light / motion sensors.
- Would like some form of cooling in the summer.

9/10. How would you like to integrate technology into the curriculum? 1:1 technology for every student?

- Currently have interactive white boards.
- Would like to go to 1:1 with devices stored in school. Would like wall mounted charging stations.

11. Do you envision the exterior environment being part of the overall teaching environment? How?

- Courtyard would need better setup for teaching.
- Access directly from classrooms would make it more accessible.

12. Does the building environment allow for differentiated instruction?

- Need more break-out spaces.

13. Other thoughts?

- Teachers would like two ways out of all classrooms for security purposes.
- Video camera at front door intercom is not working properly.
- There was a desire for swipe cards and ID's for better security.
- There is a need for locking cabinets for storing technology (cords, etc.).
- ELL needs separate space.
- Library needs additional shelving and benches.

The information herein reflects the understanding reached. Please contact the author if you have any questions or are not in agreement with these Project Minutes.

PROJECT MINUTES

Project:	Westwood Public Schools	Project No.:	14065.00
Prepared by:	Jennifer Soucy	Meeting Date:	11/06/2014
Re:	Capital Needs- Principal Mtg–Hanlon School	Meeting No:	1
Distribution:	JGS, PJP, MF (MF)		

Attendees: Sarah Cronin, Edward Frenette / SMMA, Jennifer Soucy / SMMA

E. Frenette introduced the project and goals for the educational portion of the overall Capital Needs master plan study.

E. Frenette referenced SMMA's original memo dated 10/16/2014. The following paraphrases the discussions in the framework of the questions provided:

- Current student population is 226. The small school fosters a sense of community.
- Class sizes are small at 20 students, typically, and 23 students maximum.
- (1) "singleton" class- second grade. All other grades have (2) sections.

1. What do you like about your current teaching environment/ space?

- Building shape "T"- allows for visual control over most of the building and the main corridors
- Grades K & 1 have toilet rooms in the classrooms.

2. How much of the school/ grounds do you use for teaching? Corridors, public spaces, exterior spaces, etc.

- Science classrooms do utilize the exterior grounds for various lessons.
- There are existing nature trails on the site. (Mass Audubon runs programs on these trails)
- Gym class is often held outdoors.
- No garden or formal outdoor classroom space exists currently.
- Hallways are often used as breakout space.

3. What would you like to do that the current environment is hindering or preventing you from doing?

- Larger classrooms/ more space would allow for more break out/ intervention spaces either within or adjacent to the classrooms.
- Library/ Media Center is too small- only the size of a classroom. This prohibits the creation of multiple zones of space so the space can be used as an instructional space.

4. What subject adjacencies would you like to have? Are any existing adjacencies problematic?

- Exterior PE space is on the other side of the building from the Gymnasium- teacher has to roll carts with equipment through the building and in/out of the building. This may become a deterrent for PE teachers. An exterior storage space may alleviate this issue.
- Literacy space is located in the modulars which is remote. Students that are pulled out of class for literacy intervention have to walk across the building to the modulars which can be disruptive and time-consuming.
- (1) 5th grade classroom is located in the modulars

5/6. What changes would improve project based learning and interdisciplinary opportunities? What changes would improve student centric learning opportunities? Self directed learning?

- Music and Art share (1) space as both teachers are part time. Music is displaced into the Gymnasium when the two blocks overlap.
- Larger classrooms and appropriate furniture would allow for 3-4 separate small group areas/zones: rug area, computers, tables, intervention/ break-out areas.

7. Thoughts on: sustainability of the school building? Integration of sustainability into the curriculum?

- Existing HVAC- inconsistent between spaces. South-facing classrooms are extremely hot in the shoulder months and other spaces, such as the modular classrooms are more tempered because they are shaded by the woods.

8. Student involvement in the programming and design process?

9/10. How would you like to integrate technology into the curriculum? 1:1 technology for every student?

- Currently there are 2 I-Pad and Laptop carts for teachers to sign out. These are very popular and they could benefit from more.
- Not 1:1 yet at the elementary school level, but there is a desire. Teachers are very tech-savvy.
- Almost all classrooms have Mimeo/ SmartBoard projectors and document cameras (ELMO)

11. Do you envision the exterior environment being part of the overall teaching environment? How?

- Would like to expand the use of the exterior environment with a garden and use of existing trails/pond.

12. Does the building environment allow for differentiated instruction?

- Yes- teachers have adapted to the building, but larger classrooms would allow for more differentiated instruction

13. Other thoughts?

- IT/Tech Office is too small- located in a closet.
- Plumbing is antiquated. On one occasion, all four toilet rooms backed up
- Cafeteria is undersized but functional. Teacher's workroom (copier and laminating machine) is located within the Cafeteria as well. There are currently (3) lunch seatings.
- Due to the "singleton" class, (1) classroom space is available which is shared between ELL, OT and the Math

Specialist. There is adequate space although privacy and acoustics are a bit of an issue given the shared nature of the space. OT previously utilized the basement space near the Gym.

- Security concerns for the Nurse/ School Psychologists offices that have glass doors and are located closest to the main entrance.
- Main Lobby is a large space that is underutilized. Extended Day utilizes this space at times, and it gets used for indoor recess.
- Currently there is only (1) unisex Staff Toilet Room. This space does not have adequate ventilation.
- Staff also utilize the Nurse's Toilet Room
- Nurse's office, resting and exam areas are all in (1) open space which creates privacy issues.
- The building is not accessible.

The information herein reflects the understanding reached. Please contact the author if you have any questions or are not in agreement with these Project Minutes.

PROJECT MINUTES

Project:	Westwood Public Schools	Project No.:	14065.00
Prepared by:	Jennifer Soucy	Meeting Date:	11/06/2014
Re:	Capital Needs- Staff Mtg–Hanlon School	Meeting No:	1
Distribution:	JGS, PJP, MF (MF)		

Attendees: Laura Cavanagh, Mark Goguen, Barbara Silverstein, Edward Frenette / SMMA, Jennifer Soucy / SMMA

E. Frenette introduced the project and goals for the educational portion of the overall Capital Needs master plan study.

E. Frenette referenced SMMA's original memo dated 10/16/2014. The following paraphrases the discussions in the framework of the questions provided:

1. What do you like about your current teaching environment/ space?

- Small neighborhood school creates a sense of community- everyone knows everyone, teachers get to be face to face with parents daily, students walk to school
- Grades K & 1 have toilet rooms in the classrooms.

2. How much of the school/ grounds do you use for teaching? Corridors, public spaces, exterior spaces, etc.

- Teachers often go outdoors with their students. Classrooms have doors leading directly to the exterior so teachers do plan lessons outside (writing/ science)
- Teachers do not seem to take full advantage of the hiking trails and pond.
- Main lobby is utilized during indoor recess.

3. What would you like to do that the current environment is hindering or preventing you from doing?

- Larger classrooms/ more space would allow for more break out/ intervention spaces either within or adjacent to the classrooms.
- Connecting doors between classrooms would foster collaboration.
- Library/ Media Center is too small- would like to create a maker space (lab-type, flexible space) within the Library but the room is not large enough.

4. What subject adjacencies would you like to have? Are any existing adjacencies problematic?

- Teachers workroom is remote from classrooms. Ideally, workrooms would be in a central location in each wing so teachers have quick access to teaching tools.
- The Library is not central.
- Grade level classrooms are scattered throughout the building rather than being adjacent to one another.
- Existing intervention (literacy/ math) spaces are remote from the classrooms is time consuming and disruptive.

5/6. What changes would improve project based learning and interdisciplinary opportunities? What changes would improve student centric learning opportunities? Self directed learning?

- Larger classrooms/ more space would allow for more break out and small group work areas.

7. Thoughts on: sustainability of the school building? Integration of sustainability into the curriculum?

- Would like to have a garden- possibly composting and using the vegetables in lunch/ meals
- Would like to introduce rainwater recycling and incorporate into curriculum.

8. Student involvement in the programming and design process?

9/10. How would you like to integrate technology into the curriculum? 1:1 technology for every student?

- Signing out I Pad/ Laptop carts is inconvenient and prohibits spontaneity.
- Grades K & 1 have several I Pads used in stations. 1:1 is not necessary at this level (I Pads for half the class would be sufficient)
- Grades 4,5,&6 would benefit from 1:1 technology. Students at this level are introduced to the Google Suite and set up Google accounts.
- I Pads/ Laptop storage within classrooms (in a 1:1 scenario) would have to be studied so as to minimize impact to classroom teaching space.
- A shared computer lab would be desirable if there was a technology specialist/teacher in the room to troubleshoot.
- All classes have projectors and ELMOs
- There are several portable Mimeo/ Smart projectors, and a grant has been written for more.

11. Do you envision the exterior environment being part of the overall teaching environment? How?

- Would like to expand the use of the exterior environment with a garden and use of existing trails/pond.

12. Does the building environment allow for differentiated instruction?

13. Other thoughts?

- Would like more Staff Toilet Rooms (currently only 1 unisex Toilet Room)
- Noise from the Cafeteria during lunch periods is disruptive to Music classes that take place in the Gymnasium at that time.

Project: **Westwood Public Schools**
Meeting Date: **11/06/2014**
Meeting No.: **1**

The information herein reflects the understanding reached. Please contact the author if you have any questions or are not in agreement with these Project Minutes.

PROJECT MINUTES

Project:	Westwood Public Schools	Project No.:	14065.00
Prepared by:	Jennifer Soucy	Meeting Date:	11/07/2014
Re:	Capital Needs- Principal Mtg–Martha Jones School	Meeting No:	1
Distribution:	JGS, PJP, MF (MF)		

Attendees: Donna Tobin (via conference call), Edward Frenette / SMMA, Jennifer Soucy / SMMA

E. Frenette introduced the project and goals for the educational portion of the overall Capital Needs master plan study.

E. Frenette referenced SMMA's original memo dated 10/16/2014. The following paraphrases the discussions in the framework of the questions provided:

- Current class sizes are appropriate (22 students on average)

1. What do you like about your current teaching environment/ space?

- Currently, there is appropriate space for all subjects. A recent demographic change has caused a lower enrollment in recent years. A few years ago, Music and Art programs did not have their own dedicated spaces as they were taken over by general education classrooms.

2. How much of the school/ grounds do you use for teaching? Corridors, public spaces, exterior spaces, etc.

- The existing enclosed courtyard space does not get utilized very often. The main reason is the perception that classes in the courtyard would be disruptive to the classrooms that overlook the courtyard.
- The courtyard may get used more if there were tables/ seating.

3. What would you like to do that the current environment is hindering or preventing you from doing?

- Technology- there is a need for more Smart Boards (interactive white boards)
- IPad/Laptop carts system is not ideal: teachers have to sign them out and students have to get the carts which can be time consuming.
- 1:1 would be ideal

4. What subject adjacencies would you like to have? Are any existing adjacencies problematic?

- Current space adjacencies are not problematic

5/6. What changes would improve project based learning and interdisciplinary opportunities? What changes would improve student centric learning opportunities? Self directed learning?

- Small breakout rooms separate and adjacent to the classrooms would provide a quiet space for intervention and small group instruction.
- A science specialist with a separate science lab would be ideal rather than incorporating that into the gen. ed. curriculum.

7. Thoughts on: sustainability of the school building? Integration of sustainability into the curriculum?

8.Student involvement in the programming and design process?

9/10. How would you like to integrate technology into the curriculum? 1:1 technology for every student?

- See Answers to Question No. 3

11. Do you envision the exterior environment being part of the overall teaching environment? How?

- Would like to use the courtyard more- if appropriate furniture were installed to facilitate instruction. Currently, the trees and shrubs take up too much space. Running water would be a nice addition to allow for various types of science lessons.

12. Does the building environment allow for differentiated instruction?

- More adaptable furniture (stand up desks) would be beneficial rather than the standard desks that are currently used.

13. Other thoughts?

- The existing building is accessible (elevator)
- HVAC issues- inconsistency in temperature between different classrooms (based on flr level, solar orientation). AC would be preferable.
- The Music Room currently has (2) breakout spaces that are used for storage.
- Chorus takes place on the Stage.
- OT utilizes the hallways, ramps. Currently, there is not a need for a swing.

The information herein reflects the understanding reached. Please contact the author if you have any questions or are not in agreement with these Project Minutes.

PROJECT MINUTES

Project:	Westwood Public Schools	Project No.:	14065.00
Prepared by:	Jennifer Soucy	Meeting Date:	11/07/2014
Re:	Capital Needs- Staff Mtg–Martha Jones School	Meeting No:	1
Distribution:	JGS, PJP, MF (MF)		

Attendees: Mary Mundy, Mary Jane Pontes, Edward Frenette / SMMA, Jennifer Soucy / SMMA

E. Frenette introduced the project and goals for the educational portion of the overall Capital Needs master plan study.

E. Frenette referenced SMMA's original memo dated 10/16/2014. The following paraphrases the discussions in the framework of the questions provided:

1. What do you like about your current teaching environment/ space?

- The classrooms are appropriately sized to accommodate small group work.
- The existing 5th grade class sizes (22-24 students) can get a bit tight which limits the type of small group zones.

2. How much of the school/ grounds do you use for teaching? Corridors, public spaces, exterior spaces, etc.

- Corridors are currently utilized for small group work, partner reading.
- Existing enclosed courtyard is underutilized. Teachers do not want to disrupt classrooms that overlook the courtyard.

3. What would you like to do that the current environment is hindering or preventing you from doing?

- More meeting spaces and break out spaces would allow for more small group instruction work.

4. What subject adjacencies would you like to have? Are any existing adjacencies problematic?

- Grade levels are currently not adjacent to one another. Classrooms within the same grade level would benefit from being adjacent with connecting doors for monitoring students during indoor recess as well as to foster collaboration.
- Currently, intermingling grade levels can also provide benefits: allows for "buddy" groups in which older students can mentor the younger students.
- Library/ Media Center is centrally located.

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5/6. What changes would improve project based learning and interdisciplinary opportunities? What changes would improve student centric learning opportunities? Self directed learning?

- Small breakout rooms separate and adjacent to the classrooms would provide a quiet space for intervention and small group instruction.
- A science specialist with a separate science lab would be ideal rather than incorporating that into the gen. ed. curriculum.

7. Thoughts on: sustainability of the school building? Integration of sustainability into the curriculum?

- There is a desire to incorporate sustainability into the curriculum, but it is currently not widely integrated.

8. Student involvement in the programming and design process?

9/10. How would you like to integrate technology into the curriculum? 1:1 technology for every student?

- Would prefer 1:1 vs. the computer cart system with charging cabinets within the classrooms.
- The existing computer carts are stored in the corridors which can cause circulation issues when students are loading/ unloading the machines. There are also scheduling issues as there currently is only (1) cart per floor.

11. Do you envision the exterior environment being part of the overall teaching environment? How?

- There is an existing pond on site- some classes do utilize this, but the existing deck adjacent to the pond is too small to fit an entire class.

12. Does the building environment allow for differentiated instruction?

13. Other thoughts?

- More storage space is desirable for books, literacy closet.

The information herein reflects the understanding reached. Please contact the author if you have any questions or are not in agreement with these Project Minutes.

PROJECT MINUTES

Project:	Westwood Public Schools	Project No.:	14065.00
Prepared by:	Katy Lillich	Meeting Date:	11/12/2014
Re:	Capital Needs- Staff Mtg–Deerfield School	Meeting No:	1
Distribution:	JGS, PJP, MF (MF)		

Attendees: Joshua Baumer - Principal, Katy Lillich / SMMA, Jennifer Soucy / SMMA

J. Soucy introduced the project and goals for the educational portion of the overall Capital Needs master plan study.

J. Soucy referenced SMMA's original memo dated 10/16/2014. The following paraphrases the discussions in the framework of the questions provided:

1. What do you like about your current teaching environment/ space?

- The small building allows familiarity amongst staff and students.
- One long hallway provides easy visual connection.
- The local community is close so a lot of the students walk to school.
- The community is very close knit.

2. How much of the school/ grounds do you use for teaching? Corridors, public spaces, exterior spaces, etc.

- Hallways, cafeteria and conference room are used all the time for teaching- reading lessons, breakout space.
- Grounds are used often - teachers often take students on walks and out to grassy area next to school.
- There is currently no dedicated outdoor learning space.

3. What would you like to do that the current environment is hindering or preventing you from doing?

- There is no dedicated music room. Music classes are held in the gym or cafeteria spaces.
- There are no offices for the music or math teachers. Desks are off to the side in gym.
- Events larger than 50 people have to be held in the gym.
- Literacy center and the resource specialist share a space that is too small and poorly laid out.
- The speech pathologists' office can only be entered through Psychologists' office and is adjacent to the library. Both present acoustic issues.
- The Psychologist's office used to be a closet.
- FOCUS program was created for severely physically handicapped students- the existing space does not have a sink or toilet room within the space. This space is smaller than a typical classroom and contains a

lot of equipment necessary for the program.

- Storage is a large need.
- There is one entrance to the nurse suite through the main office. A second entrance would be good for privacy and for special needs students who come and go frequently. Wheelchair access is difficult due to door sizes and configuration.

4. What subject adjacencies would you like to have? Are any existing adjacencies problematic?

- Gym and cafeteria are centrally located.
- Need acoustic separation between Psychologist and speech pathologist.

5/6. What changes would improve project based learning and interdisciplinary opportunities? What changes would improve student centric learning opportunities? Self directed learning?

- Break out and small group spaces are needed.

7. Thoughts on: sustainability of the school building? Integration of sustainability into the curriculum?

- Science teacher has a composter and teaches students about the process.
- There is a butterfly garden (milkweed).
- Plans were drawn up for an outdoor learning area but it was never constructed.

8. Student involvement in the programming and design process?

9/10. How would you like to integrate technology into the curriculum? 1:1 technology for every student?

- All but one classroom have ceiling mounted projectors.
- There are 5-10 IPads per classroom.
- There are 2-3 laptop carts, primarily used by grades 2-5)
- Smart boards are not used as much. There is a preference for Google classroom.

11. Do you envision the exterior environment being part of the overall teaching environment? How?

- Need a play area for older kids. The play structures are used primarily by the younger students.
- Outdoor classroom would be utilized. All classrooms currently have exterior doors for easy access.
- Traffic flow needs improvement. Congestion would be alleviated by more parking for parents.

12. Does the building environment allow for differentiated instruction?

- More specialty spaces are needed. Some SPED programs don't have a permanent home so there is no consistency of materials, acoustics or for students familiarity.
- Need more break-out spaces.

13. Other thoughts?

- PA system is outdated. There are no speakers in commons spaces or in corridors.
- There are security concerns regarding old doors and locks.

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- Classroom doors require keys to lock so they wouldn't function well in lockdown scenario.

The information herein reflects the understanding reached. Please contact the author if you have any questions or are not in agreement with these Project Minutes.

PROJECT MINUTES

Project:	Westwood Public Schools	Project No.:	14065.00
Prepared by:	Jennifer Soucy	Meeting Date:	11/12/2014
Re:	Capital Needs- Staff Mtg–Deerfield School	Meeting No:	1
Distribution:	JGS, PJP, MF (MF)		

Attendees: Julie Krass, Shannon Novick, Michelle Miller - Office, Carolyn Casey, Katy Lillich / SMMA, Jennifer Soucy / SMMA

J. Soucy introduced the project and goals for the educational portion of the overall Capital Needs master plan study.

K. Lillich referenced SMMA's original memo dated 10/16/2014. The following paraphrases the discussions in the framework of the questions provided:

1. What do you like about your current teaching environment/ space?

- Most classroom sizes are adequate.
- Most classrooms have doors leading directly outside which is convenient access for outdoor lessons.
- Like carpeting- especially for K & 1st grade classrooms.
- Recent installation of new ACT improved acoustics in classroom spaces.

2. How much of the school/ grounds do you use for teaching? Corridors, public spaces, exterior spaces, etc.

- Hallways are used all the time for teaching- reading lessons, breakout space, music class.
- Grounds are used often- teachers often take students on walks. School is within walking distance to the public library, police and fire stations, and the Fisher School.
- Existing trail- used for science observations.
- Town fields are adjacent to the school.

3. What would you like to do that the current environment is hindering or preventing you from doing?

- Library is too small- existing space is the same size as a classroom.
- Guidance counselor's office is currently in a closet with insufficient space to meet with students. Other available spaces have to be used for student meetings.
- FOCUS program was created for severely physically handicapped students- the existing space does not have a sink, accessible desks or an accessible toilet room within the space. Sound isolation for this room is desirable as some students can be loud.

- Music and Math Intervention programs do not have dedicated spaces. Music often meets on the Stage in the Gymnasium or sometimes in the corridor.
- The Learning Center is shared with the Literacy Room. This is not ideal as (2) groups of students cannot meet in this space at one time.
- SPED and Intervention groups are often displaced into any classroom space that is available at the time which is disruptive for the students and not always reliable. Finding a space also takes away from limited instruction time.
- The only meeting/conference space in the building is the Principal's office. The principal has to relocate when a conference space is needed.
- (1) KG and (1) first grade classroom on the north end of the building are smaller than other classrooms due to the intervening toilet room and storage rooms.
- IT/Technology teachers come a few times a week and do not have a dedicated space in the building. Their computer and equipment is located on a counter in the Teachers Room.
- Due to the displacement of Art & Music programs, instruction time is wasted breaking down and setting up.

4. What subject adjacencies would you like to have? Are any existing adjacencies problematic?

- Speech & Language, OT and FOCUS spaces should all be adjacent to one another. The SPED programs are trying to build and encourage student independence, but due to space constraints and the inconsistency of meeting spaces, adult assistance is often needed to get these students where they need to go.
- FOCUS space is remote from the Nurse's office as well as the only handicapped toilet room in the building.
- The existing Teachers Room is located directly adjacent to teaching spaces and the walls are not adequately sound-proofed. This can be distracting to others in adjacent rooms especially during testing times.
- The Speech & Language room is landlocked. Students must walk through the Library which is not ideal.

5/6. What changes would improve project based learning and interdisciplinary opportunities? What changes would improve student centric learning opportunities? Self directed learning?

- Currently, teachers have to store extra supplies and teaching materials in a storage container outside. This does not allow for spontaneous lessons. Teachers much coordinate with facilities on access to these materials.

7. Thoughts on: sustainability of the school building? Integration of sustainability into the curriculum?

- There was a plan generated by a parent (landscape architect) to develop the old playground area on the north side of the building into a garden area. These plans were put on hold until it was determined if modulars would need to be installed at this location.

8. Student involvement in the programming and design process?

N/A

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9/10. How would you like to integrate technology into the curriculum? 1:1 technology for every student?

- Currently, the District has not converted totally to DVDs; therefore, TV/VCR carts are stored in the corridors and wheeled into classrooms when needed. This takes up space. If speakers were installed in the rooms and all materials were converted to DVD, there would not be a need for the TV carts.
- All classrooms have document cameras (ELMOs) and most classrooms have ceiling mounted Smart projectors.

11. Do you envision the exterior environment being part of the overall teaching environment? How?

- A dedicated outdoor classroom space may not get used as much as just walking lessons on the trails. Picnic benches in the "garden" would work as well- informal spaces.

12. Does the building environment allow for differentiated instruction?

13. Other thoughts?

- Corridors are overcrowded with storage containers, wheelchairs, laptop carts, TV carts, backbacks, and tables and chairs used for breakout space.
- More staff toilet rooms are desirable. Limited lunch time is wasted waiting for the toilet room.
- Student desks/chairs were recently upgraded. Teachers' furniture and shelving still needs to be updated.
- HVAC issues
- Existing PA System is through the phones. Currently, there is no coverage in the corridors, Cafeteria, Gym, or the exterior of the building.

The information herein reflects the understanding reached. Please contact the author if you have any questions or are not in agreement with these Project Minutes.

PROJECT MINUTES

Project:	Westwood Public Schools	Project No.:	14065.00
Prepared by:	Katy Lillich	Meeting Date:	11/14/2014
Re:	Capital Needs- Wellness Mtg–Deerfield School	Meeting No:	1
Distribution:	JGS, PJP, MF (MF)		

Attendees: Judith Wine - Wellness, Katy Lillich / SMMA, Jennifer Soucy / SMMA

J. Soucy introduced the project and goals for the educational portion of the overall Capital Needs master plan study.

J. Soucy referenced SMMA's original memo dated 10/16/2014. The following paraphrases the discussions in the framework of the questions provided:

1. What do you like about your current teaching environment/ space?

- Martha Jones gym was expanded.
- Deerfield gym and fields were renovated 10 years ago.
- Culinary room (at Middle School) has good resources including demo table, 5-6 stations and separate classroom space, security camera.

2. How much of the school/ grounds do you use for teaching? Corridors, public spaces, exterior spaces, etc.

- Most of the schools use the fields for Physical Education classes except for Martha Jones (too small).
- Hanlon is fenced in (good) but not level.
- Downey has a nice soccer field but the rest of the land is an odd shape so difficult to use.
- The high school has nice fields since it was renovated relatively recently.

3. What would you like to do that the current environment is hindering or preventing you from doing?

- Technology is behind that of other programs. Would like projectors and sound systems in all gyms.
- Would like more iPads (at least 2:1 but preferably 1:1)
- Spaces are used for other classes and activities (i.e. voting) that affect schedule. Hanlon & Deerfield share multipurpose space with music.
- Not enough space for the classes that are scheduled there (i.e. Middle school with have 100+ kids in the gym at one time).
- Loud HVAC equipment (fans) in Sheehan and Deerfield disrupts classes.
- Not enough storage (Martha Jones storage room is filled with paper, not athletic gear).
- The middle school uses the High School fields but does not have storage there.

- Deerfield needs more volleyball nets and bathrooms near the fields.
- All facilities need office space for teachers.
  - Deerfield office is shared with the math teacher.
  - Downey & Hanlon have no office.
  - Middle school–the female teacher has an office but three male teachers share the other.
  - Martha Jones office used to be a closet.
  - High school has nice facility including showers.

4. What subject adjacencies would you like to have? Are any existing adjacencies problematic?

- High school lost a classroom next to the gym during the renovation.
- The weight room at the High School is not connected to the gym (observation).

5/6. What changes would improve project based learning and interdisciplinary opportunities? What changes would improve student centric learning opportunities? Self directed learning?

- Would like more iPads (at least 2:1 but preferably 1:1)

7. Thoughts on: sustainability of the school building? Integration of sustainability into the curriculum?

8. Student involvement in the programming and design process?

9/10. How would you like to integrate technology into the curriculum? 1:1 technology for every student?

- Technology used on a teacher by teacher basis.
- Projects with other departments i.e. using iPads to graph heart rates during exercise.

11. Do you envision the exterior environment being part of the overall teaching environment? How?

- Yes. Would teach racquet sports if they had tennis facilities.

12. Does the building environment allow for differentiated instruction?

13. Other thoughts?

- Would like ropes course–concerns of liability.

The information herein reflects the understanding reached. Please contact the author if you have any questions or are not in agreement with these Project Minutes.

PROJECT MINUTES

Project:	Westwood Public Schools	Project No.:	14065.00
Prepared by:	Katy Lillich	Meeting Date:	11/07/2014
Re:	Capital Needs- Math–High School	Meeting No:	1
Distribution:	JGS, PJP, MF (MF)		

Attendees: Tanya Ferguson – Math Dept, Edward Frenette / SMMA, Katy Lillich / SMMA

E. Frenette introduced the project and goals for the educational portion of the overall Capital Needs master plan study.

E. Frenette referenced SMMA's original memo dated 10/16/2014. The following paraphrases the discussions in the framework of the questions provided:

There are 7 Math classrooms with 10-31 students per class.

1. What do you like about your current teaching environment/ space?

- Teacher planning / Math office is a well-used space.
- Furniture and white boards, etc. are in good shape.
- Some classrooms are too small.

2. How much of the school/ grounds do you use for teaching? Corridors, public spaces, exterior spaces, etc.

- Sometimes the corridors are utilized (Physics mostly).

3. What would you like to do that the current environment is hindering or preventing you from doing?

- No complaints.

4. What subject adjacencies would you like to have? Are any existing adjacencies problematic?

- Classrooms are geographically divided by discipline. More integration would be good.
- Math and Science are together which is good.

5/6. What changes would improve project based learning and interdisciplinary opportunities? What changes would improve student centric learning opportunities? Self-directed learning?

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7. Thoughts on: sustainability of the school building? Integration of sustainability into the curriculum?

8. Student involvement in the programming and design process?

- Engineering students have taken an interest in similar initiatives in the past so they should be asked.

9. How would you like to integrate technology into the curriculum? 1:1 technology for every student?

- Don't use the technology that they have.
  - Teachers are changing rooms each period and it takes too long to start up.
- Important parts are lost (mouse, etc.) that make it difficult to use effectively.

11. Do you envision the exterior environment being part of the overall teaching environment? How?

- Courtyard would need better setup for teaching.
- Access directly from classrooms would make it more accessible.

12. Does the building environment allow for differentiated instruction?

- Need more break-out spaces.

13. Other thoughts?

The information herein reflects the understanding reached. Please contact the author if you have any questions or are not in agreement with these Project Minutes.

PROJECT MINUTES

Project:	Westwood Public Schools	Project No.:	14065.00
Prepared by:	Jennifer Soucy	Meeting Date:	11/10/2014
Re:	Capital Needs- Administration Mtg–High School	Meeting No:	1
Distribution:	JGS, PJP, MF (MF)		

Attendees: Sean Bevan, Amy Davenport, Brian Harrigan, Edward Frenette / SMMA, Jennifer Soucy / SMMA

E. Frenette introduced the project and goals for the educational portion of the overall Capital Needs master plan study.

E. Frenette referenced SMMA's original memo dated 10/16/2014. The following paraphrases the discussions in the framework of the questions provided:

- Current student population is 970 with a graduating class of approximately 220.
- 94-96% of student move on to higher education.

1. What do you like about your current administration and/or teaching environment/ space?

- The existing building is well-maintained and well respected by the students and staff. Minimal vandalism reported.
- Homerooms and lockers are aligned and they are assigned for all 4 years. Increased enrollment is impacting the number of available lockers.

2. How much of the school/ grounds do you use for teaching? Corridors, public spaces, exterior spaces, etc.

- The exterior grounds are used all day. The track is used from early morning to late into the evening. Athletics is a strong program in Westwood.
- Exterior use for teaching is not actively promoted but not prohibited. 47 minute blocks may hinder teachers from going outside due to time constraints.
- Corridors are used often as a teaching space (i.e. Physics lessons)

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3. What would you like to do that the current environment is hindering or preventing you from doing?

- Library/ Media Center is too conventional and does not get utilized as much as it could. Books could be consolidated to allow for more space to create pseudo-social spaces and breakout/ small group spaces.
- Cafeteria only gets utilized during lunch periods. There is an opportunity to create more of a flexible working/social space as well.
- Individual department offices/ workrooms hinder interdisciplinary collaboration.
- Common teacher's lounge is under-utilized.
- Triangular classrooms are inefficient as there are corners that are unable to be utilized thus limiting class sizes and function.

4. What subject adjacencies would you like to have? Are any existing adjacencies problematic?

- Performing Arts & Art classrooms are located near the Cafeteria which is an acoustical distraction during lunch periods.
- Ideal layout would have Gymnasium and Cafeteria adjacent to one another to allow for overflow during events.

5/6. What changes would improve project based learning and interdisciplinary opportunities? What changes would improve student centric learning opportunities? Self directed learning?

- Teacher's desks are fixed to the floors in the classrooms which doesn't support student-centered learning.

7. Thoughts on: sustainability of the school building? Integration of sustainability into the curriculum?

- Currently sustainability is not actively incorporated into the curriculum.
- Every department workroom has a copy machine which is inefficient in regards to energy and supplies.

8. Student involvement in the programming and design process?

- Student s would be very willing and eager to provide input and be involved in the design process.

9/10. How would you like to integrate technology into the curriculum? 1:1 technology for every student?

- Currently 1:1
- Smart Boards (interactive white boards) are underutilized by teachers. This could be due to lack of technical training.
- ELMO's are utilized; however, most teachers are not utilizing them to the extent that they are able to

11. Do you envision the exterior environment being part of the overall teaching environment? How?

12. Does the building environment allow for differentiated instruction?

13. Other thoughts?

- Currently there are (3) Lunch seatings, and space is getting tight with the growing population. Different furniture could provide additional seating.

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- Parking is an issue- not enough visitor parking.
- Spiral staircase in the center of the building is heavily utilized which creates a bottleneck at times. Ideal solution would be to install a second stair at the other bridge
- Current HVAC issues

The information herein reflects the understanding reached. Please contact the author if you have any questions or are not in agreement with these Project Minutes.

PROJECT MINUTES

Project:	Westwood Public Schools	Project No.:	14065.00
Prepared by:	Jennifer Soucy	Meeting Date:	11/17/2014
Re:	Capital Needs- Athletics–High School	Meeting No:	1
Distribution:	JGS, PJP, MF (MF)		

Attendees: Matthew Gillis, Edward Frenette / SMMA, Jennifer Soucy / SMMA

E. Frenette introduced the project and goals for the educational portion of the overall Capital Needs master plan study.

E. Frenette referenced SMMA's original memo dated 10/16/2014. The following paraphrases the discussions in the framework of the questions provided:

1. What do you like about your current administration and/or teaching environment/ space?

- The current athletic facilities available at the high school are great- (2) turf fields with lights, pool, practice football field, soccer field.

2. How much of the school/ grounds do you use for teaching? Corridors, public spaces, exterior spaces, etc.

- School grounds are used all day, every day. The track is used by the community during the day.
- Space is rented off site for hockey and lacrosse due to lack of onsite space.

3. What would you like to do that the current environment is hindering or preventing you from doing?

- The existing fitness center is undersized. As a result, a portion of the gym storage has been taken to create additional fitness space. The Gym lobby and corridors are also utilized for the fitness program. A larger fitness space would be beneficial and highly utilized based on existing demand. The fitness center is open for all use from 2:15-3:30pm and team use from 2:15-8:00pm.
- An additional indoor gym space/ field house/ bubble over the existing field would allow for more indoor sports to occur, especially during inclement weather. The women's lacrosse program spends $60-70K/ year in rental fees to off-site facilities.
- A dedicated large group instruction space (LGI) and classroom space would allow for team activities (film viewing, coaches meetings) An ideal LGI space would accommodate 60 student athletes and coaches. Currently, general education classroom space is used for this function.
- An indoor track is desirable and would be highly utilized.

4. What subject adjacencies would you like to have? Are any existing adjacencies problematic?

- The athletic locker rooms are located on the opposite end of the building from the fields. This presents an issue especially during football games. The auditorium hallways get used as staging and adhoc locker areas during games.

5/6. What changes would improve project based learning and interdisciplinary opportunities? What changes would improve student centric learning opportunities? Self directed learning?

- A dedicated classroom/ large group space would

7. Thoughts on: sustainability of the school building? Integration of sustainability into the curriculum?

8. Student involvement in the programming and design process?

9/10. How would you like to integrate technology into the curriculum? 1:1 technology for every student?

- There is not enough technology provided to the Athletics program. There is a desire to be able to have video taken at practices and games and to view film.
- Smart boards are not as convenient for athletic use.

11. Do you envision the exterior environment being part of the overall teaching environment? How?

12. Does the building environment allow for differentiated instruction?

13. Other thoughts?

- Westwood High School houses the only full-size basketball court in the Town. There have been discussions regarding locations for In-Town basketball league games.

The information herein reflects the understanding reached. Please contact the author if you have any questions or are not in agreement with these Project Minutes.

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PROJECT MINUTES

Project:	Westwood Public Schools	Project No.:	14065.00
Prepared by:	Jennifer Soucy	Meeting Date:	11/17/2014
Re:	Capital Needs- SPED–High School	Meeting No:	1
Distribution:	JGS, PJP, MF (MF)		

Attendees: Bob Fanning, Edward Frenette / SMMA, Jennifer Soucy / SMMA

E. Frenette introduced the project and goals for the educational portion of the overall Capital Needs master plan study.

E. Frenette referenced SMMA's original memo dated 10/16/2014. The following paraphrases the discussions in the framework of the questions provided:

1. What do you like about your current administration and/or teaching environment/ space?

- Currently, there is adequate space at the HS to accommodate SPED programs:
  - (4) Learning Centers spread throughout the building are typical classroom size which is adequate.
  - SPED teachers do not have to share classrooms similar to general education teachers. As a result, there is not a shared dedicated work room for SPED teachers.
  - (3) dedicated spaces for intensive learning centers: Autism, mental disabilities, and Life Skills- students stay in these spaces most of the day.

2. How much of the school/ grounds do you use for teaching? Corridors, public spaces, exterior spaces, etc.

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3. What would you like to do that the current environment is hindering or preventing you from doing?

- Existing Life Skills classroom has a kitchen. Would like to expand the other (2) intensive learning centers to include a kitchen. The concern is that the number of students with disabilities is increasing- especially with the increase in overall enrollment. (Students used to have to go to other Districts- before the HS was built)

4. What subject adjacencies would you like to have? Are any existing adjacencies problematic?

5/6. What changes would improve project based learning and interdisciplinary opportunities? What changes would improve student centric learning opportunities? Self directed learning?

- SPED is all individualized with each student having an IEP.
- Specialist programs such as Art, Music and Drama are not the best suited electives for SPED students. Home Ec., Shop would provide these students with more hands-on experience but these subjects are currently not offered. Westwood follows more of a college prep model vs. tech ed.
- SPED students are brought off site for real life/ work experience within the community- Facilities purchased a van for this purpose.

7. Thoughts on: sustainability of the school building? Integration of sustainability into the curriculum?

8. Student involvement in the programming and design process?

9/10. How would you like to integrate technology into the curriculum? 1:1 technology for every student?

- Technology is already integrated- a lot of assessments are done online although there is still a lot of paperwork required for SPED programs
- Projectors in classrooms are utilized often

11. Do you envision the exterior environment being part of the overall teaching environment? How?

12. Does the building environment allow for differentiated instruction?

13. Other thoughts?

- HVAC Issues in classrooms- rooms are either too hot or too cold.

The information herein reflects the understanding reached. Please contact the author if you have any questions or are not in agreement with these Project Minutes.

PROJECT MINUTES

Project:	Westwood Public Schools	Project No.:	14065.00
Prepared by:	Jennifer Soucy	Meeting Date:	11/17/2014
Re:	Capital Needs- Visual Arts–High School	Meeting No:	1
Distribution:	JGS, PJP, MF (MF)		

Attendees: Katie Thurston, Edward Frenette / SMMA, Jennifer Soucy / SMMA

E. Frenette introduced the project and goals for the educational portion of the overall Capital Needs master plan study.

E. Frenette referenced SMMA's original memo dated 10/16/2014. The following paraphrases the discussions in the framework of the questions provided:

1. What do you like about your current administration and/or teaching environment/ space?

- The school system is well run.

2. How much of the school/ grounds do you use for teaching? Corridors, public spaces, exterior spaces, etc.

- Deerfield ES- Art classes spill into the hallways due to lack of space. The Art classroom used to be the old locker rooms and the size of the space is inadequate.
- HS- utilizes the courtyard. Exterior space would be used more if there were more visually interesting landscapes for sketching or an area for sculpture (sculpture garden).
- Sheehan, Martha Jones (pond) and Hanlon (trails) are used for art lessons.

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3. What would you like to do that the current environment is hindering or preventing you from doing?

- Large, heavy, bulky desks do not allow for flexible space configuration. Stand-up easels are desirable for sketching from observation exercises and would allow for more flexible space.
- Deerfield- Art Room was previously the girls locker room- space is too small and classes overflow into the corridors.
- Middle School- Art room was previously a music room. Room configuration and proportions are not conducive to art lessons. The existing space smells moldy/musty.
- An outdoor space at the High School for sculpture and sketching does not exist currently and would be utilized.

4. What subject adjacencies would you like to have? Are any existing adjacencies problematic?

- Hanlon- shares the Stage with Music. When Gym or music functions are happening in the Gym- it can be very loud and distracting.

5/6. What changes would improve project based learning and interdisciplinary opportunities? What changes would improve student centric learning opportunities? Self directed learning?

- The departmentalized layout of the High School hinders interdisciplinary work. Not a lot of interdisciplinary work happening currently.
- Stand-up easels and flexible furniture is more student-centric. Students are able to be more focused on their work and less socializing would occur than the current table configuration.

7. Thoughts on: sustainability of the school building? Integration of sustainability into the curriculum?

8. Student involvement in the programming and design process?

- Students would like to be involved.

9/10. How would you like to integrate technology into the curriculum? 1:1 technology for every student?

- Ceiling mounted projectors are not mounted properly- images are washed out.
- Need more IPads. Chromebooks are not the best platform for Arts programs.
- IPad/ Laptop carts in the Elementary Schools- Art program rarely gets to use them due to general ed teacher use. They are always booked.

11. Do you envision the exterior environment being part of the overall teaching environment? How?

12. Does the building environment allow for differentiated instruction?

13. Other thoughts?

- District goal- to improve drawing from observation skills.
- High School Art rooms are perceived as a dark/cold space due to concrete floors, inadequate lighting, and no direct sunlight.

The information herein reflects the understanding reached. Please contact the author if you have any questions or are not in agreement with these Project Minutes.

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PROJECT MINUTES

Project:	Westwood Public Schools	Project No.:	14065.00
Prepared by:	Jennifer Soucy	Meeting Date:	11/18/2014
Re:	Capital Needs- Foreign Language–High School	Meeting No:	1
Distribution:	JGS, PJP, MF (MF)		

Attendees: Kathy Lee, Edward Frenette / SMMA, Jennifer Soucy / SMMA

E. Frenette introduced the project and goals for the educational portion of the overall Capital Needs master plan study.

E. Frenette referenced SMMA's original memo dated 10/16/2014. The following paraphrases the discussions in the framework of the questions provided:

Typical Class sizes for Foreign Language- 12-22 students, 14 is the target class size for students that need more individualized attention.

1. What do you like about your current administration and/or teaching environment/ space?

- The District is very supportive of the teachers, which provides a very positive teaching atmosphere.
- Learning is very student-focused

2. How much of the school/ grounds do you use for teaching? Corridors, public spaces, exterior spaces, etc.

- Corridors are used for certain events (i.e.- Latin classes use the hallways for their Roman Olympics event)
- Exterior space is used quite a bit by the department- perhaps more than traditional gen. ed. programs.

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3. What would you like to do that the current environment is hindering or preventing you from doing?

- A dedicated exterior classroom space would be used often (Amphitheater-type space)- there is a desire to use the exterior more.
- Foreign Language Lab has been split so that half the space can be used as classroom space which is not as originally intended. This can be distracting for students that are using the computers- some students Skype with students from other countries.
- Access to a cooking space is desired. Food has to be brought in to the class. Cooking and food is a big part of the curriculum.
- Common department offices do not allow for enough private meeting space for teachers. The open, cubicle model is distracting for many teachers and can create privacy issues. Need more small meeting/ break-out spaces to meet with students and other teachers.
- Middle School- Foreign Language classes are integrated and not broken up by levels; therefore, there is a need for more small group type spaces to break-out students that need more individualized attention.

4. What subject adjacencies would you like to have? Are any existing adjacencies problematic?

- Foreign Language classrooms are adjacent to Math and Science on the second floor. The ideal adjacency would be to English and Social Studies.
- In the Middle School- Foreign Languages are mixed in with core classes.

5/6. What changes would improve project based learning and interdisciplinary opportunities? What changes would improve student centric learning opportunities? Self directed learning?

- The location of the Foreign Language department hinders interdisciplinary opportunities.
- There is currently not a lot of interdisciplinary work happening with teachers due to the separate department offices.

7. Thoughts on: sustainability of the school building? Integration of sustainability into the curriculum?

8. Student involvement in the programming and design process?

9/10. How would you like to integrate technology into the curriculum? 1:1 technology for every student?

- HS- technology is highly integrated into the curriculum.
- MS- technology is not as integrated and would like to incorporate more recording.

11. Do you envision the exterior environment being part of the overall teaching environment? How?

12. Does the building environment allow for differentiated instruction?

13. Other thoughts?

- There is a desire from teachers and the community to start foreign language earlier- at the elementary school level. Currently, foreign language starts in 7th grade which is thought to be the age when the window of listening starts to shut down.

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- Foreign Language is the only department that has a department chair serving the Middle and High Schools. All other departments chairs are for the HS only. In addition, department chairs are required to teach 3 classes in addition to their administrative and supervisory duties.
- Elementary Schools and the Middle School do not have department chairs. Teachers are overseen by the Principal/ Asst. Principal.

The information herein reflects the understanding reached. Please contact the author if you have any questions or are not in agreement with these Project Minutes.

PROJECT MINUTES

Project:	Westwood Public Schools	Project No.:	14065.00
Prepared by:	Jennifer Soucy	Meeting Date:	11/18/2014
Re:	Capital Needs- Performing Arts–High School	Meeting No:	1
Distribution:	JGS, PJP, MF (MF)		

Attendees: Heather Cote, Edward Frenette / SMMA, Jennifer Soucy / SMMA

E. Frenette introduced the project and goals for the educational portion of the overall Capital Needs master plan study.

E. Frenette referenced SMMA's original memo dated 10/16/2014. The following paraphrases the discussions in the framework of the questions provided:

Band- 45 students

Orchestra- 15 students

1. What do you like about your current administration and/or teaching environment/ space?

- Amount of space and sizes of space are adequate for the current curriculum.
- Auditorium is a great space.

2. How much of the school/ grounds do you use for teaching? Corridors, public spaces, exterior spaces, etc.

- Cafeteria is used for Jazz Night performances.
- The courtyard is used by Drama program

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3. What would you like to do that the current environment is hindering or preventing you from doing?

- More practice/ ensemble rooms would allow for more small group/ student-centric work. This is being incorporated more into the curriculum.
- Drama utilizes the Auditorium primarily. The "little theater" space is not used because it is not ideal for performances (bad acoustics, inappropriate seating). A black box type space would be desirable.

4. What subject adjacencies would you like to have? Are any existing adjacencies problematic?

- Band/ Chorus rooms are adjacent to one another, so acoustics is an issue. Schedules were changed so that Band and Chorus meet at different times.

5/6. What changes would improve project based learning and interdisciplinary opportunities? What changes would improve student centric learning opportunities? Self directed learning?

- More practice/ ensemble rooms would allow for more small group/ student-centric work. This is being incorporated more into the curriculum.

7. Thoughts on: sustainability of the school building? Integration of sustainability into the curriculum?

8. Student involvement in the programming and design process?

9/10. How would you like to integrate technology into the curriculum? 1:1 technology for every student?

- Current technology is not set up very well.
- There are projector carts rather than ceiling mounted. This takes time to set up and break down.
- In the Band Room, the room is not deep enough to project appropriately.
- Performing Arts spaces are not equipped with Smart Boards.

11. Do you envision the exterior environment being part of the overall teaching environment? How?

12. Does the building environment allow for differentiated instruction?

13. Other thoughts?

- Drama and music share storage space, and Drama gets short-changed on storage.
- HVAC Issues- inappropriate HVAC for the storage and use of musical instruments. Classes were cancelled one day because the room was too cold. Pianos constantly have to be tuned as they are stored in the Band/Chorus Rooms.

The information herein reflects the understanding reached. Please contact the author if you have any questions or are not in agreement with these Project Minutes.

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PROJECT MINUTES

Project:	Westwood Public Schools	Project No.:	14065.00
Prepared by:	Jennifer Soucy	Meeting Date:	11/19/2014
Re:	Capital Needs- Social Studies–High School	Meeting No:	1
Distribution:	JGS, PJP, MF (MF)		

Attendees: Chris Hilton, Edward Frenette / SMMA, Jennifer Soucy / SMMA

E. Frenette introduced the project and goals for the educational portion of the overall Capital Needs master plan study.

E. Frenette referenced SMMA's original memo dated 10/16/2014. The following paraphrases the discussions in the framework of the questions provided:

1. What do you like about your current administration and/or teaching environment/ space?

- The lighting in the classrooms is nice.
- Classrooms are equipped with projectors
- The library has a good layout. Social Studies tends to use the Library more often than other departments (research papers and projects)

2. How much of the school/ grounds do you use for teaching? Corridors, public spaces, exterior spaces, etc.

- Social Studies classes hardly ever use the corridors, exterior or lobbies as teaching spaces.
- Psychology is the only class that goes outside. They use the track.
- The department office meeting space is used often for recordings and as small group/ break-out space.
- The "Little Theater" space is used by the Government class for debating.
- The Library is used often for research. A small teaching space was created recently within the main space, but scheduling often conflicts with SPED meetings.

3. What would you like to do that the current environment is hindering or preventing you from doing?

- The Library is overwhelmed by students on free block which can make the space loud and distracting for students doing research/ class work. Only half of the space can be booked.
- Sizes of classrooms are not uniform. Triangular classrooms create dead space. Some classes are 28 students which is tight within these spaces.
- The department small conference space is used by students for small group work which conflicts with teachers that need to use the space. This is the only space within the department office that can be used for private matters.

4. What subject adjacencies would you like to have? Are any existing adjacencies problematic?

- The previous Social Studies writing room is connected to the Library which was nice for research. This space has since been repurposed for SPED programming.

5/6. What changes would improve project based learning and interdisciplinary opportunities? What changes would improve student centric learning opportunities? Self directed learning?

- The curriculum is not set up for project-based learning, in its true intent. Teachers assign projects but they are not all encompassing- creating projects, setting deadlines, etc. The 47 minute blocks limit how in depth a teacher can get on a specific topic. The time constraints are more of an impediment than the physical space issues.
- Interdisciplinary work is lacking due to the departmental nature of the building and separate department offices. There is great collaboration within each department.

7. Thoughts on: sustainability of the school building? Integration of sustainability into the curriculum?

- The Global Engagement class discusses global warming, recycling, etc.
- A composting program would be great, but that would require community and interdisciplinary communication and support.
- There is less printing/ copying happening due to 1:1 and the Google platform that has been adopted.

8. Student involvement in the programming and design process?

9/10. How would you like to integrate technology into the curriculum? 1:1 technology for every student?

- Smart boards (interactive white boards) are rarely used. This appears to be due to a lack of training. Teachers are not required to take training. The set up/ boot down time is restricting for teachers- especially since teachers have to move between classrooms.

11. Do you envision the exterior environment being part of the overall teaching environment? How?

12. Does the building environment allow for differentiated instruction?

13. Other thoughts?

- HVAC Issues- temperature fluctuates up to 30 degrees at times.

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- Enrollment in Social Studies program is higher than most departments due to the number of course offerings and class requirements. After school, space is limited. Students need to meet for group project work and there is not enough space. SS rooms are booked for Music, after school clubs, debate due to location within the building. Some after-school programs have been relocated, but there is still an imbalance.

The information herein reflects the understanding reached. Please contact the author if you have any questions or are not in agreement with these Project Minutes.

PROJECT MINUTES

Project:	Westwood Public Schools	Project No.:	14065.00
Prepared by:	Jennifer Soucy	Meeting Date:	11/20/2014
Re:	Capital Needs- Science–High School	Meeting No:	1
Distribution:	JGS, PJP, MF (MF)		

Attendees: Ellen Russell, Edward Frenette / SMMA, Jennifer Soucy / SMMA

E. Frenette introduced the project and goals for the educational portion of the overall Capital Needs master plan study.

E. Frenette referenced SMMA's original memo dated 10/16/2014. The following paraphrases the discussions in the framework of the questions provided:

1. What do you like about your current administration and/or teaching environment/ space?

- Science classrooms are large and function as both lab and classroom space.

2. How much of the school/ grounds do you use for teaching? Corridors, public spaces, exterior spaces, etc.

- Physics will use hallways on occasion.
- Astronomy and Physics programs also utilize exterior space and the fields for certain lessons (rocket launches)

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3. What would you like to do that the current environment is hindering or preventing you from doing?

- Current project lab (Room 160) is booked every period of the day. Some of this space was taken over by the FLEX program and for general storage.
- Combined engineering/ computer science lab (robotics). This program has been expanding and there is just not enough space although they are making it work. 150 students in both programs.
- Science teachers do not have a shared department office due to the larger classrooms. The original concept was for each teacher to have a dedicated classroom with office space within the adjacent prep space. There are currently 10 classrooms and 6 prep rooms. There are more currently teachers than there are classrooms, and there is not enough space or proper ventilation within the prep spaces to accommodate teachers. There is a lot of extra equipment and glassware stored in the prep spaces that could be removed and consolidated.

4. What subject adjacencies would you like to have? Are any existing adjacencies problematic?

- Existing adjacencies seem appropriate (next to Math)

5/6. What changes would improve project based learning and interdisciplinary opportunities? What changes would improve student centric learning opportunities? Self directed learning?

- There is interest to do more interdisciplinary work; however, the space hinders it- the building is very departmentalized. This fosters great collaboration within each department which works well for Westwood.
- STEM is integrated into the curriculum; however, there is not much collaboration with other disciplines.

7. Thoughts on: sustainability of the school building? Integration of sustainability into the curriculum?

8. Student involvement in the programming and design process?

9/10. How would you like to integrate technology into the curriculum? 1:1 technology for every student?

- Smart Boards are not used. They are used primarily as a projector.

11. Do you envision the exterior environment being part of the overall teaching environment? How?

12. Does the building environment allow for differentiated instruction?

13. Other thoughts?

- There is a safety concern with the size of classrooms and the current lab configuration. Existing labs have 6 peninsulas (fixed) which allow for 4 students per peninsula. Many classes are upwards of 26-28 students which causes crowding at some of the lab stations.
- There are several equipment and infrastructure issues that have existed in the Science labs since the building was built. The following is a list provided by E. Russell of the current status:
  - Room 221 has a fume hood. Exhaust works. There is a sink and faucet in the hood, but no plumbing underneath it....There is a gas jet in the hood, but it is not connected to gas line. This is a chemistry classroom.
  - Prep room between 221 and 217. There is a fume hood that also opens into room 217. The exhaust

works. No sink or gas jet in this hood. There is a dishwasher in this prep room, but it is not used because it leaks. (Rooms 217 and 221 are chemistry classrooms.)

- Prep room between room 215 and room 211. There is a fume hood that opens into room 215. The exhaust works. There is a sink in the hood with no plumbing underneath. There is no water faucet in this hood. There is no gas jet in this hood. There is a dishwasher in this prep room but plumbing and electricity have never been connected to it. (Rooms 215 and 211 are physics classrooms. The hood is currently used for storage.)
- Rooms 235, 239, 245, and 249 are used for biology/chemistry. There are no fume hoods on this side of the building.
- Prep room between 235 and 239. The dishwasher was removed because the plumbing was not installed properly.
- Prep room between 245 and 249. The dishwasher was removed because the plumbing was not installed properly.

- Science prefers the shorter 47 minute blocks because there is a lot of state-mandated material that needs to be covered, and a rest period is ideal before introducing an additional concept. Longer blocks would suggest more in depth exploration of each concept, but this would potentially limit the amount of overall material/ concepts that could be taught within the curriculum.

The information herein reflects the understanding reached. Please contact the author if you have any questions or are not in agreement with these Project Minutes.

PROJECT MINUTES

Project:	Westwood Public Schools	Project No.:	14065.00
Prepared by:	Jennifer Soucy	Meeting Date:	12/09/2014
Re:	Capital Needs- Media Centers/ Libraries	Meeting No:	1
Distribution:	JGS, PJP, MF (MF)		

Attendees: Emily Parks- Asst Superintendent, Liz Percy- High School Librarian, Cathy Bolger- Middle School Librarian, Edward Frenette / SMMA, Jennifer Soucy / SMMA

E. Frenette introduced the project and goals for the educational portion of the overall Capital Needs master plan study.

E. Frenette referenced SMMA's original memo dated 10/16/2014. The following paraphrases the discussions in the framework of the questions provided:

1. What do you like about your current administration and/or teaching environment/ space?

- Middle School
  - Existing space is adequate in size.
  - The space is pleasant and 'cozy' with lots of natural light.
  - Adjacent classrooms have doors leading directly into the space which is convenient.
  - There is sufficient display shelving.
- High School
  - New classroom space off of the main reading room was created this year and has been a great addition.
  - Location of the reception desk (in the center of the space) is ok. Originally, there was a desire to locate this closer to the north entrance to monitor students entering the space; however, the student tech help desk was recently added near this entrance. This has served to provide the presence desired by the entrance.
- Elementary Schools
  - Downey and Martha Jones spaces are nice in terms of design and size.

2. How much of the school/ grounds do you use for teaching? Corridors, public spaces, exterior spaces, etc.

- Media Centers rarely use exterior spaces or corridors, but a lot of other programs and classes are utilizing public spaces for teaching.

3. What would you like to do that the current environment is hindering or preventing you from doing?

- Middle School
  - There cannot be more than one class booked in the Media Center at a time due to open design of the space. (acoustics, privacy, etc.)
  - When classes are booked within the space, reading groups/classes are displaced.
  - There is not a separate work area for staff. The existing work room is
- High School
  - There is a need for more enclosed classroom spaces off of the main reading room. All the existing spaces that were originally designed to be conference/classroom space for Media Center use have been repurposed to other programs (SPED, etc.)
  - There are no private/ semi-private spaces for students to be able to study within the school. There is a desire to add study carrels or other furniture pieces within the Media Center and even enclosed small group rooms to help address this need.
  - Currently, the Media Center is utilized as a social/ hang-out space for seniors during their 'free block.' The recent addition of high top tables sprinkled throughout the building has helped to alleviate this issue; however, some students prefer the Media Center for the soft, comfortable seating areas. More social spaces with comfortable seating and centrally located within the building is desirable.
  - More display shelving and bookcases is desirable. The original design intent for the space was to "hide" the books, so stacks are located around the perimeter under the main volume. Some lower bookcases have recently been moved within the main space which is nice; however, more display area is needed.
- Elementary Schools

4. What subject adjacencies would you like to have? Are any existing adjacencies problematic?

- Middle School
  - The existing Media Center is located remotely within the building- and at the end of a corridor versus central within the building.
  - Existing adjacent spaces to the Media Center are good (SPED and Reading Classroom)
- High School
  - The original building design incorporated a Social Studies classroom adjacent to the Media Center which was ideal. Social Studies classes utilize the Media Center more often than any other subject (research projects). This space has since been repurposed for SPED use.
- Elementary Schools
  - Sheehan's Media Center is remote within the building (basement)
  - Downey's Media Center is very central within the building which is appropriate.

5/6. What changes would improve project based learning and interdisciplinary opportunities? What changes would improve student centric learning opportunities? Self directed learning?

- Middle School
  - Separated classroom and small group spaces within the Media Center would allow for more project and small group work.
- High School
  - The Project Lab space is a great maker space and gets heavily utilized. Need more spaces like that.
- Elementary Schools

7. Thoughts on: sustainability of the school building? Integration of sustainability into the curriculum?

- Middle School
- High School
- Elementary Schools

8. Student involvement in the programming and design process?

- Middle School
- High School
- Elementary Schools

9/10. How would you like to integrate technology into the curriculum? 1:1 technology for every student?

- Middle School
  - There are 3 existing platforms (PC, Mac and Chrome book). This will slowly be phased towards Chrome books as this is the platform adopted by the District. Mac desktops with the large screens are ideal for collaboration and instruction.
  - Moving towards Chrome books will free up some space.
- High School
  - Students still use the desktops in the Media Center for printing and for group work for the larger display. (Printing to Papercut is laborious and students cannot print to color)
- Elementary Schools

11. Do you envision the exterior environment being part of the overall teaching environment? How?

12. Does the building environment allow for differentiated instruction?

13. Other thoughts?

- Middle School
- High School
  - There is no sink in the workroom. (It was planned for in the original design, but it was never installed)
  - The HVAC and light fixtures in the space are inefficient.
- Elementary Schools

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PROJECT MINUTES

Project:	Westwood Public Schools	Project No.:	14065.00
Prepared by:	Katy Lillich	Meeting Date:	11/14/2014
Re:	Capital Needs- Admin Mtg–Thurston Middle	Meeting No:	1
Distribution:	JGS, PJP, MF (MF)		

Attendees: Kyle Grady – Asst. Principal, Katy Lillich / SMMA, Ed Frenette / SMMA

E. Frennette introduced the project and goals for the educational portion of the overall Capital Needs master plan study.

E. Frennette referenced SMMA's original memo dated 10/16/2014. The following paraphrases the discussions in the framework of the questions provided:

Student population currently 803 (6^{th} = 278, 8^{th}=275). Classes average at 26 students (22 is the target size).

1. What do you like about your current teaching environment/ space?

- Sufficient furniture for all students including some that modify for special needs.

2. How much of the school/ grounds do you use for teaching? Corridors, public spaces, exterior spaces, etc.

- Cafeteria annex is used for classes.
- Drama programs use corridors, lobbies, etc. for practice.
- Media center and courtyard are used as overflow spaces.

3. What would you like to do that the current environment is hindering or preventing you from doing?

- Need small group and SPED spaces.
- Need large gathering space. Cafeteria will only hold half of one grade at a time. Large gym holds one grade at a time.

4. What subject adjacencies would you like to have? Are any existing adjacencies problematic?

- Central office is not centrally located.
- Moving toward STEM program but they are not there yet.

5/6. What changes would improve project based learning and interdisciplinary opportunities? What changes would improve student centric learning opportunities? Self directed learning?

- Need more loose desks & chairs.

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7. Thoughts on: sustainability of the school building? Integration of sustainability into the curriculum?

- Outdated heating system (gas boiler). Building overheats in winter resulting in opening windows for ventilation and cool air.

8. Student involvement in the programming and design process?

- Yes, especially the engineering students.

9/10. How would you like to integrate technology into the curriculum? 1:1 technology for every student?

- Nearly at 1:1.
- Have Chrome books and some tablets (for art, etc.) that are kept in the building.
- Would like to have wall mounted racks with rapid charge.

11. Do you envision the exterior environment being part of the overall teaching environment? How?

12. Does the building environment allow for differentiated instruction?

- Not enough space in classrooms. Room 111 is example of what they would like for all.

13. Other thoughts?

- Parking / drop-off is difficult. For large events there is overflow parking across the street at a church which requires permission from the church and a crossing detail.
- Not enough parking for faculty when all are present.

The information herein reflects the understanding reached. Please contact the author if you have any questions or are not in agreement with these Project Minutes.

PROJECT MINUTES

Project:	Westwood Public Schools	Project No.:	14065.00
Prepared by:	Jennifer Soucy	Meeting Date:	11/20/2014
Re:	Capital Needs- Student Services–Middle School	Meeting No:	1
Distribution:	JGS, PJP, MF (MF)		

Attendees: Edith Graichen, Edward Frenette / SMMA, Jennifer Soucy / SMMA

E. Frenette introduced the project and goals for the educational portion of the overall Capital Needs master plan study.

E. Frenette referenced SMMA's original memo dated 10/16/2014. The following paraphrases the discussions in the framework of the questions provided:

1. What do you like about your current administration and/or teaching environment/ space?

- Most teachers have their own teaching spaces. Of the 14 SPED teachers, 8 have their own dedicated space. All spaces are adequately sized.

2. How much of the school/ grounds do you use for teaching? Corridors, public spaces, exterior spaces, etc.

- Gymnasium is used during free blocks.
- SPED classes will overflow into general education classrooms, if available.

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3. What would you like to do that the current environment is hindering or preventing you from doing?

- Life Skills program does not have access to kitchen facilities. Culinary space is not used due to scheduling.
- More break-out/ testing spaces are needed. Currently, there are no dedicated spaces for this.
- Time out and break out areas are created by temporary dividers and do not offer the privacy and/or safety required.

4. What subject adjacencies would you like to have? Are any existing adjacencies problematic?

- SPED spaces are dispersed throughout the building. 8th grade Learning Centers are close to 8th grade general ed. classes which is a desirable adjacency.
- 6th grade Learning Centers could be more integrated with 6th grade classes- they are currently close to Math classrooms but also adjacent to 7th grade classes as well.

5/6. What changes would improve project based learning and interdisciplinary opportunities? What changes would improve student centric learning opportunities? Self directed learning?

- The challenges with doing more interdisciplinary work are related more to time constraints and case loads rather than the physical facilities.

7. Thoughts on: sustainability of the school building? Integration of sustainability into the curriculum?

- SPED programs require a lot of paperwork- state regulations.
- There are not enough recycling bins. When these bins are full they have to throw recyclables in the trash.
- There does not appear to be any initiative towards sustainability in the community or within the administration.

8. Student involvement in the programming and design process?

9/10. How would you like to integrate technology into the curriculum? 1:1 technology for every student?

- Would like to see more projectors in the SPED spaces.
- 8th grade has Smart boards, but they are currently only using them as white boards. It appears that this may be due to a lack of training.

11. Do you envision the exterior environment being part of the overall teaching environment? How?

12. Does the building environment allow for differentiated instruction?

- Differentiated instruction is occurring.

13. Other thoughts?

- There is a need for more staff toilet rooms.
- HVAC Issues.

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The information herein reflects the understanding reached. Please contact the author if you have any questions or are not in agreement with these Project Minutes.

PROJECT MINUTES

Project:	Westwood Public Schools	Project No.:	14065.00
Prepared by:	Jennifer Soucy	Meeting Date:	11/11/2014
Re:	Capital Needs- Directors Mtg–Preschool	Meeting No:	1
Distribution:	JGS, PJP, MF (MF)		

Attendees: Aprile Albertelli, Edward Frenette / SMMA, Jennifer Soucy / SMMA

E. Frenette introduced the project and goals for the educational portion of the overall Capital Needs master plan study.

E. Frenette referenced SMMA's original memo dated 10/16/2014. The following paraphrases the discussions in the framework of the questions provided:

- 3 Classrooms- Typical CR size is 15 kids/ 3 adults
- Large SPED population (approximately 50%)
- Other 50% are paid tuition students ('role models')

1. What do you like about your current administration and/or teaching environment/ space?

- Connection to the High School allows for cross collaboration with high school students and programs.
- Currently utilize HS Gymnasium during inclement weather as there is not a large enough interior space within the Pre School to accommodate large group play.
- Early Childhood class sends approximately 6 students down to work with the children.
- The buildings are well-maintained, and Facilities is good about addressing needs where possible (storage shelving, building partition walls, etc)

2. How much of the school/ grounds do you use for teaching? Corridors, public spaces, exterior spaces, etc.

- The lobby outside of the HS Gymnasium is used for assemblies, picture day, etc.- this space is not used by the high school students during the day. Benches and/or fixed seating could make this space more functional.
- Exterior playground is adequate size. Grass/green space is desired and could be accommodated beyond the fenced area.

3. What would you like to do that the current environment is hindering or preventing you from doing?

- One of the existing classrooms is an "L" shape which is awkward and inefficient.
- There is a lack of storage space.
- The only conference space in the office is in the Director's Office. If there is a meeting of more than 6-8 people then space has to be rented out in the High School.
- Green/grass space is desirable for student play. Currently the existing fence line is at the edge of the playground wood chip area.
- Currently, there is not a dedicated "time out" space. Although there has not been an overwhelming need recently for this type of space it is desirable. The Director's office has been used as a time out space which can be a safety concern.
- Another classroom would allow for more students; however, this would require more staff and support spaces.

4. What subject adjacencies would you like to have? Are any existing adjacencies problematic?

- OT space is outside of the secured Preschool area due to space limitations. This was previously a closet- and recently acquired from the High School.
- Speech/Language Room is located off of the Teachers Room- students must walk through Teacher's space to get to this space.

5/6. What changes would improve project based learning and interdisciplinary opportunities? What changes would improve student centric learning opportunities? Self directed learning?

- NEYC require specific "centers" within each preschool classroom (art, literacy, music, dramatic play, writing)- the existing classroom spaces are too small to adequately provide all these centers.
- There is no space to hang drying artwork, so this often occurs on the floors.
- Current AD office is located just outside the Preschool space that, if acquired by Preschool, could be utilized as a small group space (testing, specialist space)
- Specialists (behavioral) are district-wide and are only on site part time. They share office space with the school Psychologist.

7. Thoughts on: sustainability of the school building? Integration of sustainability into the curriculum?

- Would like to incorporate a garden into the curriculum- currently there is no green space accessible to the program.

8. Student involvement in the programming and design process?

N/A

9/10. How would you like to integrate technology into the curriculum? 1:1 technology for every student?

- Tablets are used frequently for SPED as well as a general teaching tool.

- Teachers (and Administrative staff) would love to have SmartBoards, but they do not have them currently. There are portable SmartBoards available, but they are big and take up a lot of valuable floor space.
- TVs/Wii used for dance/music lessons.

11. Do you envision the exterior environment being part of the overall teaching environment? How?

12. Does the building environment allow for differentiated instruction?

13. Other thoughts?

- Height of classroom and toilet room sinks is an issue- too high for the children.
- HVAC Issues- some spaces are too cold, lack of proper ventilation in offices.
- More exterior storage space needed for play equipment (bikes, etc)
- A waiting area for parents is desirable. Current vestibule space is cold during the winter.
- Existing exterior doors are locked and during parent pick-up- parents ring the bell and a staff member has to go to the door to permit entrance. There is no buzzer system.
- Display cases and surfaces are mounted too high for little children to view/use.

The information herein reflects the understanding reached. Please contact the author if you have any questions or are not in agreement with these Project Minutes.

Summary of Spaces 6.4

- *Deerfield Elementary School*
- *Sheehan Elementary School*
- *Hanlon Elementary School*
- *Martha Jones Elementary School*
- *Downey Elementary School*
- *Thurston Middle School*

Proposed Space Summary- Elementary Schools

WESTWOOD

DEERFIELD ELEM	Existing Conditions				MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
ROOM TYPE	**ROOM NFA[1]**	**# OF RMS**	**area totals**		**ROOM NFA[1]**	**# OF RMS**	**area totals**	**Comments**
CORE ACADEMIC SPACES			**11,668**			**10**	**10,000**	
(List classrooms of different sizes separately)								
Pre-Kindergarten w/ toilet		0			1,200		-	1,100 SF min - 1,300 SF max
Kindergarten w/ toilet	1,056	2	2,112	88.0%	1,200	2	2,400	1,100 SF min - 1,300 SF max
General Classrooms - Grade 1	800	2	1,600	84.2%	950	8	7,600	900 SF min - 1,000 SF max
General Classrooms - Grade 2-4	1,056	6	6,336					
General Classrooms - Grade 5	810	2	1,620					
Math Specialist (Shared w/ PE Office)	0	0	0					
Literacy Reading Room (Shared w/ SPED RR)	0	0	0					
SPECIAL EDUCATION			**1,900**				**3,020**	
(List rooms of different sizes separately)								
Self-Contained SPED					950	2	1,900	8% of pop. in self-contained SPED
SPED- Focus Program	520	1	520	54.7%				
SPED- OT/PT	520	1	520					
Self-Contained SPED - toilet	60	1	60		60	2	120	
Resource Room- *GE Literacy (Shared)*	Varies	2	192		500	1	500	1/2 size Genl. Clrm.
SPED (LC) Learning Center	300	1	300					
SPED- Speech	308	1	308					
Small Group Room / Reading					500	1	500	1/2 size Genl. Clrm.
ART & MUSIC			**565**				**2,500**	
Art Classroom - 25 seats	565	1	565		1,000	1	1,000	assumed schedule 2 times / week / student
Art Workroom w/ Storage & kiln					150	1	150	
Music Classroom / Large Group - 25-50 seats		0			1,200	1	1,200	assumed schedule 2 times / week / student
Music Practice / Ensemble		0			75	2	150	
HEALTH & PHYSICAL EDUCATION			**3,454**				**6,300**	
Gymnasium	3,250	1	3,250	54.2%	6,000	1	6,000	6000 SF Min. Size
Gym Storeroom	Varies	2	124		150	1	150	
Health Instructor's Office w/ Shower & Toilet	80	1	80		150	1	150	
MEDIA CENTER			**1,056**				**2,020**	
Media Center / Reading Room	1,056	1	1,056		2,020	1	2,020	
DINING & FOOD SERVICE			**2,872**				**4,718**	
Cafeteria / Dining	1,930	1	1,930		1,718	1	1,718	2 seatings - 15SF per seat
Stage	200	1	200		1,000	1	1,000	
Chair / Table / Equipment Storage					200	1	200	
Kitchen	442	1	442		1,600	1	1,600	1600 SF for first 300 + 1 SF/student Add'l
Staff Lunch Room	300	1	300		200	1	200	20 SF/Occupant
MEDICAL			**252**				**410**	
Medical Suite Toilet	60	1	60		60	1	60	
Nurses' Office / Waiting Room	192	1	192		250	1	250	
Examination Room / Resting		0			100	1	100	
ADMINISTRATION & GUIDANCE			**900**				**2,015**	
General Office / Waiting Room / Toilet	77	1	77		300	1	300	
Teachers' Mail and Time Room					100	1	100	
Duplicating Room	40	1	40		150	1	150	
Records Room	49	1	49		110	1	110	
Principal's Office w/ Conference Area	300	1	300		375	1	375	
Principal's Secretary / Waiting	286	1	286		125	1	125	
Assistant Principal's Office					120	0	-	
Supervisory / Spare Office					120	1	120	
School Psychologist	98	1	98					
Conference Room					250	1	250	
Guidance Office					150	1	150	
Guidance Storeroom					35	1	35	
Teachers' Work Room	50	1	50		300	1	300	
CUSTODIAL & MAINTENANCE			**84**				**1,900**	
Custodian's Office	Varies	4	84		150	1	150	
Custodian's Workshop					375	1	375	
Custodian's Storage					375	1	375	
Recycling Room / Trash					400	1	400	
Receiving and General Supply					200	1	200	
Storeroom					200	1	200	
Network / Telecom Room					200	1	200	
OTHER			**0**				**0**	
Other *(specify)*								
		42						
Total Building Net Floor Area (NFA)			**22,751**				**32,883**	
Proposed Student Capacity / Enrollment							**229**	
Total Building Gross Floor Area (GFA)[2]			35,078				**41,220**	
Grossing factor (GFA/NFA)			**1.54**				**1.25**	

[1] **Individual Room Net Floor Area (NFA)** Includes the net square footage measured from the inside face of the perimeter walls and includes all specific spaces assigned to a particular prog

[2] **Total Building Gross Floor Area (GFA)** Includes the entire building gross square footage measured from the outside face of exterior walls

Architect Certification

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Name of Principal Architect: _____

Signature of Principal Architect: _____

Date:

Proposed Space Summary- Elementary Schools

WESTWOOD

SHEEHAN ELEM	Existing Conditions				MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
ROOM TYPE	ROOM NFA[1]	# OF RMS	area totals		ROOM NFA[1]	# OF RMS	area totals	Comments
CORE ACADEMIC SPACES			**15,041**			**14**	**14,050**	
(List classrooms of different sizes separately)								
Pre-Kindergarten w/ toilet		0			1,200		-	1,100 SF min - 1,300 SF max
Kindergarten w/ toilet	1,100	2	2,200		1,200	3	3,600	1,100 SF min - 1,300 SF max
Kindergarten w/out toilet	900	1	900	75.0%				
General Classrooms - Grade 1-5 (1946 Bldg)	685	10	6,850	72.1%	950	11	10,450	900 SF min - 1,000 SF max
General Classrooms - Grade 1-5 (1967 Bldg)	900	5	4,500	94.7%				
Math Specialist	126	1	126					
Literacy Reading Room	Varies	2	465					
SPECIAL EDUCATION			**1,557**				**4,530**	
(List rooms of different sizes separately)								
Self-Contained SPED					950	3	2,850	8% of pop. in self-contained SPED
Self-Contained SPED - toilet					60	3	180	
SPED- LBLD Program	685	1	685					
SPED- OT/PT	Varies	2	174					
Resource Room	175	1	175		500	2	1,000	1/2 size Genl. Clrm.
SPED- LC (Learning Center)	Varies	2	285					
SPED Speech	128	1	128					
SPED- ELL	110	1	110					
Small Group Room / Reading					500	1	500	1/2 size Genl. Clrm.
ART & MUSIC			**951**				**2,500**	
Art Classroom - 25 seats	685	1	685		1,000	1	1,000	assumed schedule 2 times / week / student
Art Workroom w/ Storage & kiln	266	1	266		150	1	150	
Music Classroom / Large Group - 25-50 seats		0	0		1,200	1	1,200	assumed schedule 2 times / week / student
Music Practice / Ensemble		0			75	2	150	
HEALTH & PHYSICAL EDUCATION			**4,076**				**6,300**	
Gymnasium	3,869	1	3,869	64.5%	6,000	1	6,000	6000 SF Min. Size
Gym Storeroom	207	1	207		150	1	150	
Health Instructor's Office w/ Shower & Toilet					150	1	150	
MEDIA CENTER			**2,400**				**2,101**	
Media Center / Reading Room	2,400	1	2,400		2,101	1	2,101	
DINING & FOOD SERVICE			**6,127**				**5,509**	
Cafeteria / Dining	3,170	1	3,170		2,385	1	2,385	2 seatings - 15SF per seat
Stage	576	1	576		1,000	1	1,000	
Chair / Table / Equipment Storage	280	1	280		306	1	306	
Kitchen	1,726	1	1,726		1,618	1	1,618	1600 SF for first 300 + 1 SF/student Add'l
Staff Lunch Room	375	1	375		200	1	200	20 SF/Occupant
MEDICAL			**236**				**510**	
Medical Suite Toilet	36	1	36		60	1	60	
Nurses' Office / Waiting Room	200	1	200		250	1	250	
Examination Room / Resting		0			100	2	200	
ADMINISTRATION & GUIDANCE			**1,487**				**2,033**	
General Office / Waiting Room / Toilet	438	1	438		309	1	309	
Teachers' Mail and Time Room					100	1	100	
Duplicating Room	91	1	91		150	1	150	
Records Room	72	1	72		110	1	110	
Principal's Office w/ Conference Area	168	1	168		375	1	375	
Principal's Secretary / Waiting					125	1	125	
Assistant Principal's Office					120	0	-	
Supervisory / Spare Office					120	1	120	
Conference Room	128	1	128		250	1	250	
Guidance Office					150	1	150	
Guidance Storeroom					35	1	35	
School Psychologist	180	1	180					
Teachers' Work Room	410	1	410		309	1	309	
CUSTODIAL & MAINTENANCE			**316**				**1,918**	
Custodian's Office					150	1	150	
Custodian's Workshop					375	1	375	
Custodian's Storage	Varies	3	316		375	1	375	
Recycling Room / Trash					400	1	400	
Receiving and General Supply					206	1	206	
Storeroom					212	1	212	
Network / Telecom Room					200	1	200	
OTHER			**0**				**0**	
Other *(specify)*								
Total Building Net Floor Area (NFA)			**32,191**				**39,451**	
Proposed Student Capacity / Enrollment							**318**	
Total Building Gross Floor Area (GFA)[2]			49,586				**56,572**	
Grossing factor (GFA/NFA)			**1.54**				**1.43**	

[1] **Individual Room Net Floor Area (NFA)** Includes the net square footage measured from the inside face of the perimeter walls and includes all specific spaces assigned to a particular prog

[2] **Total Building Gross Floor Area (GFA)** Includes the entire building gross square footage measured from the outside face of exterior walls

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Proposed Space Summary- Elementary Schools

WESTWOOD

HANLON ELEM	Existing Conditions				MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
ROOM TYPE	ROOM NFA[1]	# OF RMS	area totals		ROOM NFA[1]	# OF RMS	area totals	Comments
CORE ACADEMIC SPACES			**11,257**			**10**	**10,000**	
(List classrooms of different sizes separately)								
Pre-Kindergarten w/ toilet		0			1,200		-	1,100 SF min - 1,300 SF max
Kindergarten w/ toilet	895	2	1,790	74.6%	1,200	2	2,400	1,100 SF min - 1,300 SF max
General Classrooms - Grade 1 w/toilet	895	2	1,790	94.2%	950	8	7,600	900 SF min - 1,000 SF max
General Classrooms - Grade 2-5	895	7	6,265					
General Classroom- Grade 5 (Modular)	820	1	820	86.3%				
Small Group Breakout Space	40	1	40					
Math Specialist (Shared w/SPED)		0						
Literacy Reading Room	276	2	552					
SPECIAL EDUCATION			**1,604**				**3,020**	
(List rooms of different sizes separately)								
Self-Contained SPED		0	0		950	2	1,900	8% of pop. in self-contained SPED
Self-Contained SPED - toilet					60	2	120	
SPED- OT/PT/Math Specialist/ELL	895	1	895					
Resource Room	339	1	339		500	1	500	1/2 size Genl. Clrm.
SPED- LC (Learning Center)	260	1	260					
SPED Speech	110	1	110					
Small Group Room / Reading					500	1	500	1/2 size Genl. Clrm.
ART & MUSIC			**811**				**2,425**	
Art Classroom - 25 seats	811	1	811		1,000	1	1,000	assumed schedule 2 times / week / student
Art Workroom w/ Storage & kiln					150	1	150	
Music Classroom / Large Group - 25-50 seats		0	0		1,200	1	1,200	assumed schedule 2 times / week / student
Music Practice / Ensemble		0			75	1	75	
HEALTH & PHYSICAL EDUCATION			**3,670**				**6,300**	
Gymnasium	3,400	1	3,400	56.7%	6,000	1	6,000	6000 SF Min. Size
Gym Storeroom	135	2	270		150	1	150	
Health Instructor's Office w/ Shower & Toilet		0			150	1	150	
MEDIA CENTER			**1,014**				**2,020**	
Media Center / Reading Room	1,014	1	1,014		2,020	1	2,020	
DINING & FOOD SERVICE			**2,540**				**4,680**	
Cafeteria / Dining	1,498	1	1,498		1,680	1	1,680	2 seatings - 15SF per seat
Stage	200	1	200		1,000	1	1,000	
Chair / Table / Equipment Storage		0	0		200	1	200	
Kitchen	582	1	582		1,600	1	1,600	1600 SF for first 300 + 1 SF/student Add'l
Staff Lunch Room	260	1	260		200	1	200	20 SF/Occupant
MEDICAL			**211**				**410**	
Medical Suite Toilet	42	1	42		60	1	60	
Nurses' Office / Waiting Room	169	1	169		250	1	250	
Examination Room / Resting		0			100	1	100	
ADMINISTRATION & GUIDANCE			**819**				**2,015**	
General Office / Waiting Room / Toilet	165	1	165		300	1	300	
Teachers' Mail and Time Room					100	1	100	
Duplicating Room	115	1	115		150	1	150	
Records Room	48	1	48		110	1	110	
Principal's Office w/ Conference Area	330	1	330		375	1	375	
Principal's Secretary / Waiting					125	1	125	
Assistant Principal's Office					120	0	-	
Supervisory / Spare Office					120	1	120	
Conference Room		0			250	1	250	
Guidance Office					150	1	150	
Guidance Storeroom					35	1	35	
School Psychologist	161	1	161					
Teachers' Work Room (In Cafeteria)		0	0		300	1	300	
CUSTODIAL & MAINTENANCE			**492**				**1,900**	
Custodian's Office					150	1	150	
Custodian's Workshop					375	1	375	
Custodian's Storage	Varies	3	342		375	1	375	
Recycling Room / Trash					400	1	400	
Receiving and General Supply					200	1	200	
Storeroom					200	1	200	
Network / Telecom Room	150	1	150		200	1	200	
OTHER			**1,412**				**0**	
Other *(specify)*								
Extended Day Program	Varies	2	1,412					
Total Building Net Floor Area (NFA)			**23,830**				**32,770**	
Proposed Student Capacity / Enrollment							**224**	
Total Building Gross Floor Area (GFA)[2]			34,280				**40,320**	
Grossing factor (GFA/NFA)			**1.44**				**1.23**	

[1] **Individual Room Net Floor Area (NFA)** Includes the net square footage measured from the inside face of the perimeter walls and includes all specific spaces assigned to a particular progra

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Proposed Space Summary- Elementary Schools

WESTWOOD

DOWNEY ELEM	Existing Conditions				MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
ROOM TYPE	ROOM NFA[1]	# OF RMS	area totals		ROOM NFA[1]	# OF RMS	area totals	Comments
CORE ACADEMIC SPACES			**13,558**			**10**	**10,000**	
(List classrooms of different sizes separately)								
Pre-Kindergarten w/ toilet		0			1,200		-	1,100 SF min - 1,300 SF max
Kindergarten w/ toilet	1,196	3	3,588	99.7%	1,200	2	2,400	1,100 SF min - 1,300 SF max
General Classrooms - Grade 1-5	880	10	8,800	92.6%	950	8	7,600	900 SF min - 1,000 SF max
Math Specialist (Shared with Literacy)								
Literacy Reading Room	880	1	880					
Literacy Office	290	1	290					
SPECIAL EDUCATION			**3,671**				**3,020**	
(List rooms of different sizes separately)								
Self-Contained SPED					950	2	1,900	8% of pop. in self-contained SPED
Self-Contained SPED - toilet	70	1	70		60	2	120	
SPED- PEER Program	880	1	880					
SPED-STAR Program	900	1	900					
SPED- WABA Program (Autism)	514	1	514					
SPED- OT/PT	161	1	161					
Resource Room	511	1	511		500	1	500	1/2 size Genl. Clrm.
SPED- LC (Learning Center)	307	1	307					
SPED Speech	160	1	160					
Small Group Room / Reading	168	1	168		500	1	500	1/2 size Genl. Clrm.
ART & MUSIC			**2,567**				**2,500**	
Art Classroom - 25 seats	1,109	1	1,109		1,000	1	1,000	assumed schedule 2 times / week / student
Art Workroom w/ Storage & kiln		0			150	1	150	
Music Classroom / Large Group - 25-50 seats	1,048	1	1,048		1,200	1	1,200	assumed schedule 2 times / week / student
Music Practice / Ensemble	233	1	233		75	2	150	
Music Storage Room	177	1	177					
HEALTH & PHYSICAL EDUCATION			**3,620**				**6,300**	
Gymnasium	3,500	1	3,500		6,000	1	6,000	6000 SF Min. Size
Gym Storeroom	120	1	120		150	1	150	
Health Instructor's Office w/ Shower & Toilet		0	0		150	1	150	
MEDIA CENTER			**3,231**				**2,020**	
Media Center / Reading Room	3,231	1	3,231		2,020	1	2,020	
DINING & FOOD SERVICE			**5,858**				**4,710**	
Cafeteria / Dining	2,420	1	2,420		1,710	1	1,710	2 seatings - 15SF per seat
Stage	780	1	780		1,000	1	1,000	
Chair / Table / Equipment Storage	Varies	3	380		200	1	200	
Kitchen	1,550	1	1,550		1,600	1	1,600	1600 SF for first 300 + 1 SF/student Add'l
Staff Lunch Room	728	1	728		200	1	200	20 SF/Occupant
MEDICAL			**598**				**410**	
Medical Suite Toilet	68	1	68		60	1	60	
Nurses' Office / Waiting Room	530	1	530		250	1	250	
Examination Room / Resting		0			100	1	100	
ADMINISTRATION & GUIDANCE			**1,397**				**2,015**	
General Office / Waiting Room / Toilet	420	1	420		300	1	300	
Teachers' Mail and Time Room					100	1	100	
Duplicating Room	63	1	63		150	1	150	
Records Room	84	1	84		110	1	110	
Principal's Office w/ Conference Area	265	1	265		375	1	375	
Principal's Secretary / Waiting					125	1	125	
Assistant Principal's Office					120	0	-	
Supervisory / Spare Office					120	1	120	
Conference Room (In Media Center)	400	1	400		250	1	250	
Guidance Office					150	1	150	
Guidance Storeroom					35	1	35	
School Psychologist	165	1	165					
Teachers' Work Room (In Teachers Lounge)		0	0		300	1	300	
CUSTODIAL & MAINTENANCE			**466**				**1,900**	
Custodian's Office					150	1	150	
Custodian's Workshop					375	1	375	
Custodian's Storage	Varies	4	466		375	1	375	
Recycling Room / Trash					400	1	400	
Receiving and General Supply					200	1	200	
Storeroom					200	1	200	
Network / Telecom Room					200	1	200	
OTHER			**0**				**0**	
Other *(specify)*								
Total Building Net Floor Area (NFA)			**34,966**				**32,875**	
Proposed Student Capacity / Enrollment							**228**	
Total Building Gross Floor Area (GFA)[2]			50,692				**41,040**	
Grossing factor (GFA/NFA)			**1.45**				**1.25**	

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Proposed Space Summary- Elementary Schools

WESTWOOD

MARTHA JONES ELEM	Existing Conditions				MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
ROOM TYPE	ROOM NFA[1]	# OF RMS	area totals		ROOM NFA[1]	# OF RMS	area totals	Comments
CORE ACADEMIC SPACES			**16,408**			**11**	**10,950**	
(List classrooms of different sizes separately)								
Pre-Kindergarten w/ toilet		0			1,200		-	1,100 SF min - 1,300 SF max
Kindergarten w/ toilet	1,195	2	2,390	99.6%	1,200	2	2,400	1,100 SF min - 1,300 SF max
General Classroom w/ Toilet- Grade 1	1,195	1	1,195					
General Classrooms - Grade 1-5	954	12	11,448	100.4%	950	9	8,550	900 SF min - 1,000 SF max
Math Specialist	850	1	850					
Literacy Reading Room	Varies	2	319					
Literacy Small Group Room	206	1	206					
SPECIAL EDUCATION			**1,232**				**3,020**	
(List rooms of different sizes separately)								
Self-Contained SPED					950	2	1,900	8% of pop. in self-contained SPED
Self-Contained SPED - toilet					60	2	120	
SPED- OT/PT	250	1	250					
Resource Room	440	1	440		500	1	500	1/2 size Genl. Clrm.
SPED- LC (Learning Center)	332	1	332					
SPED Speech	210	1	210					
Small Group Room / Reading					500	1	500	1/2 size Genl. Clrm.
ART & MUSIC			**2,601**				**2,500**	
Art Classroom - 25 seats	1,020	1	1,020		1,000	1	1,000	assumed schedule 2 times / week / student
Art Workroom w/ Storage & kiln	80	1	80		150	1	150	
Music Classroom / Large Group - 25-50 seats	1,181	1	1,181		1,200	1	1,200	assumed schedule 2 times / week / student
Music Practice / Ensemble	160	2	320		75	2	150	
HEALTH & PHYSICAL EDUCATION			**5,536**				**6,300**	
Gymnasium	5,076	1	5,076		6,000	1	6,000	6000 SF Min. Size
Gym Storeroom	460	1	460		150	1	150	
Health Instructor's Office w/ Shower & Toilet		0	0		150	1	150	
MEDIA CENTER			**2,317**				**2,020**	
Media Center / Reading Room	2,317	1	2,317		2,020	1	2,020	
DINING & FOOD SERVICE			**2,612**				**4,980**	
Cafeteria / Dining (Shared with Gym)		0	0		1,980	1	1,980	2 seatings - 15SF per seat
Stage	800	1	800		1,000	1	1,000	
Chair / Table / Equipment Storage	Varies	2	213		200	1	200	
Kitchen	1,190	1	1,190		1,600	1	1,600	1600 SF for first 300 + 1 SF/student Add'l
Staff Lunch Room	409	1	409		200	1	200	20 SF/Occupant
MEDICAL			**430**				**510**	
Medical Suite Toilet	60	1	60		60	1	60	
Nurses' Office / Waiting Room	370	1	370		250	1	250	
Examination Room / Resting		0			100	2	200	
ADMINISTRATION & GUIDANCE			**1,156**				**2,015**	
General Office / Waiting Room / Toilet	220	1	220		300	1	300	
Teachers' Mail and Time Room					100	1	100	
Duplicating Room	115	1	115		150	1	150	
Records Room		0	0		110	1	110	
Principal's Office w/ Conference Area	155	1	155		375	1	375	
Principal's Secretary / Waiting					125	1	125	
Assistant Principal's Office					120	0	-	
Supervisory / Spare Office					120	1	120	
Conference Room	135	1	135		250	1	250	
Guidance Office					150	1	150	
Guidance Storeroom					35	1	35	
School Psychologist	259	1	259					
Teachers' Work Room (Off Gym)	272	1	272		300	1	300	
CUSTODIAL & MAINTENANCE			**400**				**1,900**	
Custodian's Office					150	1	150	
Custodian's Workshop					375	1	375	
Custodian's Storage	Varies	6	400		375	1	375	
Recycling Room / Trash					400	1	400	
Receiving and General Supply					200	1	200	
Storeroom					200	1	200	
Network / Telecom Room					200	1	200	
OTHER			**0**				**0**	
Other *(specify)*								
Total Building Net Floor Area (NFA)			**32,692**				**34,195**	
Proposed Student Capacity / Enrollment							**264**	
Total Building Gross Floor Area (GFA)[2]			50,796				**47,520**	
Grossing factor (GFA/NFA)			**1.55**				**1.39**	

[1] **Individual Room Net Floor Area (NFA)** Includes the net square footage measured from the inside face of the perimeter walls and includes all specific spaces assigned to a particular program ar

[2] **Total Building Gross Floor Area (GFA)** Includes the entire building gross square footage measured from the outside face of exterior walls

Architect Certification

I hereby certify that all of the information provided in this "Proposed Space Summary" is true, complete and accurate and, except as agreed to in writing by the Massachusetts School Building Authority, in accordance with the guidelines, rules, regulations and policies of the Massachusetts School Building

Name of Architect Firm: _____

Name of Principal Architect: _____

Signature of Principal Architect: _____

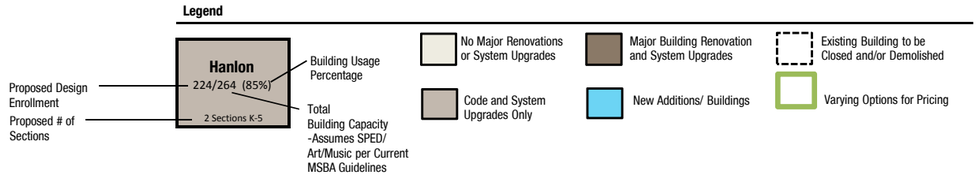
Date:

Master Plan Options Matrix 6.5

SMMA

Westwood School District Options Summary

Updated 4/30/2015
10 Year Capital Needs Plan



	Elementary Schools						Middle School	High School	Grand Totals per Options
									Project Costs
Status Quo									
Necessary Code and System Upgrades Only Including:									
Accessibility Upgrades *Building Code Compliance* *MEP Systems Upgrades as Rqd* *Window Replacement as Rqd* — Option A-1	K-5 **Deerfield** 229/218 (105%) 2 Sections K-5 — $9,205,895	K-5 **Sheehan** 318/356 (89%) 3 Sections K-5 Elevator — $16,572,434	K-5 **Hanlon** 224/218 (103%) 2 Sections K-5 — $10,974,470	K-5 **Martha Jones** 264/333 (79%) 2 Sections K-5 — $1,242,650	**Downey** 228/333 (68%) 2 Sections K-5 — $1,194,430	6-8 **Thurston** 725/759 (95%) — $23,507,250	9-12 **Westwood HS** 970		Option A-1 $62,697,129
Satisfy Educational Program									
Necessary Code and System Upgrades, Renovations/Additions — Option B-1	K-5 **Deerfield** 229/264 (87%) 2 Sections K-5 Library, Music, Art — $14,115,061	K-5 **Sheehan** 318/356 (89%) 3 Sections K-5 Elevator — $20,728,128	K-5 **Hanlon** 224/264 (85%) 2 Sections K-5 Library, Music, Art — $12,661,350	K-5 **Martha Jones** 264/333 (79%) 2 Sections K-5 — $1,242,650	**Downey** 228/333 (68%) 2 Sections K-5 Sm Grp Space — $1,297,399	6-8 **Thurston** 725/759 (95%) — $28,199,438	9-12 **Westwood HS** 970		Option B-1 $78,244,025
Option B-3 *Redistricting* *Relocate Extended Day Program*	1-5 **Deerfield** 189/218 (87%) 2 Sections 1-5 Library — $13,512,041	**Sheehan** 322/356 (90%) 3 Sections 1-5 Elevator — $20,728,128	Pre-K/ K **Hanlon** 240/264 (91%) 10 Sections K/4 **Pre-K** Library, Music, Art — $12,661,350	1-5 **Martha Jones** 294/333 (88%) 3 Sections 1-5 — $1,242,650	**Downey** 273/310 (88%) 2 Sections 1-5 Sm Grp Space Extended Day — $1,297,399	6-8 **Thurston** 725/759 (95%) — $28,199,438	9-12 **Westwood HS** 970		Option B-3 $77,641,005
Consolidate									
Necessary Code and System Upgrades, Renovations/Additions Redistricting, New Building(s) — Option C-1a *Four Elementary Schools* *Sheehan and Deerfield Districts Combined* *Hanlon, MJ, Downey Districts remain as is*	K-5 **Deerfield**	**New Sheehan** **540 Students** 4 Sections K-5/**Pre-K** 86,000 — $46,332,500	K-5 **Hanlon** 224/264 (85%) 2 Sections K-5 Library, Music, Art — $12,661,350	K-5 **Martha Jones** 264/333 (79%) 2 Sections K-5 — $1,242,650	**Downey** 228/333 (68%) 2 Sections K-5 Sm Grp Space — $1,297,399	6-8 **Thurston** 725/759 (95%) — $28,199,438	9-12 **Westwood HS** 970		Option C-1a $89,733,336
Option C-1d *Three Elementary Schools* *Sheehan, Hanlon and Deerfield Districts Combined* *MJ, Downey Districts remain as is*	K-5 **Deerfield**	**Sheehan**	K-5 **New Hanlon** **800 Students** 6 Sections K-5/**Pre-K** 115,000 — $60,375,000	K-5 **Martha Jones** 264/333 (79%) 2 Sections K-5 — $1,242,650	**Downey** 228/333 (68%) 2 Sections K-5 Sm Grp Space — $1,297,399	6-8 **Thurston** 725/759 (95%) * — $28,199,438	9-12 **Westwood HS** 970		Option C-1d $91,114,486
Option C-1e *Three Elementary Schools* *Redistricting for Parity*	K-5 **Deerfield**	**Sheehan**	K-5 **New Hanlon** **540 Students** 4 Sections K-5/**Pre-K** 84,000 — $45,255,000	K-5 **Martha Jones** 373/396 (94%) 3 Sections K-5 3 CR Addition — $2,461,368	**Downey** 373/396(94%) 3 Sections K-5 Sm Grp Space 4 CR Addition — $3,404,375	6-8 **Thurston** 725/759 (95%) * — $28,199,438	9-12 **Westwood HS** 970		Option C-1e $79,320,180

The Deerfield site is not preferred for a new school option due to localized wetlands, site configuration, and phased construction (temporary modulars rqd)

* **New Thurston** 725/759 — 120,000 SF — $62,725,000

Proposed new Middle School on Existing Sheehan Site. No add'l land purchase required due to consilidation of Elem Schools If additional land is available then a proposed new Middle School is feasible in all Options

Estimate of Probable Costs 6.6

VJ Associates

VJ ASSOCIATES
A CONSTRUCTION CONSULTING FIRM

35 Highland Circle, Needham, Massachusetts 02492

DRAFT

Feasibility Study

SMMA

Westwood School District Options Summary

Westwood, MA

April 16, 2015

Feasibility Study
SMMA
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BASIS OF ESTIMATE

The estimate is based on the drawings and documents prepared by SMMA dated March 3rd, 2015.

Qualifications / Clarifications:

1 Labor costs included at local prevailing wage rates.
2 The following mark ups are used:

General Conditions	13.00%
General Requirements (3%), Insurance & Bond (3%), Building Permit (1%)	7.00%
CM's Fee	5.00%
Estimating Contingency	10.00%
Design Contingency	10.00%
CM Contingency	2.00%
Phasing & Temporary work	0.00%
Escalation Contingency based on construction start of summer 2017 (at 4% per year)	8.00%

3 The estimate assumes all long-lead items can be purchased to meet schedule requirements.
4 The estimate is based on the premise that the design will meet all codes, laws, ordinances, rules, & regulations in effect at the time that the estimate was prepared. The estimate shall be adjusted should any discrepancies between design and the aforementioned codes, laws or ordinances result in, or require, an increase in the cost of the work.

The estimate excludes the following:

1 A-E Fees
2 Overtime
3 Working in contaminated soils
4 Loose furniture and equipment
5 Loose technology equipment (i.e. Computers, Printers, Etc.)
6 Third party commissioning costs
7 Moving expenses
8 Demolition of old buildings in consolidation options
9 Testing

Feasibility Study
SMMA
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Status Quo		Deerfield SQ 35,078		Sheehan SQ 51,147		Hanlon SQ 38,256		Martha Jones SQ 50,769		Downey SQ 50,692		Thurston SQ 92,400	
		Cost/SF	Total	Cost/SF	Total	Cost/SF	Total	Cost/SF	Total	Cost/SF	Total	Cost/SF	Total
Trade Description													
A - Substructure		0.00	0.00	2.00	102,294.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B - Shell		28.00	982,184.00	49.00	2,506,203.00	45.00	1,721,520.00	0.00	0.00	0.00	0.00	45.00	4,158,000.00
C - Interiors		7.00	245,546.00	8.75	447,536.25	7.00	267,792.00	0.00	0.00	0.00	0.00	5.00	462,000.00
D - Services		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D10 - Elevator		0.00	0.00	3.50	179,014.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D20 - Plumbing		8.50	298,163.00	8.90	455,208.30	8.50	325,176.00	4.00	203,076.00	4.00	202,768.00	6.00	554,400.00
D30 - HVAC		42.00	1,473,276.00	42.00	2,148,174.00	42.00	1,606,752.00	2.00	101,538.00	2.00	101,384.00	42.00	3,880,800.00
D40 - Fire Protection		4.50	157,851.00	4.50	230,161.50	0.00	0.00	0.00	0.00	0.00	0.00	4.00	369,600.00
D50 - Electrical		15.50	543,709.00	15.50	792,778.50	15.50	592,968.00	6.05	307,152.45	5.60	283,875.20	5.00	462,000.00
E - Equipment		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F - Demolition		10.00	350,780.00	10.00	511,470.00	10.00	382,560.00	0.00	0.00	0.00	0.00	10.00	924,000.00
F - Haz Mat Abatement		5.70	200,000.00	5.87	300,000.00	5.23	200,000.00	0.00	0.00	0.00	0.00	3.25	300,000.00
G - Site		8.00	280,624.00	9.50	485,896.50	8.00	306,048.00	0.00	0.00	0.00	0.00	5.00	462,000.00
Sub-Total of Building Works			4,532,133.00		8,158,736.55		5,402,816.00		611,766.45		588,027.20		11,572,800.00
General Conditions													
General Conditions	13.0%		589,177.29		1,060,635.75		702,366.08		79,529.64		76,443.54		1,504,464.00
General Requirements / Ins. / Bond / Permits	7.0%		317,249.31		571,111.56		378,197.12		42,823.65		41,161.90		810,096.00
CM Fee	5.0%		226,606.65		407,936.83		270,140.80		30,588.32		29,401.36		578,640.00
Sub-Total before Contingencies			5,665,166.25		10,198,420.69		6,753,520.00		764,708.06		735,034.00		14,466,000.00
Contingencies													
Estimating Contingency	10.0%		566,516.63		1,019,842.07		675,352.00		76,470.81		73,503.40		1,446,600.00
Design Contingency	10.0%		566,516.63		1,019,842.07		675,352.00		76,470.81		73,503.40		1,446,600.00
CM Contingency	2.0%		113,303.33		203,968.41		135,070.40		15,294.16		14,700.68		289,320.00
Phasing & Temporary Work	0.0%		-		-		-		-		-		-
Escalation	8.0%		453,213.30		815,873.66		540,281.60		61,176.65		58,802.72		1,157,280.00
Total			**7,364,716**		**13,257,947**		**8,779,576**		**994,120**		**955,544**		**18,805,800**

Feasibility Study
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Satisfy Educational Program		Deerfield SEP 1 41,278		Deerfield SEP 2 38,178		Sheehan SEP 51,147		Hanlon SEP 34,280		Downey SEP 50,692		Thurston SEP 92,400	
		Cost/SF	Total	Cost/SF	Total	Cost/SF	Total	Cost/SF	Total	Cost/SF	Total	Cost/SF	Total
Trade Description													
A - Substructure		3.00	123,834.00	3.00	114,534.00	2.00	102,294.00	3.00	102,840.00	0.00	0.00	0.00	0.00
B - Shell		28.00	1,155,784.00	28.00	1,068,984.00	49.00	2,506,203.00	45.00	1,542,600.00	0.00	0.00	45.00	4,158,000.00
C - Interiors		24.00	990,672.00	27.50	1,049,895.00	28.75	1,470,476.25	24.00	822,720.00	1.00	50,692.00	22.00	2,032,800.00
D - Services		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D10 - Elevator		0.00	0.00	0.00	0.00	3.50	179,014.50	0.00	0.00	0.00	0.00	0.00	0.00
D20 - Plumbing		8.50	350,863.00	10.50	400,869.00	8.90	455,208.30	8.50	291,380.00	4.00	202,768.00	6.00	554,400.00
D30 - HVAC		42.00	1,733,676.00	42.00	1,603,476.00	42.00	2,148,174.00	42.00	1,439,760.00	2.00	101,384.00	42.00	3,880,800.00
D40 - Fire Protection		4.50	185,751.00	4.50	171,801.00	4.50	230,161.50	0.00	0.00	0.00	0.00	4.00	369,600.00
D50 - Electrical		28.50	1,176,423.00	28.50	1,088,073.00	28.50	1,457,689.50	28.50	976,980.00	5.60	283,875.20	10.00	924,000.00
E - Equipment		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F - Demolition		10.00	412,780.00	10.00	381,780.00	10.00	511,470.00	10.00	342,800.00	0.00	0.00	10.00	924,000.00
F - Haz Mat Abatement		4.85	200,000.00	5.24	200,000.00	5.87	300,000.00	5.83	200,000.00	0.00	0.00	3.25	300,000.00
G - Site		15.00	619,170.00	15.00	572,670.00	16.50	843,925.50	15.00	514,200.00	0.00	0.00	8.00	739,200.00
Sub-Total of Building Works			6,948,953.00		6,652,082.00		10,204,616.55		6,233,280.00		638,719.20		13,882,800.00
General Conditions													
General Conditions	13.0%		903,363.89		864,770.66		1,326,600.15		810,326.40		83,033.50		1,804,764.00
General Requirements / Ins. / Bond / Permits	7.0%		486,426.71		465,645.74		714,323.16		436,329.60		44,710.34		971,796.00
CM Fee	5.0%		347,447.65		332,604.10		510,230.83		311,664.00		31,935.96		694,140.00
Sub-Total before Contingencies			8,686,191.25		8,315,102.50		12,755,770.69		7,791,600.00		798,399.00		17,353,500.00
Contingencies													
Estimating Contingency	10.0%		868,619.13		831,510.25		1,275,577.07		779,160.00		79,839.90		1,735,350.00
Design Contingency	10.0%		868,619.13		831,510.25		1,275,577.07		779,160.00		79,839.90		1,735,350.00
CM Contingency	2.0%		173,723.83		166,302.05		255,115.41		155,832.00		15,967.98		347,070.00
Phasing & Temporary Work	0.0%		-		-		-		-		-		-
Escalation	8.0%		694,895.30		665,208.20		1,020,461.66		623,328.00		63,871.92		1,388,280.00
Total			**11,292,049**		**10,809,633**		**16,582,502**		**10,129,080**		**1,037,919**		**22,559,550**

Feasibility Study
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Consolidate		Sheehan CON 80,000		Hanlon CON 1 110,000		Hanlon CON 2 82,000		Martha Jones CON 4,500		Downey CON 6,000		Thurston CON 120,000	
		Cost/SF	Total	Cost/SF	Total	Cost/SF	Total	Cost/SF	Total	Cost/SF	Total	Cost/SF	Total
Trade Description													
A - Substructure		17.00	1,360,000.00	17.00	1,870,000.00	17.00	1,394,000.00	17.00	76,500.00	17.00	102,000.00	17.00	2,040,000.00
B - Shell		78.00	6,240,000.00	78.00	8,580,000.00	78.00	6,396,000.00	78.00	351,000.00	78.00	468,000.00	78.00	9,360,000.00
C - Interiors		40.00	3,200,000.00	40.00	4,400,000.00	40.00	3,280,000.00	40.00	180,000.00	57.00	342,000.00	40.00	4,800,000.00
D - Services		2.00	160,000.00	2.00	220,000.00	2.00	164,000.00	2.00	9,000.00	2.00	12,000.00	2.00	240,000.00
D10 - Elevator		1.00	80,000.00	1.00	110,000.00	1.00	82,000.00	1.00	4,500.00	1.00	6,000.00	1.00	120,000.00
D20 - Plumbing		17.00	1,360,000.00	17.00	1,870,000.00	17.00	1,394,000.00	17.00	76,500.00	17.00	102,000.00	17.00	2,040,000.00
D30 - HVAC		38.00	3,040,000.00	38.00	4,180,000.00	38.00	3,116,000.00	38.00	171,000.00	38.00	228,000.00	38.00	4,560,000.00
D40 - Fire Protection		6.00	480,000.00	6.00	660,000.00	6.00	492,000.00	6.00	27,000.00	6.00	36,000.00	6.00	720,000.00
D50 - Electrical		35.00	2,800,000.00	35.00	3,850,000.00	35.00	2,870,000.00	35.00	157,500.00	35.00	210,000.00	35.00	4,200,000.00
E - Equipment		7.50	600,000.00	7.50	825,000.00	7.50	615,000.00	7.50	33,750.00	7.50	45,000.00	7.50	900,000.00
F - Demolition		5.00	400,000.00	3.64	400,000.00	4.88	400,000.00	16.67	75,000.00	12.50	75,000.00	3.33	400,000.00
F - Haz Mat Abatement		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
G - Site		18.75	1,500,000.00	13.64	1,500,000.00	18.29	1,500,000.00	11.11	50,000.00	8.33	50,000.00	12.50	1,500,000.00
Sub-Total of Building Works			21,220,000.00		28,465,000.00		21,703,000.00		1,211,750.00		1,676,000.00		30,880,000.00
General Conditions													
General Conditions	13.0%		2,758,600.00		3,700,450.00		2,821,390.00		157,527.50		217,880.00		4,014,400.00
General Requirements / Ins. / Bond / Permits	7.0%		1,485,400.00		1,992,550.00		1,519,210.00		84,822.50		117,320.00		2,161,600.00
CM Fee	5.0%		1,061,000.00		1,423,250.00		1,085,150.00		60,587.50		83,800.00		1,544,000.00
Sub-Total before Contingencies			26,525,000.00		35,581,250.00		27,128,750.00		1,514,687.50		2,095,000.00		38,600,000.00
Contingencies													
Estimating Contingency	10.0%		2,652,500.00		3,558,125.00		2,712,875.00		151,468.75		209,500.00		3,860,000.00
Design Contingency	10.0%		2,652,500.00		3,558,125.00		2,712,875.00		151,468.75		209,500.00		3,860,000.00
CM Contingency	2.0%		530,500.00		711,625.00		542,575.00		30,293.75		41,900.00		772,000.00
Phasing & Temporary Work	0.0%		-		-		-		-		-		-
Escalation	8.0%		2,122,000.00		2,846,500.00		2,170,300.00		121,175.00		167,600.00		3,088,000.00
Total			**34,482,500**		**46,255,625**		**35,267,375**		**1,969,094**		**2,723,500**		**50,180,000**

Deerfield - Stautus Quo

16-Apr

Option A-1

				ESTIMATED COST																
FUNCTION/AREA		*Proposed Total Area or Qty*	*Proposed Estimated Constructio n Cost*	*A - Substructure*	*B - Shell*	*C - Interiors*	*D - Services*	*D10 - Elevator*	*D20 - Plumbing*	*D30 - HVAC*	*D40 - Fire Protection*	*D50 - Electrical*	*E - Equipment*	*F - Demolition*	*G - Site*	*Estimated Direct Cost/SF*	*Z - General Conditions*	*Z - Contingencies*	*Estimated Cost/SF*	*NOTES*
Deerfield GSF		*35,078*																		
Deerfield - Stautus Quo																				
Option A-1 Status Quo - Maintenance only		35,078	7,039,716	0.00	28.00	7.00	0.00	0.00	8.50	42.00	4.50	15.50	0.00	10.00	8.00	123.50	25.0%	30.0%	200.69	
Total Costs of Uniformat Section			7,039,716	0.00	982,184.00	245,546.00	0.00	0.00	298,163.00	1,473,276.00	157,851.00	543,709.00	0.00	350,780.00	280,624.00	4,332,133	25.0%	30.0%	7,039,716	
Hazardous Materials Abatement			325,000											200,000.00		200,000	25.0%	30.0%	325,000	

General Conditions

General Conditions	13.0%
General Requirements / Ins. / Bond / Permits	7.0%
CM Fee	5.0%

Contingencies

Estimating Contingency	10.0%
Design Contingency	10.0%
CM Contingency	2.0%
Phasing & Temporary Work	0.0%
Escalation	8.0%

Sheehan - Status Quo

16-Apr

Option A-1

FUNCTION/AREA		*Proposed Total Area or Qty*	*Proposed Estimated Construction Cost*	ESTIMATED COST: *A - Substructure*	*B - Shell*	*C - Interiors*	*D - Services*	*D10 - Elevator*	*D20 - Plumbing*	*D30 - HVAC*	*D40 - Fire Protection*	*D50 - Electrical*	*E - Equipment*	*F - Demolition*	*G - Site*	*Estimated Direct Cost/SF*	*Z - General Conditions*	*Z - Contingencies*	*Estimated Cost/SF*	*NOTES*
Sheehan GSF		*51,147*																		
Sheehan - Status Quo																				
Option A-1 Status Quo - Maintenance only		51,147	12,770,447	2.00	49.00	8.75	0.00	3.50	8.90	42.00	4.50	15.50	0.00	10.00	9.50	153.65	25.0%	30.0%	249.68	
Total Costs of Uniformat Section			12,770,447	102,294.00	2,506,203.00	447,536.25	0.00	179,014.50	455,208.30	2,148,174.00	230,161.50	792,778.50	0.00	511,470.00	485,896.50	7,858,737	25.0%	30.0%	12,770,447	
Hazardous Materials Abatement			487,500											300,000.00		300,000	25.0%	30.0%	487,500	

General Conditions

General Conditions	13.0%
General Requirements / Ins. / Bond / Permits	7.0%
General Contractor Fee	5.0%

Contingencies

Estimating Contingency	10.0%
Design Contingency	10.0%
CM Contingency	2.0%
Phasing & Temporary Work	0.0%
Escalation	8.0%

Hanlon - Status Quo

16-Apr

Option A-1

ESTIMATED COST

FUNCTION/AREA		*Proposed Total Area or Qty*	*Proposed Estimated Construction Cost*	*A - Substructure*	*B - Shell*	*C - Interiors*	*D - Services*	*D10 - Elevator*	*D20 - Plumbing*	*D30 - HVAC*	*D40 - Fire Protection*	*D50 - Electrical*	*E - Equipment*	*F - Demolition*	*G - Site*	*Estimated Direct Cost/SF*	*Z - General Conditions*	*Z - Contingencies*	*Estimated Cost/SF*	*NOTES*
Hanlon GSF		*38,256*																		
Hanlon - Status Quo																				
Option A-1 Status Quo - Maintenance only		38,256	8,454,576	0.00	45.00	7.00	0.00	0.00	8.50	42.00	0.00	15.50	0.00	10.00	8.00	136.00	25.0%	30.0%	221.00	
Total Costs of Uniformat Section			8,454,576	0.00	1,721,520.00	267,792.00	0.00	0.00	325,176.00	1,606,752.00	0.00	592,968.00	0.00	382,560.00	306,048.00	5,202,816	25.0%	30.0%	8,454,576	
Hazardous Materials Abatement			325,000											200,000.00		200,000	25.0%	30.0%	325,000	

General Conditions

General Conditions	13.0%
General Requirements / Ins. / Bond / Permits	7.0%
General Contractor Fee	5.0%

Contingencies

Estimating Contingency	10.0%
Design Contingency	10.0%
CM Contingency	2.0%
Phasing & Temporary Work	0.0%
Escalation	8.0%

Martha Jones - Status Quo

16-Apr

Option A-1

				ESTIMATED COST																	
FUNCTION/AREA		*Proposed Total Area or Qty*	*Proposed Estimated Construction Cost*	*A - Substructure*	*B - Shell*	*C - Interiors*	*D - Services*	*D10 - Elevator*	*D20 - Plumbing*	*D30 - HVAC*	*D40 - Fire Protection*	*D50 - Electrical*	*E - Equipment*	*F - Demolition*	*G - Site*	*Estimated Direct Cost/SF*	*Z - General Conditions*	*Z - Contingencies*	*Estimated Cost/SF*	*NOTES*
Martha Jones GSF		*50,769*																		
Martha Jones - Status Quo																				
Option A-1 Status Quo - Maintenance only		50,769	994,120	0.00	0.00	0.00	0.00	0.00	4.00	2.00	0.00	6.05	0.00	0.00	0.00	12.05	25.0%	30.0%	19.58	
Total Costs of Uniformat Section			994,120	0.00	0.00	0.00	0.00	0.00	203,076.00	101,538.00	0.00	307,152.45	0.00	0.00	0.00	611,766	25.0%	30.0%	994,120	

General Conditions

General Conditions	13.0%
General Requirements / Ins. / Bond / Permits	7.0%
General Contractor Fee	5.0%

Contingencies

Estimating Contingency	10.0%
Design Contingency	10.0%
CM Contingency	2.0%
Phasing & Temporary Work	0.0%
Escalation	8.0%

Downey - Status Quo

16-Apr

Option A-1

FUNCTION/AREA		*Proposed Total Area or Qty*	*Proposed Estimated Construction Cost*	ESTIMATED COST: *A - Substructure*	*B - Shell*	*C - Interiors*	*D - Services*	*D10 - Elevator*	*D20 - Plumbing*	*D30 - HVAC*	*D40 - Fire Protection*	*D50 - Electrical*	*E - Equipment*	*F - Demolition*	*G - Site*	*Estimated Direct Cost/SF*	*Z - General Conditions*	*Z - Contingencies*	*Estimated Cost/SF*	*NOTES*
Downey GSF		*50,692*																		
Downey - Status Quo																				
Option A-1 Status Quo - Maintenance only		50,692	955,544	0.00	0.00	0.00	0.00	0.00	4.00	2.00	0.00	5.60	0.00	0.00	0.00	11.60	25.0%	30.0%	18.85	
Total Costs of Uniformat Section			955,544	0.00	0.00	0.00	0.00	0.00	202,768.00	101,384.00	0.00	283,875.20	0.00	0.00	0.00	588,027	25.0%	30.0%	955,544	

General Conditions

General Conditions	13.0%
General Requirements / Ins. / Bond / Permits	7.0%
General Contractor Fee	5.0%

Contingencies

Estimating Contingency	10.0%
Design Contingency	10.0%
CM Contingency	2.0%
Phasing & Temporary Work	0.0%
Escalation	8.0%

Thurston - Status Quo

16-Apr
Option A-1

FUNCTION/AREA		*Proposed Total Area or Qty*	*Proposed Estimated Construction Cost*	ESTIMATED COST: *A - Substructure*	*B - Shell*	*C - Interiors*	*D - Services*	*D10 - Elevator*	*D20 - Plumbing*	*D30 - HVAC*	*D40 - Fire Protection*	*D50 - Electrical*	*E - Equipment*	*F - Demolition*	*G - Site*	*Estimated Direct Cost/SF*	*Z - General Conditions*	*Z - Contingencies*	*Estimated Cost/SF*	*NOTES*
Thurston GSF		*92,400*																		
Thurston - Status Quo																				
Option A-1 Status Quo - Maintenance only		92,400	18,318,300	0.00	45.00	5.00	0.00	0.00	6.00	42.00	4.00	5.00	0.00	10.00	5.00	122.00	25.0%	30.0%	198.25	
Total Costs of Uniformat Section			18,318,300	0.00	4,158,000.00	462,000.00	0.00	0.00	554,400.00	3,880,800.00	369,600.00	462,000.00	0.00	924,000.00	462,000.00	11,272,800	25.0%	30.0%	18,318,300	
Hazardous Materials Abatement			487,500											300,000.00		300,000	25.0%	30.0%	487,500	

General Conditions

General Conditions	13.0%
General Requirements / Ins. / Bond / Permits	7.0%
General Contractor Fee	5.0%

Contingencies

Estimating Contingency	10.0%
Design Contingency	10.0%
CM Contingency	2.0%
Phasing & Temporary Work	0.0%
Escalation	8.0%

Deerfield - Satisfy Educational Program

16-Apr
Option B-1

ESTIMATED COST

FUNCTION/AREA		*Proposed Total Area or Qty*	*Proposed Estimated Construction Cost*	*A - Substructure*	*B - Shell*	*C - Interiors*	*D - Services*	*D10 - Elevator*	*D20 - Plumbing*	*D30 - HVAC*	*D40 - Fire Protection*	*D50 - Electrical*	*E - Equipment*	*F - Demolition*	*G - Site*	*Estimated Direct Cost/SF*	*Z - General Conditions*	*Z - Contingencies*	*Estimated Cost/SF*	*NOTES*
Deerfield GSF		*41,278*																		
Deerfield - Satisfy Educational Program																				
Option A-1 Status Quo - Maintenance only		35,078	7,039,716	0.00	28.00	7.00	0.00	0.00	8.50	42.00	4.50	15.50	0.00	10.00	8.00	123.50	25.0%	30.0%	200.69	
Option B-1 Satisfy Educational Program - Major Building Renovations		41,278	2,683,070	3.00	0.00	17.00	0.00	0.00	0.00	0.00	0.00	13.00	0.00	0.00	7.00	40.00	25.0%	30.0%	65.00	
Total			10,967,049	3.00	28.00	24.00	0.00	0.00	8.50	42.00	4.50	28.50	0.00	10.00	15.00	163.50	25.0%	30.0%	265.69	
Total Costs of Uniformat Section			10,967,049	123,834.00	1,155,784.00	990,672.00	0.00	0.00	350,863.00	1,733,676.00	185,751.00	1,176,423.00	0.00	412,780.00	619,170.00	6,748,953	25.0%	30.0%	10,967,049	
Hazardous Materials Abatement			325,000											200,000.00		200,000	25.0%	30.0%	325,000	

General Conditions

General Conditions	13.0%
General Requirements / Ins. / Bond / Permits	7.0%
General Contractor Fee	5.0%

Contingencies

Estimating Contingency	10.0%
Design Contingency	10.0%
CM Contingency	2.0%
Phasing & Temporary Work	0.0%
Escalation	8.0%

Deerfield - Satisfy Educational Program

16-Apr
Option B-3

ESTIMATED COST

FUNCTION/AREA		*Proposed Total Area or Qty*	*Proposed Estimated Construction Cost*	*A - Substructure*	*B - Shell*	*C - Interiors*	*D - Services*	*D10 - Elevator*	*D20 - Plumbing*	*D30 - HVAC*	*D40 - Fire Protection*	*D50 - Electrical*	*E - Equipment*	*F - Demolition*	*G - Site*	*Estimated Direct Cost/SF*	*Z - General Conditions*	*Z - Contingencies*	*Estimated Cost/SF*	*NOTES*
Deerfield GSF		*38,178*																		
Deerfield - Satisfy Educational Program																				
Option A-1 Status Quo - Maintenance only		35,078	7,039,716	0.00	28.00	7.00	0.00	0.00	8.50	42.00	4.50	15.50	0.00	10.00	8.00	123.50	25.0%	30.0%	200.69	
Option B-3 Safisfy Educational Program - Major Building Renovations		38,178	2,822,786	3.00	0.00	20.50	0.00	0.00	2.00	0.00	0.00	13.00	0.00	0.00	7.00	45.50	25.0%	30.0%	73.94	
Total			10,484,633	3.00	28.00	27.50	0.00	0.00	10.50	42.00	4.50	28.50	0.00	10.00	15.00	169.00	25.0%	30.0%	274.63	
Total Costs of Uniformat Section			10,484,634	114,534.00	1,068,984.00	1,049,895.00	0.00	0.00	400,869.00	1,603,476.00	171,801.00	1,088,073.00	0.00	381,780.00	572,670.00	6,452,082	25.0%	30.0%	10,484,634	
Hazardous Materials Abatement			325,000											200,000.00		200,000	25.0%	30.0%	325,000	

General Conditions

General Conditions	13.0%
General Requirements / Ins. / Bond / Permits	7.0%
General Contractor Fee	5.0%

Contingencies

Estimating Contingency	10.0%
Design Contingency	10.0%
CM Contingency	2.0%
Phasing & Temporary Work	0.0%
Escalation	8.0%

Sheehan - Satisfy Educational Program

16-Apr

Option B-1

				ESTIMATED COST																
FUNCTION/AREA		*Proposed Total Area or Qty*	*Proposed Estimated Construction Cost*	*A - Substructure*	*B - Shell*	*C - Interiors*	*D - Services*	*D10 - Elevator*	*D20 - Plumbing*	*D30 - HVAC*	*D40 - Fire Protection*	*D50 - Electrical*	*E - Equipment*	*F - Demolition*	*G - Site*	*Estimated Direct Cost/SF*	*Z - General Conditions*	*Z - Contingencies*	*Estimated Cost/SF*	*NOTES*
Sheehan GSF		*51,147*																		
Sheehan - Satisfy Educational Program																				
Option A-1 Status Quo - Maintenance only		51,147	12,770,447	2.00	49.00	8.75	0.00	3.50	8.90	42.00	4.50	15.50	0.00	10.00	9.50	153.65	25.0%	30.0%	249.68	
Option B-1 Safisfy Educational Program - Major Building Renovations		51,147	3,324,555	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	13.00	0.00	0.00	7.00	40.00	25.0%	30.0%	65.00	
Total			16,095,002	2.00	49.00	28.75	0.00	3.50	8.90	42.00	4.50	28.50	0.00	10.00	16.50	193.65	25.0%	30.0%	314.68	
Total Costs of Uniformat Section			16,095,002	102,294.00	2,506,203.00	1,470,476.25	0.00	179,014.50	455,208.30	2,148,174.00	230,161.50	1,457,689.50	0.00	511,470.00	843,925.50	9,904,617	25.0%	30.0%	16,095,002	
Hazardous Materials Abatement			487,500											300,000.00		300,000	25.0%	30.0%	487,500	

General Conditions

General Conditions	13.0%
General Requirements / Ins. / Bond / Permits	7.0%
General Contractor Fee	5.0%

Contingencies

Estimating Contingency	10.0%
Design Contingency	10.0%
CM Contingency	2.0%
Phasing & Temporary Work	0.0%
Escalation	8.0%

Hanlon - Satisfy Educational Program

16-Apr

Option B-1

ESTIMATED COST

FUNCTION/AREA		*Proposed Total Area or Qty*	*Proposed Estimated Construction Cost*	*A - Substructure*	*B - Shell*	*C - Interiors*	*D - Services*	*D10 - Elevator*	*D20 - Plumbing*	*D30 - HVAC*	*D40 - Fire Protection*	*D50 - Electrical*	*E - Equipment*	*F - Demolition*	*G - Site*	*Estimated Direct Cost/SF*	*Z - General Conditions*	*Z - Contingencies*	*Estimated Cost/SF*	*NOTES*
Hanlon GSF		*34,280*																		
Hanlon - Satisfy Educational Program																				
Option A-1 Status Quo - Maintenance only		34,280	8,454,576	0.00	45.00	7.00	0.00	0.00	8.50	42.00	0.00	15.50	0.00	10.00	8.00	136.00	25.0%	30.0%	221.00	
Option B-1 Safisfy Educational Program - Major Building Renovations		34,280	2,228,200	3.00	0.00	17.00	0.00	0.00	0.00	0.00	0.00	13.00	0.00	0.00	7.00	40.00	25.0%	30.0%	65.00	
Total			9,804,080	3.00	45.00	24.00	0.00	0.00	8.50	42.00	0.00	28.50	0.00	10.00	15.00	176.00	25.0%	30.0%	286.00	
Total Costs of Uniformat Section			9,804,080	102,840.00	1,542,600.00	822,720.00	0.00	0.00	291,380.00	1,439,760.00	0.00	976,980.00	0.00	342,800.00	514,200.00	6,033,280	25.0%	30.0%	9,804,080	
Hazardous Materials Abatement			325,000											200,000.00		200,000	25.0%	30.0%	325,000	

General Conditions

General Conditions	13.0%
General Requirements / Ins. / Bond / Permits	7.0%
General Contractor Fee	5.0%

Contingencies

Estimating Contingency	10.0%
Design Contingency	10.0%
CM Contingency	2.0%
Phasing & Temporary Work	0.0%
Escalation	8.0%

Downey - Satisfy Educational Program

16-Apr

Option B-1

FUNCTION/AREA		Proposed Total Area or Qty	Proposed Estimated Construction Cost	ESTIMATED COST A - Substructure	B - Shell	C - Interiors	D - Services	D10 - Elevator	D20 - Plumbing	D30 - HVAC	D40 - Fire Protection	D50 - Electrical	E - Equipment	F - Demolition	G - Site	Estimated Direct Cost/SF	Z - General Conditions	Z - Contingencies	Estimated Cost/SF	NOTES
Downey GSF		*50,692*																		
Downey - Satisfy Educational Program																				
Option A-1 Status Quo - Maintenance only		50,692	955,544	0.00	0.00	0.00	0.00	0.00	4.00	2.00	0.00	5.60	0.00	0.00	0.00	11.60	25.0%	30.0%	18.85	
Option B-1 Satisfy Educational Program - Major Building Renovations		50,692	82,375	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	25.0%	30.0%	1.63	
Total			1,037,919	0.00	0.00	1.00	0.00	0.00	4.00	2.00	0.00	5.60	0.00	0.00	0.00	12.60	25.0%	30.0%	20.48	
Total Costs of Uniformat Section			1,037,919	0.00	0.00	50,692.00	0.00	0.00	202,768.00	101,384.00	0.00	283,875.20	0.00	0.00	0.00	638,719	25.0%	30.0%	1,037,919	

General Conditions

General Conditions	13.0%
General Requirements / Ins. / Bond / Permits	7.0%
General Contractor Fee	5.0%

Contingencies

Estimating Contingency	10.0%
Design Contingency	10.0%
CM Contingency	2.0%
Phasing & Temporary Work	0.0%
Escalation	8.0%

Thurston - Satisfy Educational Program

16-Apr

Option B-1

ESTIMATED COST

FUNCTION/AREA		*Proposed Total Area or Qty*	*Proposed Estimated Construction Cost*	*A - Substructure*	*B - Shell*	*C - Interiors*	*D - Services*	*D10 - Elevator*	*D20 - Plumbing*	*D30 - HVAC*	*D40 - Fire Protection*	*D50 - Electrical*	*E - Equipment*	*F - Demolition*	*G - Site*	*Estimated Direct Cost/SF*	*Z - General Conditions*	*Z - Contingencies*	*Estimated Cost/SF*	*NOTES*
Thurston GSF		*92,400*																		
Thurston - Satisfy Educational Program																				
Option A-1 Status Quo - Maintenance only		92,400	18,318,300	0.00	45.00	5.00	0.00	0.00	6.00	42.00	4.00	5.00	0.00	10.00	5.00	122.00	25.0%	30.0%	198.25	
Option B-1 Safisfy Educational Program - Major Building Renovations		92,400	3,753,750	0.00	0.00	17.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	0.00	3.00	25.00	25.0%	30.0%	40.63	
Total			22,072,050	0.00	45.00	22.00	0.00	0.00	6.00	42.00	4.00	10.00	0.00	10.00	8.00	147.00	25.0%	30.0%	238.88	
Total Costs of Uniformat Section			22,072,050	0.00	4,158,000.00	2,032,800.00	0.00	0.00	554,400.00	3,880,800.00	369,600.00	924,000.00	0.00	924,000.00	739,200.00	13,582,800	25.0%	30.0%	22,072,050	
Hazardous Materials Abatement			487,500											300,000.00		300,000	25.0%	30.0%	487,500	

General Conditions

General Conditions	13.0%
General Requirements / Ins. / Bond / Permits	7.0%
General Contractor Fee	5.0%

Contingencies

Estimating Contingency	10.0%
Design Contingency	10.0%
CM Contingency	2.0%
Phasing & Temporary Work	0.0%
Escalation	8.0%

Sheehan - Consolidate

16-Apr

Option C-1a

ESTIMATED COST

FUNCTION/AREA		*Proposed Total Area or Qty*	*Proposed Estimated Construction Cost*	*A - Substructure*	*B - Shell*	*C - Interiors*	*D - Services*	*D10 - Elevator*	*D20 - Plumbing*	*D30 - HVAC*	*D40 - Fire Protection*	*D50 - Electrical*	*E - Equipment*	*F - Demolition*	*G - Site*	*Estimated Direct Cost/SF*	*Z - General Conditions*	*Z - Contingencies*	*Estimated Cost/SF*	*NOTES*
New Sheehan GSF		*80,000*																		
Sheehan - Consolidate																				
Option C-1a Consolidation - New School		**80,000**	**34,482,500**	**17.00**	**78.00**	**40.00**	**2.00**	**1.00**	**17.00**	**38.00**	**6.00**	**35.00**	**7.50**	**5.00**	**18.75**	**265.25**	**25.0%**	**30.0%**	**431.03**	
Total Costs of Uniformat Section			**34,482,500**	**1,360,000.00**	**6,240,000.00**	**3,200,000.00**	**160,000.00**	**80,000.00**	**1,360,000.00**	**3,040,000.00**	**480,000.00**	**2,800,000.00**	**600,000.00**	**400,000.00**	**1,500,000.00**	**21,220,000**	**25.0%**	**30.0%**	**34,482,500**	

General Conditions

General Conditions	13.0%
General Requirements / Ins. / Bond / Permits	7.0%
General Contractor Fee	5.0%

Contingencies

Estimating Contingency	10.0%
Design Contingency	10.0%
CM Contingency	2.0%
Phasing & Temporary Work	0.0%
Escalation	8.0%

Hanlon - Consolidate

16-Apr
Option C-1d

ESTIMATED COST

FUNCTION/AREA		*Proposed Total Area or Qty*	*Proposed Estimated Construction Cost*	*A - Substructure*	*B - Shell*	*C - Interiors*	*D - Services*	*D10 - Elevator*	*D20 - Plumbing*	*D30 - HVAC*	*D40 - Fire Protection*	*D50 - Electrical*	*E - Equipment*	*F - Demolition*	*G - Site*	*Estimated Direct Cost/ SF*	*Z - General Conditions*	*Z - Contingencies*	*Estimated Cost/ SF*	*NOTES*
New Hanlon GSF		*110,000*																		
Hanlon - Consolidate																				
Option C-1d Consolidation - New School		**110,000**	**46,255,625**	**17.00**	**78.00**	**40.00**	**2.00**	**1.00**	**17.00**	**38.00**	**6.00**	**35.00**	**7.50**	**3.64**	**13.64**	**258.77**	**25.0%**	**30.0%**	**420.51**	
Total Costs of Uniformat Section			**46,255,625**	**1,870,000.00**	**8,580,000.00**	**4,400,000.00**	**220,000.00**	**110,000.00**	**1,870,000.00**	**4,180,000.00**	**660,000.00**	**3,850,000.00**	**825,000.00**	**400,000.00**	**1,500,000.00**	**28,465,000**	**25.0%**	**30.0%**	**46,255,625**	

General Conditions

General Conditions	13.0%
General Requirements / Ins. / Bond / Permits	7.0%
General Contractor Fee	5.0%

Contingencies

Estimating Contingency	10.0%
Design Contingency	10.0%
CM Contingency	2.0%
Phasing & Temporary Work	0.0%
Escalation	8.0%

Hanlon - Consolidate

16-Apr

Option C-1e

ESTIMATED COST

FUNCTION/AREA		*Proposed Total Area or Qty*	*Proposed Estimated Construction Cost*	*A - Substructure*	*B - Shell*	*C - Interiors*	*D - Services*	*D10 - Elevator*	*D20 - Plumbing*	*D30 - HVAC*	*D40 - Fire Protection*	*D50 - Electrical*	*E - Equipment*	*F - Demolition*	*G - Site*	*Estimated Direct Cost/SF*	*Z - General Conditions*	*Z - Contingencies*	*Estimated Cost/SF*	*NOTES*
New Hanlon GSF		*82,000*																		
Hanlon - Consolidate																				
Option C-1e Consolidation - New School		82,000	35,267,375	17.00	78.00	40.00	2.00	1.00	17.00	38.00	6.00	35.00	7.50	4.88	18.29	264.67	25.0%	30.0%	430.09	
Total Costs of Uniformat Section			35,267,375	1,394,000.00	6,396,000.00	3,280,000.00	164,000.00	82,000.00	1,394,000.00	3,116,000.00	492,000.00	2,870,000.00	615,000.00	400,000.00	1,500,000.00	21,703,000	25.0%	30.0%	35,267,375	

General Conditions

General Conditions	13.0%
General Requirements / Ins. / Bond / Permits	7.0%
General Contractor Fee	5.0%

Contingencies

Estimating Contingency	10.0%
Design Contingency	10.0%
CM Contingency	2.0%
Phasing & Temporary Work	0.0%
Escalation	8.0%

Martha Jones - Consolidate

16-Apr

Option C-1e

ESTIMATED COST

FUNCTION/AREA		*Proposed Total Area or Qty*	*Proposed Estimated Construction Cost*	*A - Substructure*	*B - Shell*	*C - Interiors*	*D - Services*	*D10 - Elevator*	*D20 - Plumbing*	*D30 - HVAC*	*D40 - Fire Protection*	*D50 - Electrical*	*E - Equipment*	*F - Demolition*	*G - Site*	*Estimated Direct Cost/SF*	*Z - General Conditions*	*Z - Contingencies*	*Estimated Cost/SF*	*NOTES*
Martha Jones GSF		*55,296*																		
Martha Jones - Consolidate																				
Option C-1e Consolidation - New Addition		4,500	1,969,094	17.00	78.00	40.00	2.00	1.00	17.00	38.00	6.00	35.00	7.50	16.67	11.11	269.28	25.0%	30.0%	437.58	
Total Costs of Uniformat Section			1,969,094	76,500.00	351,000.00	180,000.00	9,000.00	4,500.00	76,500.00	171,000.00	27,000.00	157,500.00	33,750.00	75,000.00	50,000.00	1,211,750	25.0%	30.0%	1,969,094	

General Conditions

General Conditions	13.0%
General Requirements / Ins. / Bond / Permits	7.0%
General Contractor Fee	5.0%

Contingencies

Estimating Contingency	10.0%
Design Contingency	10.0%
CM Contingency	2.0%
Phasing & Temporary Work	0.0%
Escalation	8.0%

Downey - Consolidate

16-Apr
Option C-1e

FUNCTION/AREA		Proposed Total Area or Qty	Proposed Estimated Construction Cost	ESTIMATED COST A - Substructure	B - Shell	C - Interiors	D - Services	D10 - Elevator	D20 - Plumbing	D30 - HVAC	D40 - Fire Protection	D50 - Electrical	E - Equipment	F - Demolition	G - Site	Estimated Direct Cost/SF	Z - General Conditions	Z - Contingencies	Estimated Cost/SF	NOTES
Downey GSF		6,000																		
Downey - Consolidate																				
Option C-1e Consolidation - New Addition		6,000	2,723,500	17.00	78.00	57.00	2.00	1.00	17.00	38.00	6.00	35.00	7.50	12.50	8.33	279.33	25.0%	30.0%	453.92	
Total Costs of Uniformat Section			2,723,500	102,000.00	468,000.00	342,000.00	12,000.00	6,000.00	102,000.00	228,000.00	36,000.00	210,000.00	45,000.00	75,000.00	50,000.00	1,676,000	25.0%	30.0%	2,723,500	

General Conditions

General Conditions	13.0%
General Requirements / Ins. / Bond / Permits	7.0%
General Contractor Fee	5.0%

Contingencies

Estimating Contingency	10.0%
Design Contingency	10.0%
CM Contingency	2.0%
Phasing & Temporary Work	0.0%
Escalation	8.0%

Thurston - Consolidate

16-Apr
Option

ESTIMATED COST

FUNCTION/AREA		*Proposed Total Area or Qty*	*Proposed Estimated Construction Cost*	*A - Substructure*	*B - Shell*	*C - Interiors*	*D - Services*	*D10 - Elevator*	*D20 - Plumbing*	*D30 - HVAC*	*D40 - Fire Protection*	*D50 - Electrical*	*E - Equipment*	*F - Demolition*	*G - Site*	*Estimated Direct Cost/SF*	*Z - General Conditions*	*Z - Contingencies*	*Estimated Cost/SF*	*NOTES*
New Thurston GSF		*120,000*																		
Thurston - Consolidate																				
Consolidation - New School		**120,000**	**50,180,000**	**17.00**	**78.00**	**40.00**	**2.00**	**1.00**	**17.00**	**38.00**	**6.00**	**35.00**	**7.50**	**3.33**	**12.50**	**257.33**	**25.0%**	**30.0%**	**418.17**	
Total Costs of Uniformat Section			**50,180,000**	**2,040,000.00**	**9,360,000.00**	**4,800,000.00**	**240,000.00**	**120,000.00**	**2,040,000.00**	**4,560,000.00**	**720,000.00**	**4,200,000.00**	**900,000.00**	**400,000.00**	**1,500,000.00**	**30,880,000**	**25.0%**	**30.0%**	**50,180,000**	

General Conditions

General Conditions	13.0%
General Requirements / Ins. / Bond / Permits	7.0%
General Contractor Fee	5.0%

Contingencies

Estimating Contingency	10.0%
Design Contingency	10.0%
CM Contingency	2.0%
Phasing & Temporary Work	0.0%
Escalation	8.0%

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