

# Hardy, Hunnewell and Upham Elementary Schools Study

Wellesley, Massachusetts

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December 7, 2015

Submitted by:

**SMMA**

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SMMA No. 14015.00



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# Hardy, Hunnewell and Upham Elementary Schools Study Wellesley, Massachusetts

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## INTRODUCTION

### PROJECT TEAM

In February 2014, Symmes Maini and McKee Associates (SMMA) was retained by the Town of Wellesley, working thru the School Facilities Committee (SFC), to develop a master plan for the Hardy, Hunnewell and Upham Elementary Schools. The plan was to develop multiple renovation, addition, and replacement (new) construction options, including potential consolidation scenarios. The master plan was to consider enrollment, facility conditions, cost, sequencing, and districting, as well as the impact of being locally funded or assisted with funding participation by the MSBA.

#### **School Facilities Committee**

- Judy Belliveau, WPS Assistant Superintendent
- Tom Goemaat, construction executive
- Sharon Gray, School Committee
- Chad Harris, Advisory Committee
- Matt Kelley, School Committee
- Hans Larsen, Executive Director
- David Lussier, WPS Superintendent
- Joe McDonough, Facilities Maintenance Department
- Jack Morgan, Board of Selectmen

#### **Architect – SMMA**

- Alex C. Pitkin, Project Director
- Joel Seeley, Project Manager
- Peter Lukacic, Land Planner

#### **Cost Estimator – Deadalus Projects**

- Noriko Hall, Cost Estimator



## SECTION ONE EXECUTIVE SUMMARY

### 1.1 OVERVIEW

The Town has seven elementary schools currently serving the kindergarten through grade 5 elementary school population. Two of these schools, the Bates and the Sprague, underwent renovations and additions in 2004. The Schofield and Fiske Elementary Schools have completed phase one of a two phase repair-only project, with phase two scheduled to be completed in the summer of 2016.

The SFC has grouped the Hardy, Hunnewell and Upham together because they shared the following:

- High total cost to renovate
- Construction phasing complexities
- Renovation options to address programmatic and operational deficiencies would be complex
- Enrollment challenges & Town geography
- Obsolete portable classrooms

The schools are summarized as follows:

- Hardy Elementary School, constructed in 1924, with additions in 1956 and 1994, and portables added in 1996 & 1997, total area of 45,909 GSF (included in total area is 4,080 GSF for four portable classrooms).
- Hunnewell Elementary School, constructed in 1938, with additions in 1956 and 1995, and portables added in 1993, total area of 36,441 GSF (included in total area is 2,257 GSF for two portable classrooms).
- Upham Elementary School, constructed in 1952, with an addition in 1967, and portables added in 1993, total area of 36,481 GSF (included in total area is 2,475 GSF for two portable classrooms).

The master plan explored multiple planning options for each school site. From these planning options, multiple Master Plan Scenarios were developed.

In the fall of 2014, the Town supported the purchase of the North 40 Parcel from Wellesley College, located at the intersection of Route 135 and Weston Road. Planning options for this approximate 46 acre site to support a new elementary school were added to the Master Plan Scenarios.

## 1.2 EXISTING BUILDING EVALUATIONS

In 2012, SMMA was retained by Wellesley Public Schools to conduct a review of all elementary schools and the middle school for the school administration and assemble the gathered information into a database for the Facilities Maintenance Department.

The findings relative to the Hardy, Hunnewell and Upham Elementary Schools was utilized in developing each of the Planning Options contained herein. The findings are summarized in Section 2 of this report.

## 1.3 ENROLLMENT FORECAST

In 2012, Wellesley Public Schools retained Cropper GIS Consulting to perform enrollment projections for the school system. Cropper completed their initial report in February 2013 and provided an update in October 2013.

A subcommittee of the SFC evaluated the projections and established a combined range for design enrollment of between 850 to 1,100 students for the Hardy, Hunnewell and Upham schools, with a minimum of three sections and a maximum of five sections per school. The enrollment projections are summarized in Section 3 of this report

## 1.4 PLANNING OPTIONS

A total of 24 planning options were initially developed for the three schools. These were then refined down to eighteen planning options, summarized in Section 4.

Each of the options were evaluated with the SFC arriving at the following consensus points:

1. Concern for using low 3 school enrollment figures (850 vs 1,100)
2. Strongly prefer 2 school scenarios – i.e. close one building
3. Phase one will be a new building not resulting in need to relocate students' w/modulars
  - i. Saves time
  - ii. Saves money
  - iii. Less disruptive educationally
4. Hardy school site and North 40 site are “connected”
  - i. Use of North 40 site would result in closure of Hardy School
5. Concern for closing Hunnewell from Town geography and districting perspective
6. Expansion of Upham building not possible due to site and building/educational limitations
  - i. New structure more rational

## 1.5 MASTER PLAN SCENARIOS

A preliminary listing of Master Plan Scenarios was reviewed prior to cost estimating. The scenarios were reviewed relative to population capacity, phasing, traffic and access.

From this initial listing, construction costs were estimated for eight Master Plan Scenarios with a construction start of spring 2016 to provide a uniform comparison for each scenario.

The construction costs as summarized in Section 5.

The SFC reviewed the merits and costs of each of the Master Plan Scenarios and concluded that Master Plan Scenario No. 3, Scenario No. 5 and Scenario No. 7a should be reviewed further, including escalating their construction costs to Master Plan Sequence and including all indirect costs such as FFE, Technology, fees, and contingencies as summarized in Section 6. Additionally, an Option 8 has been included analyzing building new or substantially new buildings at all three sites to support the current populations.

The overall project schedules for Master Plan Scenarios 3, 5, 7a and 8 were developed with an understanding that the Town would appropriate the funding to commence Feasibility and Schematic Design in spring 2016. Generally, Scenarios 3 and 5 have a similar schedule with the new construction component being constructed and opening for the 2020/21 academic year and the Hunnewell Elementary School's renovation and additions being completed for the 2022/23 academic year. For Master Plan Scenario 7a, the Repair-Only project would be implemented over three successive years, being fully completed for the 2022/23 academic year.

Master Plan Scenario No. 3 constructs a new Hardy Elementary School, renovates and adds to the Hunnewell Elementary School and closes the Upham Elementary School and has a construction cost of \$65.9 million and a project cost of \$91.0 million for 961 students housed in 152,022 square feet. Master Plan Scenario No. 5 constructs a new Upham Elementary School, renovates and adds to the Hunnewell Elementary School and closes the Hardy Elementary School and has a construction cost of \$69.5 million and a project cost of \$95.9 million for 961 students housed in 152,022 square feet. Master Plan Scenario 7a repairs only each of the three elementary schools. The Repair-Only Option repairs the existing without any improvements for capacity, educational curriculum, or functionality. This option does not address the existing unsatisfactory condition of inadequate educational spaces, the inefficiencies of poor circulation and organization, or long term viability to expand their footprint. Master Plan Scenario 7a has a construction cost of \$46.5 million and a project cost of \$64.1 million for 902 students housed in 118,831 square feet.

Master Plan Scenario 8 replaces each school but maintains the existing population capacity; minimally improving the educational curriculum spaces (using the MSBA space standards). Upham is a fully new building behind the existing school and both schools remain in operation to serve as swing space for the two subsequent projects. Hardy utilizes the historic portion of the existing school with new spaces behind. Hunnewell also retains its historic portion and the 1994 wing while adding new spaces between including a small parking garage below the new addition. Master Plan Scenario 8 has a construction cost of \$84.1 million and a project cost of \$116.0 million for 902 students in 160,921 square feet.

## SECTION TWO EXISTING BUILDING EVALUATIONS

In 2012, SMMA was retained to conduct a review all of the elementary schools and the middle school This study did not include an educational programming component but rather a review of the enrollment projections relative to the capacity of the existing schools.

The review included a Building Condition Review for each building, a Space Condition Review for each of the rooms, including site areas, and a set of prioritized recommendations. The review encompassed, in general, the following building-wide system categories:

- Structural condition
- Service life
- Code Compliance
- Environmental Compliance
- Energy Compliance
- Hazardous Materials Compliance
- Safety
- Accessibility
- Service Access
- Site Access
- Maintainability
- Connectivity
- Support Space
- Community Space
- Restrooms
- Site Condition

Based on the findings of the review, the Town implemented repairs to the Schofield Elementary School and the Fiske Elementary School, to be carried out over two successive summers in 2015 and 2016.

The findings relative to the Hardy, Hunnewell and Upham Elementary Schools indicated a need for further analysis and planning to develop the optimum long term solution for these schools.

The following summarizes the findings contained in the 2012 report relative to the Hardy, Hunnewell and Upham Elementary Schools, and also includes an educational programming review component conducted as part of this study. Observations of the North 40 Site, undertaken in the summer of 2014, are included at the end of the section.

## 2.1 HARDY ELEMENTARY SCHOOL

### SUMMARY DATA

#### Site Acreage

Approximate Acres: 7.5 acres

#### Existing Classroom Areas

Kindergarten: 1100-1200 SF

Grades 1-5: 850-950 SF

#### MSBA Standard

Kindergarten: 1100 SF Min. - 1300 SF Max.

Grades 1-5: 950 SF Min.

#### Existing Building: 45,909 GSF

Including 4 modular classrooms

#### Current Enrollment

308 Students

#### Estimated Capacity

226 Students w/o Modulars

*Assumes 20 Students/Class Kindergarten*

*Assumes 22 Students/Class Grades 1-2*

*Assumes 24 Students/Class Grades 3-5*

#### Program Deficiencies

Shared art/music classroom

Multi-purpose space serves as cafeteria, gymnasium, and auditorium

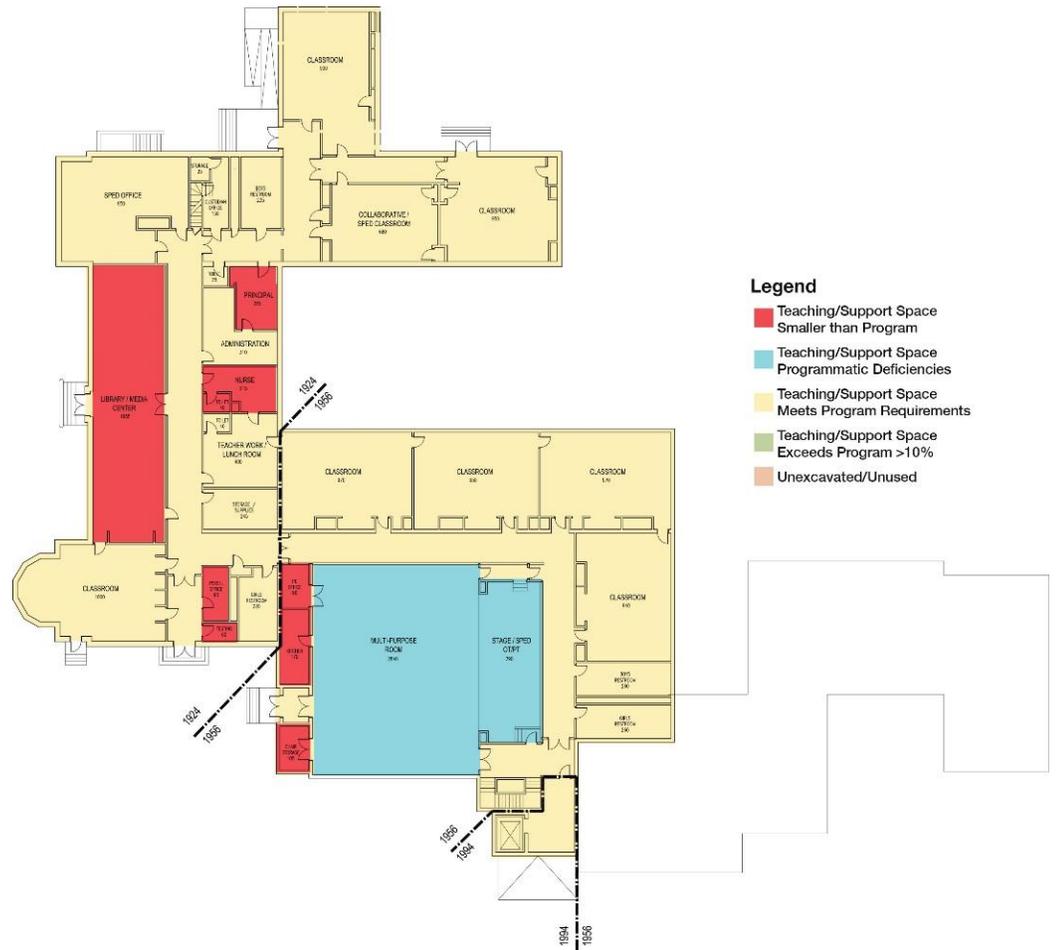
Shared stage/OT/PT

Undersized shared teacher workroom and lunch room

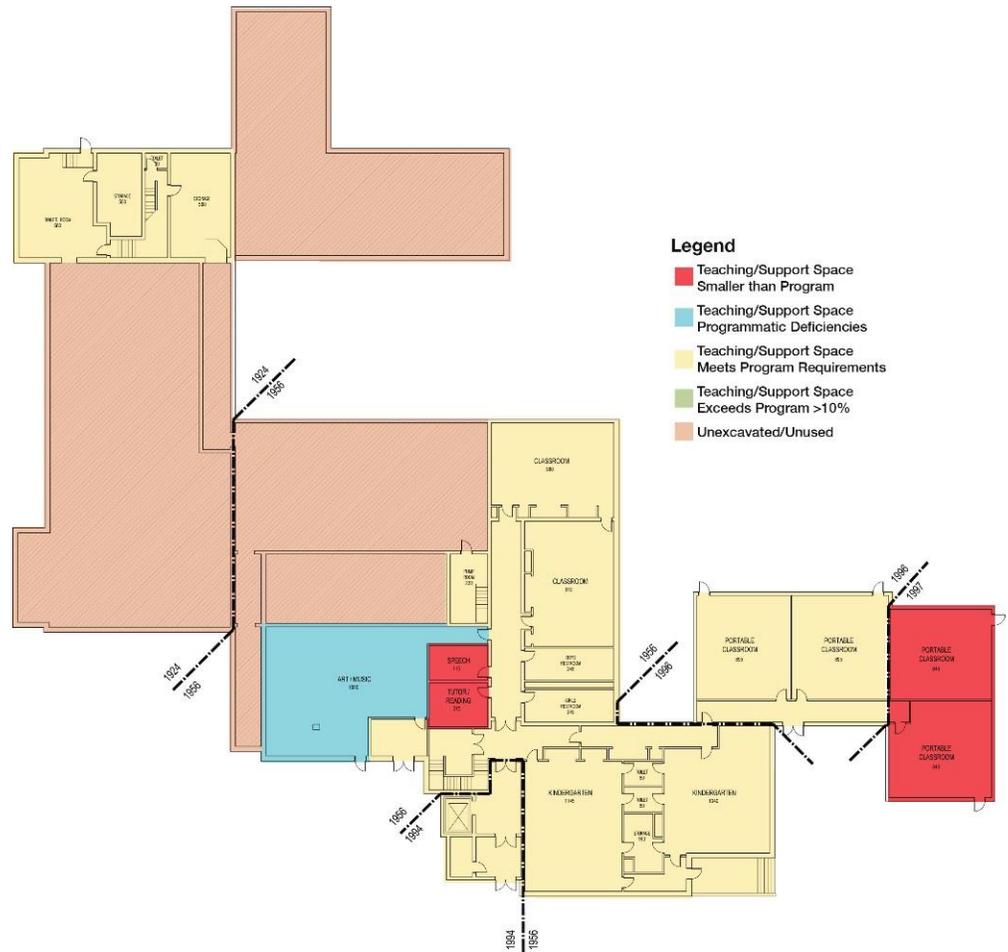
Undersized media center, administration, SPED, nursing suite

Four portable classrooms, two of which are undersized

Lack of proper kitchen prevents the possibility of food prep in the future



Upper Level - Hardy Elementary School Program Deficiencies Plan



Lower Level - Hardy Elementary School Program Deficiencies Plan

The 2012 findings are expanded below. Some of the findings may have been addressed as capital improvements since the facilities assessment was completed by SMMA in 2012.

**CIVIL**

Overall site functions as intended, though some safety, accessibility, and circulation deficiencies were observed. No sight lighting is provided beyond the building mounted lights and adjacent street lights. Rails surrounding lower level boiler room egress are not adequate for child safety. Additional fire hydrant coverage should be considered for some northern portions of the school. Quantity of handicap parking spaces is inadequate. Multiple building egress points are not accessible from the site, including all of the modulares, and some walkways do not fully comply with slope requirements. No dedicated loading

facility exists, and dumpster locations are not at grade with adjacent egress. Parent queuing during pick-up times sometimes extends beyond Hardy Road and onto Weston Road. Due to traffic volume on Weston Road, congestion was observed at Hardy Road / Weston Road intersection during drop-off and pick-up times. Walkway network around the school could be improved. Cracked and spalling concrete ramp and exterior stairs are significantly deteriorated. The parking lot and portions of the walkway network are in fair/poor condition due to moderate to severe fatigue cracking, and repaving in those areas should be considered in the next few years.



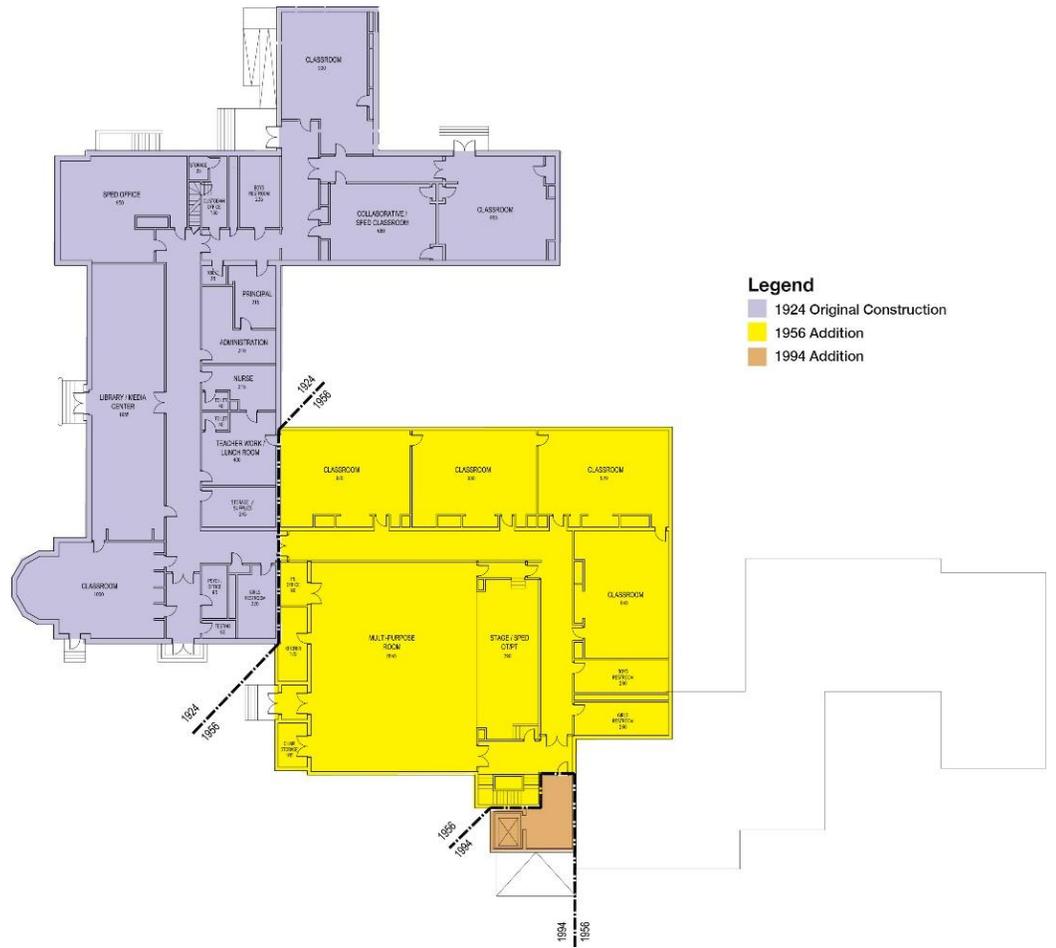
EXISTING SITE PLAN - HARDY ELEMENTARY SCHOOL



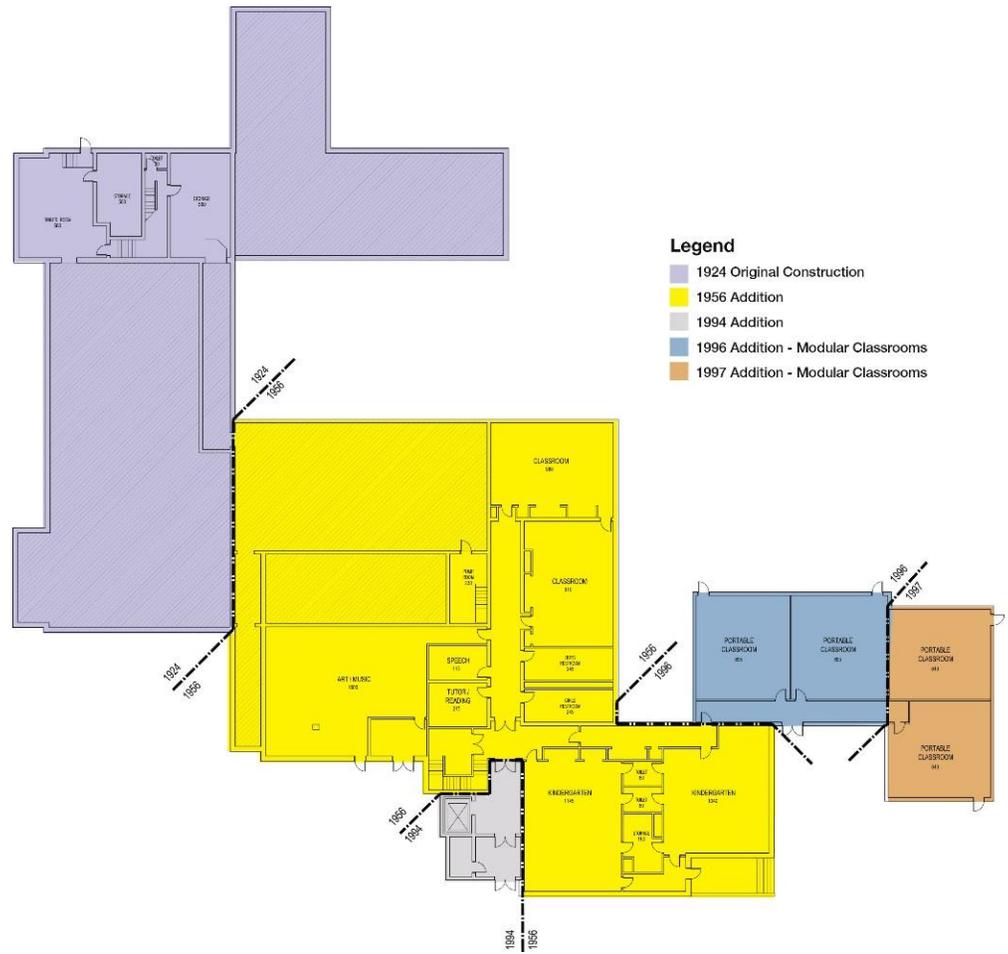
APPROXIMATE GRADE CHANGES - HARDY ELEMENTARY SCHOOL

## ARCHITECTURAL

The second oldest school in the town built in 1924 has several additions including modular classrooms well past their intended service life. Although all of the classrooms are in good general condition, the basic building infrastructure is poor in several areas. The building has an elevator serving both levels, but the accessible entrances are neither energy efficient nor located to enhance building security. The building is largely uninsulated and employs inefficient and noisy unit ventilators. The building has asbestos in pipe insulation (in non-public crawl spaces) and mastic adhering floor and ceiling tiles. Although clad in brick, the modular classrooms have the usual issues with crawlspace integrity and generally weak quality of enclosure.



UPPER LEVEL - HARDY ELEMENTARY SCHOOL HISTORY PLAN



LOWER LEVEL - HARDY ELEMENTARY SCHOOL HISTORY PLAN

**STRUCTURAL**

The building is in adequate structural condition. Portions are framed with cast in place concrete beams and slab, and other areas are framed with wood joist and wood roof trusses. There are some cracks in some CMU walls. The original wood floors have a noticeable deflection, but not too dramatic. There may be wood rot in the attic near roof leaks, some wood rafters showed signs of water stains. Modular Classrooms are well past their useful service life. T-111 siding is worn and enclosure of the crawlspace has been a regular problem.

**MECHANICAL**

The building is heated with a steam system and the classrooms are served with steam unit ventilators with rooftop exhaust and finned tube radiation for heating.

The control system is pneumatic and is in poor condition. The boiler plant was renovated recently and there are two Weil-McLain gas-fired steam boilers installed to support the school that are in very good condition. The control system is a mix of old pneumatic controls that are in poor condition and serve the occupied zones and newer DDC controls, which were installed with the boiler upgrade. HVAC system for the modular classrooms is inadequate.

### **PLUMBING**

Building piping is in very poor condition and uninsulated. Existing toilet fixtures are antiquated, high-flow type. A single 75-gallon water heater installed in 2005 supplies the entire building directly. Storage temperature at the water heater and supply temperature to the building are inadequate or do not meet code. The school experienced a major, age-related break in the cast-iron waste piping in 2012. There is no mixing valve apparent nor does the building hot water appear to be circulated. Hot water supply delay at the furthest fixture is significant. Building service is not bypassed.

### **FIRE PROTECTION**

There is no fire protection system installed for the wood framed school.

### **ELECTRICAL**

Existing electrical systems including power distribution, lighting and fire alarm systems were recently upgraded, but not throughout the entire building. In general, electrical systems are in fair and operational condition, but the older electrical equipment needs some upgrades, especially at the lower level. Panels, feeders and branch wiring circuits that are older than thirty years should be replaced. Lighting controls are not consistent in similar educational spaces and are not appropriate for some school spaces. Exit signs should be upgraded to meet Code. Exterior lighting consisting of building-mounted lights is not time-controlled, only via a photocell. There is no lighting at the parking lot. There is no emergency generator at the site.

### **TECHNOLOGY**

There is only one data closet requiring cable lengths that exceed the 100 meter industry standard. The Wide Area Network is not reliable, dropping Food Service and INet access. Local network connectivity is adequate. The building requires additional cabling to support full wireless access connectivity. Network equipment rooms require power upgrades to support future equipment upgrades.

### **SECURITY SYSTEM**

There is one CCTV camera at the main entrance and an Aiphone video intercom unit. There is no door access control or intrusion detection system except for key pad. Consideration should be given to adding card access control, CCTV system and upgrading the intrusion detection system to include motion detection.

## 2.2 HUNNEWELL ELEMENTARY SCHOOL

### SUMMARY DATA

#### Site Acreage

Approximate Acres: 5.6 acres

#### Existing Classroom Areas

Kindergarten: 1250 SF

Grades 1-5: 850-950 SF

#### MSBA Standard

Kindergarten: 1100 SF Min. - 1300 SF Max.

Grades 1-5: 950 SF Min.

#### Existing Building: Approximately 36,441 GSF (TBD)

Including 2 modular classrooms

#### Current Enrollment

330 Students

#### Estimated Capacity

260 Students w/o Modulars

*Assumes 20 Students/Class Kindergarten*

*Assumes 22 Students/Class Grades 1-2*

*Assumes 24 Students/Class Grades 3-5*

#### Program Deficiencies

Shared art/music classroom

Multi-purpose space serves as cafeteria, gymnasium, and auditorium

Shared stage/OT/PT

Undersized shared teacher workroom and lunch room

Undersized media center, administration, SPED, nursing suite

Four portable classrooms, two of which are undersized

Lack of proper kitchen prevents the possibility of food prep in the future



FIRST FLOOR - HUNNEWELL ELEMENTARY SCHOOL PROGRAM DEFICIENCIES PLAN

The 2012 findings are expanded below. Some of the findings may have been addressed as capital improvements since the facilities assessment was completed by SMMA in 2012.

**CIVIL**

Overall site functions as intended, though some safety, accessibility, and circulation deficiencies were observed. Additional fire hydrant coverage should be considered for portions of the school greater than 200’ from the closest hydrant. No loading dock or dedicated loading facility provided, and trash/recycling dumpsters are not easily accessible from school. Some walkways exceed code requirements for slope, and some building egress points are not accessible due to stepped landings. Circulation within the site is minimal. All bus and parent loading and unloading takes place along Cameron Street, which is less than ideal due to safety reasons. Cameron Street is restricted to one-way traffic during these times. On-site parking is not adequate for the school’s daily needs and is a major problem in this area. Hardscape surfaces and site features in overall good

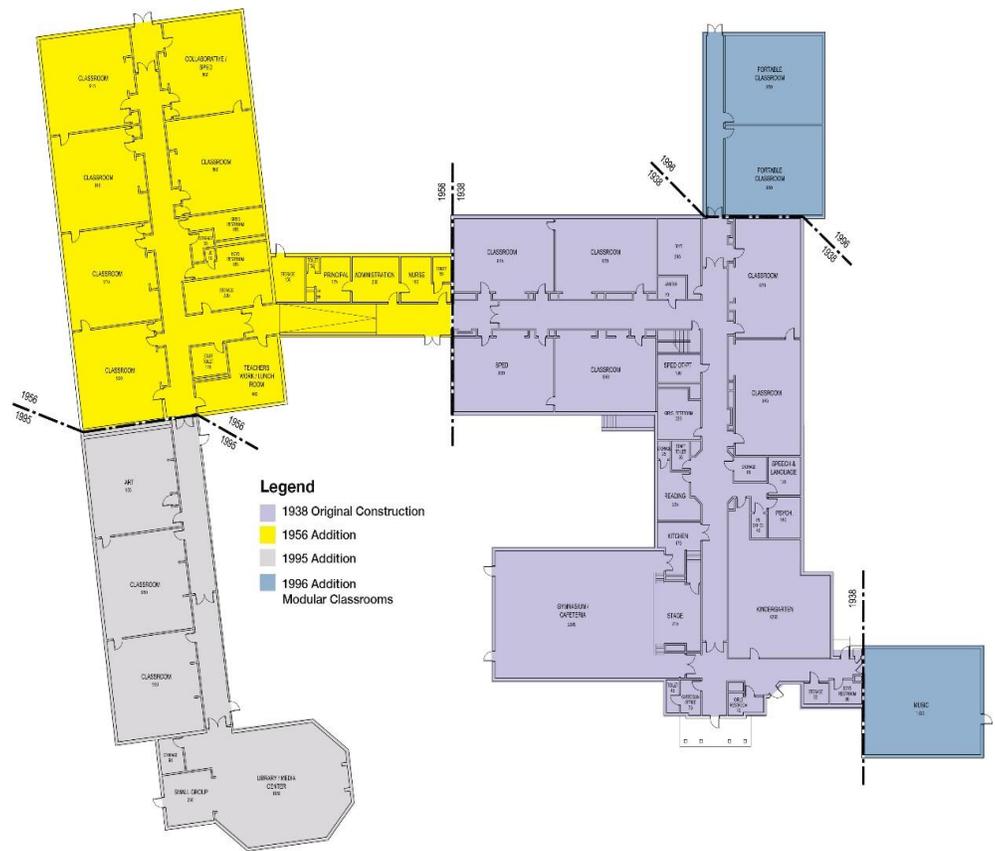
condition, with some isolated areas in fair to poor condition. Isolated repairs or repaving in these isolated areas should be considered in the next few years.



EXISTING SITE PLAN - HUNNEWELL ELEMENTARY SCHOOL

## ARCHITECTURAL

The 1938 building has had two major additions. The modular classroom addition in 1993 is now past its service life. The exterior enclosure is minimally insulated and the windows are mostly single-paned. The building has asbestos. According to the latest AHERA report, the asbestos in the classrooms has been removed, but there is still material to be removed in the attic. The toilet room fixtures and drinking fountains in the building are minimally accessible. Although well-maintained, the classrooms have outdated light fixtures and ventilation units. The school has reported persistent roof leaks in the Cafetorium related to the dormers, and also problems with the gutters.



HUNNEWELL ELEMENTARY SCHOOL HISTORY PLAN

## STRUCTURAL

There is a concrete column in the boiler room that is in urgent need of repair. The base is severely deteriorated, with multiple steel reinforcing bars exposed. Otherwise, the building is in fair structural condition. Portions of the building/additions are framed with structural steel, wood roof trusses, and cast-in-place concrete foundations. There are minor cracks in some of the CMU walls. The condition of the wood rafters near roof leaks should be monitored if the roof looks have not been addressed. Building does not meet current seismic code requirements.

## MECHANICAL

The building is heated with a steam system and the classrooms are served with steam unit ventilators with rooftop exhaust and finned tube radiation for heating, all of which appear to be original to the building and in poor condition. The control system is pneumatic and is in poor condition. The boiler plant was

upgraded in 2004 and there are two HB Smith gas-fired steam boilers installed to support the school that are in very good condition.

### **PLUMBING**

Fixtures are antiquated, high-flow type. Building hot water is supplied directly from a single 75-gallon water heater to an undersized and un-recirculated piping system. Storage temperature has been set to 105 F or less at the request of the School nurse. Some modular classrooms are served by small storage point-of-use Ariston electric water heaters. Piping and hangers under building show signs of significant deterioration as does the building gas piping. Boiler blowdown, storm water and condensate (i.e., clear water waste) appear to be intermingled at the sump pit.

### **FIRE PROTECTION**

There is no fire protection system in the attic of the 1938 building.

### **ELECTRICAL**

Existing electrical systems including power distribution, lighting and fire alarm systems were recently upgraded, although not throughout the entire building. In general, electrical systems are in good and operational condition. Lighting system controls need some upgrading. Exterior lighting is limited to building-mounted lights only. There is no lighting at the parking lot. There is no emergency generator at site.

### **TECHNOLOGY**

Network connectivity is adequate. Fiber optic cables connects equipment rooms. The building requires additional cabling to support full wireless access connectivity. Network equipment rooms require power upgrades to support future equipment upgrades.

### **SECURITY**

There is no CCTV, door access control or intrusion detection system except for key pad. Consideration should be given to adding card access control, CCTV system and upgrading the intrusion detection system to include motion detection.

## 2.3 UPHAM ELEMENTARY SCHOOL

### SUMMARY DATA

#### Site Acreage

Approximate Acres: 12.0 acres

#### Existing Classroom Areas

Kindergarten: 850-1700 SF

Grades 1-5: 850-1000 SF

#### MSBA Standard

Kindergarten: 1100 SF Min. - 1300 SF Max.

Grades 1-5: 950 SF Min.

#### Existing Building: 36,481 GSF

Including 2 modular classrooms

#### Current Enrollment

264 Students

#### Estimated Capacity

200 Students w/o Modulares

*Assumes 20 Students/Class Kindergarten*

*Assumes 22 Students/Class Grades 1-2*

*Assumes 24 Students/Class Grades 3-5*

#### Program Deficiencies

Shared art/music classroom

Multi-purpose space serves as cafeteria, gymnasium, and auditorium

Shared stage/OT/PT

Undersized shared teacher workroom and lunch room

Undersized media center, administration, SPED, nursing suite

Four portable classrooms, two of which are undersized

Lack of proper kitchen prevents the possibility of food prep in the future



FIRST FLOOR - UPHAM ELEMENTARY SCHOOL PROGRAM DEFICIENCIES PLAN

The 2012 findings are expanded below. Some of the findings may have been addressed as capital improvements since the facilities assessment was completed by SMMA in 2012.

**CIVIL**

Overall site functions as intended, though some safety, accessibility, and circulation deficiencies were observed. Parking lot and overflow parking lots are insufficiently lit, as existing pole mounted site lights are inoperable. Multiple walkways exceed code requirements for slope, as well as the handicap accessible parking spaces and the route from the spaces to the front entrance. Route from handicap parking spaces is not protected or isolated from traffic using the front bus loop. A majority of the bituminous play areas have steeper than recommended slopes and do not meet accessible code requirements. No loading dock or dedicated loading facility provided. Parking lot is inadequate for staff needs. Parent queuing area does not appear sufficient, and overall circulation patterns for vehicles and pedestrians are less than ideal. Drainage along north face of building is not adequate and has created interior moisture issues. Hardscape surfaces and site features in overall fair to poor condition. Repaving of some areas is should be considered in the next few years.



EXISTING SITE PLAN - UPHAM ELEMENTARY SCHOOL



APPROXIMATE GRADE CHANGES - UPHAM ELEMENTARY SCHOOL

**ARCHITECTURAL**

Small and added to twice, many of the original finishes in the school are long past their useful service life. Classrooms are well maintained but have original surface mounted fluorescent fixtures, stained and broken ceiling tile, and noisy, inefficient thru-wall fan coil units. Daylight is good but windows are shaded by the original metal blinds. Some exterior doors are poorly sealed and reveal large gaps with daylight. Walls are uninsulated and most windows are single-paned. The modular classrooms are well past their lifetime. Vandalism is an ongoing issue because the rear roof is accessible from higher ground adjacent. Pipe insulation above main corridor is suspected to have asbestos according to the most recent AHERA report and should be abated. Some wiring has asbestos jacketed insulation.



UPHAM ELEMENTARY SCHOOL HISTORY PLAN

**STRUCTURAL**

The building is in fair structural condition. It is framed with steel joist supported by masonry walls. There are some minor cracks in some of the CMU corridor walls and the brick walls in the gymnasium. Alterations a renovations will require seismic upgrades to meet current codes.

**MECHANICAL**

The school is heated by hot water heating plant comprised of one conventional cast iron boiler and one high-efficiency, condensing-type boiler with a primary-

secondary pumping system for distribution to the building loads. The classrooms are heated and ventilated through unit ventilators, fin tube radiation and a common exhaust system. Common spaces are served by heating and ventilating units, fin tube radiation and cabinet unit heaters. The control system is, except for the boilers and hot water pumps, pneumatic and in poor condition.

### **PLUMBING**

Fixtures are antiquated, high-flow type. Original building hot water is supplied directly from a single 48-gallon water heater installed in 2010 with no main mixing valve. Storage temperature could not be confirmed. Hot water temperatures throughout the modular classrooms, served by point-of-use electric storage water heaters, are excessive as observed.

### **FIRE PROTECTION**

No fire protection system has been installed.

### **ELECTRICAL**

Existing electrical systems including power distribution, lighting and fire alarm systems were recently upgraded, however, not throughout the entire building. In general, electrical systems are in fair and operational condition, but upgrades are required. Except for the newer energy-efficient lighting system in Multi-purpose/Gym room, the lighting system is outdated and is not energy-efficient. Exit signs must be upgraded to meet Code. Quantity of power outlets in many spaces is insufficient. Panels, feeders and branch wiring circuits that are older than thirty years should be replaced. Fire alarm system needs some upgrades. Exterior lighting is limited to building-mounted lights, in poor condition. There is no lighting at the parking lot. There is no emergency generator.

### **SECURITY**

There are no CCTV, door access control or intrusion detection systems provided except for a key pad at the front door. Consideration should be given to adding card access control, CCTV system and upgrading the intrusion detection system to include motion detection.

### **TECHNOLOGY**

There is only one network closet in the building that is shared with an office. The building requires additional cabling to support full wireless access connectivity. The local sound system is new. Network equipment room will require power upgrades to support future equipment upgrades.

## 2.4 NORTH 40 SITE

### SUMMARY DATA

#### Site Acreage

Approximate Acres: 40 acres (northern portion)

Approximate Acres: 6.6 acres (southern portion)

### CIVIL

Commonly referred to as the North 40, the property is located at the intersection of Route 135 and Weston Road. The site was reviewed relative to topography, known past uses, natural resources and the Water Protection Overlay District.



NORTH 40 EXISTING SITE PLAN



NORTH 40 COMMUNITY GARDENS



NORTH 40 INACTIVE LANDFILL APPROXIMATE AREA



NORTH 40 AQUIFER YIELD



NORTH 40 WATER SUPPLY PROTECTION DISTRICT WITH VERNAL POOL



NORTH 40 APPROXIMATE GRADE CHANGES



NORTH 40 TOPOGRAPHIC SLOPE AREAS



NORTH 40 POTENTIAL ENTRY POINTS



## SECTION THREE ENROLLMENT FORECAST

### 3.1 PROJECTIONS

In 2012, Wellesley Public Schools retained Cropper GIS Consulting to perform enrollment projections for the school system. Cropper completed their report in February 2013. The report was updated in October 2013 to reflect the academic year 2013-2014 enrollments. The updated report projected an elementary school enrollment of 2,259 students for the academic year 2018-2019. Both reports are included in the Appendix.

The updated projections were evaluated by a sub-committee of the SFC during the course of this study to better understand the 2018-19 projection relative to current utilization.

Developed by: David Lussier, Judy Belliveau, Jack Morgan and K.C. Kato

**Considerations:**

- Peak Enrollment FY09: 2,481
- Total Capacity w/Modulars: 2,508
- Total 90% Capacity w/Modulars: 2,257

	Capacity w/Modulars	Utilization	Capacity at 90%	Projected 2018-19
Bates	418	90%	376	373
Fiske	374	90%	337	300
Schofield	396	90%	356	395
Sprague	418	90%	376	360
	1606		1,445	1,428
Hardy	308	90%	277	269
Hunnewell	330	90%	297	274
Upham	264	90%	238	288
	902		812	831
<b>Total Enrollment</b>	<b>2,508</b>		<b>2,257</b>	<b>2,259</b>

	Enrollment	B/F/S/S	H/H/U
Low	2,000	1450	550
Medium	2,250	1450	800
High	2,500	1450	1,050

Will the options be modeled out at 90% capacity?

Subsequent facility capacity analysis are fine-tuned and shown on Chart 2

Based on the findings of the sub-committee a low, medium and high strategy was followed for developing the planning options for each school. Existing capacity is somewhat subjective: The three older schools are missing numerous program spaces which affect enrollment and District class size policies. MSBA elementary school space guidelines are used for analysis.

	Capacity w/Modulars	Classroom Sections	Capacity at 90%	Projected 2018-19
Bates	418	19	376	373
Fiske (3 mods)	374	17*	337	300
Schofield (4 mods)	396	18	356	395
Sprague	418	19	376	360
	1606		1,445	1,428
Hardy (4 mods)	308	14	277	269
Hunnewell (2 mods)	330	15	297	274
Upham (2 mods)	264	12	238	288
	902		812	831
<b>Total Enrollment</b>	<b>2,508</b>		<b>2,257</b>	<b>2,259</b>

CHART 1 - Cropper GIS 2013 Study

Capacity was then refined through further analysis of the three schools and the programmable requirements of the curricula (see Chart on following page).

	Total Enrollment	B/F/S/S Capacity	H/H/U (remainder)
Projected*	2,250	1400	850
High (proj + 10%)	2,500	1400	1,100

The combined range for design enrollment was established to be between 850 and 1,100 students for the Hardy, Hunnewell and Upham schools with a minimum of three sections and a maximum of five sections per school.

	2013-2014 Population	Existing GSF (including Modulars)	Capacity without Modulars	2019/2020 Projected Enrollment (Cropper)	2019/2020 Projected "Low" Enrollment	2019/2020 Projected "Medium" Enrollment	2019/2020 Projected "High" Enrollment	MSBA GSF New MEDIUM	MSBA GSF New HIGH
<b>Hardy</b>	<b>306</b>	<b>45,909</b> (2K, 11 CR, 4 Mods)	<b>226</b>	<b>283</b>					
<b>Hunnewell</b>	<b>299</b>	<b>44,943</b> (1K, 12 CR, 2 Mods)	<b>260</b>	<b>281</b>					
<b>Upham</b>	<b>243</b>	<b>36,012</b> (3K, 8 CR, 2 Mods)	<b>200</b>	<b>263</b>				<b>58,000</b> (2K, 12 CR) 314 ST	<b>81,722</b> (4K, 19 CR) 536 ST
<b>2 Schools Combined (Hardy &amp; Upham)</b>	<b>549</b>		<b>426</b>	<b>546</b>	N/A	<b>536</b> (4 Sections)	<b>550</b> (4 Sections)	<b>81,722</b> (4K, 19 CR) 536 ST	<b>95,990</b> (5K, 24 CR) 564 ST
<b>3 Schools Combined</b>	<b>848</b>		<b>686</b>	<b>827</b>	<b>600</b>	<b>800</b> (6 Sections Total)	<b>1,100</b> (8 Sections Total)	<b>123,250</b> (7K, 30 CR)	<b>159,500</b> (9K, 39 CR)
<b>Total for District (K-5)</b>	<b>2,341</b>			<b>2,208</b>	<b>2,000</b>	<b>2,250</b>	<b>2,500</b>		
<b>Bates, Sprague, Schofield &amp; Fiske Capacity</b>	<b>1,493</b> Fiske 266 Schofield 370 Bates 395 Sprague 399			<b>1,400</b> Fiske 322 Schofield 322 Bates 382 Sprague 382				<b>Δ +14,470 GSF</b>	<b>Δ +6,370 GSF</b>

CHART 2

Capacity determined using existing school plans and MSBA elementary school guidelines and District standards for program requirements and District target class size policy.

School	2013/14	2019/2020 (Cropper)	"Redistrict" to Capacity (Fiske and Schofield population divided equally)
<b>Fiske (2Ks, 3 Sections)</b>	<b>334</b>	<b>278</b>	<b>322 (80%)</b>
<b>Schofield (3 Sections)</b>	<b>365</b>	<b>382</b>	<b>322 (80%)</b>
<b>Sprague (3 Sections)</b>	<b>399</b>	<b>351</b>	<b>382 (95%)</b>
<b>Bates (3 Sections)</b>	<b>395</b>	<b>370</b>	<b>382 (95%)</b>
	<b>1493</b>	<b>1381</b>	<b>1400 (max)</b>
<b>Total District</b>	<b>2341</b>	<b>2208</b>	

Note: Utilization Factor 90% Cropper Recommendation

Sections	2	3	4
'X' Kindergarten Rooms (@20 students)	40	60	80
'X' 1-3 Rooms (@ 22 students)	132	198	264
'X' 4-5 Rooms (@ 24 students)	96	144	192
	<b>268</b>	<b>402</b>	<b>536</b>

**402 x 90% = 362**  
(less 6.5 students/grade)

**402 x 95% = 382**  
(less 3 students/grade)



## SECTION FOUR PLANNING OPTIONS

### 4.1 SITE CONSIDERATIONS

- 1) Buildable Land
- 2) Traffic
- 3) Fit Test
  - a) Can construction be done without swing space?
  - b) Can construction be done without extensive phasing?

**John D. Hardy Elementary School**  
 Total Acreage: 7.5 Acres  
 Approx. Buildable Acreage: 6.0 Acres

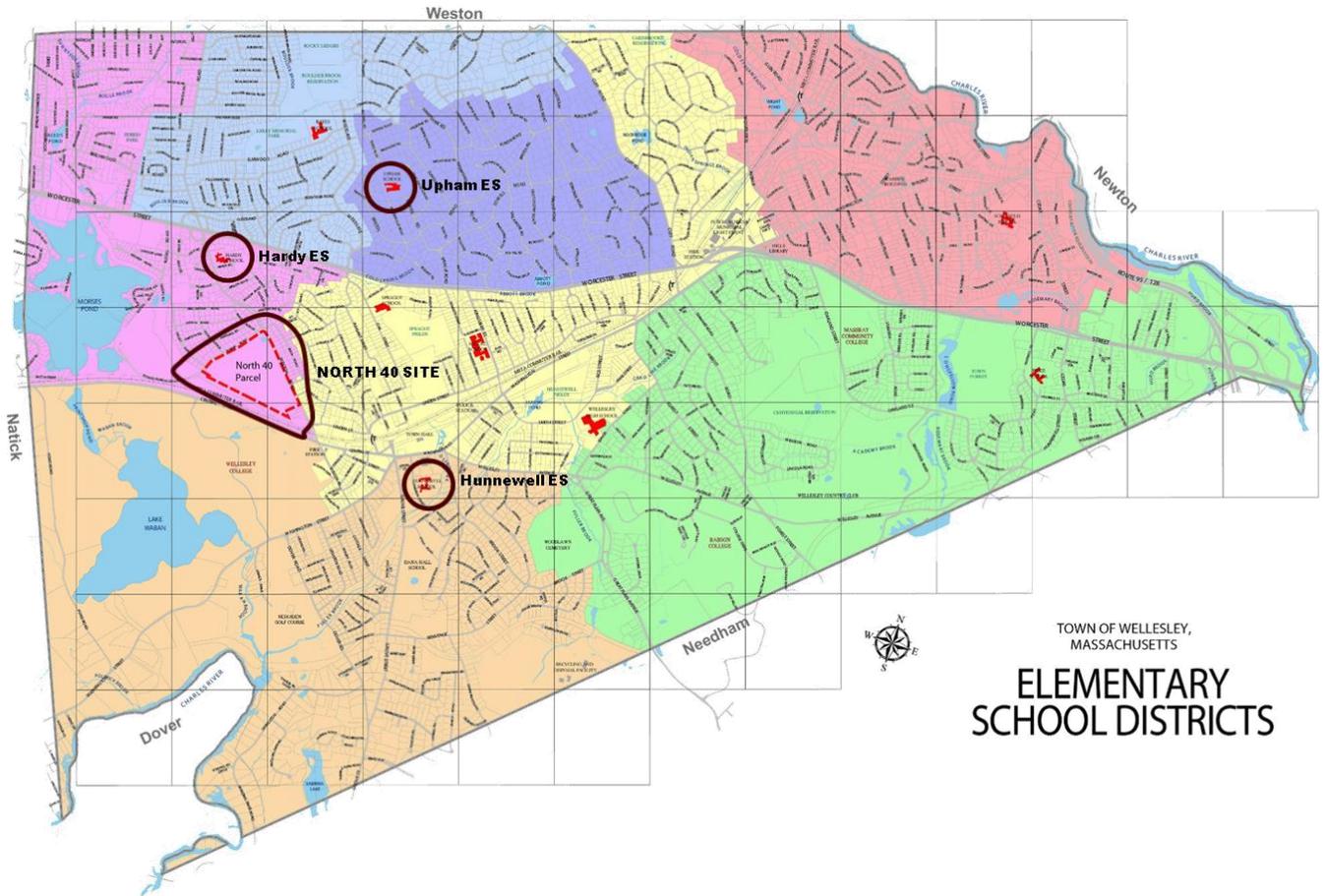
**Hunnewell Elementary School**  
 Total Acreage: 5.6 acres  
 Approx. Buildable Acreage: 3.0 acres

**Upham Elementary School**  
 Total Acreage: 12.0 Acres  
 Approx. Buildable Acreage: 10.5 Acres



**Chart One – Summary of Planning Options**

Options	North 40	Hardy ES	Hunnewell ES	Upham ES
New	660-Students 3 Stories	660-Students 3 Stories	Not possible	660-Students 3 Stories
New	536-Students 2.5-3 Stories	536-Students 3 Stories	536-Students 3 Stories	536-Students 2.5-3 Stories
Add/Reno	n/a	536-Students 3 Stories	425-Students 2.5-3 Stories	536-Students 2.5-3 Stories
Repairs Only	n/a	308-Students	330-Students	264-Students
New Add/Reno	n/a	308 Students 2 Stories	330-Students 2 Stories	264-Students 2 Stories



#### 4.2 DESCRIPTION OF OPTIONS

Four sites have been considered for planning the possible renovations, expansion, consolidation, and/or replacement of the Hardy, Hunnewell and Upham elementary schools, acknowledged to be in need of modernization of both their physical and educational attributes. Chart One - Summary of Planning Options, above, provides an overview of the planning options studied and described in more detail below.

Various combinations of these planning options were assembled into Master Plan Scenarios (see Section 5).

**HARDY ELEMENTARY SCHOOL  
REPAIRS ONLY  
308 STUDENTS**

**Description of Option**

The Repair-Only Option repairs the existing 45,909 GSF (including 15,118 GSF historic building and 3,800 GSF of new modular classrooms) without any improvements for capacity, educational curriculum, or functionality. This option does not address the existing unsatisfactory condition of inadequate educational spaces, the inefficiencies of the school's multiple levels and poor circulation and organization.



**Conceptual Site Plan**

The conceptual Site Plan does not substantially change due to the existing building's location and limited options for increasing auto and bus queuing separation and distances on site. Traffic congestion and pedestrian safety remain a concern for the Hardy site in a repairs only project. Students and staff must be relocated to achieve this option.

The SFC has determined this option should be reviewed further.

**HARDY ELEMENTARY SCHOOL  
ADDITION/RENOVATION  
536 STUDENTS; 3 STORIES**

**Description of Option**

The Renovation-Addition Option renovates the existing 15,116 GSF historic building as the only existing building component worthy of being reused, most likely as kindergarten or administration spaces. This option will require the relocation of the students and staff to accommodate the construction of the larger 81,722 GSF new “addition” on the footprint of the existing building. This option locates the large new addition generally where the site contours begin to drop off but still disrupts ball fields due to site constraints.



**Conceptual Site Plan**

Limited improvements to parking and traffic can be made in this option – if additional parking is located towards the back of the site additional playing fields will be disrupted or lost. Permitting and traffic concerns will be a challenge for this option if selected.

PROS

- 4 section efficient school
- Easy to build new behind existing
- Possible access from Lawrence Road
- Possible to save old Hardy building
- Central office, central storage, Pre-K uses can also be considered

CONS

- Phasing
- Large configuration for this site
- Loss of some fields – geometry for moving baseball/softball is challenge
- Requires full perimeter access for emergency vehicles
- Renovate original Hardy school
- Drop-off pick-up issues remain

The SFC has determined this is not a viable option.

**HARDY ELEMENTARY SCHOOL  
NEW ADDITION/RENOVATION  
308 STUDENTS; 2 STORIES**

**Description of Option**

The New Renovation-Addition Option renovates the existing 15,116 GSF historic building as the only existing building component worthy of being reused, most likely as kindergarten or administration spaces. This option will require the relocation of the students and staff to accommodate the construction of the larger 40,037 GSF new “addition” on the footprint of the existing building. This option locates the large new addition generally where the site contours begin to drop off but still disrupts ball fields due to site constraints.



**Conceptual Site Plan**

Limited improvements to parking and traffic can be made in this option – if additional parking is located towards the back of the site additional playing fields will be disrupted or lost. Permitting and traffic concerns will be a challenge for this option if selected.

PROS

- Neighborhood school
- Possible access from Lawrence Road
- Possible to save old Hardy building

CONS

- Phasing challenges
- Smaller inefficient school
- Potential loss of some fields
- Requires full perimeter access for emergency vehicles
- Renovate original Hardy school
- Drop-off pick-up issues remain

The SFC has determined this is not a viable option.

**HARDY ELEMENTARY SCHOOL  
NEW SCHOOL**  
**660 STUDENTS; 3 STORIES**  
**OR:**  
**536 STUDENTS; 3 STORIES**

#### **Description of Option(s)**

Three all new options were explored for the Hardy School to test the capacity of the site. In two options the existing historic 15,116 GSF portion of the school was shown being salvaged for Town or School Department use, both options can also demolish the existing building if warranted but a new school cannot be located on the historic school footprint in the scenario(s) when the Hardy School is the first phase project requiring the school to remain in operation and as swing space for the Upham and/or Hunnewell school projects.



#### **Conceptual Site Plan(s)**

In a larger 660 student school (five sections per grade) the new building is placed further back on the site to allow for the additional auto and bus access requirements, there will be a loss or change of playground and field space in either option due to the geometry, contours and narrow “belly” of the site. If the historic building remains traffic can circulate in a large “U” around the building to increase frontage for autos and buses.

PROS

- 4 or 5 section efficient school
- Easy to build new behind existing
- Possible access from Lawrence Road
- Possible to save old Hardy building
- Larger queuing for buses and cars

CONS

- Service is deeper in site
- Loss of fields – geometry for moving baseball/softball is challenge
- Requires full perimeter access
- Renovate original Hardy school adds cost
- Central office, professional development space, central storage would add traffic
- Disruptive to the neighborhood
- Traffic issues remain

The SFC has determined this is not a viable option.



In the 536 student school (four sections per grade) the new building is placed closer to the back of the existing school, there will still be a loss or change of playground and field space due to the geometry and narrow “belly” of the site. If the historic building remains traffic can circulate in a large “U” around the building to increase frontage for autos and buses. A three story school is still recommended to save site space and take advantage of the site’s topography.

The SFC has determined that this option should be reviewed further.

**HUNNEWELL ELEMENTARY SCHOOL  
REPAIRS ONLY  
330 STUDENTS**

**Description of Option**

The Repair-Only Option repairs the existing 36,441 GSF (including 16,659 GSF historic building and 2,240 GSF of new modular classrooms) without any improvements for capacity, educational curriculum, or functionality. This option does not address the existing unsatisfactory condition of inadequate educational spaces, the inefficiencies of the school's poor circulation and organization.



**Conceptual Site Plan**

The conceptual Site Plan does not substantially change due to the existing building's location and limited options for increasing auto and bus queuing separations and distances on site. Traffic congestion and pedestrian safety remain a concern for the Hunnewell site in a repairs only project with no opportunities for on-site parking expansion. Students and staff must be relocated to achieve this option.

The SFC has determined that this option should be reviewed further.

**HUNNEWELL ELEMENTARY SCHOOL  
ADDITION/RENOVATION  
425-536 STUDENTS; 2.5 - 3 STORIES**

**Description of Option**

The Renovation-Addition Option renovates the existing 22,849 GSF historic building and the 22,687 GSF 1994 addition as the only existing building components worthy of being reused. This option will require the relocation of the students and staff to accommodate the construction of the larger 47,613 GSF new classroom and gymnasium on the footprint of the existing 1950's classroom wing. This option locates the large multistory classroom addition generally where the site contours begin to drop off connecting the historic main school with the 1994 addition in a more useful and efficient manor while providing appropriate 21<sup>st</sup> century learning environment and spaces to meet the curriculum needs of the District.



**Conceptual Site Plan**

Limited improvements to parking and traffic can be made in this option – no additional parking can be located towards the back of the site due to flood plain and riverfront setback requirements. Additional playing fields and play space can be recaptured with the removal of the temporary modular classrooms. Permitting and traffic concerns will be a challenge for this option if selected. The Hunnewell

Site holds the only Elementary School located South of Washington Street and provides coverage for this District in Wellesley. Closing the Hunnewell School will increase traffic congestion to other elementary schools within the district. Parking will be relieved by constructing a parking deck over the Cameron Street surface lot.

#### PROS

- Rebuilds school in this part of district
- Historic character maintained
- Maximizes use of “Town” land w/library
- Eliminates modulars
- Uses 1995 addition
- Maintains protection plan for Fuller Brook

#### CONS

- Parking concerns
- Complex permitting
- Complex renovation
- 425 students, 2½ section school is slightly less efficient and less desirable

The SFC has determined the 425 student option should be further reviewed.

**HUNNEWELL ELEMENTARY SCHOOL  
NEW SCHOOL  
536 STUDENTS; 3 STORIES**

**Description of Option**

One all new option was explored for the Hunnewell School due to the size and constraints of the site. In the new option the existing historic 22,687 GSF portion of the school is shown being demolished due to these constraints. Riverfront and floodplain setbacks will strictly limit the opportunities for locating a fully new school on the Hunnewell site.



**Conceptual Site Plan**

The new school option on Hunnewell requires the relocation of all students to accomplish. The new school sits directly on the existing school's footprint but builds a more efficient 3 story plan to allow for the additional student population to be accommodated. Auto and bus circulation and staff and visitor parking remain challenges for the Hunnewell site. Parking will be relieved by constructing a parking deck over the Cameron Street surface lot.

The SFC has determined this is not a viable option.

**UPHAM ELEMENTARY SCHOOL  
REPAIRS ONLY  
264 STUDENTS**

**Description of Option**

The Repair-Only Option repairs the existing 36,481GSF (including 2,475 GSF of new modular classrooms) without any improvements for capacity, educational curriculum, or functionality. This option does not address the existing unsatisfactory condition of inadequate educational spaces, the inefficiencies of the school's multiple levels and poor circulation and organization, or long term viability to expand its footprint.



**Conceptual Site Plan**

The conceptual Site Plan does not substantially change due to the existing building's location and limited options for increasing auto and bus queuing separations and distances on site. Traffic congestion remains a concern for the Upham site in a repairs only project due to the geometry of the small front parking area. Fields and playspaces on upper terraces require accessible routes. Students and staff must be relocated to achieve this option.

The SFC has determined this option should be reviewed further.

**UPHAM ELEMENTARY SCHOOL  
NEW SCHOOL  
264 STUDENTS**

**Description of Option**

The challenges of using the existing Upham School in all scenarios including the “replacement” option prompted the study of an all new 47,523 GSF building. This option will not require the relocation of the students and staff to accommodate the construction of the larger footprint behind the existing building. This option anticipates a small two story building with room for expansion.



**Conceptual Site Plan**

A new Upham School can be constructed in a single phase on the forested land behind the existing school. The site has the ability to be accessed from two directions improving safety, traffic and security. Ledge removal and additional permitting time should be anticipated and Improved drop off and parking can be accommodated at the front of the school with field and play space access resolved in this option. The existing little league field is anticipated to remain.

PROS

- Easy to build new behind existing
- Access to site from multiple points
- Larger queuing length for buses and cars
- Full perimeter access is achievable

CONS

- Two section inefficient school
- Small core limits future expansion potential
- Loss of fields – Geometry for moving baseball/softball is a challenge

The SFC has determined the 264 student option should be further reviewed.

UPHAM ELEMENTARY SCHOOL  
ADDITION/RENOVATION  
536 STUDENTS; 2.5 – 3 STORIES

**Description of Option**

This option attempts to work with the existing 36,481 GSF building adding space to north and east of the main entrance. The existing building's multiple levels and site constraints limit the development of a plan that improves upon the efficiency and constrained spaces of the existing school. The additions are one to two levels above the existing entrance level unless extensive excavation and potential blasting are undertaken behind the existing school.



**Conceptual Site Plan**

Limited improvements to parking and traffic can be made in this option – unless additional parking is located towards the back of the site. Access around the existing building footprint is tight and would disrupt playground spaces. Playing fields will be disrupted or lost from the building expansion. Permitting and traffic concerns will be a challenge for this option if selected. Students and staff should be relocated to achieve this option.

PROS

- Linked with Bates School population
- Reuse as much of existing building as possible
- Remove modulars

CONS

- Difficult addition
- Small school
- Split pick-up/drop-off for some parents
- Loss of play space or forest
- No improvement to drop-off conditions

The SFC has determined this is not a viable option.

UPHAM ELEMENTARY SCHOOL  
 NEW SCHOOL  
 536 STUDENTS; 3 STORIES  
 OR  
 660 STUDENTS; 3 STORIES

**Description of Option**

Two new options were explored for the Upham School due to the size and accessibility of the site. In both new options the existing 36,481 GSF, the school is shown being demolished due to building condition and site contours and constraints. A larger five section school is less-likely at Upham due to the physical site size and tight neighborhood streets. The Upham School is also ‘linked’ geographically to the newer Bates Elementary school easing capacity needs in this district of Town. A smaller 4 section school might be a combination of 2 and 3 story construction or utilizing ‘attic’ space under a pitched roof similar to the Sprague Elementary School.



**Conceptual Site Plan**

A new Upham School can be constructed in a single phase on the forested land behind the existing school. The site has the ability to be accessed from two directions improving safety, traffic and security. Ledge removal and additional permitting time should be anticipated and Improved drop off and parking can be

accommodated at the front of the school with field and play space access resolved in this option. The existing little league field is anticipated to remain.

#### PROS

- 4 or 5 section efficient school
- Easy to build new behind existing
- Access to site from multiple points
- Larger queuing length for buses and cars

#### CONS

- Service is deeper in site
- Loss of fields – geometry for moving baseball/softball is challenge
- Requires full perimeter access

The SFC has determined the 536 student option should be further reviewed.

WELLESLEY COLLEGE NORTH 40 SITE  
 NEW SCHOOL  
 660 STUDENTS; 3 STORIES  
 OR  
 536 STUDENTS; 2 STORIES

**Description of Option(s)**

In 2014 the Town of Wellesley supported the purchase of the North 40 Parcel from Wellesley College. The parcel is divided in two and separated by the Town's aqueduct with limited access points from Central Street (Route 135) due to the railroad tracks and aqueduct. Preliminary traffic analysis links the North 40 Site with the Hardy School's catchment area for students and does not substantially improve access and traffic in comparison with the Hardy School site. The site currently has a large area dedicated to the community gardens, a former landfill, and has no current physical structures or primary utility and services serving the site – requiring substantial investments to serve a civic structure such as a school. The Town is considering numerous options for the use and protection of the North 40 site making its use for a school site in the immediate future unlikely.



Program Site Plan

**Conceptual Site Plan**

The Conceptual Site Plan shows a multi-story building with adequate play fields and parking and suitable auto and bus drop off zones for a four or five section elementary school. It would be anticipated that a 660 student (five sections school) would be slightly larger in its site area requirements, a 550 student school can be planned for ease of expansion should future enrollment growth be required. The school is shown located on the south side of the site off Turner Road to generally leave the community gardens and landfill intact.

The benefits of using the North 40 site primarily reside in the ability to build a new school clear of existing facilities for safety and security and allow for simple phasing of the remaining school project(s).

Challenges for the site include reaching consensus for school use, neighborhood support and traffic concerns, lack of utility and services support. Geographically the North 40 site does not substantially improve the current three school districting challenges and overall access for the Town.

**660 Students; 3 stories**

The SFC has determined this is not a viable option.

**536 Students; 2 stories**

The SFC has determined this is not a viable option.

### 4.3 PLANNING OPTIONS

	North 40		Hardy		Hunnewell		Upham	
New		660 Students 3 Stories		660 Students 3 Stories				660 Students 3 Stories
New		536 Students 2.5-3 Stories		536 Students 3 Stories		536 Students 3 Stories		536 Students 2.5-3 Stories
Add/Reno				536 Students 3 Stories		536 Students 2.5-3 Stories		536 Students 2.5 Stories
Add/Reno						425 Students 2 Stories		425 Students 2 Stories
Add/Reno				Historic Renovation Only (no students)		314 Students 2 Stories		283 Students 1.5-2 Stories
Repairs Only				330 Students		330 Students		264 Students

Multiple planning options were investigated, including many variations of student populations and building/site constraints. The intent was to provide an exhaustive array for the School Facilities Committee to evaluate on their own individual “project” merits, but also to create multiple scenarios that take into account one, two or three projects in unison.

After thorough analysis, the School Facilities Committee was able to weigh the impacts of the site options’ physical constraints of building and site, with potential concerns for permitting, saving of historic structures, and topography or wetland/floodplain impacts. The following summarizes those findings by school:

**Hardy**

The site is large enough to accommodate the construction of an all new school behind the existing school while retaining the “historic” original building. An addition/renovation scenario is also possible if the students can be removed from the building/site.

**Hunnewell**

The site is too small to save the “historic” original school and build an all new school but an addition renovation can similarly be achieved if the students are removed from the site.

**Upham**

The existing school is not feasible for major additions due to its physical constraints, but the site easily accommodates a new structure behind the existing.

	Hardy	Hunnewell	Upham	North 40
New	Yes 	No 	Yes 	Yes 
Renovation /Addition	Yes 	Yes 	No 	N/A

Multiple Master Plan Scenarios were then developed using the above select Options, which are described in Section 5.



## SECTION FIVE MASTER PLAN SCENARIOS

### 5.1 SCHOOL FACILITIES COMMITTEE CONSENSUS POINTS

1. Concern for using low 3 school enrollment figures (850 vs 1,100)
2. Strongly prefer 2 school scenarios – i.e. close one building
3. Phase one will be a new building not resulting in need to relocate students' w/modulars
  - i. Saves time
  - ii. Saves money
  - iii. Less disruptive educationally
4. Hardy school site and North 40 site are “connected”
  - i. Use of North 40 site would result in closure of Hardy School
5. Concern for closing Hunnewell from Town geography and districting perspective
6. Expansion of Upham building not possible due to site and building/ educational limitations
  - i. New structure more rational

## 5.2 PRELIMINARY MASTER PLAN SCENARIOS

The Planning Options were combined into a preliminary listing of Master Plan Scenarios, see chart below, which were reviewed prior to cost estimating. The scenarios were reviewed relative to population capacity, phasing, traffic and access.

Further Study	North 40 Site	Hardy Elementary	Hunnewell Elementary	Upham Elementary	Population
1.	New School 536 ST 81,722 N	Renovation & Addition 314 ST 15,116 R + 40,884 N	Close	Close	850
2.	New School 536 ST 81,722 N	Close	Renovation & Addition 314 ST 22,687 R + 32,313 A*	Close	850
3.	New School 536 ST 81,722 N	Close	Close	New School 425 ST 70,300 N	961
4.	New School 536 ST 81,722 N	New School 425 ST 70,300 N Renovation Historic Only 15,116 R	Close	Close	961
5.	New School 536 ST 81,722 N	Renovation Historic Only 15,116 R	Renovation & Addition 425 ST 22,687 R + 47,613 A*	Close	961
<b>For conceptual estimating (1,100 students combined capacity)</b>					
6.	New School 660 ST 95,700 N	Close	Renovation & Addition 425 ST 22,687 R + 47,613 A*	Close	1,085
7.	New School 536 ST 81,722 N	Close	Close	Renovation & Addition 536 ST 34,000R + 47,722 A**	1,072
8.	N/A	New School 536 ST 81,722 N	Renovation & Addition 536 ST 18,917R + 62,805 N**	Close	1,072
9.	N/A	New School 660 ST 95,700 N** Renovation Historic Only 15,116 R	Close	New School 536 ST 81,722 N	1,190
10.	N/A	New School 308 ST 40,153 N** Renovation Historic Only 15,116 R	Renovation & Addition 330 ST 22,687R + 35,558 N** 58,245 GSF	New School 264 ST 47,523 N	902

\*Additions may increase due to existing building inefficiencies, additional SPED space, or unique site conditions

\*\*Building size to be verified with site constraints

### 5.3 MASTER PLAN SCENARIOS

Each Planning Option was construction cost estimated to a construction start of spring 2016, to provide a uniform comparison of each of their construction costs. The construction cost estimates are included in the Appendix. These costs were then shown together in comparison with each of the preliminary Master Plan Scenarios, as shown in the chart below.

The SFC then reviewed the merits and costs of each of the Master Plan Scenarios and concluded that Master Plan Scenario No. 3, Scenario No. 5, Scenario No. 7a, and Scenario No. 8 should be reviewed further, including escalating their construction costs to Master Plan Sequence and including all indirect costs such as FFE, Technology, fees, and contingencies.

Each of the four scenarios are outlined in this section.

Scenario	North 40 Site	Hardy	Hunnewell	Upham	Population	Construction Cost Total*	Construction Cost/Student
1	<b>New School</b> 660-Students 95,700 GSF New \$ 35,620,734	<b>Close School</b> Renovation (Historic Only) 15,116 GSF Renovation \$ 6,556,522	<b>Renovation &amp; Addition</b> 425-Students 47,613 GSF Addition 22,687 GSF Renovation \$ 32,704,077	<b>Close School</b>	1,085	\$ 68,324,811 166,000 SF	\$ 62,972
2	<b>New School</b> 536-Students 81,722 GSF \$ 31,820,807	<b>Close School</b>	<b>Close School</b>	<b>New School</b> 536-Students 81,722 GSF New \$ 35,204,701	1,072	\$ 67,025,508 163,444 SF	\$ 62,524
3	N/A	<b>New School</b> 536-Students 81,722 GSF New \$ 31,993,171 (Historic Renovation) 15,116 GSF Renovation \$ 6,556,522**	<b>Renovation &amp; Addition</b> 425-Students 47,613 GSF Addition 22,687 GSF Renovation \$ 27,012,360	<b>Close School</b>	961	**\$ 59,005,531 152,022 SF	\$ 61,400
4	N/A	<b>New School</b> 660-Students 95,700 GSF New \$ 35,900,517	<b>Close School</b>	<b>New School</b> 536-Students 81,722 GSF New \$ 35,204,701	1,196	\$ 71,105,218 177,422 SF	\$ 59,453
5	N/A	<b>Close School</b>	<b>Renovation &amp; Addition</b> 425-Students 47,613 GSF Addition 22,687 GSF Renovation \$ 27,012,360	<b>New School</b> 536-Students 81,722 GSF New \$ 35,204,701	961	\$ 62,217,061 152,022 SF	\$ 64,741
6	N/A	<b>New School</b> 660-Students 95,700 GSF 15,116 GSF Renovation (Historic Only)** \$ 41,386,163	<b>New School</b> 536-Students 81,722 GSF New \$ 36,636,300	<b>Renovation &amp; Addition</b> 536-Students 57,241 GSF Addition 24,481 GSF Renovation \$ 35,022,733	1,732	\$ 113,045,196 274,260 SF	\$ 65,268
7	<b>Two Phases Summer Construction</b> N/A	<b>Renovation &amp; Modular</b> 306 Students; 45,909 GSF \$ 15,331,791	<b>Renovation &amp; Modular</b> 299 Students; 36,441 GSF \$ 11,736,510	<b>Renovation &amp; Modular</b> 243 Students, 36,481 GSF \$ 11,200,481	902	\$ 38,268,782 118,831 SF	\$ 42,427
7a	<b>Single Phase Summer Construction</b> N/A	<b>Repairs</b> \$ 13,937,992 30 Modulares \$ 4,717,137 \$ 18,655,129***	<b>Repairs</b> \$ 10,669,554 30 Modulares \$ 4,717,137 \$ 15,386,691***	<b>Repairs</b> \$ 10,182,256 30 Modulares \$ 4,717,137 \$ 14,899,393***	902	\$ 48,941,213 118,831 SF	\$ 54,259
8		<b>Mostly New</b> \$ 22,203,414	<b>Renovation &amp; Addition</b> \$ 24,109,260	<b>New School</b> \$ 26,919,504	902	\$ 73,232,178 160,921 SF	\$ 81,189

NOTE:

\*Construction cost estimated to construction start spring 2016.

\*\*Renovation cost for Historic Hardy School for reference only – not carried in final costs.

\*\*\*Modular cost will be reduced by redundant installation and phase out cost based on Final Master Plan sequence.

MASTER PLAN SCENARIO 3



**Wellesley North 40 Site**  
n/a

Hardy ES



**New School**  
536-Students  
81,722 GSF New  
(Historic Renovation)  
15,116 GSF Renovation

Hunnewell ES



**Renovation & Addition**  
425-Students  
47,613 GSF Addition  
22,687 GSF Renovation

Upham ES



**Close School**

MASTER PLAN SCENARIO 5



**Wellesley North 40 Site**  
n/a

Hardy ES



**Close School**

Hunnewell ES



**Renovation & Addition**  
425-Students  
47,613 GSF Addition  
22,687 GSF Renovation

Upham ES



**New School**  
536-Students  
81,722 GSF New

MASTER PLAN SCENARIO 7A



Wellesley North 40 Site  
n/a

Hardy ES



Renovation & Modular  
308 Students; 45,909 GSF

Hunnewell ES



Renovation & Modular  
330 Students; 36,441 GSF

Upham ES



Renovation & Modular  
264 Students, 36,481 GSF

MASTER PLAN SCENARIO 8



**Wellesley North 40 Site**  
n/a

Hardy ES



**Mostly New**  
308 Students; 55,153 GSF  
40,037 GSF New  
15,116 GSF Renovation

Hunnewell ES



**Renovation & Addition**  
330 Students; 58,245 GSF  
35,558 GSF New  
22,687 GSF Renovation

Upham ES



**New**  
264 Students, 47,523 GSF

## SECTION SIX SCHEDULE AND COST ANALYSIS

### 6.1 MASTER PLAN SCHEDULE

The overall project schedules for Master Plan Scenarios 3, 5, 7a and 8 were developed with an understanding that the Town would appropriate the funding to commence Feasibility and Schematic Design in spring 2016. The schedule incorporates anticipated detailed design and construction durations for each, as well as their coincident funding appropriations.

Generally, Scenarios 3 and 5, have a similar schedule, with the new construction component being constructed and opening for the 2020/21 academic year and the Hunnewell Elementary School's renovation and additions being completed for the 2022/23 academic year.

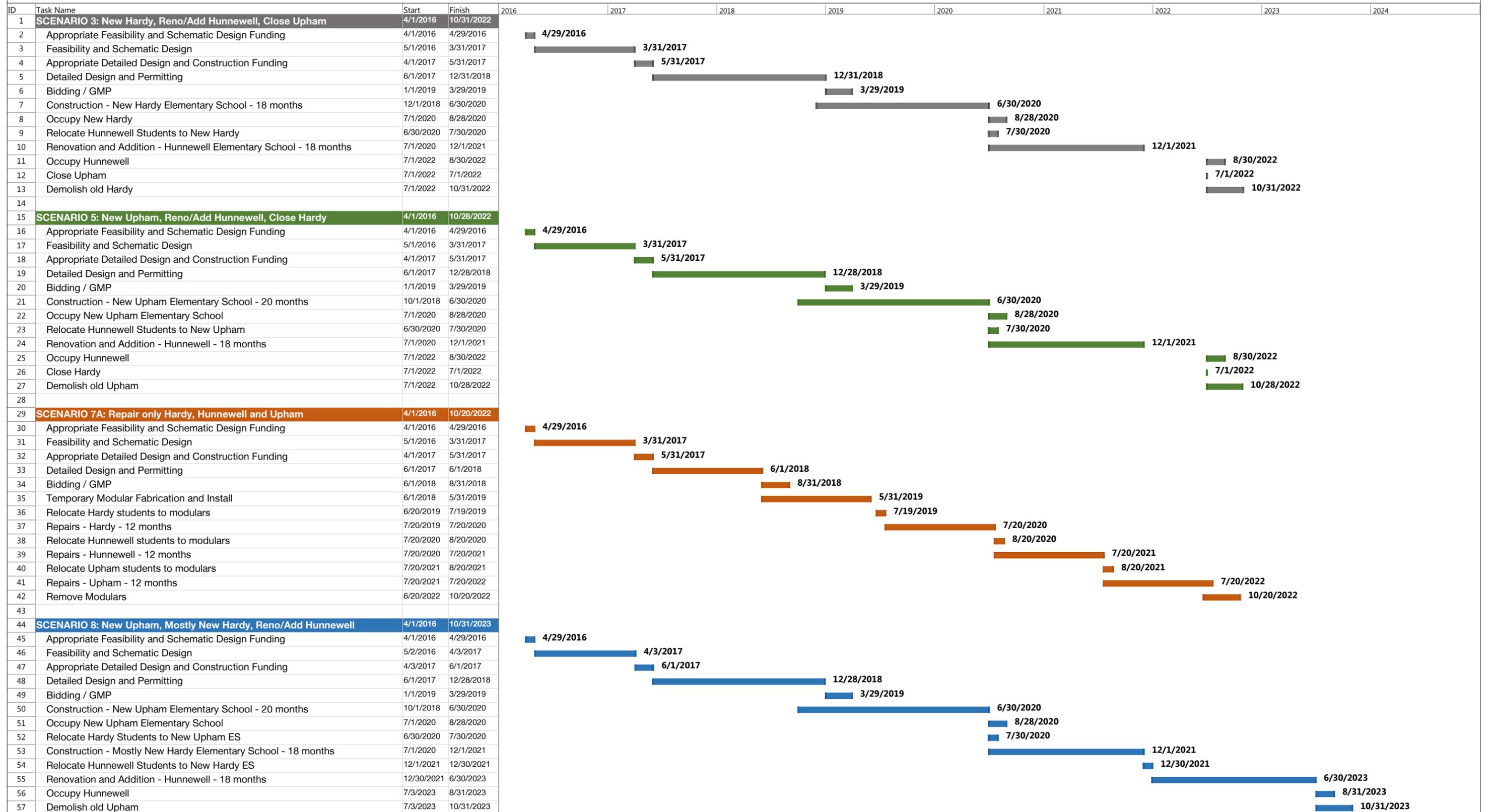
The Repairs Only project 7a would be implemented over three successive years, being fully completed for the 2022/23 academic year.

The rebuild of three schools; Option 8 would require three successive 2 year construction projects taking a total of six years with Hunnewell opening in the 2023/2024 school year.



**WELLESLEY PUBLIC SCHOOLS  
HARDY, HUNNEWELL AND UPHAM ELEMENTARY SCHOOLS STUDY  
WELLESLEY, MASSACHUSETTS**

**PRELIMINARY PROJECT SCHEDULE**





## 6.2 MASTER PLAN COSTS

Master Plan Scenarios 3, 5, 7a, and 8 construction costs were escalated to their Master Plan Sequence.

The following assumptions were utilized in the estimates:

- Cost Escalation is assumed to be 3.5% per year
- Indirect Costs, including potential PSI required off-site work, to be 38% of escalated construction costs

[Master Plan Scenario 3](#) has a construction cost of \$65.9 million and a project cost of \$91.0 million. No costs for the closing, decommissioning or repurposing of the Upham School or for the historic Hardy School renovation are included in this scenario.

[Master Plan Scenario 5](#) has a construction cost of \$65.5 million and a project cost of \$95.9 million. No costs for the closing, decommissioning or repurposing of the Hardy School are included in this scenario.

[Master Plan Scenario 7a](#) has a construction cost of \$46.5 million and a project cost of \$64.1 million.

[Master Plan Scenario 8](#) has a construction cost of \$84.1 million and a project cost of \$116.0 million.



Scenario 3 - New Hardy, Reno/Add Hunnewell, Close Upham								
	Construction Cost (based on construction start Q2 2016)	Yearly Escalation	Q2 2017	Q2 2018	Q4 2018		Total Escalated Construction Cost	Total Project Cost
New Hardy ES	\$31,993,171	3.5%	\$33,112,932	\$34,271,885	\$34,957,322		\$34,957,322	
Reno/Add Hunnewell ES (w/ 20 space parking garage)	\$27,012,360 \$59,005,531	3.5%	\$27,957,793	\$28,936,315	\$29,949,086	\$30,997,304	\$30,997,304	
							<b>\$65,954,627</b>	<b>\$91,017,385</b>
Scenario 5 - New Upham, Reno/Add Hunnewell, Close Hardy								
	Construction Cost (based on construction start Q2 2016)	Yearly Escalation	Q2 2017	Q2 2018	Q4 2018		Total Escalated Construction Cost	Total Project Cost
New Upham ES	\$35,204,701	3.5%	\$36,436,866	\$37,712,156	\$38,466,399		\$38,466,399	
Reno/Add Hunnewell ES (w/ 20 space parking garage)	\$27,012,360 \$62,217,061	3.5%	\$27,957,793	\$28,936,315	\$29,949,086	\$30,997,304	\$30,997,304	
							<b>\$69,463,703</b>	<b>\$95,859,911</b>
Scenario 7A - Repair Only Hardy, Hunnewell and Upham								
	Construction Cost (based on construction start Q2 2016)	Yearly Escalation	Q2 2017	Q2 2018	Q4 2018		Total Escalated Construction Cost	Total Project Cost
Temporary Modulares*	\$6,217,137	3.5%	\$6,434,737	\$6,659,953			\$6,659,953	
Repair Hardy ES	\$13,937,992	3.5%	\$14,425,822	\$14,930,725	\$15,453,301		\$15,453,301	
Repair Hunnewell ES	\$10,669,554	3.5%	\$11,042,988	\$11,429,493	\$11,829,525	\$12,243,559	\$12,243,559	
Repair Upham ES	\$10,182,256 \$41,006,939	3.5%	\$10,538,635	\$10,907,487	\$11,289,249	\$11,684,373	\$12,093,326	
							<b>\$46,450,138</b>	<b>\$64,101,191</b>
*cost includes additional \$1,000,000 for full 3 year lease and additional \$500,000 for distributed sitework								
Scenario 8 - New Upham, Mostly New Hardy, Reno/Add Hunnewell								
	Construction Cost (based on construction start Q2 2016)	Yearly Escalation	Q2 2017	Q2 2018	Q4 2018		Total Escalated Construction Cost	Total Project Cost
New Upham ES (plus 3 temp CR modulars)	\$26,919,504	3.5%	\$27,861,687	\$28,836,846	\$29,413,583		\$29,413,583	
Mostly New Hardy ES (plus 1 temp CR modulars)	\$22,203,414	3.5%	\$22,980,533	\$23,784,852	\$24,617,322	\$25,478,928	\$25,478,928	
Reno/Add Hunnewell ES (w/o parking garage)	\$24,109,260 \$73,232,178	3.5%	\$24,953,084	\$25,826,442	\$26,730,368	\$27,665,930	\$28,634,238	\$29,206,923
							<b>\$84,099,434</b>	<b>\$116,057,218</b>



SECTION SEVEN  
APPENDIX

7.1 ENROLLMENT PROJECTIONS FEBRUARY 2013

7.2 ENROLLMENT PROJECTIONS OCTOBER 2013

7.3 CONSTRUCTION COST ESTIMATE JUNE 2015

7.4 CONSTRUCTION COST ESTIMATE SEPTEMBER 2015

7.5 CONSTRUCTION COST ESTIMATE OCTOBER 21 2015



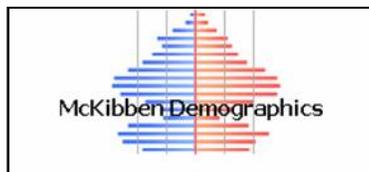
**Wellesley Public Schools**

Wellesley, Massachusetts



**Wellesley Public Schools, MA  
Demographic Study**

**February 2013**



**Cropper GIS**



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## Executive Summary

1. Wellesley's non-college fertility rates are below replacement levels over the duration of the forecasts (TFR=1.81 for the district vs. 2.1 for replacement level)
2. Most in-migration to the district occurs in the 0-to-9 and 30-to-44 age groups.
3. The locally born 18-to-24 year old population continues to leave the district, going to college or moving to other urbanized areas.
4. The primary factor causing the district's enrollment to decline over the next five years is the presence of small preschool age population in the district.
5. Changes in year-to-year enrollment largely will be due to smaller cohorts entering and moving through the system in conjunction with larger cohorts leaving the system.
6. As the in-migration of young families continues to slow and smaller grade cohorts enter into the school system, total enrollment will begin to decline. The district's elementary enrollment will see a steady decline for the next 10 years
7. If there was zero migration during the 2012-13 to 2015-16 time period, elementary enrollment would decline by 590 students. The forecasted decline in elementary enrollment in the same period is for 166 students.
8. As the district continues to have virtually no new home construction, the rate and magnitude of existing home sales will be the dominant factor affecting the amount of population and enrollment change.
9. Total enrollment is forecasted to decline by 243 students, or -5.0%, between 2012-13 and 2017-18. Total enrollment will decline 317 students, or -6.9%, from 2017-18 to 2022-23.



## 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 (and its individual attendance areas) is influenced by a variety of factors. Not all factors will influence the entire school district at the same level. Some 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 the residents' general 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/sex distribution, local vital rates, housing characteristics and special populations 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 characteristics.

The manifest purpose of these forecasts is to ascertain the demographic factors that will ultimately influence the enrollment levels in the district's schools. There are of course, other non-demographic factors the

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 of school policy modifications as well as planned economic and financial changes. However in this case the results of these population and enrollment forecast are meant to represent the most likely scenario for 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 population forecasts for the Wellesley 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 center were provided by the Wellesley Public Schools for school years 2008-2009 to 2012-13. Birth and death data were obtained from the Town of Wellesley for the years 2000 through 2012. The net migration values were calculated using Internal Revenue Service migration reports for the years 2000 through 2010. 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 260 of the over 8,700 current households in the district would have been included. For comparison 1,300 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 result 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, housing tenure and amount of 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 Wellesley 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 60, 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 the district's mortality rates between now and the year 2022. 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 aged 65 and older.

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 and subsequent decline in the fertility rates of the United States, overall fertility rates have stayed within a 10% range (Total Fertility Rates of 1.8 to 2.0) 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 20-29) 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 1.81 for the non-college population of 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 migration, to maintain the current level of population within the Wellesley Public Schools.

A close examination of data for the Wellesley 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 the Wellesley 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 30 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 most of the out-migration occurring in



the 18-to-24 year old age group (those that grew up in the district) as young adults leave the area to go to college or move to other urbanized 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-to-9 and 30-44 age groups (the bulk of which is from areas within 75 miles of Wellesley) primarily consisting of younger adults and their children.

As the town of Wellesley 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 the Wellesley Public Schools and its attendance areas will remain the same through the year 2022.

Below is a list of assumptions and issues that are specific to Town of Wellesley. These issues have been used to modify the population forecast models to more accurately predict the impact of these factors on each attendance area's population change and composition. Specifically, the forecasts for the Wellesley Public School District 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 an 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 2005-2008 average of the Wellesley School District for any year in the forecasts;
- f. All currently planned, platted, and approved housing developments are built out and completed by 2020. All housing units constructed are occupied by 2022;
- g. The unemployment rates for the Boston Metropolitan Area will remain below 7.0% for the 10 years of the forecasts;
- h. The rate of students transferring into and out of the Wellesley Public Schools will remain at the 2008-09 to 2012-13 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 the Greater Boston Metropolitan Area 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. The Wellesley Public School District will not allow out of district students to transfer in to the district at any time over the next 10 years.
- o. Private school and home school attendance rates will remain constant;
- p. The recent decline in new home construction has ended and building rates have stabilized;
- q. The rate of foreclosures for commercial property remains at the 2004-2008 average for the Boston Metropolitan area;

If a major employer in the district or in the Greater Boston Metropolitan 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 the Wellesley 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 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.

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-component projection refers to the future population that would result if a mathematical extrapolation of historical trends were applied to the components of change (i.e., births, deaths, and migration). 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 believed to be critical factors of influence in each specific area.

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

- a. a base-year population (here, the 2010 Census population for the Wellesley Public Schools and their attendance areas);
- b. a set of age-specific fertility rates for each attendance area to be used over the forecast period;
- c. a set of age-specific survival (mortality) rates for each attendance area;
- d. a set of age-specific migration rates for each attendance area; and
- e. the historical enrollment figures by grade.

The most significant part 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 difficult

aspect of generating the population forecasts is found in deriving the rates of change in fertility, mortality, and migration as they relate to the age structure of the district and the attendance areas. From the standpoint of demographic analysis, the Wellesley Public Schools and its seven 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 difficult to calculate because local variations in fertility, mortality, and migration may be more irregular than those at the state or national scale. Especially challenging to project are 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 Wellesley Public Schools and its 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 the Wellesley 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 the Wellesley 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 +2.0% for the life of the forecasts.

**RESULTS AND ANALYSIS OF THE POPULATION FORECASTS**

From 2010 to 2020, the populations of the Wellesley Public Schools, Norfolk County; the state of Massachusetts, and the United States are forecasted to change as follows; the Wellesley Public Schools will increase by 2.0%, Norfolk County will grow by 4.5% Massachusetts will increase by 5.3%; and the United States increase by 8.4% (see Table 1)

**Table 1: Forecasted Population Change, 2010 to 2020**

	<u>2010</u>	<u>2015</u>	<u>2020</u>	<u>10-Year Change</u>
U.S. (in millions)	308	322	334	8.4%
Massachusetts	6,547,629	6,688,000	6,892,000	5.3%
Norfolk County	670,850	687,000	701,000	4.5%
Wellesley	27,982	28,290	28,540	2.0%

A number of general demographic factors will influence the growth rate of the Wellesley 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 local non-college 18-to-24 year old population, 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 virtually no increase in housing stock. The vast majority of in-migrating families will into existing housing units.

The Wellesley Public Schools will continue to experience 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 population is forecasted to increase by 308 or 1.1%, to 28,290. From 2015 to 2020, the population is forecasted to continue to increase by an additional 250 persons or 0.9%. During the ten years of the forecasts, all seven of the elementary attendance areas are forecasted to increase in population with the growth rates ranging from 7.9% in the Bates area to 0.4% in the Hardy 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 0-to-9 and 30-to-44 age groups,) 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 urbanized areas. There will also be an important secondary out migration flow, that of householders over the age of 65. This outflow is key given that fact that the district is almost totally dependent on the sale of existing homes to provide open housing units for new young families with children or who will have children in the future.

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

	2010	2015	2010-2015 Change	2020	2015-2020 Change	2010-2020 Change
Bates	3,132	3,260	3.9%	3,380	3.7%	7.9%
Fiske	5,582	5,630	0.9%	5,650	0.4%	1.2%
Hardy	2,958	2,940	-0.6%	2,970	1.0%	0.4%
Hunnewell	5,604	5,620	0.3%	5,630	0.2%	0.5%
Schofield	3,689	3,790	2.7%	3,810	0.5%	3.3%
Sprague	4,683	4,720	0.8%	4,720	0.0%	0.8%
Upham	2,334	2,330	-0.2%	2,380	2.1%	2.0%
<b>District Total</b>	<b>27982</b>	<b>28290</b>	<b>1.1%</b>	<b>28540</b>	<b>0.9%</b>	<b>2.0%</b>

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 65% of all births occur to women between the ages of 20 and 29. (This is still true even with the recent rise in fertility rates for women age 30 and over) As the graduating seniors continue leave the district, the number of women at risk of childbirth during the next decade declines. Consequently, even though the district's fertility rate is just 0.3 points below the replacement level, the smaller

number of women in the district in prime child bearing ages will keep the number of births low despite the district having an increasing 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). This will require the district to become dependent on the in-migration of children just to maintain current grade cohort sizes.

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 1995. 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 did not experience a 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 Districts, 2010 Census**

	HH w/ Pop Under 18	% HH w/ Pop Under 18	Total Households	Household Population	Persons Per Household
Bates	520	50.9%	1021	3132	3.07
Fiske	610	41.2%	1480	3993	2.70
Hardy	451	41.6%	1082	2958	2.73
Hunnewell	481	35.7%	1347	3504	2.60
Schofield	616	49.0%	1258	3687	2.93
Sprague	676	38.4%	1763	4556	2.58
Upham	377	50.7%	744	2334	3.14
<b>District Total</b>	<b>3730</b>	<b>42.9%</b>	<b>8695</b>	<b>24164</b>	<b>2.78</b>

Clearly, the dominant factor that has affected the population growth rates of the Wellesley Public Schools over the last 20 years has been the pace of existing homes sales. 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 on the size of an area's population and the total impact of that change will be experienced immediately..

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 is not seen immediately in elementary enrollment as it takes three to seven years for all of the



children of a given household to age into the schools. This is a key issue since the number of births in the Wellesley Public Schools is insufficient to maintain current enrollment levels over the next 10 years. The number of women living in the district ages 20-29 (prime child bearing ages) is too small to produce birth cohorts that are the same size as those currently in the elementary grades.

Of additional concern are the issues of the district's aging population and the growing number of "empty nest" households, particularly in the Upham 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 an "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
Bates	52.3%	25.4%	97.4%
Fiske	42.7%	28.4%	72.0%
Hardy	46.7%	27.6%	90.5%
Hunnewell	38.4%	36.2%	73.9%
Schofield	48.7%	22.4%	84.4%
Sprague	43.9%	28.1%	73.8%
Upham	47.6%	23.5%	96.1%
<b>District Total</b>	<b>45.2%</b>	<b>27.8%</b>	<b>81.8%</b>

Note as well the steady increase in the median age of the population in the Wellesley 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 increase from 37.8 in 2010 to 39.9 in 2020. (A 2.1 year increase over the course of a decade is a large increase for a district of this size with two colleges located within its boundaries) This rise in median age is due to three factors, 18-24 years leaving the district, a high proportion of their parents staying in their existing households and the decline in the number of births. (See Table 4)

As a result of the "empty nest" syndrome, the attendance areas in the Wellesley Public Schools will see a steady rise in the 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, several of the empty nest households will "down size" to smaller households within the district. In these cases new housing units may be developed in an area, yet there is no corresponding increase in school enrollment.

**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+
Bates	14.6%	9.9%
Fiske	23.7%	13.6%
Hardy	19.7%	11.1%
Hunnewell	25.6%	15.9%
Schofield	15.7%	8.0%
Sprague	26.5%	12.4%
Upham	10.3%	6.5%
<b>District Total</b>	<b>20.7%</b>	<b>11.6%</b>

**RESULTS AND ANALYSIS OF ENROLLMENT FORECASTS**

*Elementary Enrollment*

The total elementary enrollment of the district is forecasted to decline from 2,309 in 2012-13 to 2,066 in 2017-18, a decrease of 243 students or 10.5%. From 2017-18 to 2022-23, elementary enrollment is expected to drop by 154 students to 1,912. This will represent a -7.5% decrease over the five-year period. All of the seven elementary attendance areas will experience a net decline in enrollment over the next ten years (see Chart 6).

The reason for this turnaround in elementary enrollment pattern is the convergence of the effects of three factors, all affecting the enrollment level for the next 10 years. These factors are the reversal of cohort sizes in the elementary grades, the growth in the number of empty nest households and a “dearth” of population in the preschool ages. Each of these factors will contribute in part to the decline in elementary enrollment until at least 2022-23.

Over the last several years, one of the main reasons elementary enrollment was consistently declining was due to the fact that the number of children entering Kindergarten and 1st grade was much smaller than the number leaving elementary school after completing 5th grade. This enrollment decline was in spite of the extra Kindergarten through 5th grade students the district was gaining through in-migration of young families. Over the next 10 years, the number of students in 5th grade will average 365 each year as opposed to the 325 average size of the 1st grade cohort.

**Table 6: Total Elementary Enrollment, 2012, 2017, 2022**

	2012	2017	2012-2017 <i>Change</i>	2022	2017-2022 <i>Change</i>	2012-2022 <i>Change</i>
Bates	320	308	-3.8%	274	-11.0%	-14.4%
Fiske	335	302	-9.9%	281	-7.0%	-16.1%
Hardy	328	319	-2.7%	287	-10.0%	-12.5%
Hunnewell	298	262	-12.1%	237	-9.5%	-20.5%
Schofield	341	333	-2.3%	320	-3.9%	-6.2%
Sprague	394	351	-10.9%	331	-5.7%	-16.0%
Upham	226	191	-15.5%	182	-4.7%	-19.5%
<b>District Total</b>	<b>2,309</b>	<b>2,066</b>	<b>-10.5%</b>	<b>1,912</b>	<b>-7.5%</b>	<b>-17.2%</b>

The second factor is that there is currently a significantly dearth of population in the district’s pre-school 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 younger than five years old, particularly when compared to the cohort sizes of the age 6 through 10 population. This trend is an indication of the proportion of households in each area that will produce elementary age students over the next five years.

Even with a substantial in-migration of young families with children under the age of five, this “pre-school cohort” will result in significant decline in elementary enrollments over the next five years. For example, if there was zero migration during the 2012-13 to 2015-16 school years, elementary enrollment would decline by 590 students due to the substantially smaller pre-school age cohort aging into the elementary grades. However in this case, the forecasted decline in elementary enrollment in the same period is for 166 students. This is a result of the forecasts adding 424 elementary students over the same period through in-migration. Thus, even though the district will experience a substantial level of in-migrating young households, this migration flow will be insufficient in magnitude to fully compensate for the smaller preschool age cohorts.

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

	Age in Years										
	Under 1	1	2	3	4	5	6	7	8	9	10
Bates	34	49	47	64	69	52	68	81	76	77	60
Fiske	43	43	50	70	59	61	68	91	83	77	86
Hardy	28	31	46	52	52	40	51	61	53	59	45
Hunnewell	21	27	37	37	46	47	49	68	62	67	69
Schofield	47	52	59	54	61	59	87	76	62	83	92
Sprague	35	55	61	63	60	73	73	88	91	82	81
Upham	16	24	23	24	34	25	39	40	51	53	62
<b>District Total</b>	<b>224</b>	<b>280</b>	<b>323</b>	<b>363</b>	<b>380</b>	<b>357</b>	<b>434</b>	<b>505</b>	<b>478</b>	<b>498</b>	<b>495</b>



The third factor is the rise of the number of empty nest households in the district. In 2010 the district had 45.2% 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 the homeowners (and their children) aged and the households became empty nest. Unfortunately, the large and growing bubble of now empty nest households, (particularly 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 householders downsize, allowing new young families with children to move in.

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 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.

Attendance areas that are currently experiencing a rise in empty nest households tend to be the same areas that are not the areas that will experience any large number of existing home sales. Thus, areas like Hardy will see sustained net declines in elementary enrollment. While these areas will continue to see net in migration of families, it will not be at a sufficient rate to maintain current attendance levels.

As all the elementary attendance areas become almost completely dependent upon existing home sales to attract new families, the overall elementary enrollment trend of the district will 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 declines.

There is one additional factor affecting the in migration characteristics of the households moving to Wellesley, the cost of housing. The household demographic dynamics of homes priced at \$200,000 to \$300,000 tend to be quite different from houses priced at \$400,000 to \$500,000. The latter group, which makes up a sizeable proportion of the housing units in Wellesley, tend to draw occupants that have completed their family formation and the children they do have are frequently

in the late elementary or early middle school grades.

### *Middle School Enrollment*

The total middle school enrollment for the district is forecasted to decline from 1,165 in 2012-13 to 1,049 in 2017-18, a 116 student or -10.0%. Between 2017-18 and 2022-23 middle school enrollment is forecasted to decline to 1,012, a decrease of 37 students or -3.5%. 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 are more moderate than 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 smaller middle school cohorts age into high school, they decrease the overall middle school enrollment level. Note how the size of the incoming 6th 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 "dearth" in the enrollment pattern exists, (even with the aforementioned in-migration of middle age students) there will be to some degree, a decrease in middle school enrollment at least until the 2017-2018 school year.

By 2018 the full impact of the current dearth of population should be seen in the middle school grades. The district should experience a much more moderate decline in middle school enrollment as the year to year changes are more a reflection of each year's relative cohort size.

### *High School Enrollment*

Enrollment at the high school level is forecasted to grow from 1,383 in 2012-13 to 1,499 in 2017-18, an increase of 116 students or 8.4%. After 2017-18, the high school enrollment will begin to decline. The net result for the five-year period 2017-18 to 2022-23 will be a decrease of 126 students to 1,373 or -0.7%.

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 here is that for the next five years the incoming 9th grade cohort will be larger than the graduation 12th grade cohorts of the year before. From 2012-13 to 2017-18, the larger grade cohorts that are in middle school begin to enter high school. Until the current bubble of students passes through the high school grades, there will be continued growth at the



district's high school.

After 2017, this trend reverses. The incoming 9th grade cohorts will be smaller than the previous year's graduating 12th grade class. The will results in a slow, uneven decline in total high school enrollment that will continue beyond the 10 year horizon of these forecasts.

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.

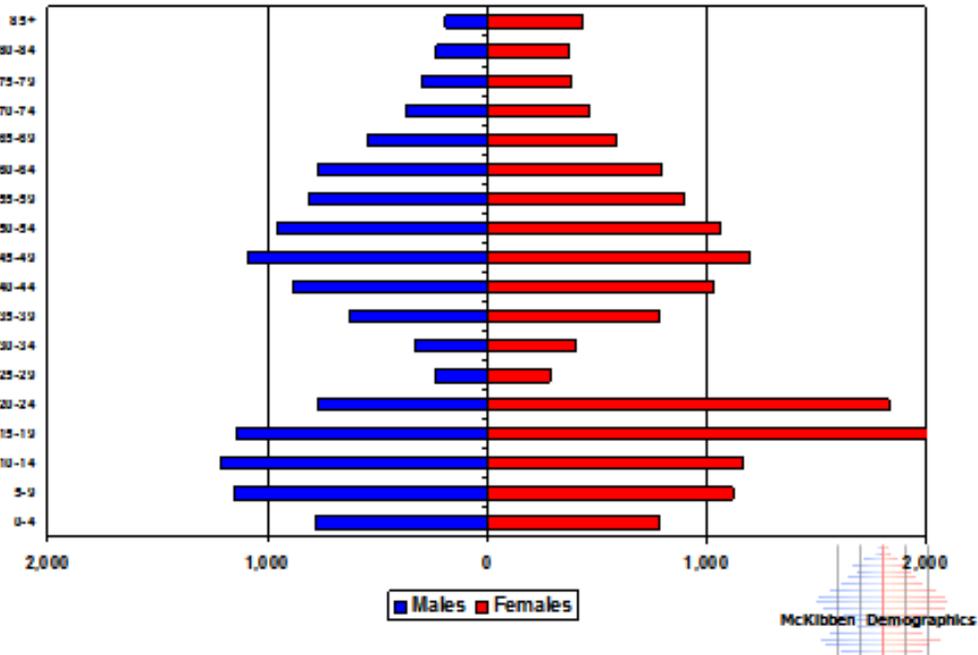
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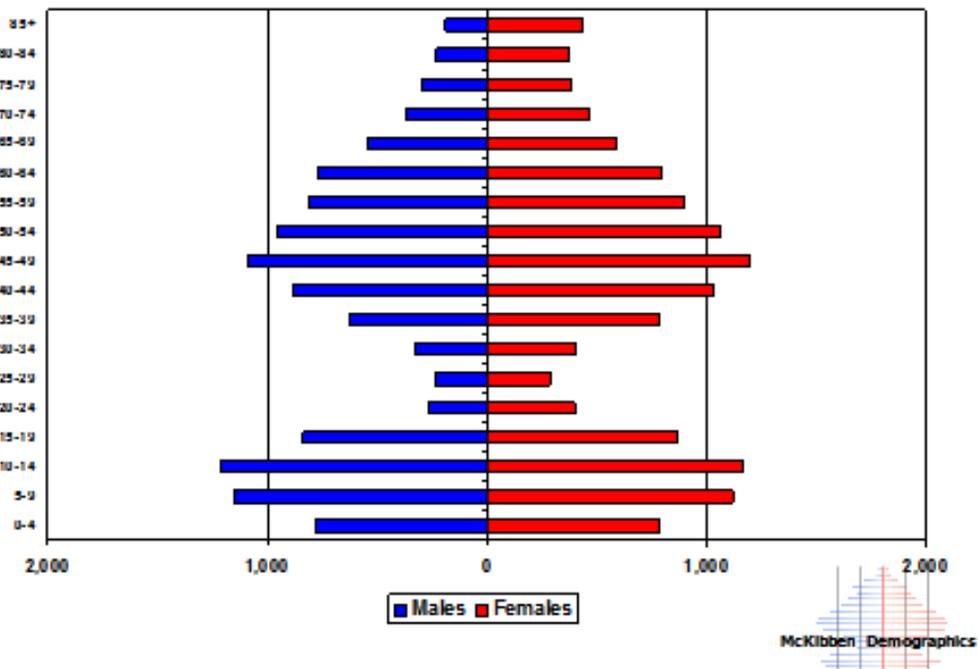


Appendix A: Population Pyramids by Attendance Zone (Age/Sex)

Wellesley Schools Total Population Census 2010

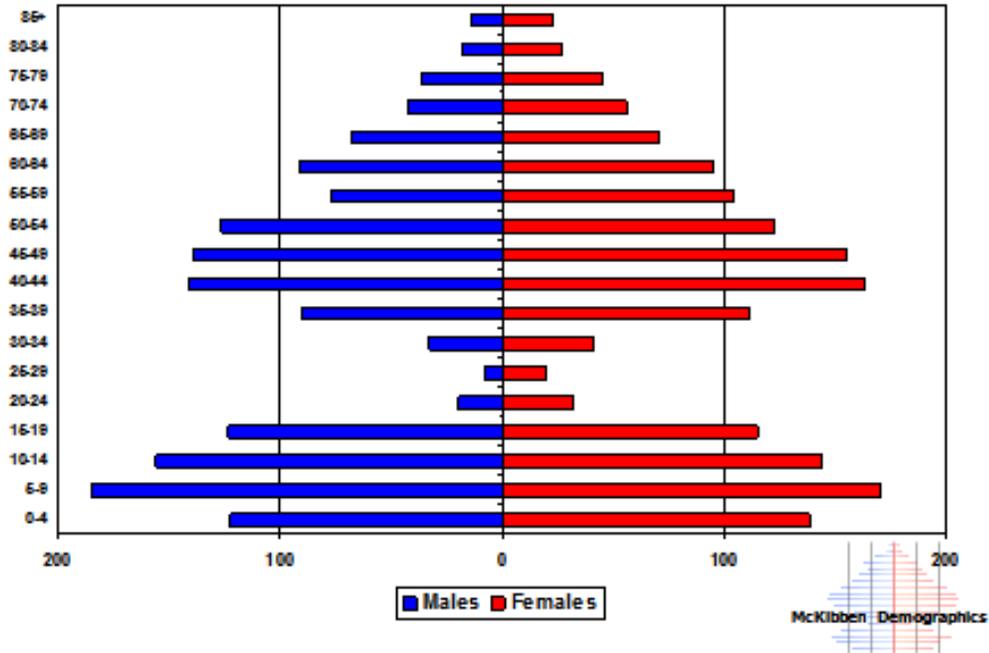


Wellesley Schools Total Population Census 2010  
Without Group Quarters Population

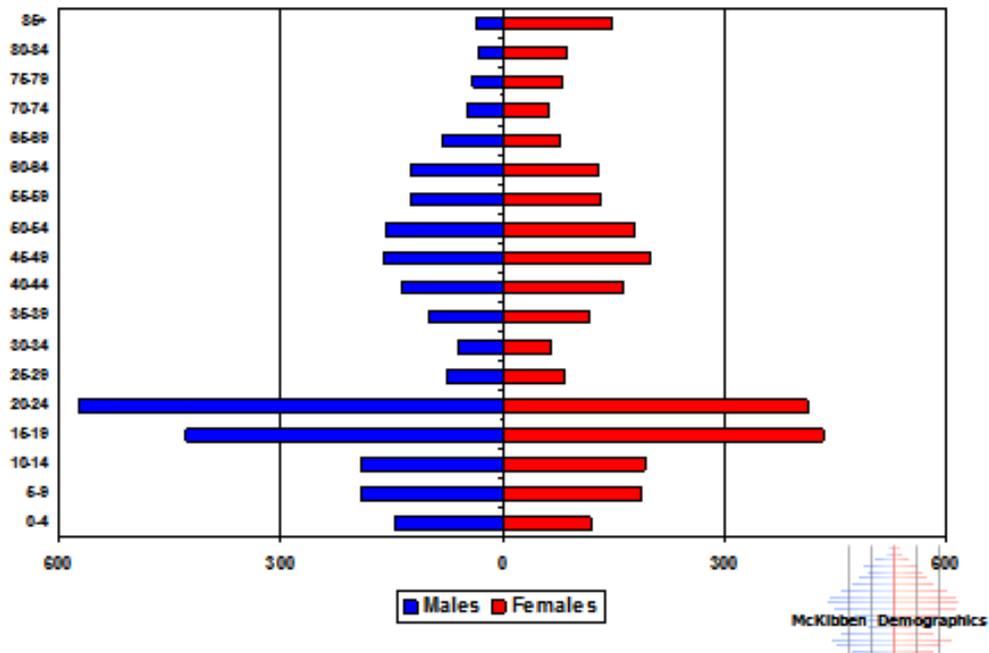




### Bates School District Total Population Census 2010

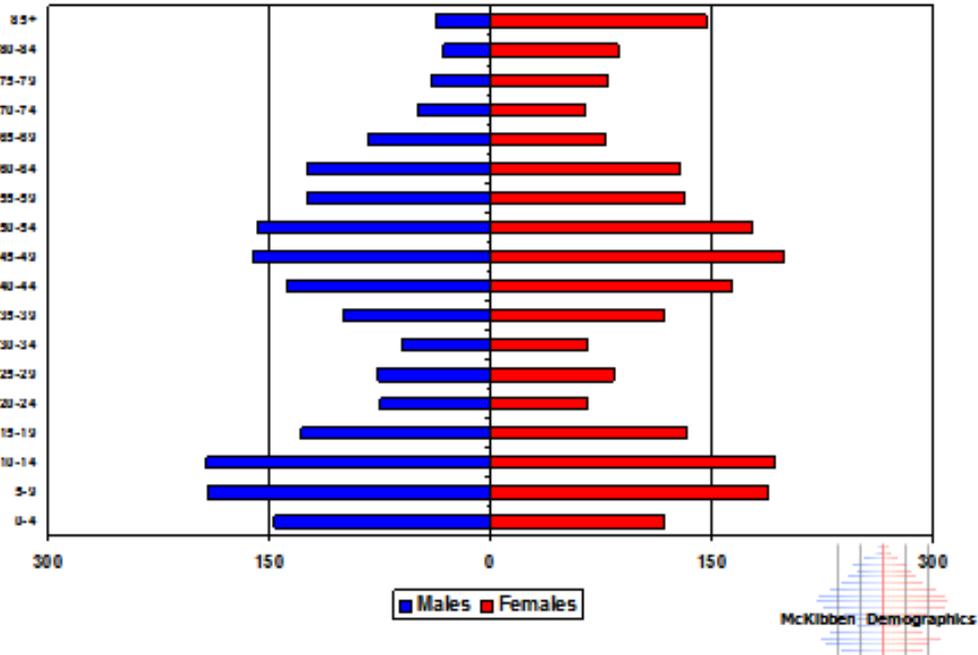


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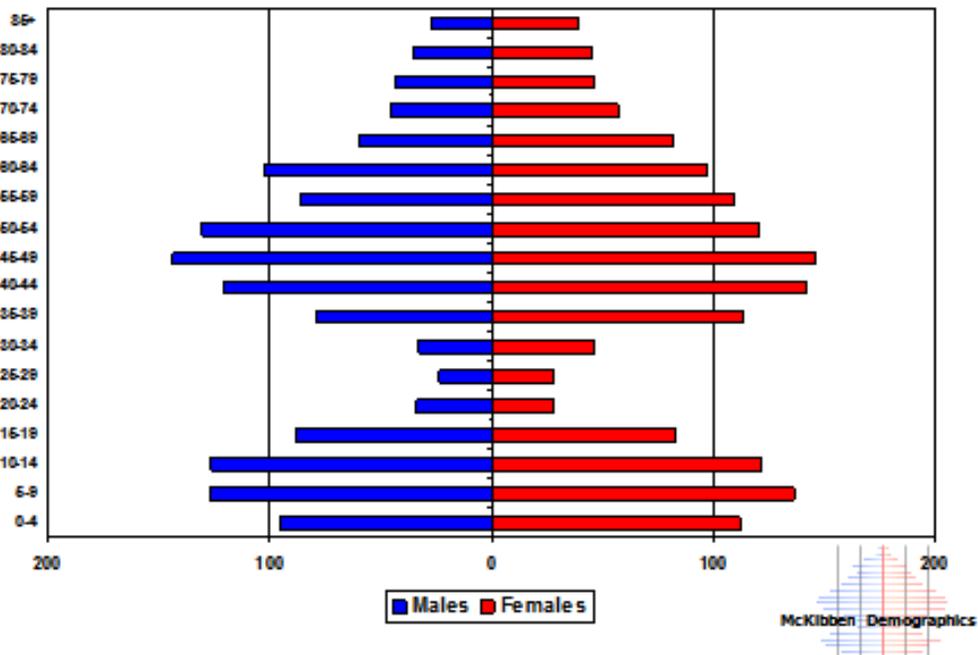




Fiske School District Total Population Census 2010  
Without Group Quarters Population (note different scale)

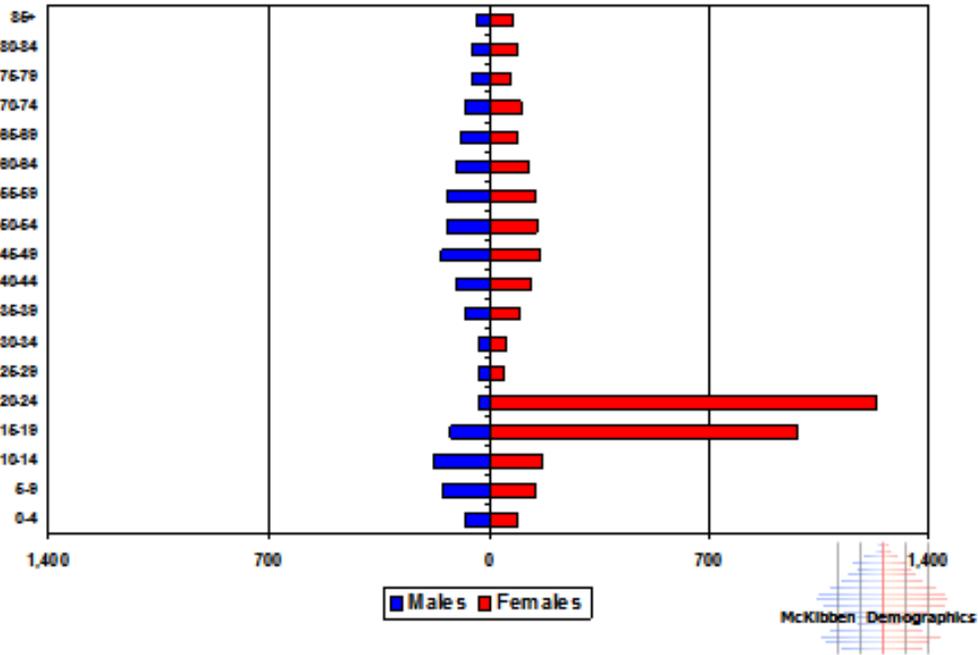


Hardy School District Total Population Census 2010

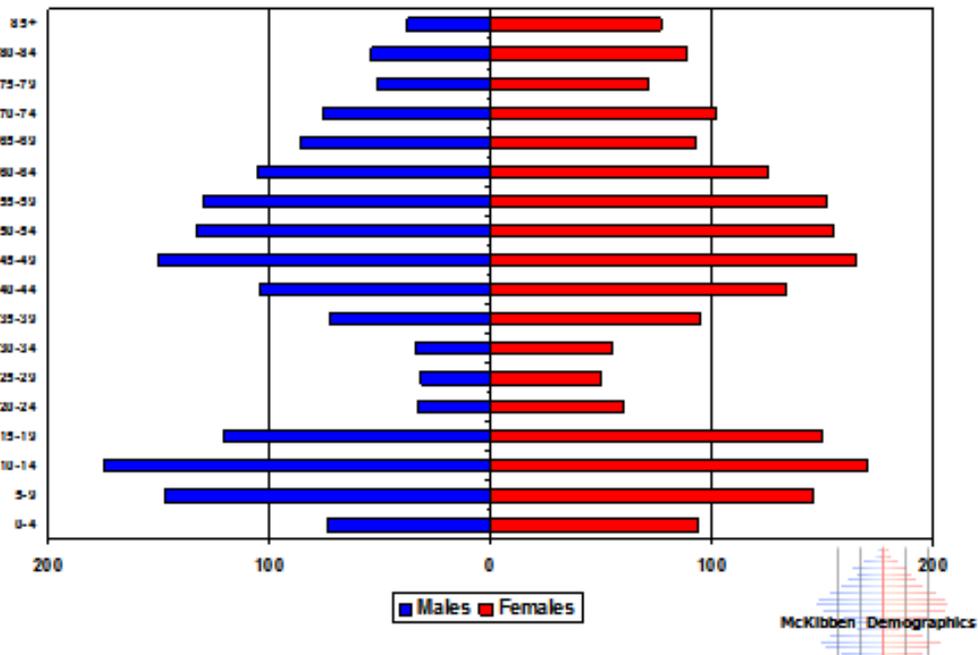




### Hunnewell Total Population Census 2010

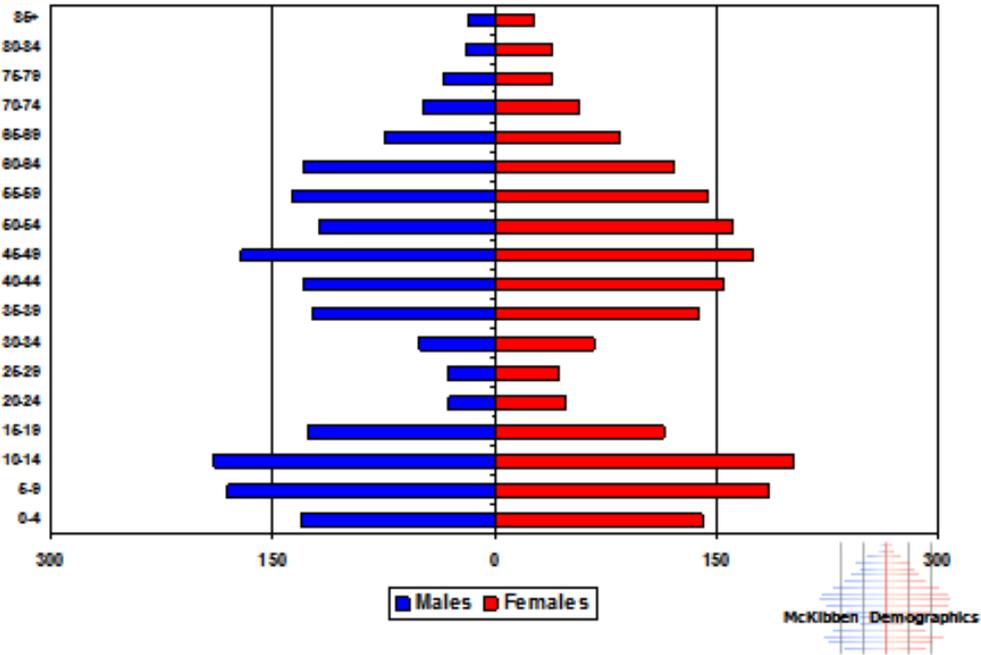


### Hunnewell Total Population Census 2010 Without Group Quarters Population (note different scale)

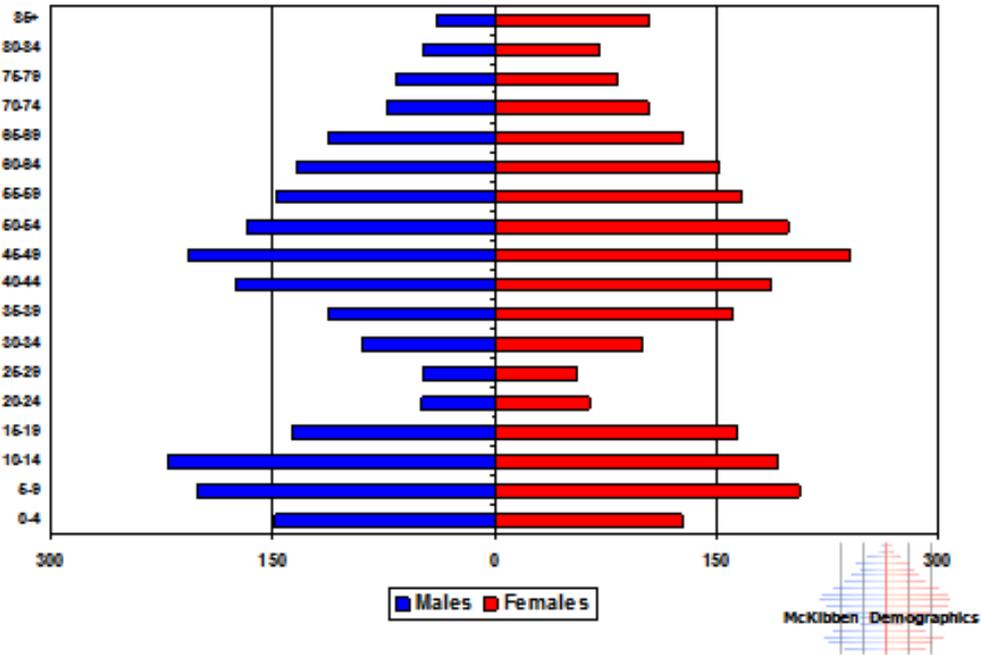




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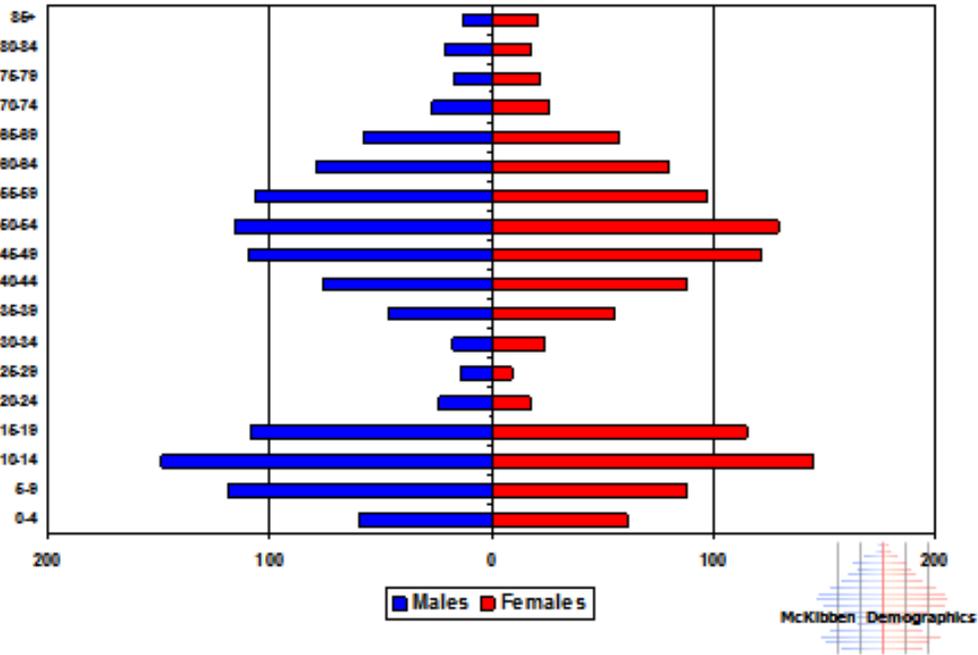


### Sprague School District Total Population Census 2010



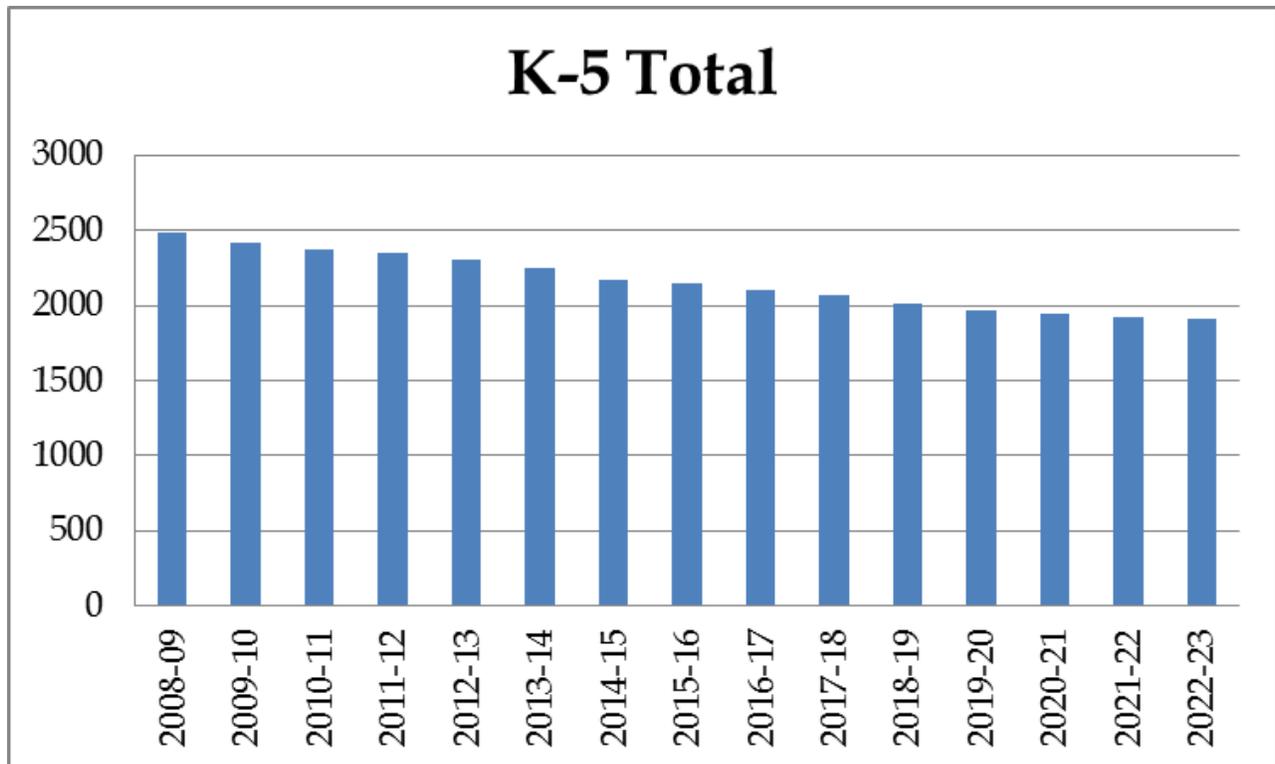
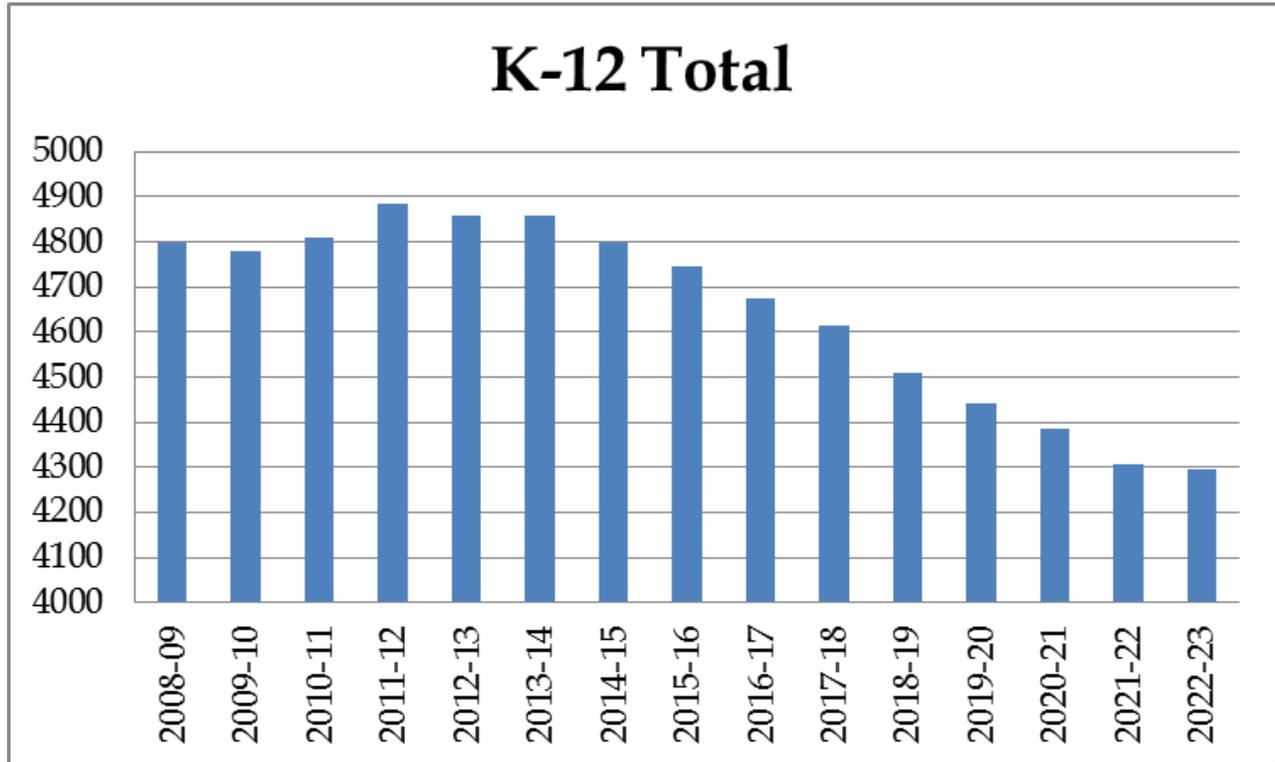


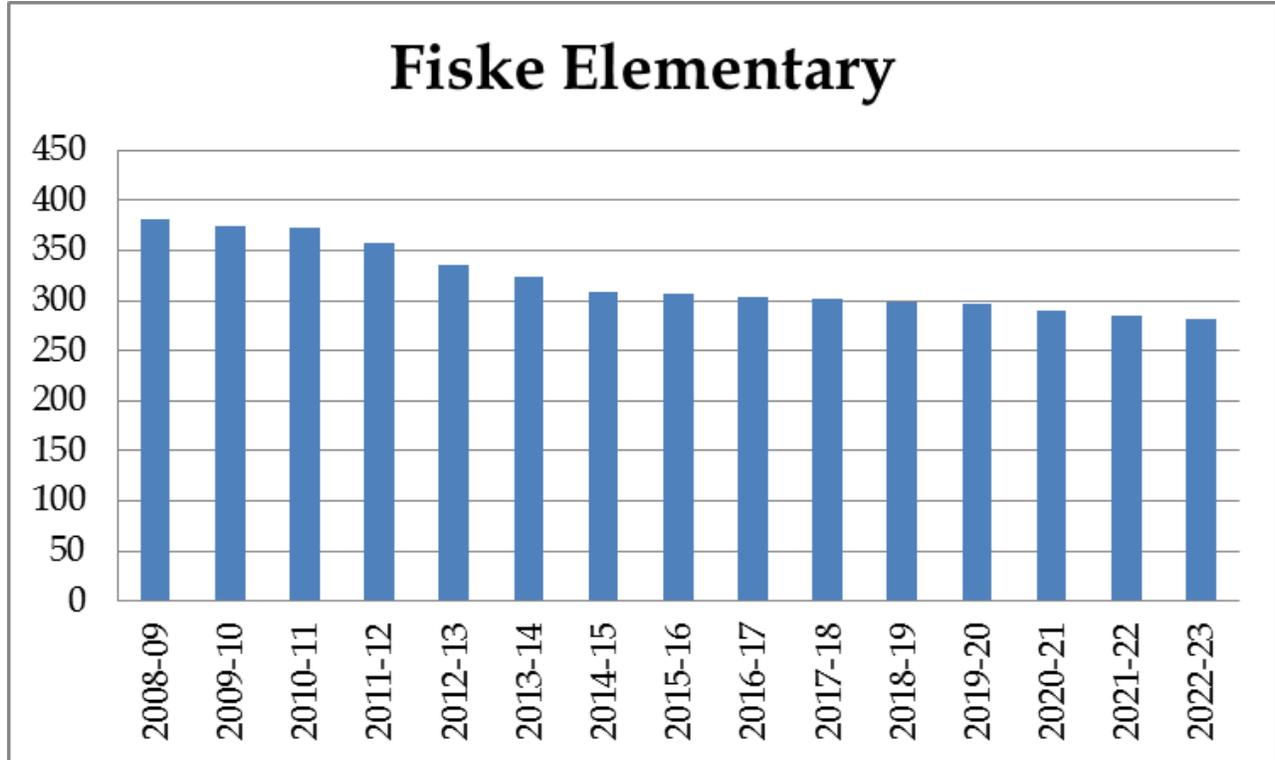
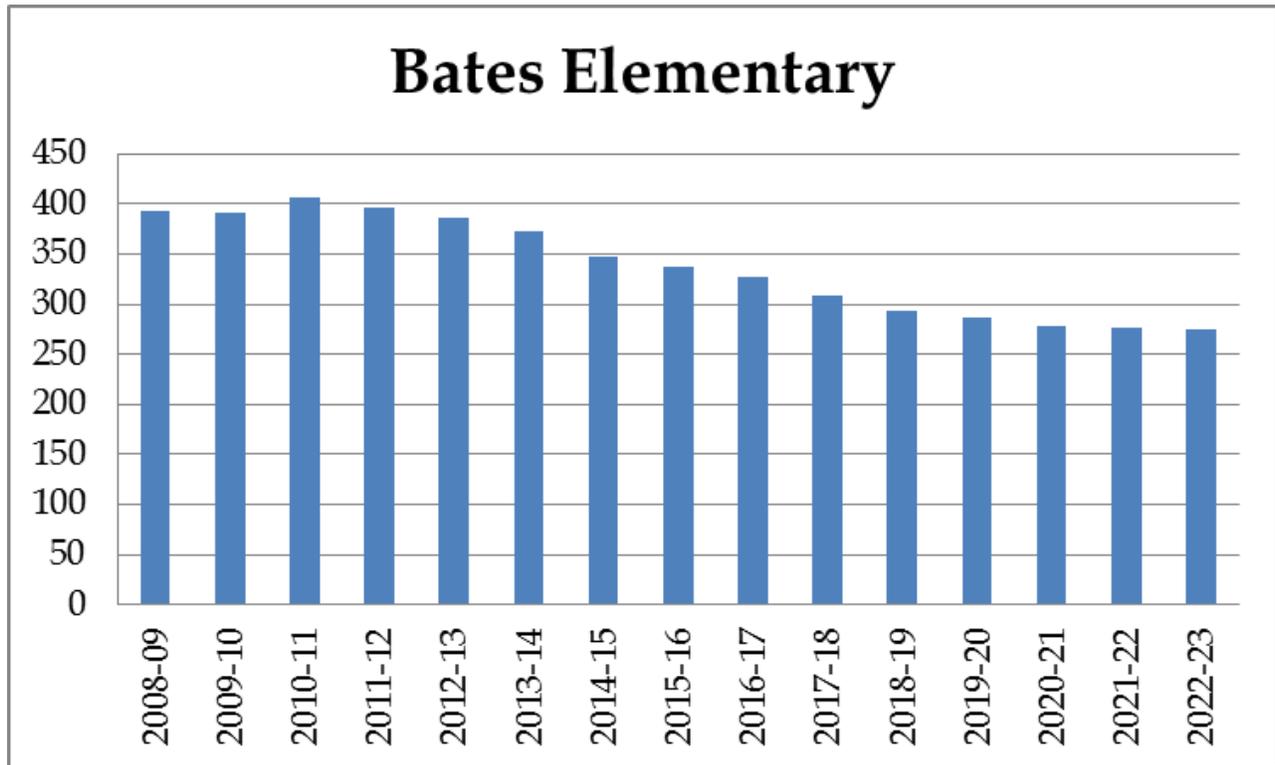
Upham School District Total Population Census 2010

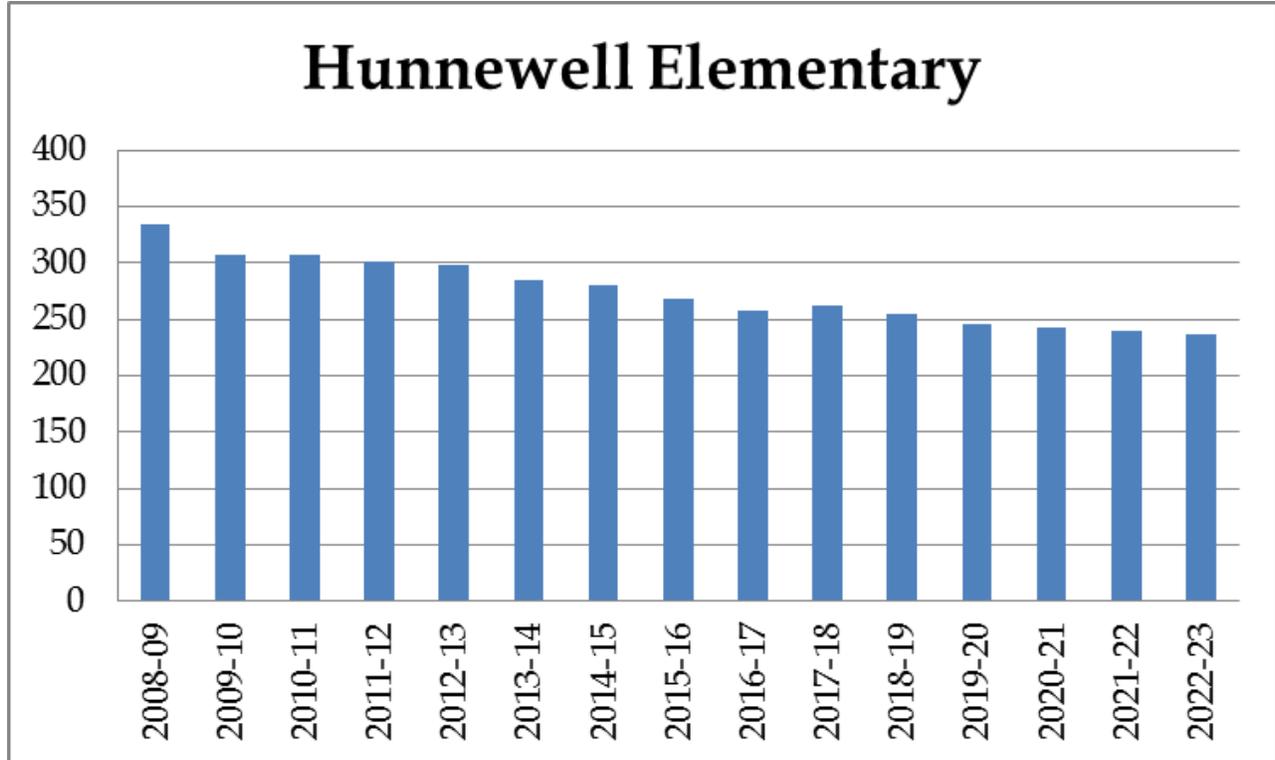
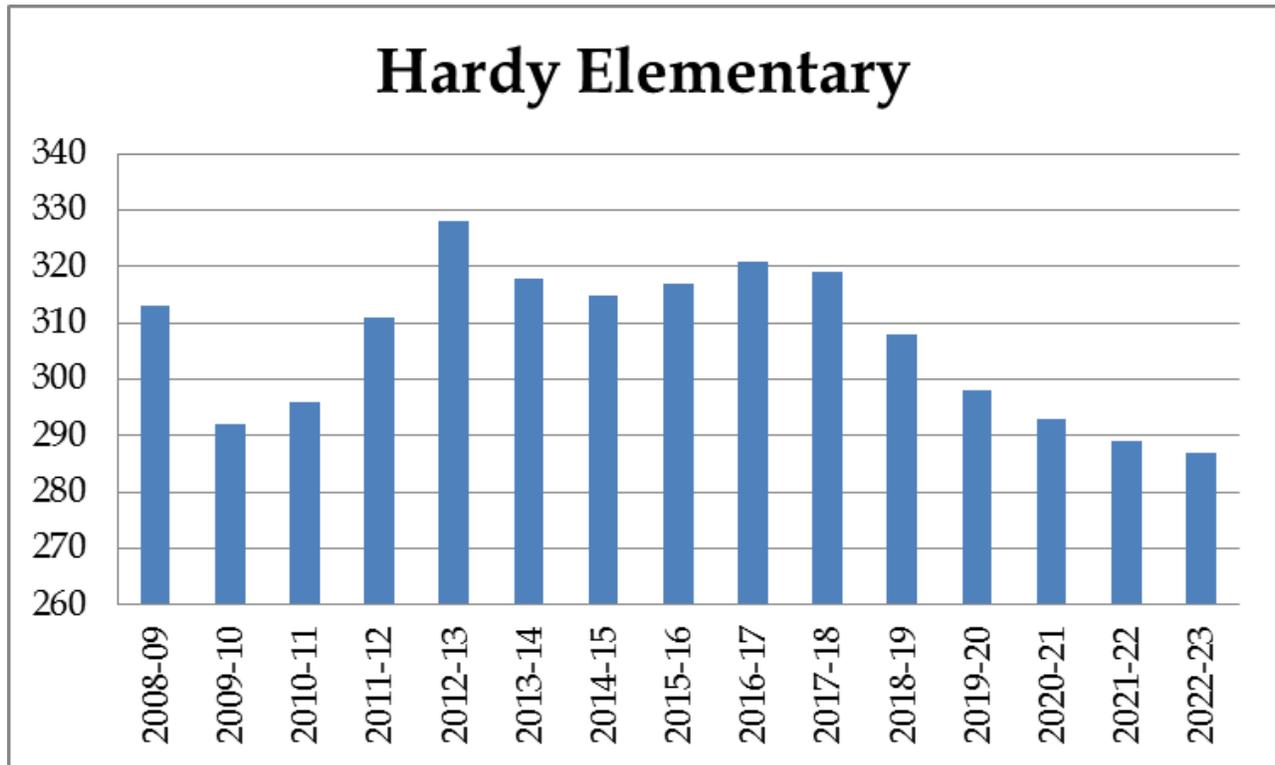


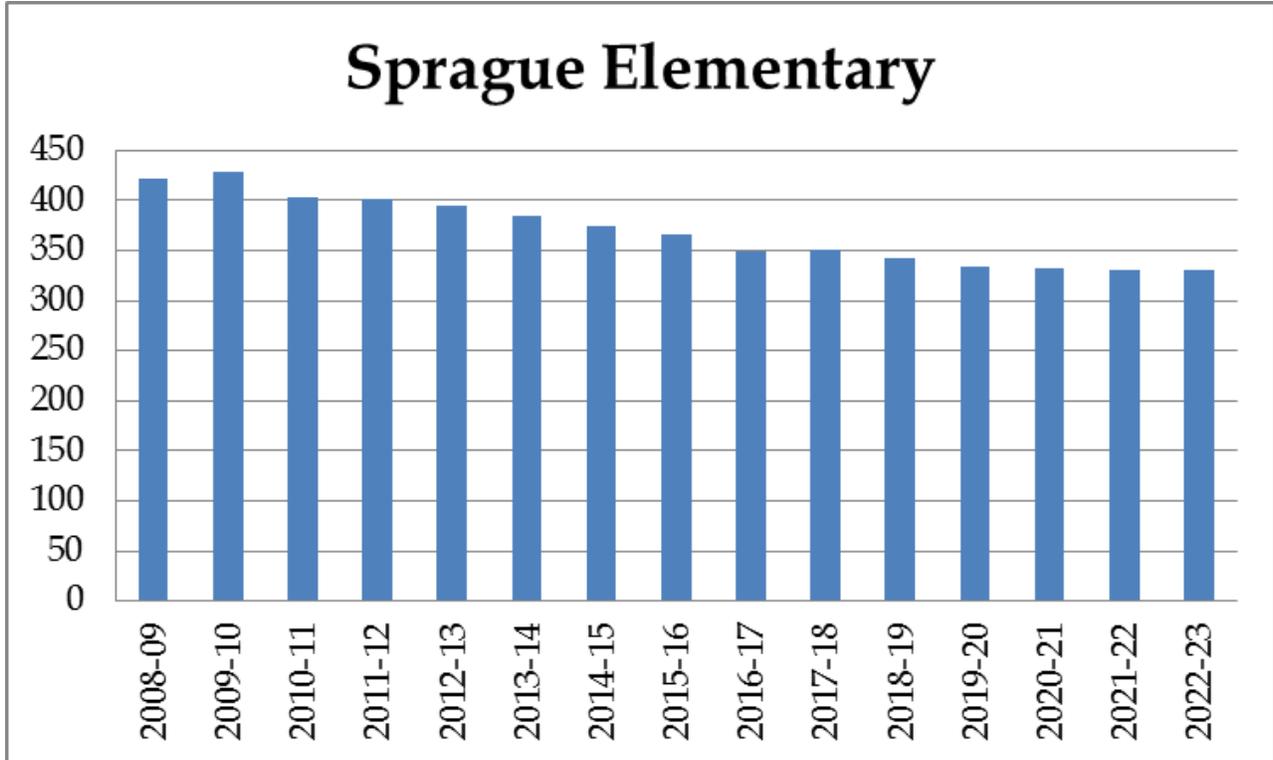
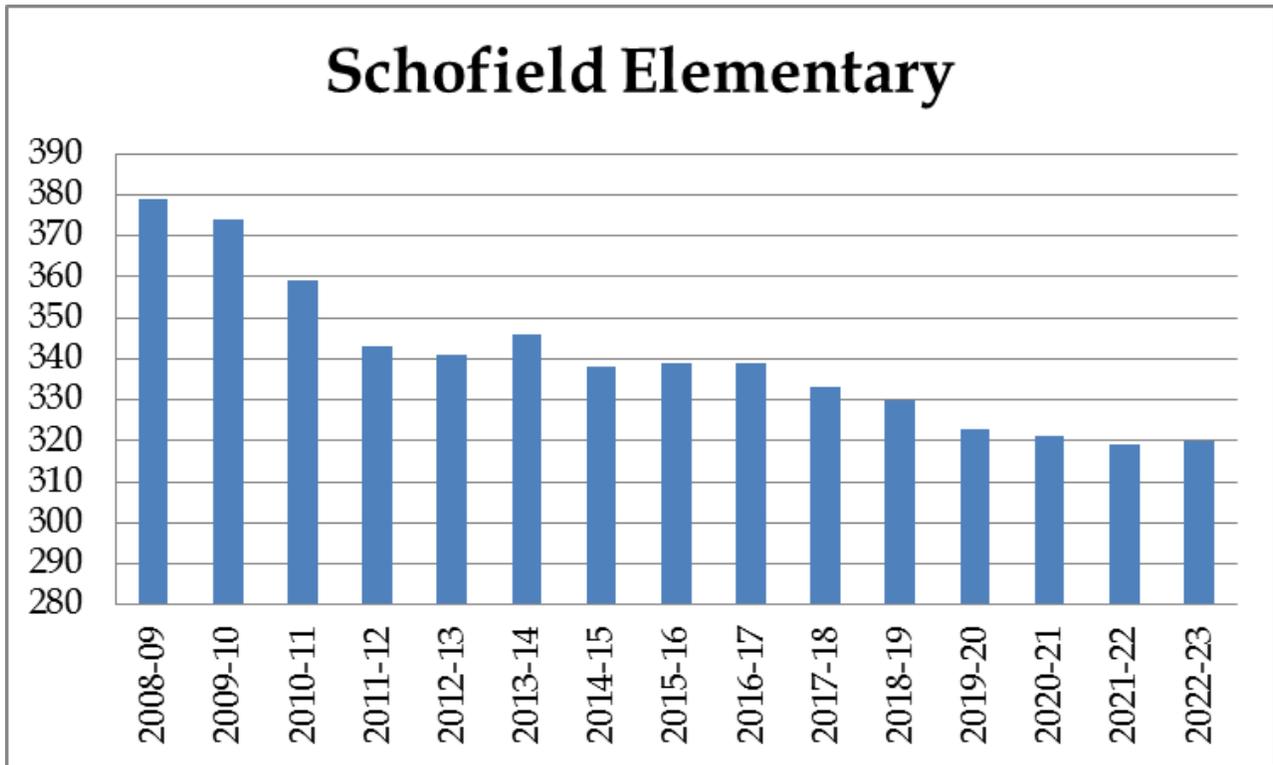


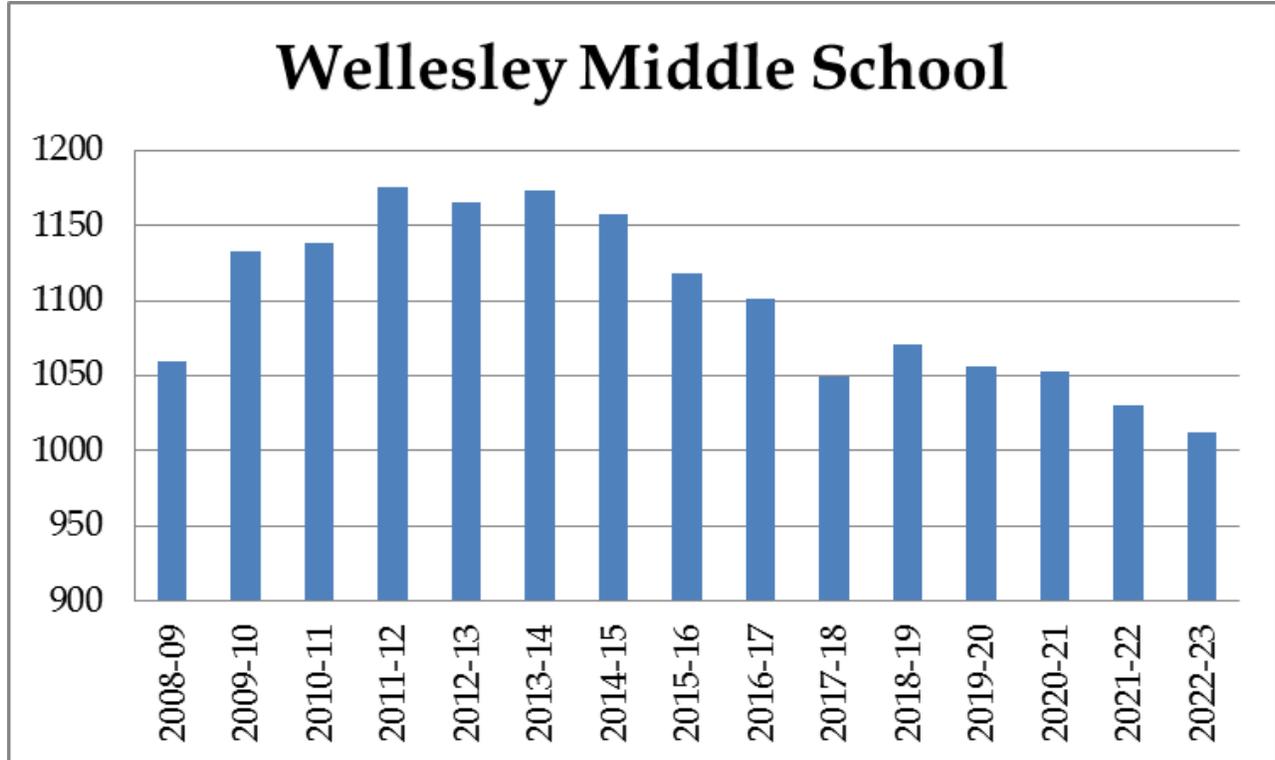
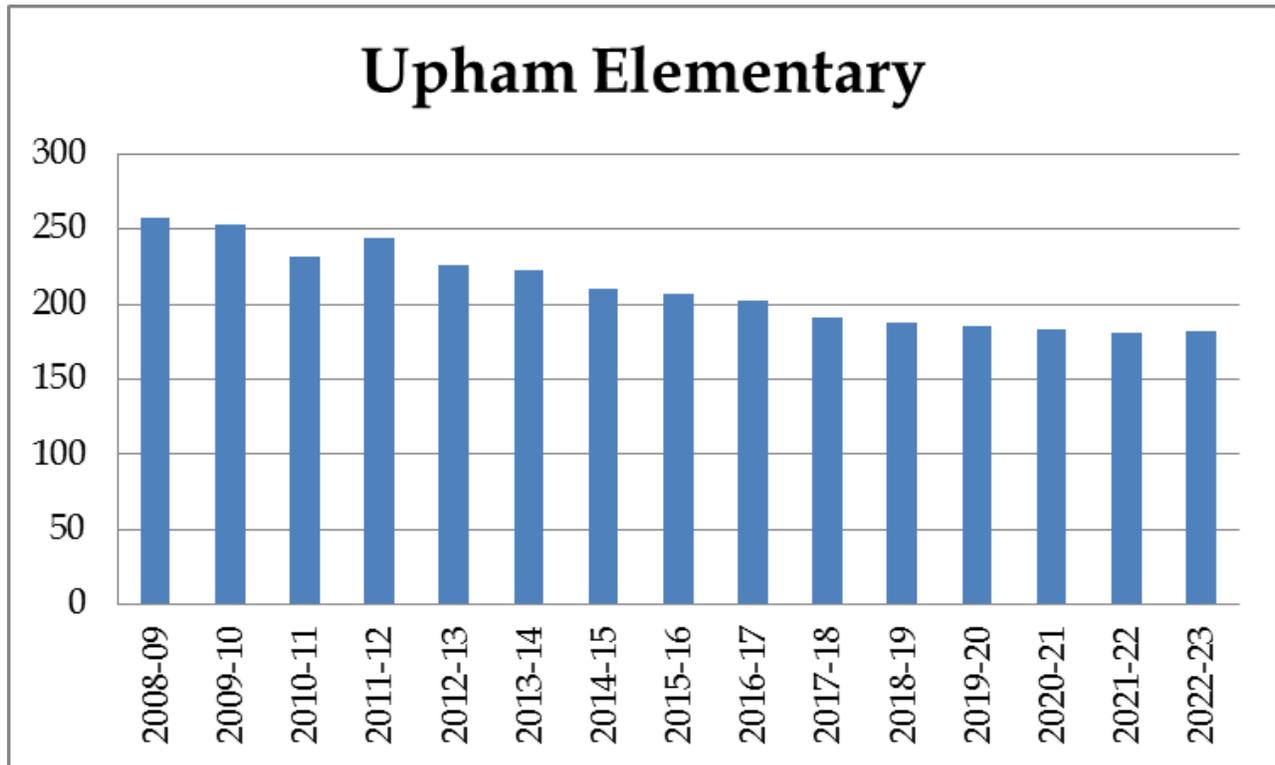
Appendix B: Enrollment Forecast Charts





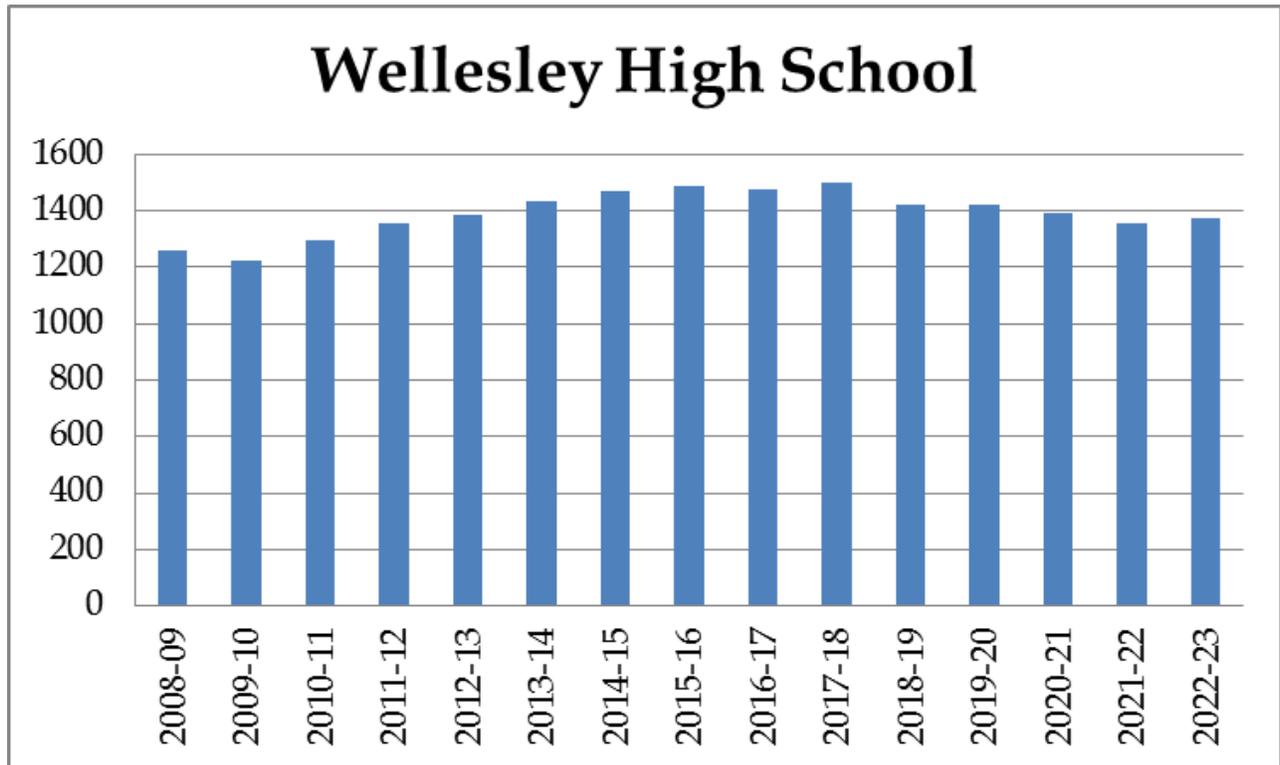








## Wellesley High School



Appendix C: Projected Enrollment Tables

Wellesley Public Schools: Total Enrollment

	2008-09	2009-10	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
K	394	352	354	353	352	337	330	315	313	307	300	295	295	291	301
1	422	413	359	381	365	369	355	345	330	323	317	310	305	302	298
2	415	414	419	362	389	367	370	356	350	335	327	321	319	314	311
3	446	407	411	438	365	395	372	375	366	360	345	337	334	332	327
4	399	439	406	413	433	361	391	369	377	368	362	347	343	340	337
5	405	396	427	408	405	424	354	383	365	373	365	358	345	341	338
<b>Elementary Total</b>	<b>2481</b>	<b>2421</b>	<b>2376</b>	<b>2355</b>	<b>2309</b>	<b>2253</b>	<b>2172</b>	<b>2143</b>	<b>2101</b>	<b>2066</b>	<b>2016</b>	<b>1968</b>	<b>1941</b>	<b>1920</b>	<b>1912</b>
<b>Change</b>		-60	-45	-21	-46	-56	-81	-29	-42	-35	-50	-48	-27	-21	-8
<b>Percent Change</b>		-2.42%	-1.86%	-0.88%	-1.95%	-2.43%	-3.60%	-1.34%	-1.96%	-1.67%	-2.42%	-2.38%	-1.37%	-1.08%	-0.42%
	2008-09	2009-10	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
6	368	390	397	410	381	390	408	341	370	353	361	354	348	336	333
7	377	360	380	382	411	370	378	396	332	361	345	353	347	342	331
8	315	383	361	384	373	413	372	381	399	335	365	349	358	352	348
<b>Middle School Total</b>	<b>1060</b>	<b>1133</b>	<b>1138</b>	<b>1176</b>	<b>1165</b>	<b>1173</b>	<b>1158</b>	<b>1118</b>	<b>1101</b>	<b>1049</b>	<b>1071</b>	<b>1056</b>	<b>1053</b>	<b>1030</b>	<b>1012</b>
<b>Change</b>		73	5	38	-11	8	-15	-40	-17	-52	22	-15	-3	-23	-18
<b>Percent Change</b>		6.89%	0.44%	3.34%	-0.94%	0.69%	-1.28%	-3.45%	-1.52%	-4.72%	2.10%	-1.40%	-0.28%	-2.18%	-1.75%
	2008-09	2009-10	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
9	350	296	369	346	383	364	403	363	372	390	327	357	342	350	345
10	292	350	295	374	342	380	361	400	360	369	387	325	355	340	348
11	297	284	342	297	360	334	372	353	392	352	361	379	319	348	334
12	319	294	289	338	298	356	331	369	350	388	349	358	376	317	346
<b>High School Total</b>	<b>1258</b>	<b>1224</b>	<b>1295</b>	<b>1355</b>	<b>1383</b>	<b>1434</b>	<b>1467</b>	<b>1485</b>	<b>1474</b>	<b>1499</b>	<b>1424</b>	<b>1419</b>	<b>1392</b>	<b>1355</b>	<b>1373</b>
<b>Change</b>		-34	71	60	28	51	33	18	-11	25	-75	-5	-27	-37	18
<b>Percent Change</b>		-2.70%	5.80%	4.63%	2.07%	3.69%	2.30%	1.23%	-0.74%	1.70%	-5.00%	-0.35%	-1.90%	-2.66%	1.33%
	2008-09	2009-10	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
<b>Total Enrollment</b>	<b>4799</b>	<b>4778</b>	<b>4809</b>	<b>4886</b>	<b>4857</b>	<b>4860</b>	<b>4797</b>	<b>4746</b>	<b>4676</b>	<b>4614</b>	<b>4511</b>	<b>4443</b>	<b>4386</b>	<b>4305</b>	<b>4297</b>
<b>Change</b>		-21	31	77	-29	3	-63	-51	-70	-62	-103	-68	-57	-81	-8
<b>Percent Change</b>		-0.44%	0.65%	1.60%	-0.59%	0.06%	-1.30%	-1.06%	-1.47%	-1.33%	-2.23%	-1.51%	-1.28%	-1.85%	-0.19%

Bates Elementary

	2008-09	2009-10	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
K	68	62	59	62	56	48	50	46	46	44	43	42	41	41	42
1	70	73	58	59	66	59	50	52	48	47	45	44	43	42	42
2	79	68	78	59	62	68	61	52	54	50	49	47	47	46	45
3	66	74	68	80	60	63	69	62	53	55	51	50	49	49	48
4	50	68	75	64	79	58	61	67	61	52	54	50	50	49	49
5	60	47	68	72	64	77	56	59	66	60	51	53	49	49	48
<b>Total</b>	<b>393</b>	<b>392</b>	<b>406</b>	<b>396</b>	<b>387</b>	<b>373</b>	<b>347</b>	<b>338</b>	<b>328</b>	<b>308</b>	<b>293</b>	<b>286</b>	<b>279</b>	<b>276</b>	<b>274</b>
<b>Change</b>		-1	14	-10	-9	-14	-26	-9	-10	-20	-15	-7	-7	-3	-2
<b>% Change</b>		-0.3%	3.6%	-2.5%	-2.3%	-3.6%	-7.0%	-2.6%	-3.0%	-6.1%	-4.9%	-2.4%	-2.4%	-1.1%	-0.7%



Fiske Elementary

	2008-09	2009-10	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
K	65	53	61	56	57	54	54	53	52	51	50	49	49	48	49
1	61	67	52	59	52	55	52	52	51	51	50	49	48	48	47
2	66	66	68	51	57	51	54	51	52	51	51	50	48	47	47
3	69	60	62	68	49	55	49	52	50	51	50	50	49	47	46
4	56	72	60	62	63	48	53	48	51	49	50	49	49	48	46
5	65	57	70	61	57	60	46	51	47	49	48	49	47	47	46
<b>Total</b>	382	375	373	357	335	323	308	307	303	302	299	296	290	285	281
<b>Change</b>		-7	-2	-16	-22	-12	-15	-1	-4	-1	-3	-3	-6	-5	-4
<b>% Change</b>		-1.8%	-0.5%	-4.3%	-6.2%	-3.6%	-4.6%	-0.3%	-1.3%	-0.3%	-1.0%	-1.0%	-2.0%	-1.7%	-1.4%

Hardy Elementary

	2008-09	2009-10	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
K	48	43	47	47	57	52	49	46	46	45	44	43	44	43	44
1	60	49	48	53	53	61	58	54	51	50	49	48	47	47	46
2	48	58	51	48	48	51	59	56	53	50	49	48	48	47	47
3	50	46	59	57	49	49	52	60	58	55	52	51	50	50	49
4	48	48	45	62	57	49	49	53	61	59	56	53	52	51	51
5	59	48	46	44	64	56	48	48	52	60	58	55	52	51	50
<b>Total</b>	313	292	296	311	328	318	315	317	321	319	308	298	293	289	287
<b>Change</b>		-21	4	15	17	-10	-3	2	4	-2	-11	-10	-5	-4	-2
<b>% Change</b>		-6.7%	1.4%	5.1%	5.5%	-3.0%	-0.9%	0.6%	1.3%	-0.6%	-3.4%	-3.2%	-1.7%	-1.4%	-0.7%

Hunnewell Elementary

	2008-09	2009-10	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
K	44	41	45	37	42	41	39	36	36	36	35	34	35	34	35
1	63	43	48	51	38	46	45	42	39	38	38	37	36	36	35
2	47	58	47	50	54	39	47	46	44	41	40	40	39	38	38
3	64	45	60	49	52	56	40	48	48	46	43	42	42	41	40
4	61	59	48	62	51	53	57	41	50	50	48	45	45	45	43
5	55	61	59	53	61	50	52	56	41	51	51	48	46	46	46
<b>Total</b>	334	307	307	302	298	285	280	269	258	262	255	246	243	240	237
<b>Change</b>		-27	0	-5	-4	-13	-5	-11	-11	4	-7	-9	-3	-3	-3
<b>% Change</b>		-8.1%	0.0%	-1.6%	-1.3%	-4.4%	-1.8%	-3.9%	-4.1%	1.6%	-2.7%	-3.5%	-1.2%	-1.2%	-1.3%

Schofield Elementary

	2008-09	2009-10	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
K	60	56	48	60	54	57	55	54	53	52	51	51	50	50	52
1	53	66	54	50	62	56	59	57	56	54	53	52	52	51	51
2	69	47	66	52	56	61	55	58	56	55	53	52	53	53	52
3	75	73	51	66	55	58	63	57	61	59	58	56	55	56	56
4	68	70	69	48	63	52	55	59	55	59	57	56	55	54	55
5	54	62	71	67	51	62	51	54	58	54	58	56	56	55	54
<b>Total</b>	379	374	359	343	341	346	338	339	339	333	330	323	321	319	320
<b>Change</b>		-5	-15	-16	-2	5	-8	1	0	-6	-3	-7	-2	-2	1
<b>% Change</b>		-1.3%	-4.0%	-4.5%	-0.6%	1.5%	-2.3%	0.3%	0.0%	-1.8%	-0.9%	-2.1%	-0.6%	-0.6%	0.3%



Sprague Elementary

	2008-09	2009-10	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
<b>K</b>	71	65	62	49	57	56	55	52	52	51	50	49	50	49	52
<b>1</b>	73	73	65	73	54	61	60	58	55	54	53	52	51	51	50
<b>2</b>	67	76	67	65	74	55	62	61	59	56	55	54	54	53	53
<b>3</b>	73	68	72	72	65	75	56	63	63	61	58	57	57	57	56
<b>4</b>	71	71	68	74	72	65	75	56	64	64	62	59	59	59	59
<b>5</b>	67	75	69	69	72	73	66	76	57	65	65	63	61	61	61
<b>Total</b>	422	428	403	402	394	385	374	366	350	351	343	334	332	330	331
<b>Change</b>		6	-25	-1	-8	-9	-11	-8	-16	1	-8	-9	-2	-2	1
<b>% Change</b>		1.4%	-5.8%	-0.2%	-2.0%	-2.3%	-2.9%	-2.1%	-4.4%	0.3%	-2.3%	-2.6%	-0.6%	-0.6%	0.3%

Upham Elementary

	2008-09	2009-10	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
<b>K</b>	38	32	32	42	29	29	28	28	28	28	27	27	26	26	27
<b>1</b>	42	42	34	36	40	31	31	30	30	29	29	28	28	27	27
<b>2</b>	39	41	42	37	38	42	32	32	32	32	30	30	30	30	29
<b>3</b>	49	41	39	46	35	39	43	33	33	33	33	31	32	32	32
<b>4</b>	45	51	41	41	48	36	41	45	35	35	35	35	33	34	34
<b>5</b>	45	46	44	42	36	46	35	39	44	34	34	34	34	32	33
<b>Total</b>	258	253	232	244	226	223	210	207	202	191	188	185	183	181	182
<b>Change</b>		-5	-21	12	-18	-3	-13	-3	-5	-11	-3	-3	-2	-2	1
<b>% Change</b>		-1.9%	-8.3%	5.2%	-7.4%	-1.3%	-5.8%	-1.4%	-2.4%	-5.4%	-1.6%	-1.6%	-1.1%	-1.1%	0.6%

Wellesly MS

	2008-09	2009-10	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
<b>6</b>	368	390	397	410	381	390	408	341	370	353	361	354	348	336	333
<b>7</b>	377	360	380	382	411	370	378	396	332	361	345	353	347	342	331
<b>8</b>	315	383	361	384	373	413	372	381	399	335	365	349	358	352	348
<b>Total</b>	1060	1133	1138	1176	1165	1173	1158	1118	1101	1049	1071	1056	1053	1030	1012
<b>Change</b>		73	5	38	-11	8	-15	-40	-17	-52	22	-15	-3	-23	-18
<b>% Change</b>		6.9%	0.4%	3.3%	-0.9%	0.7%	-1.3%	-3.5%	-1.5%	-4.7%	2.1%	-1.4%	-0.3%	-2.2%	-1.7%

Wellesly High School

	2008-09	2009-10	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
<b>9</b>	350	296	369	346	383	364	403	363	372	390	327	357	342	350	345
<b>10</b>	292	350	295	374	342	380	361	400	360	369	387	325	355	340	348
<b>11</b>	297	284	342	297	360	334	372	353	392	352	361	379	319	348	334
<b>12</b>	319	294	289	338	298	356	331	369	350	388	349	358	376	317	346
<b>Total</b>	1258	1224	1295	1355	1383	1434	1467	1485	1474	1499	1424	1419	1392	1355	1373
<b>Change</b>		-34	71	60	28	51	33	18	-11	25	-75	-5	-27	-37	18
<b>% Change</b>		-2.7%	5.8%	4.6%	2.1%	3.7%	2.3%	1.2%	-0.7%	1.7%	-5.0%	-0.4%	-1.9%	-2.7%	1.3%



Appendix D: Population Forecast Tables

Wellesley Public Schools

Males	2010	2015	2020
0-4	781	690	640
5-9	1,152	1,010	930
10-14	1,211	1,200	1,040
15-19	1,136	1,300	1,270
20-24	766	800	820
25-29	236	300	330
30-34	320	380	470
35-39	626	610	660
40-44	884	760	790
45-49	1,084	920	840
50-54	952	1,080	920
55-59	809	910	1,010
60-64	766	760	850
65-69	542	650	650
70-74	364	430	560
75-79	292	310	390
80-84	229	220	260
85+	186	180	190
<b>Total</b>	<b>12,336</b>	<b>12,510</b>	<b>12,620</b>

Females	2010	2015	2020
0-4	789	670	630
5-9	1,120	1,010	910
10-14	1,169	1,170	1,050
15-19	2,009	2,090	2,080
20-24	1,833	1,870	1,870
25-29	289	370	380
30-34	398	440	510
35-39	789	670	710
40-44	1,031	920	880
45-49	1,201	1,070	1,010
50-54	1,064	1,180	1,060
55-59	904	1,030	1,170
60-64	798	830	970
65-69	592	730	770
70-74	465	510	650
75-79	386	420	470
80-84	373	370	360
85+	436	430	440
<b>Total</b>	<b>15,646</b>	<b>15,780</b>	<b>15,920</b>

Total	2010	2015	2020
0-4	1,570	1,360	1,270
5-9	2,272	2,020	1,840
10-14	2,380	2,370	2,090
15-19	3,145	3,390	3,350
20-24	2,599	2,670	2,690
25-29	525	670	710
30-34	718	820	980
35-39	1,415	1,280	1,370
40-44	1,915	1,680	1,670
45-49	2,285	1,990	1,850
50-54	2,016	2,260	1,980
55-59	1,713	1,940	2,180
60-64	1,564	1,590	1,820
65-69	1,134	1,380	1,420
70-74	829	940	1,210
75-79	678	730	860
80-84	602	590	620
85+	622	610	630
<b>Total</b>	<b>27,982</b>	<b>28,290</b>	<b>28,540</b>
<b>Median Age</b>	<b>37.8</b>	<b>38.3</b>	<b>39.9</b>

	2010-2015	2015-2020
<b>Births</b>	940	900
<b>Deaths</b>	1,050	1,110
<b>Natural Increase</b>	-110	-210
<b>Net Migration</b>	530	480
<b>Change</b>	420	270

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

Bates Elementary

Males	2010	2015	2020
0-4	123	110	100
5-9	185	150	130
10-14	156	190	150
15-19	124	130	160
20-24	20	40	40
25-29	8	20	40
30-34	33	40	40
35-39	91	90	70
40-44	142	110	120
45-49	139	150	140
50-54	127	140	150
55-59	77	120	130
60-64	92	70	120
65-69	68	80	60
70-74	43	50	70
75-79	37	30	50
80-84	18	30	30
85+	14	20	20
<b>Total</b>	<b>1,496</b>	<b>1,570</b>	<b>1,620</b>

Females	2010	2015	2020
0-4	138	100	100
5-9	170	160	120
10-14	144	180	170
15-19	115	120	150
20-24	32	30	30
25-29	20	30	30
30-34	41	50	50
35-39	111	90	80
40-44	163	130	120
45-49	155	170	160
50-54	123	150	170
55-59	104	120	150
60-64	95	90	120
65-69	71	90	90
70-74	56	60	80
75-79	45	50	50
80-84	27	40	50
85+	23	30	40
<b>Total</b>	<b>1,635</b>	<b>1,690</b>	<b>1,760</b>

Total	2010	2015	2020
0-4	261	210	200
5-9	355	310	250
10-14	300	370	320
15-19	239	250	310
20-24	52	70	70
25-29	28	50	70
30-34	74	90	90
35-39	202	180	150
40-44	304	240	240
45-49	294	320	300
50-54	251	290	320
55-59	182	240	280
60-64	187	160	240
65-69	139	170	150
70-74	99	110	150
75-79	82	80	100
80-84	46	70	80
85+	38	50	60
<b>Total</b>	<b>3,132</b>	<b>3,260</b>	<b>3,380</b>
<b>Median Age</b>	<b>40.9</b>	<b>42.1</b>	<b>44.8</b>

	2010-2015	2015-2020
<b>Births</b>	110	120
<b>Deaths</b>	100	120
<b>Natural Increase</b>	10	0
<b>Net Migration</b>	120	100
<b>Change</b>	130	100

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



Fiske Elementary

Males	2010	2015	2020
0-4	147	110	100
5-9	192	160	140
10-14	193	200	170
15-19	428	430	430
20-24	574	590	580
25-29	77	90	80
30-34	61	80	100
35-39	100	100	120
40-44	138	120	130
45-49	162	150	140
50-54	158	170	160
55-59	124	150	160
60-64	125	120	140
65-69	83	110	100
70-74	49	70	100
75-79	41	40	60
80-84	32	40	40
85+	37	30	30
<b>Total</b>	<b>2,721</b>	<b>2,760</b>	<b>2,780</b>

Females	2010	2015	2020
0-4	118	110	100
5-9	188	130	140
10-14	193	200	140
15-19	433	430	430
20-24	412	440	440
25-29	83	90	100
30-34	65	90	100
35-39	117	100	130
40-44	163	140	140
45-49	199	180	150
50-54	178	200	180
55-59	131	170	200
60-64	128	120	160
65-69	78	120	110
70-74	63	70	110
75-79	80	60	60
80-84	86	80	50
85+	146	140	130
<b>Total</b>	<b>2,861</b>	<b>2,870</b>	<b>2,870</b>

Total	2010	2015	2020
0-4	265	220	200
5-9	380	290	280
10-14	386	400	310
15-19	861	860	860
20-24	986	1,030	1,020
25-29	160	180	180
30-34	126	170	200
35-39	217	200	250
40-44	301	260	270
45-49	361	330	290
50-54	336	370	340
55-59	255	320	360
60-64	253	240	300
65-69	161	230	210
70-74	112	140	210
75-79	121	100	120
80-84	118	120	90
85+	183	170	160
<b>Total</b>	<b>5,582</b>	<b>5,630</b>	<b>5,650</b>
<b>Median Age</b>	<b>24.6</b>	<b>25.4</b>	<b>29.3</b>

	2010-2015	2015-2020
<b>Births</b>	190	170
<b>Deaths</b>	210	210
<b>Natural Increase</b>	-20	-40
<b>Net Migration</b>	80	80
<b>Change</b>	60	40

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

Hardy Elementary

Males	2010	2015	2020
0-4	96	90	80
5-9	127	130	130
10-14	127	130	130
15-19	89	110	110
20-24	34	30	40
25-29	24	40	30
30-34	33	50	70
35-39	79	70	80
40-44	121	110	90
45-49	144	120	100
50-54	131	140	120
55-59	87	130	130
60-64	102	80	120
65-69	60	80	60
70-74	46	40	60
75-79	44	40	30
80-84	36	10	10
85+	27	10	10
<b>Total</b>	<b>1,406</b>	<b>1,410</b>	<b>1,400</b>

Females	2010	2015	2020
0-4	112	80	80
5-9	136	140	130
10-14	122	140	150
15-19	83	100	120
20-24	28	20	30
25-29	28	40	30
30-34	46	50	60
35-39	113	80	90
40-44	142	140	110
45-49	146	140	140
50-54	120	140	140
55-59	109	120	140
60-64	97	100	110
65-69	82	80	90
70-74	57	60	70
75-79	46	50	60
80-84	45	40	10
85+	39	10	10
<b>Total</b>	<b>1,552</b>	<b>1,530</b>	<b>1,570</b>

Total	2010	2015	2020
0-4	208	170	160
5-9	263	270	260
10-14	249	270	280
15-19	172	210	230
20-24	62	50	70
25-29	52	80	60
30-34	79	100	130
35-39	192	150	170
40-44	262	250	200
45-49	289	260	240
50-54	250	280	260
55-59	196	250	270
60-64	199	180	230
65-69	142	160	150
70-74	103	100	130
75-79	91	90	90
80-84	81	50	20
85+	65	20	20
<b>Total</b>	<b>2,958</b>	<b>2,940</b>	<b>2,970</b>
<b>Median Age</b>	<b>43.8</b>	<b>43.4</b>	<b>43.1</b>

	2010-2015	2015-2020
<b>Births</b>	100	100
<b>Deaths</b>	130	130
<b>Natural Increase</b>	-30	-30
<b>Net Migration</b>	90	80
<b>Change</b>	60	50

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



Hunnewell Elementary

Males	2010	2015	2020
0-4	74	90	90
5-9	147	120	120
10-14	175	150	120
15-19	121	160	130
20-24	33	40	40
25-29	32	30	50
30-34	34	40	60
35-39	73	70	80
40-44	104	100	110
45-49	150	110	110
50-54	133	150	110
55-59	130	130	140
60-64	105	120	120
65-69	86	90	110
70-74	76	70	70
75-79	51	70	60
80-84	54	40	60
85+	38	40	40
<b>Total</b>	<b>1,616</b>	<b>1,620</b>	<b>1,620</b>

Females	2010	2015	2020
0-4	94	90	90
5-9	146	140	120
10-14	170	150	140
15-19	983	990	960
20-24	1,232	1,260	1,270
25-29	50	60	70
30-34	55	60	70
35-39	95	90	100
40-44	134	120	130
45-49	165	140	140
50-54	155	160	140
55-59	152	150	160
60-64	125	140	140
65-69	93	120	130
70-74	102	80	100
75-79	71	90	70
80-84	89	70	90
85+	77	90	90
<b>Total</b>	<b>3,988</b>	<b>4,000</b>	<b>4,010</b>

Total	2010	2015	2020
0-4	168	180	180
5-9	293	260	240
10-14	345	300	260
15-19	1,104	1,150	1,090
20-24	1,265	1,300	1,310
25-29	82	90	120
30-34	89	100	130
35-39	168	160	180
40-44	238	220	240
45-49	315	250	250
50-54	288	310	250
55-59	282	280	300
60-64	230	260	260
65-69	179	210	240
70-74	178	150	170
75-79	122	160	130
80-84	143	110	150
85+	115	130	130
<b>Total</b>	<b>5,604</b>	<b>5,620</b>	<b>5,630</b>
<b>Median Age</b>	<b>23.5</b>	<b>23.5</b>	<b>24.0</b>

	2010-2015	2015-2020
<b>Births</b>	150	150
<b>Deaths</b>	200	200
<b>Natural Increase</b>	-50	-50
<b>Net Migration</b>	70	70
<b>Change</b>	20	20

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

Schofield Elementary

Males	2010	2015	2020
0-4	132	120	100
5-9	181	170	160
10-14	190	190	170
15-19	127	150	150
20-24	31	40	30
25-29	32	40	60
30-34	51	60	70
35-39	124	100	110
40-44	129	130	120
45-49	172	130	130
50-54	119	170	120
55-59	137	110	160
60-64	129	130	100
65-69	75	110	110
70-74	49	60	100
75-79	35	40	60
80-84	20	30	40
85+	18	20	20
<b>Total</b>	<b>1,752</b>	<b>1,800</b>	<b>1,810</b>

Females	2010	2015	2020
0-4	140	120	100
5-9	186	180	160
10-14	202	190	180
15-19	115	170	150
20-24	48	30	40
25-29	44	60	50
30-34	67	70	90
35-39	137	110	120
40-44	155	140	130
45-49	175	150	140
50-54	161	170	150
55-59	143	150	170
60-64	122	130	140
65-69	84	110	120
70-74	57	80	100
75-79	39	50	70
80-84	38	40	50
85+	26	40	40
<b>Total</b>	<b>1,937</b>	<b>1,990</b>	<b>2,000</b>

Total	2010	2015	2020
0-4	272	240	200
5-9	367	350	320
10-14	392	380	350
15-19	241	320	300
20-24	79	70	70
25-29	76	100	110
30-34	118	130	160
35-39	260	210	230
40-44	283	270	250
45-49	348	280	270
50-54	280	340	270
55-59	280	260	330
60-64	251	260	240
65-69	159	220	230
70-74	106	140	200
75-79	74	90	130
80-84	58	70	90
85+	43	60	60
<b>Total</b>	<b>3,689</b>	<b>3,790</b>	<b>3,810</b>
<b>Median Age</b>	<b>40.7</b>	<b>41.8</b>	<b>43.3</b>

	2010-2015	2015-2020
<b>Births</b>	140	130
<b>Deaths</b>	120	130
<b>Natural Increase</b>	20	0
<b>Net Migration</b>	60	50
<b>Change</b>	80	50

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



Sprague Elementary

Males	2010	2015	2020
0-4	149	120	120
5-9	201	190	170
10-14	221	210	200
15-19	138	190	180
20-24	50	40	70
25-29	49	60	50
30-34	90	80	90
35-39	112	140	140
40-44	175	120	150
45-49	208	170	120
50-54	168	200	170
55-59	147	160	190
60-64	135	140	150
65-69	112	120	120
70-74	74	90	100
75-79	67	70	80
80-84	48	60	60
85+	39	40	50
<b>Total</b>	<b>2,182</b>	<b>2,200</b>	<b>2,210</b>

Females	2010	2015	2020
0-4	126	120	110
5-9	206	170	160
10-14	192	210	170
15-19	164	160	190
20-24	64	70	40
25-29	55	70	80
30-34	100	90	100
35-39	161	150	140
40-44	187	170	170
45-49	240	190	170
50-54	198	240	180
55-59	167	190	230
60-64	151	160	180
65-69	127	140	150
70-74	104	110	130
75-79	83	100	110
80-84	70	80	90
85+	104	100	110
<b>Total</b>	<b>2,501</b>	<b>2,520</b>	<b>2,510</b>

Total	2010	2015	2020
0-4	275	240	230
5-9	407	360	330
10-14	413	420	370
15-19	303	350	370
20-24	114	110	110
25-29	104	130	130
30-34	190	170	190
35-39	274	290	280
40-44	363	290	320
45-49	447	360	290
50-54	366	440	350
55-59	314	350	420
60-64	286	300	330
65-69	239	260	270
70-74	178	200	230
75-79	150	170	190
80-84	118	140	150
85+	144	140	160
<b>Total</b>	<b>4,683</b>	<b>4,720</b>	<b>4,720</b>
<b>Median Age</b>	<b>43.6</b>	<b>45.0</b>	<b>45.5</b>

	2010-2015	2015-2020
<b>Births</b>	180	170
<b>Deaths</b>	210	230
<b>Natural Increase</b>	-30	-60
<b>Net Migration</b>	70	60
<b>Change</b>	40	0

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

Upham Elementary

Males	2010	2015	2020
0-4	60	50	50
5-9	119	90	80
10-14	149	130	100
15-19	109	130	110
20-24	24	20	20
25-29	14	20	20
30-34	18	30	40
35-39	47	40	60
40-44	76	70	70
45-49	110	90	100
50-54	116	110	90
55-59	107	110	100
60-64	79	100	100
65-69	58	60	90
70-74	27	50	60
75-79	17	20	50
80-84	21	10	20
85+	13	20	20
<b>Total</b>	<b>1,162</b>	<b>1,150</b>	<b>1,180</b>

Females	2010	2015	2020
0-4	61	50	50
5-9	88	90	80
10-14	145	100	100
15-19	115	120	80
20-24	17	20	20
25-29	9	20	20
30-34	24	30	40
35-39	55	50	50
40-44	88	80	80
45-49	122	100	110
50-54	129	120	100
55-59	97	130	120
60-64	80	90	120
65-69	57	70	80
70-74	26	50	60
75-79	22	20	50
80-84	18	20	20
85+	21	20	20
<b>Total</b>	<b>1,171</b>	<b>1,180</b>	<b>1,200</b>

Total	2010	2015	2020
0-4	120	100	100
5-9	207	180	160
10-14	295	230	200
15-19	224	250	190
20-24	41	40	40
25-29	23	40	40
30-34	42	60	80
35-39	101	90	110
40-44	163	150	150
45-49	231	190	210
50-54	245	230	190
55-59	205	240	220
60-64	158	190	220
65-69	114	130	170
70-74	53	100	120
75-79	39	40	100
80-84	39	30	40
85+	34	40	40
<b>Total</b>	<b>2,334</b>	<b>2,330</b>	<b>2,380</b>
<b>Median Age</b>	<b>43.5</b>	<b>45.7</b>	<b>47.9</b>

	2010-2015	2015-2020
<b>Births</b>	70	60
<b>Deaths</b>	80	90
<b>Natural Increase</b>	-10	-30
<b>Net Migration</b>	40	40
<b>Change</b>	30	10

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



Appendix E: Live Attend Report

**LIVE ATTEND ANALYSIS**

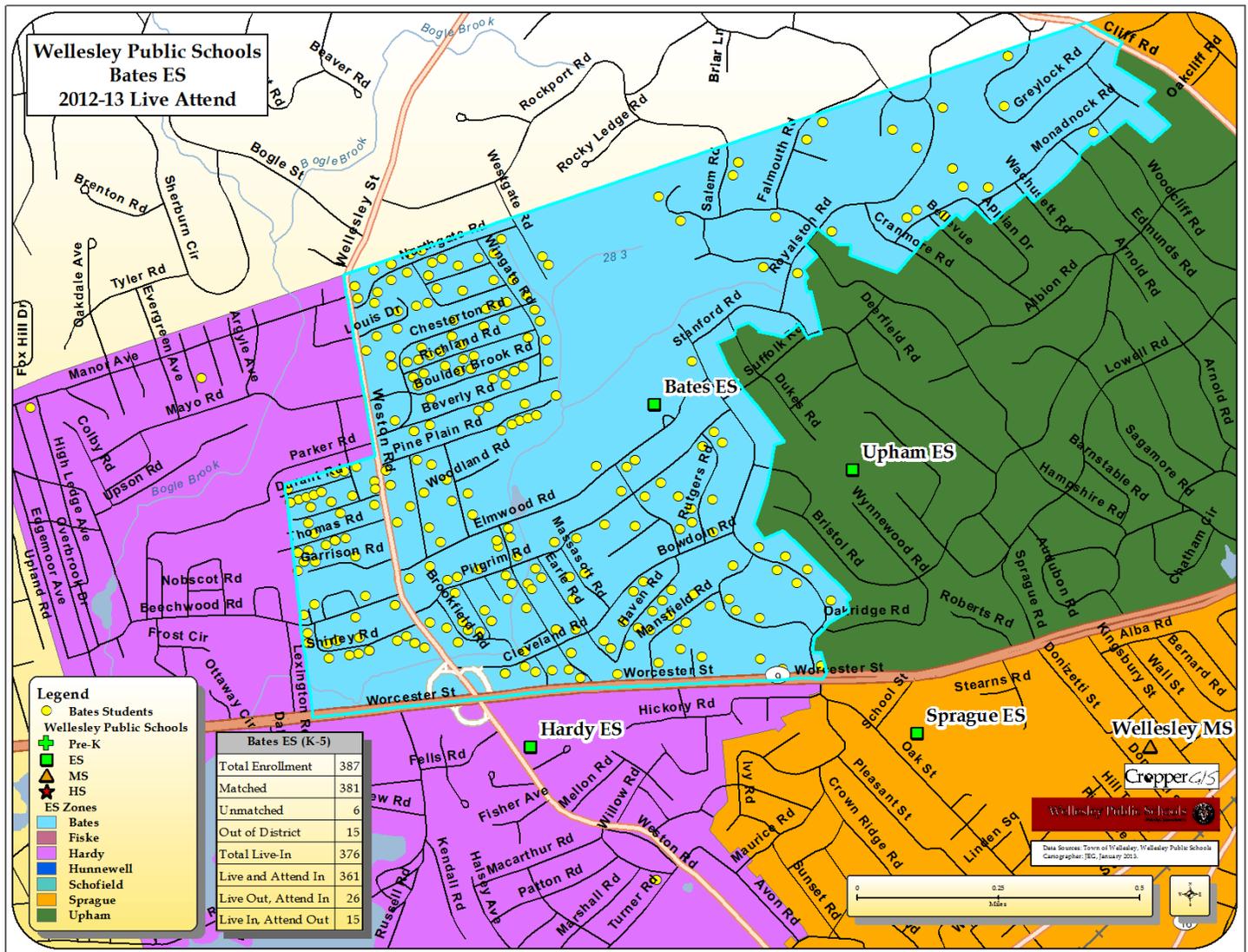
This map series focuses on illustrating the geographic distribution of Wellesley Public Schools' 2012-2013 students in relation to school attendance boundaries.

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. So the length between 0 and 2 on the map image is equal to a real world distance of two miles.

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:

<b>Bates ES (K-5)</b>	
<b>Total Enrollment</b>	<b>387</b>
<b>Matched</b>	<b>381</b>
<b>Unmatched</b>	<b>6</b>
<b>Out of District</b>	<b>15</b>
<b>Total Live-In</b>	<b>376</b>
<b>Live and Attend In</b>	<b>361</b>
<b>Live Out, Attend In</b>	<b>26</b>
<b>Live In, Attend Out</b>	<b>15</b>

Total Enrollment - number of students attending Bates ES.

Matched - number of students attending Bates 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 Wellesley Public Schools boundaries, yet attend this school.

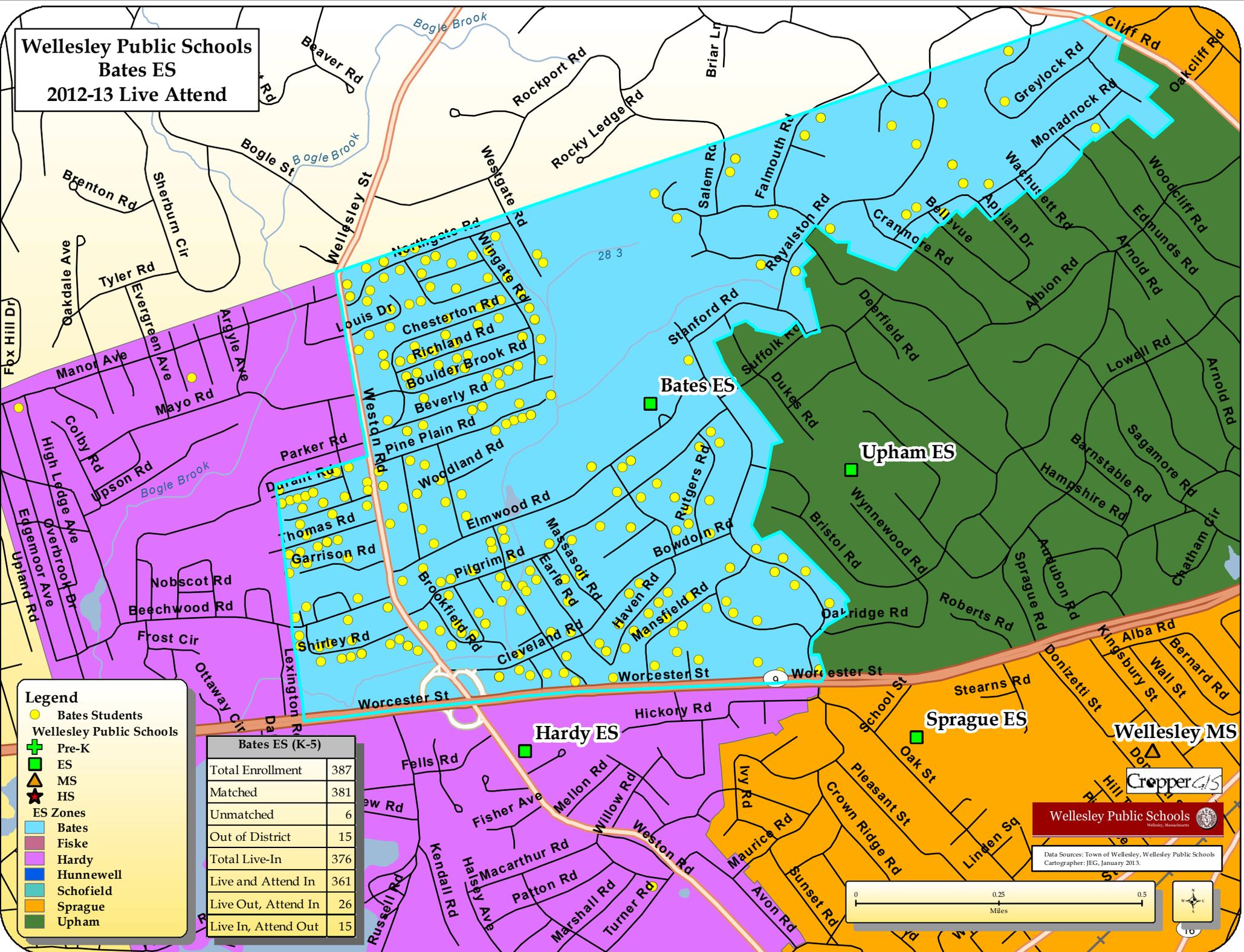
Total Live-In - number of students who live within the school's attendance boundary, who are in the K-5 grade cohort. The 'total-live in' statistic here indicates there are 376 Kindergarten through Fifth grade students living within the Bates ES attendance boundary.

Live and Attend In - number of K-5 students who live within the attendance boundary, and also attend that school. In this example, 361 of the 376 Kindergarten through Fifth grade students who live within the Bates ES attendance boundary also attend Bates ES.

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

**Wellesley Public Schools  
Bates ES  
2012-13 Live Attend**



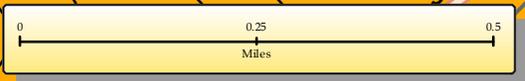
**Legend**

- Bates Students
- Wellesley Public Schools
- ⊕ Pre-K
- ES
- ★ MS
- ☆ HS
- ES Zones
- Bates
- Fiske
- Hardy
- Hunnewell
- Schofield
- Sprague
- Upham

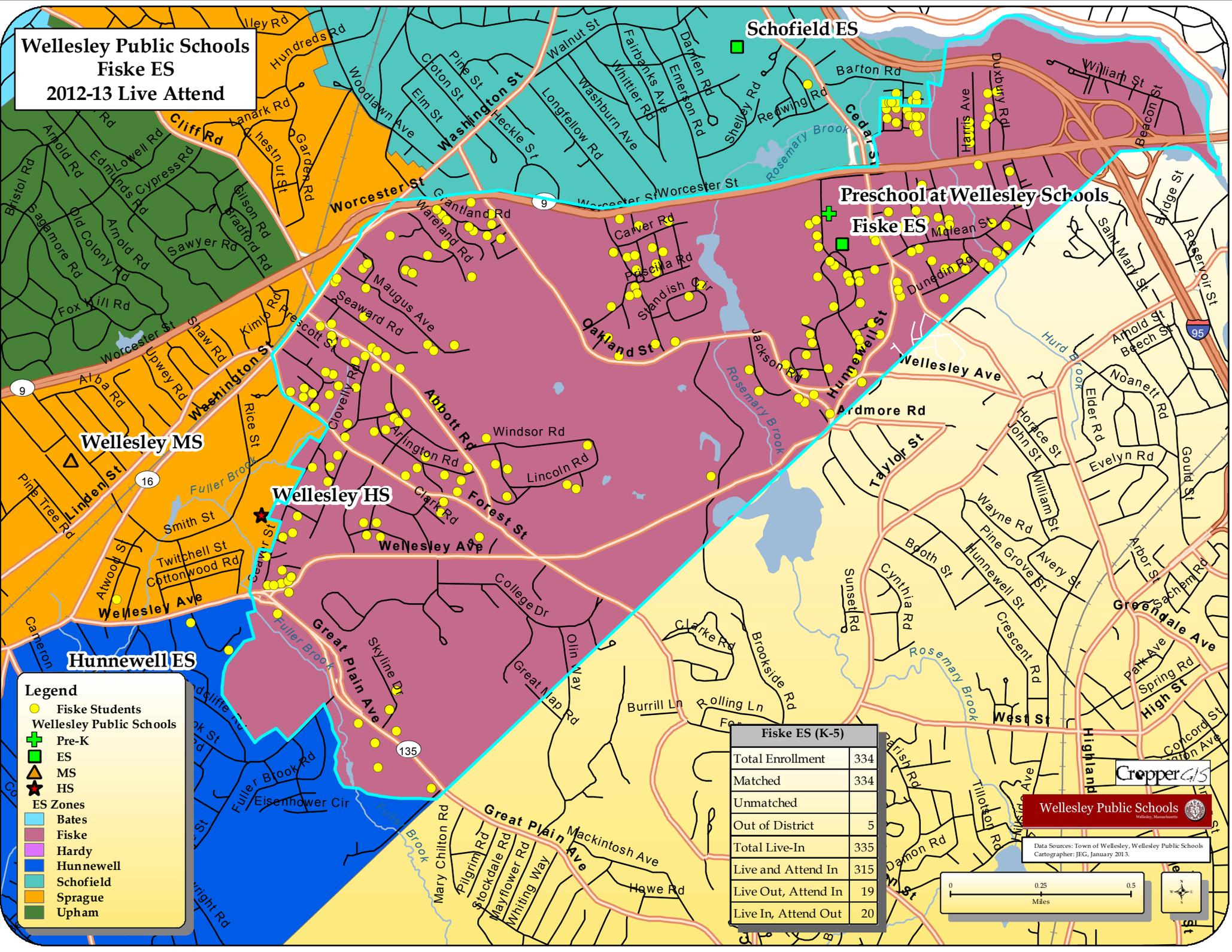
Bates ES (K-5)	
Total Enrollment	387
Matched	381
Unmatched	6
Out of District	15
Total Live-In	376
Live and Attend In	361
Live Out, Attend In	26
Live In, Attend Out	15



Data Sources: Town of Wellesley, Wellesley Public Schools  
Cartographer: JEG, January 2013.



**Wellesley Public Schools  
Fiske ES  
2012-13 Live Attend**



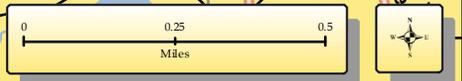
- Legend**
- Fiske Students
  - Wellesley Public Schools
  - ⊕ Pre-K
  - ES
  - ▲ MS
  - ★ HS
  - ES Zones
  - Bates
  - Fiske
  - Hardy
  - Hunnewell
  - Schofield
  - Sprague
  - Upham

Fiske ES (K-5)	
Total Enrollment	334
Matched	334
Unmatched	
Out of District	5
Total Live-In	335
Live and Attend In	315
Live Out, Attend In	19
Live In, Attend Out	20

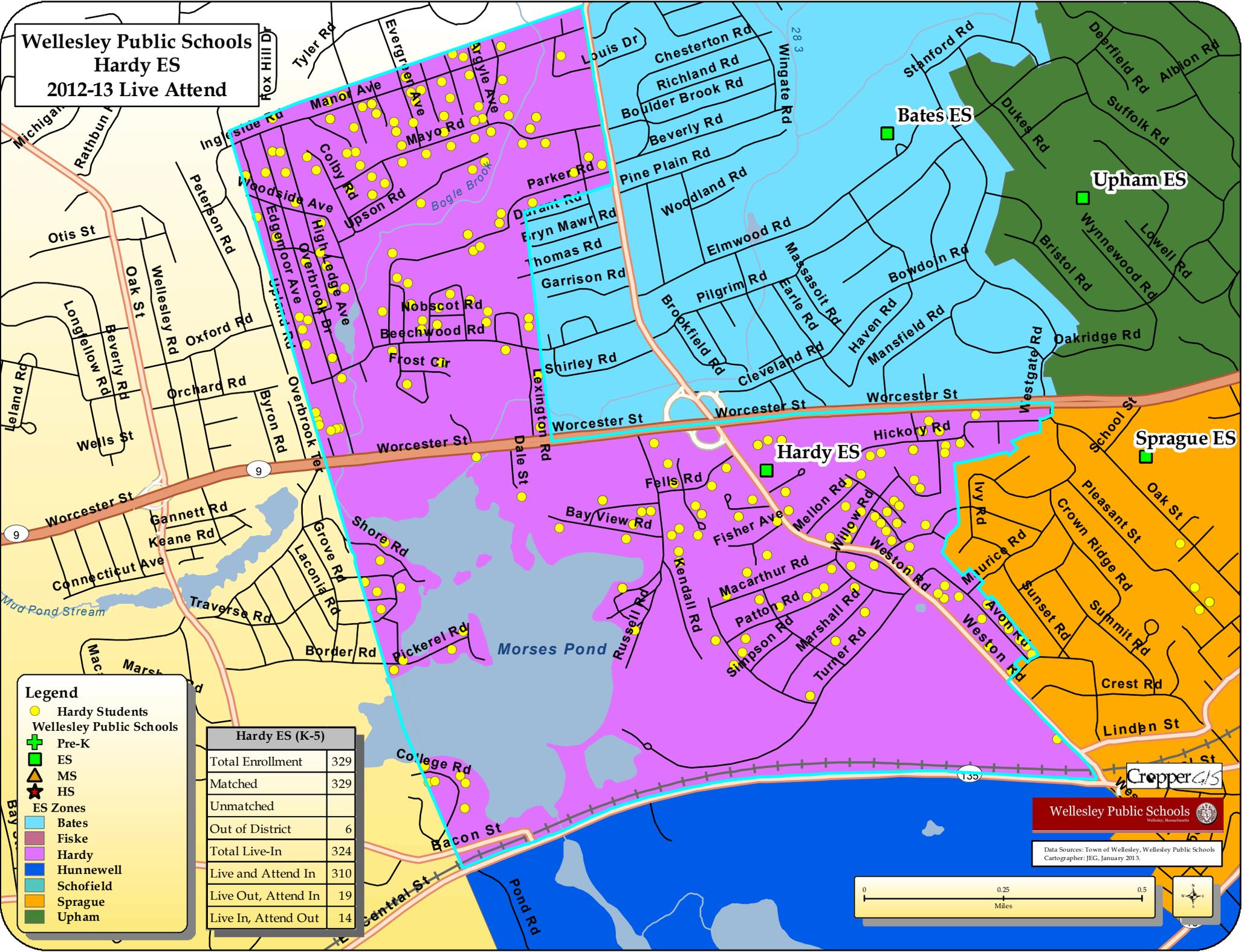
**Wellesley Public Schools**  
Wellesley, Massachusetts

**CropperGIS**

Data Sources: Town of Wellesley, Wellesley Public Schools  
Cartographer: JEG, January 2013.



**Wellesley Public Schools  
Hardy ES  
2012-13 Live Attend**



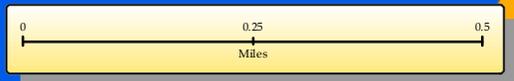
**Legend**

- Hardy Students
- Wellesley Public Schools
- ⊕ Pre-K
- ES
- ▲ MS
- ★ HS
- ES Zones
- Bates
- Fiske
- Hardy
- Hunnewell
- Schofield
- Sprague
- Upham

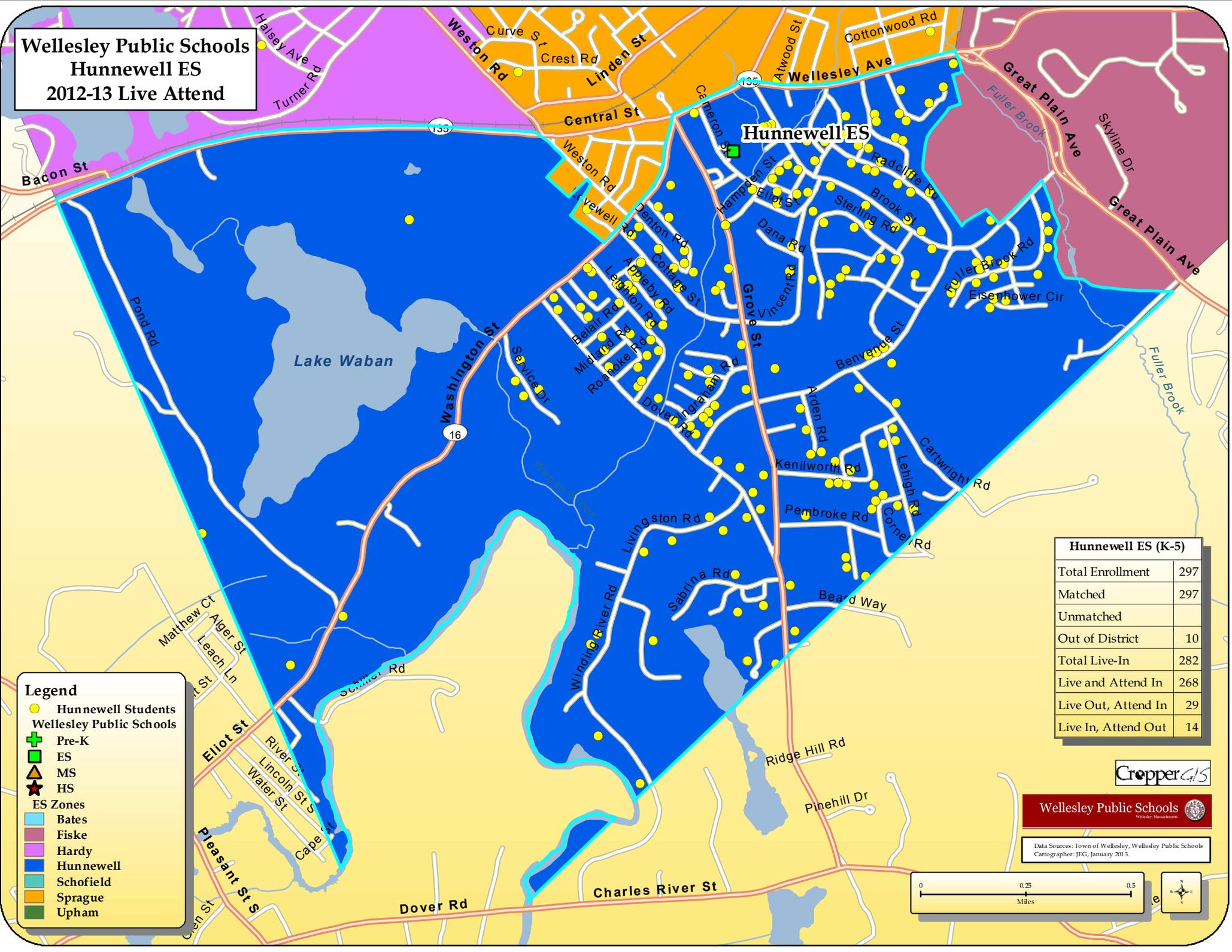
Hardy ES (K-5)	
Total Enrollment	329
Matched	329
Unmatched	
Out of District	6
Total Live-In	324
Live and Attend In	310
Live Out, Attend In	19
Live In, Attend Out	14



Data Sources: Town of Wellesley, Wellesley Public Schools  
Cartographer: JEG, January 2013.



**Wellesley Public Schools  
Hunnewell ES  
2012-13 Live Attend**



**Legend**

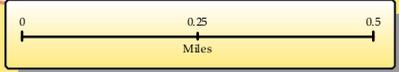
- Hunnewell Students
- Wellesley Public Schools**
- + Pre-K
- ES
- ▲ MS
- ★ HS
- ES Zones**
- Bates
- Fiske
- Hardy
- Hunnewell
- Schofield
- Sprague
- Upham

Hunnewell ES (K-5)	
Total Enrollment	297
Matched	297
Unmatched	
Out of District	10
Total Live-In	282
Live and Attend In	268
Live Out, Attend In	29
Live In, Attend Out	14

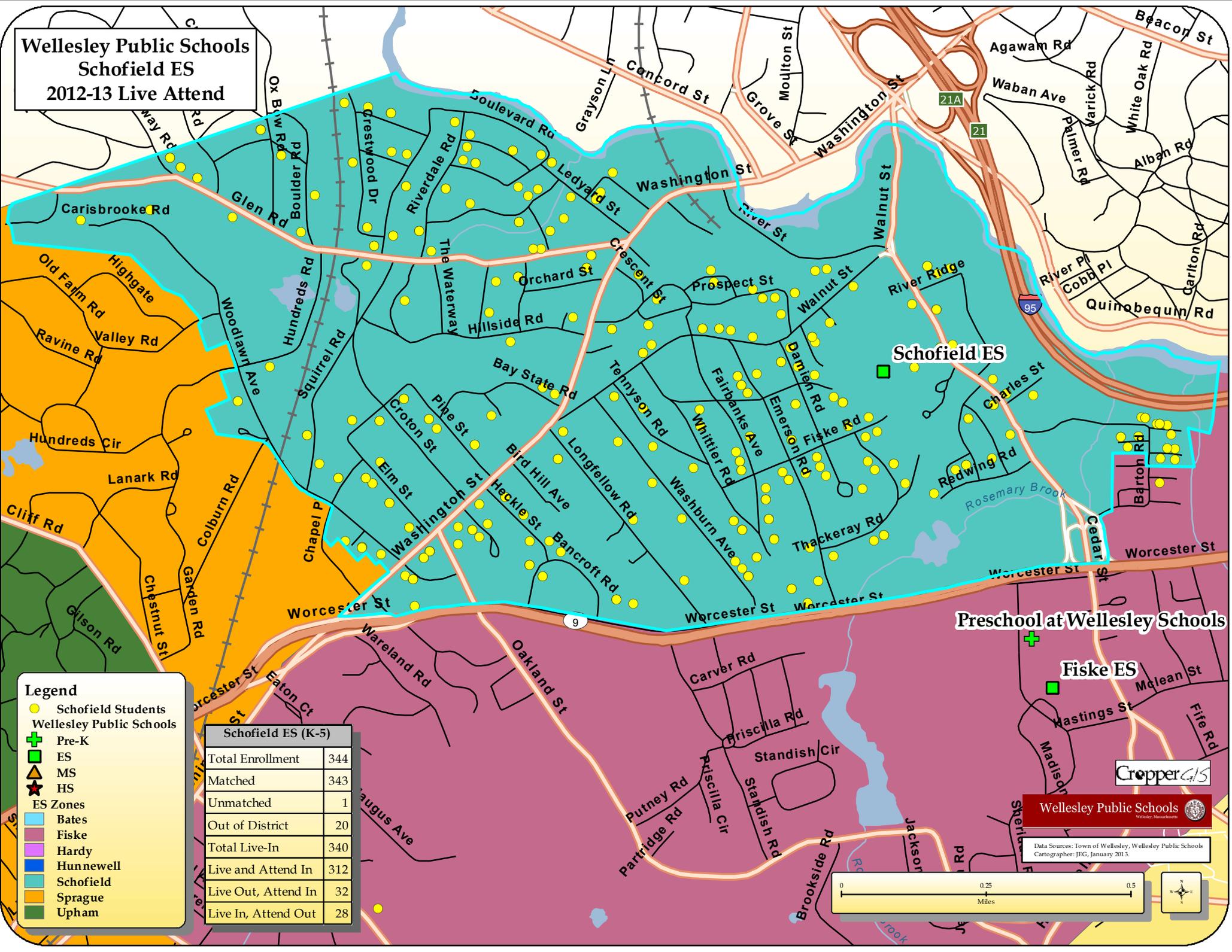


**Wellesley Public Schools**  
Wellesley, Massachusetts

Data Sources: Town of Wellesley, Wellesley Public Schools  
Cartographer: JEG, January 2013.



**Wellesley Public Schools  
Schofield ES  
2012-13 Live Attend**



**Legend**

- Schofield Students
- Wellesley Public Schools
- ⊕ Pre-K
- ES
- ▲ MS
- ★ HS
- ES Zones
- Bates
- Fiske
- Hardy
- Hunnewell
- Schofield
- Sprague
- Upham

Schofield ES (K-5)	
Total Enrollment	344
Matched	343
Unmatched	1
Out of District	20
Total Live-In	340
Live and Attend In	312
Live Out, Attend In	32
Live In, Attend Out	28

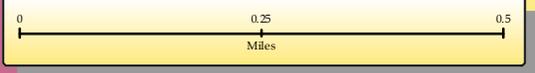
**Preschool at Wellesley Schools**

**Fiske ES**

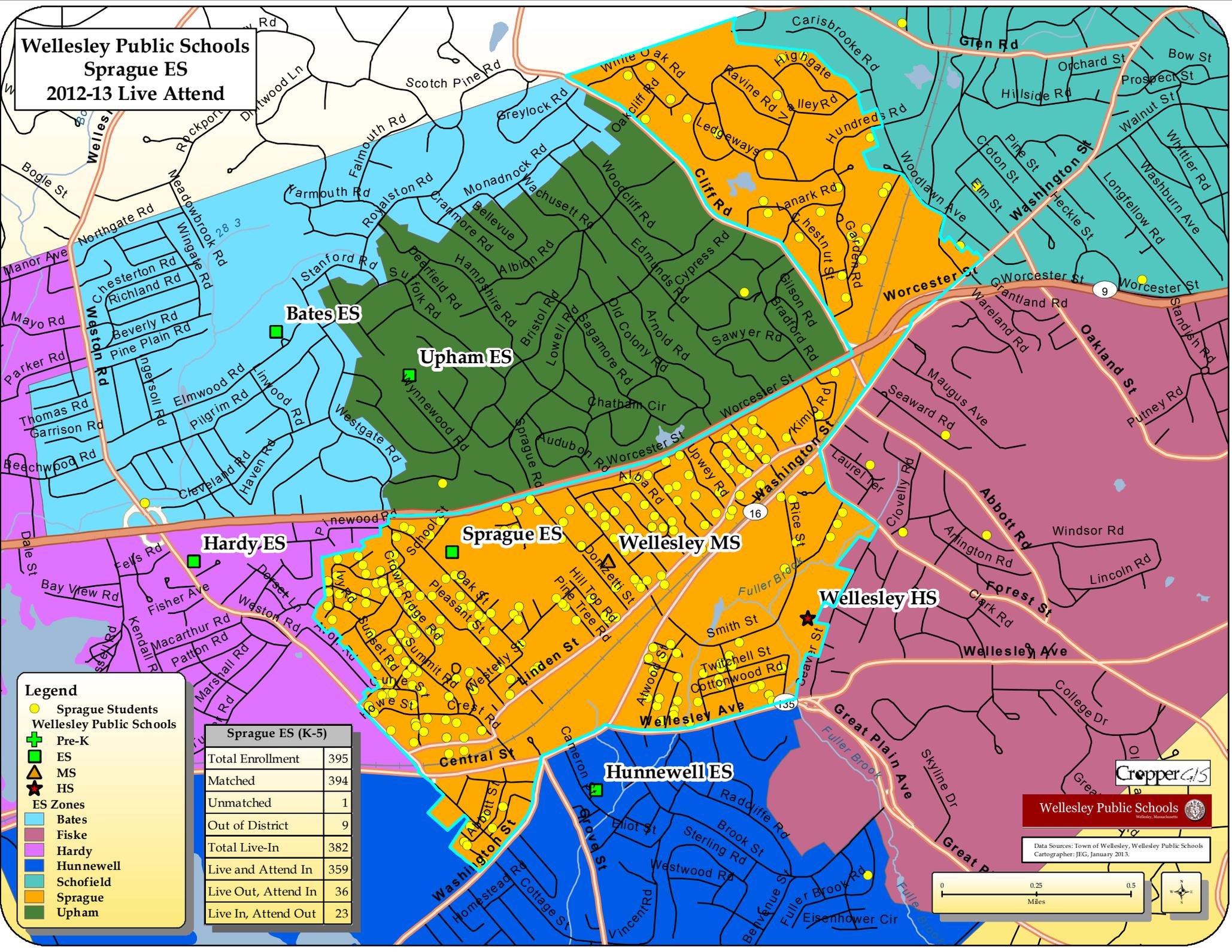


**Wellesley Public Schools**  
Wellesley, Massachusetts

Data Sources: Town of Wellesley, Wellesley Public Schools  
Cartographer: JEG, January 2013.



**Wellesley Public Schools  
Sprague ES  
2012-13 Live Attend**



**Legend**

- Sprague Students
- Wellesley Public Schools**
- + Pre-K
- ES
- ▲ MS
- ★ HS
- ES Zones**
- Bates
- Fiske
- Hardy
- Hunnewell
- Schofield
- Sprague
- Upham

Sprague ES (K-5)	
Total Enrollment	395
Matched	394
Unmatched	1
Out of District	9
Total Live-In	382
Live and Attend In	359
Live Out, Attend In	36
Live In, Attend Out	23



**Wellesley Public Schools**  
Wellesley, Massachusetts

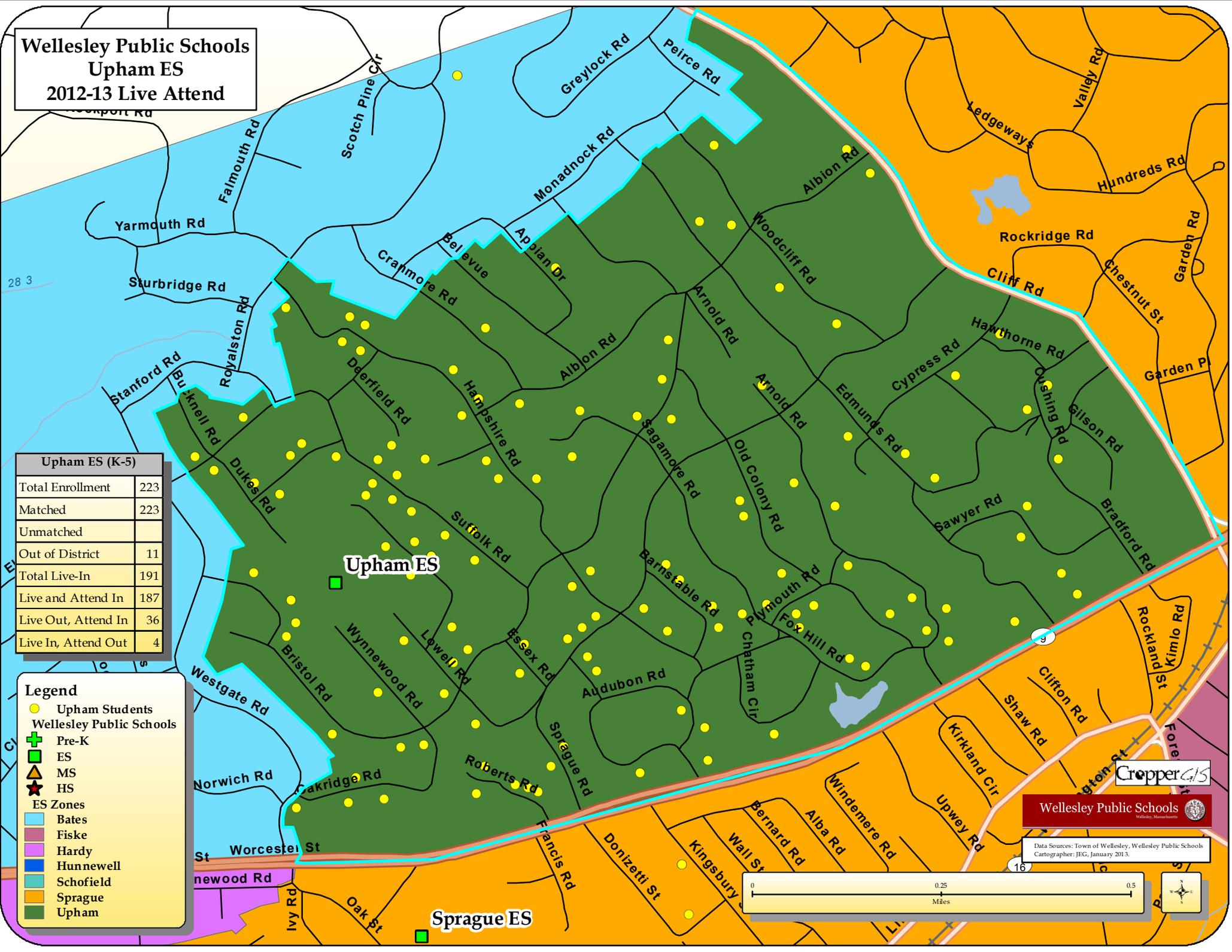
Data Sources: Town of Wellesley, Wellesley Public Schools  
Cartographer: JEG, January 2013.



**Wellesley Public Schools  
Upham ES  
2012-13 Live Attend**

Upham ES (K-5)	
Total Enrollment	223
Matched	223
Unmatched	
Out of District	11
Total Live-In	191
Live and Attend In	187
Live Out, Attend In	36
Live In, Attend Out	4

- Legend**
- Upham Students
  - Wellesley Public Schools**
  - + Pre-K
  - ES
  - ▲ MS
  - ★ HS
  - ES Zones**
  - Bates
  - Fiske
  - Hardy
  - Hunnewell
  - Schofield
  - Sprague
  - Upham



**Upham ES**

**Sprague ES**

Wellesley Public Schools  
Wellesley, Massachusetts

Data Sources: Town of Wellesley, Wellesley Public Schools  
Cartographer: JEG, January 2013.



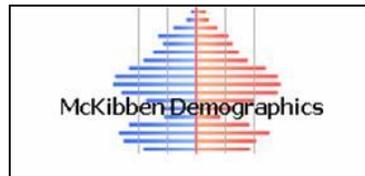
**LIVE ATTEND MATRIX**

The table below gives details on the schools that students attend and the school zones where they live. The schools of attendance are listed across the top while the zones where students live are listed on the left. The 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-5 Live Attend Matrix		Where Students Attend School								
		Total Live In	Bates	Fiske	Hardy	Hunnewell	Schofield	Sprague	Upham	No Data
Total Attending		387	334	329	297	344	395	223	5	
Bates School District	376	361	1		2	3	2	7		15
Fiske School District	335		315		5	4	9	2		20
Hardy School District	324	4		310	5	1	2	2		14
Hunnewell School District	282		2	6	268	2	1	2	1	14
Schofield School District	340		10	2	1	312	10	4	1	28
Sprague School District	382	1	1	5	6	1	359	8	1	23
Upham School District	191						2	187	2	4
Out of District	76	15	5	6	10	20	9	11		
Unmatched	8	6				1	1			
Live Out, Attend In		26	19	19	29	32	36	36		

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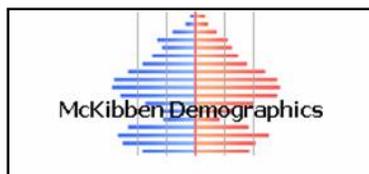
**Wellesley Public Schools**

Wellesley, Massachusetts



**Wellesley Public Schools, MA  
Revised Population and Enrollment  
Forecasts**

**October 2013**



**Cropper GIS**

**Introduction**

In October 2013, the 2013-14 Wellesley Public School enrollment was evaluated against the 2012 Demographic Study forecasts. The review of the forecasts versus actual enrollments showed that, overall, the enrollment forecasts were within the 2% error rate. However, a large percentage of the error was found in the K through 2<sup>nd</sup> grade cohorts, where actual cohort sizes in these grades were coming in higher than forecasted. This could lead to a 'bubble' of enrollment that would pass through the system and affect the forecasts as it ages through. Because of this, it was determined that the forecast assumptions and population/enrollment forecasts be revised in order to account for the larger than expected cohorts in the early grades. The following report summarizes the changes in forecast assumptions as well as the revised forecast tables.

**Forecast Assumption Changes**

The revised 2013 series population and enrollment forecasts feature two significant changes in assumptions over the 2012 series forecasts. The first is the assumption on new home construction. The 2012 series forecasts assumed there would be virtually no new home construction, where the 2013 series assumes that there will be an average of 30 new housing units constructed annually over the next 10 years

The second assumption that has been changed is the rate of existing home sales. The 2012 series assumed that that rate would stay at the 2010-12 average for the next 10 years. The 2013 series assumes that that the annual rate of existing home sales will be 5% above the 2010-12 average for the next 10 years.

The result of using these modified assumptions is a slower pace of decline, but not a change in the overall trend. The revised forecasts show a small wave (bubble) going through the elementary grades that will stop the decline temporarily. This bubble is short term, as there are larger cohorts leaving elementary school soon. The revised forecasts also indicate a slightly larger wave going through middle and high school late in the decade.

**Revised Enrollment Forecast Tables**

Wellesley Public Schools: Total Enrollment																
	2008-09	2009-10	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
<b>K</b>	394	352	354	353	352	363	355	340	330	327	320	313	305	300	294	276
<b>1</b>	422	413	359	381	365	386	386	382	366	354	347	339	332	323	316	308
<b>2</b>	415	414	419	362	389	384	395	395	393	378	366	359	350	343	334	326
<b>3</b>	446	407	411	438	365	399	394	405	406	406	391	379	372	363	356	347
<b>4</b>	399	439	406	413	433	376	407	401	413	417	417	400	388	381	372	365
<b>5</b>	405	396	427	408	405	433	373	405	398	415	418	418	402	388	381	372
<b>Elementary Total</b>	2481	2421	2376	2355	2309	2341	2310	2328	2306	2297	2259	2208	2149	2098	2053	1994
<b>Change</b>		-60	-45	-21	-46	32	-31	18	-22	-9	-38	-51	-59	-51	-45	-59
<b>Percent Change</b>		-2.42%	-1.86%	-0.88%	-1.95%	1.39%	-1.32%	0.78%	-0.95%	-0.39%	-1.65%	-2.26%	-2.67%	-2.37%	-2.14%	-2.87%
	2008-09	2009-10	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
<b>6</b>	368	390	397	410	381	390	417	358	389	382	398	400	400	384	370	363
<b>7</b>	377	360	380	382	411	371	378	404	347	376	369	384	386	385	369	356
<b>8</b>	315	383	361	384	373	403	370	376	403	346	374	367	381	383	382	365
<b>Middle School Total</b>	1060	1133	1138	1176	1165	1164	1165	1138	1139	1104	1141	1151	1167	1152	1121	1084
<b>Change</b>		73	5	38	-11	-1	1	-27	1	-35	37	10	16	-15	-31	-37
<b>Percent Change</b>		6.89%	0.44%	3.34%	-0.94%	-0.09%	0.09%	-2.32%	0.09%	-3.07%	3.35%	0.88%	1.39%	-1.29%	-2.69%	-3.30%
	2008-09	2009-10	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
<b>9</b>	350	296	369	346	383	360	393	361	367	393	337	365	357	371	373	372
<b>10</b>	292	350	295	374	342	381	357	390	358	364	389	334	362	353	367	369
<b>11</b>	297	284	342	297	360	336	373	349	381	350	356	380	326	353	345	358
<b>12</b>	319	294	289	338	298	358	333	369	345	377	346	352	376	322	349	341
<b>High School Total</b>	1258	1224	1295	1355	1383	1435	1456	1469	1451	1484	1428	1431	1421	1399	1434	1440
<b>Change</b>		-34	71	60	28	52	21	13	-18	33	-56	3	-10	-22	35	6
<b>Percent Change</b>		-2.70%	5.80%	4.63%	2.07%	3.76%	1.46%	0.89%	-1.23%	2.27%	-3.77%	0.21%	-0.70%	-1.55%	2.50%	0.42%
<b>Total Enrollment</b>	4799	4778	4809	4886	4857	4940	4931	4935	4896	4885	4828	4790	4737	4649	4608	4518
	2008-09	2009-10	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
<b>Total: All Grades</b>	4799	4778	4809	4886	4857	4940	4931	4935	4896	4885	4828	4790	4737	4649	4608	4518
<b>Change</b>		-21	31	77	-29	83	-9	4	-39	-11	-57	-38	-53	-88	-41	-90
<b>Percent Change</b>		-0.44%	0.65%	1.60%	-0.59%	1.71%	-0.18%	0.08%	-0.79%	-0.22%	-1.17%	-0.79%	-1.11%	-1.86%	-0.88%	-1.95%

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Bates Elementary

	2008-09	2009-10	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
K	68	62	59	62	56	62	60	57	55	55	54	53	52	52	51	47
1	70	73	58	59	66	64	66	65	62	60	59	58	57	56	55	54
2	79	68	78	59	62	68	66	68	67	64	62	61	60	59	58	57
3	66	74	68	80	60	64	69	67	69	68	65	63	62	61	60	59
4	50	68	75	64	79	64	65	70	68	71	70	67	65	64	63	62
5	60	47	68	72	64	73	61	62	67	66	69	68	65	63	62	61
<b>Total</b>	393	392	406	396	387	395	387	389	388	384	379	370	361	355	349	340
<b>Total: Elementary</b>	393	392	406	396	387	395	387	389	388	384	379	370	361	355	349	340
<b>Change</b>		-1	14	-10	-9	8	-8	2	-1	-4	-5	-9	-9	-6	-6	-9
<b>Percent Change</b>		-0.3%	3.6%	-2.5%	-2.3%	2.1%	-2.0%	0.5%	-0.3%	-1.0%	-1.3%	-2.4%	-2.4%	-1.7%	-1.7%	-2.6%

Fiske Elementary

	2008-09	2009-10	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
K	65	53	61	56	57	42	45	44	43	43	42	41	40	39	38	36
1	61	67	52	59	52	64	46	47	46	45	44	43	42	41	40	39
2	66	66	68	51	57	56	67	48	49	48	47	46	45	44	43	42
3	69	60	62	68	49	58	57	68	48	50	49	48	47	46	45	44
4	56	72	60	62	63	51	59	58	69	49	51	50	49	48	47	46
5	65	57	70	61	57	63	49	57	57	68	48	50	49	48	47	46
<b>Total</b>	382	375	373	357	335	334	323	322	312	303	281	278	272	266	260	253
<b>Total: Elementary</b>	382	375	373	357	335	334	323	322	312	303	281	278	272	266	260	253
<b>Change</b>		-7	-2	-16	-22	-1	-11	-1	-10	-9	-22	-3	-6	-6	-6	-7
<b>Percent Change</b>		-1.8%	-0.5%	-4.3%	-6.2%	-0.3%	-3.3%	-0.3%	-3.1%	-2.9%	-7.3%	-1.1%	-2.2%	-2.2%	-2.3%	-2.7%

Hardy Elementary

	2008-09	2009-10	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
K	48	43	47	47	57	45	47	46	45	44	43	42	41	39	39	37
1	60	49	48	53	53	52	49	49	48	47	46	45	44	43	42	41
2	48	58	51	48	48	54	50	48	48	47	46	45	44	43	42	41
3	50	46	59	57	49	50	55	51	49	50	49	48	47	46	45	44
4	48	48	45	62	57	46	51	56	52	50	51	50	49	48	47	46
5	59	48	46	44	64	59	47	52	57	54	52	53	52	50	49	48
<b>Total</b>	313	292	296	311	328	306	299	302	299	292	287	283	277	269	264	257
<b>Total: Elementary</b>	313	292	296	311	328	306	299	302	299	292	287	283	277	269	264	257
<b>Change</b>		-21	4	15	17	-22	-7	3	-3	-7	-5	-4	-6	-8	-5	-7
<b>Percent Change</b>		-6.7%	1.4%	5.1%	5.5%	-6.7%	-2.3%	1.0%	-1.0%	-2.3%	-1.7%	-1.4%	-2.1%	-2.9%	-1.9%	-2.7%

Hunnewell Elementary

	2008-09	2009-10	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
K	44	41	45	37	42	44	42	40	40	39	39	38	37	36	36	34
1	63	43	48	51	38	44	47	46	44	43	42	41	40	39	38	37
2	47	58	47	50	54	44	46	49	49	47	46	45	43	42	41	40
3	64	45	60	49	52	55	46	48	51	51	49	48	47	45	44	43
4	61	59	48	62	51	58	58	49	51	55	55	52	51	50	48	47
5	55	61	59	53	61	54	60	60	50	53	57	57	54	53	52	50
<b>Total</b>	334	307	307	302	298	299	299	292	285	288	288	281	272	265	259	251
<b>Total: Elementary</b>	334	307	307	302	298	299	299	292	285	288	288	281	272	265	259	251
<b>Change</b>		-27	0	-5	-4	1	0	-7	-7	3	0	-7	-9	-7	-6	-8
<b>Percent Change</b>		-8.1%	0.0%	-1.6%	-1.3%	0.3%	0.0%	-2.3%	-2.4%	1.1%	0.0%	-2.4%	-3.2%	-2.6%	-2.3%	-3.1%

Schofield Elementary

	2008-09	2009-10	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
K	60	56	48	60	54	63	58	58	57	57	56	55	53	53	52	49
1	53	66	54	50	62	63	65	63	63	62	61	60	59	57	56	55
2	69	47	66	52	56	65	64	66	65	65	64	63	62	61	59	58
3	75	73	51	66	55	56	68	67	69	68	68	67	66	65	64	62
4	68	70	69	48	63	56	57	69	68	70	69	69	68	67	66	65
5	54	62	71	67	51	62	55	56	68	67	69	68	68	67	66	65
<b>Total</b>	379	374	359	343	341	365	367	379	390	389	387	382	376	370	363	354
<b>Total: Elementary</b>	379	374	359	343	341	365	367	379	390	389	387	382	376	370	363	354
<b>Change</b>		-5	-15	-16	-2	24	2	12	11	-1	-2	-5	-6	-6	-7	-9
<b>Percent Change</b>		-1.3%	-4.0%	-4.5%	-0.6%	7.0%	0.5%	3.3%	2.9%	-0.3%	-0.5%	-1.3%	-1.6%	-1.6%	-1.9%	-2.5%

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Sprague Elementary

	2008-09	2009-10	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
K	71	65	62	49	57	62	58	54	51	51	50	49	48	48	47	44
1	73	73	65	73	54	61	64	62	57	54	53	52	51	50	49	48
2	67	76	67	65	74	55	62	65	63	59	56	55	54	53	52	50
3	73	68	72	72	65	78	57	64	68	66	62	59	58	57	56	55
4	71	71	68	74	72	68	80	58	66	71	69	64	61	60	59	58
5	67	75	69	69	72	75	69	82	60	69	74	72	67	63	62	61
<b>Total</b>	422	428	403	402	394	399	390	385	365	370	364	351	339	331	325	316
<b>Total: Elementary</b>	422	428	403	402	394	399	390	385	365	370	364	351	339	331	325	316
<b>Change</b>		6	-25	-1	-8	5	-9	-5	-20	5	-6	-13	-12	-8	-6	-9
<b>Percent Change</b>		1.4%	-5.8%	-0.2%	-2.0%	1.3%	-2.3%	-1.3%	-5.2%	1.4%	-1.6%	-3.6%	-3.4%	-2.4%	-1.8%	-2.8%

Upham Elementary

	2008-09	2009-10	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
K	38	32	32	42	29	45	45	41	39	38	36	35	34	33	31	29
1	42	42	34	36	40	38	49	50	46	43	42	40	39	37	36	34
2	39	41	42	37	38	42	40	51	52	48	45	44	42	41	39	38
3	49	41	39	46	35	38	42	40	52	53	49	46	45	43	42	40
4	45	51	41	41	48	33	37	41	39	51	52	48	45	44	42	41
5	45	46	44	42	36	47	32	36	39	38	49	50	47	44	43	41
<b>Total</b>	258	253	232	244	226	243	245	259	267	271	273	263	252	242	233	223
<b>Change</b>		-5	-21	12	-18	17	2	14	8	4	2	-10	-11	-10	-9	-10
<b>Percent Change</b>		-1.9%	-8.3%	5.2%	-7.4%	7.5%	0.8%	5.7%	3.1%	1.5%	0.7%	-3.7%	-4.2%	-4.0%	-3.7%	-4.3%

Wellesley MS

	2008-09	2009-10	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
6	368	390	397	410	381	390	417	358	389	382	398	400	400	384	370	363
7	377	360	380	382	411	371	378	404	347	376	369	384	386	385	369	356
8	315	383	361	384	373	403	370	376	403	346	374	367	381	383	382	365
<b>Total</b>	1060	1133	1138	1176	1165	1164	1165	1138	1139	1104	1141	1151	1167	1152	1121	1084
<b>Total: Middle School</b>	1060	1133	1138	1176	1165	1164	1165	1138	1139	1104	1141	1151	1167	1152	1121	1084
<b>Change</b>		73	5	38	-11	-1	1	-27	1	-35	37	10	16	-15	-31	-37
<b>Percent Change</b>		6.9%	0.4%	3.3%	-0.9%	-0.1%	0.1%	-2.3%	0.1%	-3.1%	3.4%	0.9%	1.4%	-1.3%	-2.7%	-3.3%

Wellesley High School

	2008-09	2009-10	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
9	350	296	369	346	383	360	393	361	367	393	337	365	357	371	373	372
10	292	350	295	374	342	381	357	390	358	364	389	334	362	353	367	369
11	297	284	342	297	360	336	373	349	381	350	356	380	326	353	345	358
12	319	294	289	338	298	358	333	369	345	377	346	352	376	322	349	341
<b>Total</b>	1258	1224	1295	1355	1383	1435	1456	1469	1451	1484	1428	1431	1421	1399	1434	1440
<b>Total: High School</b>	1258	1224	1295	1355	1383	1435	1456	1469	1451	1484	1428	1431	1421	1399	1434	1440
<b>Change</b>		-34	71	60	28	52	21	13	-18	33	-56	3	-10	-22	35	6
<b>Percent Change</b>		-2.7%	5.8%	4.6%	2.1%	3.8%	1.5%	0.9%	-1.2%	2.3%	-3.8%	0.2%	-0.7%	-1.5%	2.5%	0.4%



Revised Population Forecast Tables

Wellesley Public Schools

Males	2010	2015	2020
0-4	781	740	680
5-9	1,152	1,090	1,040
10-14	1,211	1,200	1,140
15-19	1,136	1,340	1,300
20-24	766	720	820
25-29	236	330	300
30-34	320	400	520
35-39	626	640	730
40-44	884	770	800
45-49	1,084	880	800
50-54	952	1,070	860
55-59	809	880	970
60-64	766	720	790
65-69	542	640	590
70-74	364	430	510
75-79	292	310	360
80-84	229	220	260
85+	186	180	190
<b>Total</b>	<b>12,336</b>	<b>12,560</b>	<b>12,660</b>

Females	2010	2015	2020
0-4	789	720	660
5-9	1,120	1,090	1,010
10-14	1,169	1,170	1,140
15-19	2,009	2,130	2,110
20-24	1,833	1,860	1,930
25-29	289	340	360
30-34	398	460	510
35-39	789	710	790
40-44	1,031	940	880
45-49	1,201	1,030	970
50-54	1,064	1,180	1,020
55-59	904	1,000	1,130
60-64	798	800	890
65-69	592	710	690
70-74	465	500	630
75-79	386	420	460
80-84	373	370	350
85+	436	430	440
<b>Total</b>	<b>15,646</b>	<b>15,860</b>	<b>15,970</b>

Total	2010	2015	2020
0-4	1,570	1,460	1,340
5-9	2,272	2,180	2,050
10-14	2,380	2,370	2,280
15-19	3,145	3,470	3,410
20-24	2,599	2,580	2,750
25-29	525	670	660
30-34	718	860	1,030
35-39	1,415	1,350	1,520
40-44	1,915	1,710	1,680
45-49	2,285	1,910	1,770
50-54	2,016	2,250	1,880
55-59	1,713	1,880	2,100
60-64	1,564	1,520	1,680
65-69	1,134	1,350	1,280
70-74	829	930	1,140
75-79	678	730	820
80-84	602	590	610
85+	622	610	630
<b>Total</b>	<b>27,982</b>	<b>28,420</b>	<b>28,630</b>
<b>Median Age</b>	<b>37.8</b>	<b>37.3</b>	<b>37.6</b>

	2010 to 2015	2015 to 2020
<b>Births</b>	900	900
<b>Deaths</b>	1,050	1,100
<b>Natural Increase</b>	-150	-200
<b>Net Migration</b>	620	580
<b>Change</b>	470	380

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

Males	2010	2015	2020
0-4	123	140	120
5-9	185	160	180
10-14	156	190	170
15-19	124	130	170
20-24	20	30	40
25-29	8	20	30
30-34	33	40	50
35-39	91	100	100
40-44	142	120	120
45-49	139	140	130
50-54	127	140	140
55-59	77	110	120
60-64	92	60	90
65-69	68	70	40
70-74	43	50	50
75-79	37	30	40
80-84	18	30	30
85+	14	20	20
<b>Total</b>	<b>1,496</b>	<b>1,580</b>	<b>1,640</b>

Females	2010	2015	2020
0-4	138	140	120
5-9	170	180	170
10-14	144	180	190
15-19	115	120	150
20-24	32	20	30
25-29	20	30	20
30-34	41	60	60
35-39	111	100	110
40-44	163	140	130
45-49	155	160	150
50-54	123	150	160
55-59	104	110	140
60-64	95	90	90
65-69	71	80	70
70-74	56	60	70
75-79	45	50	50
80-84	27	40	40
85+	23	30	40
<b>Total</b>	<b>1,635</b>	<b>1,740</b>	<b>1,790</b>

Bates Elementary

Total	2010	2015	2020
0-4	261	280	240
5-9	355	340	350
10-14	300	370	360
15-19	239	250	320
20-24	52	50	70
25-29	28	50	50
30-34	74	100	110
35-39	202	200	210
40-44	304	260	250
45-49	294	300	280
50-54	251	290	300
55-59	182	220	260
60-64	187	150	180
65-69	139	150	110
70-74	99	110	120
75-79	82	80	90
80-84	46	70	70
85+	38	50	60
<b>Total</b>	<b>3,132</b>	<b>3,320</b>	<b>3,430</b>
<b>Median Age</b>	<b>40.9</b>	<b>40.4</b>	<b>40.1</b>

	2010 to 2015	2015 to 2020
<b>Births</b>	110	120
<b>Deaths</b>	100	120
<b>Natural Increase</b>	10	0
<b>Net Migration</b>	140	120
<b>Change</b>	150	120

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



Males	2010	2015	2020
0-4	147	100	100
5-9	192	180	130
10-14	193	200	190
15-19	428	490	500
20-24	574	520	580
25-29	77	120	60
30-34	61	80	120
35-39	100	110	130
40-44	138	130	140
45-49	162	140	130
50-54	158	160	130
55-59	124	140	140
60-64	125	110	130
65-69	83	110	90
70-74	49	70	90
75-79	41	40	60
80-84	32	40	40
85+	37	30	30
<b>Total</b>	<b>2,721</b>	<b>2,770</b>	<b>2,790</b>

Females	2010	2015	2020
0-4	118	100	100
5-9	188	150	130
10-14	193	200	160
15-19	433	490	500
20-24	412	440	500
25-29	83	60	90
30-34	65	90	70
35-39	117	110	140
40-44	163	150	140
45-49	199	160	140
50-54	178	200	160
55-59	131	160	180
60-64	128	120	150
65-69	78	110	100
70-74	63	70	110
75-79	80	60	60
80-84	86	80	50
85+	146	140	130
<b>Total</b>	<b>2,861</b>	<b>2,890</b>	<b>2,910</b>

Fiske Elementary

Total	2010	2015	2020
0-4	265	200	200
5-9	380	330	260
10-14	386	400	350
15-19	861	980	1,000
20-24	986	960	1,080
25-29	160	180	150
30-34	126	170	190
35-39	217	220	270
40-44	301	280	280
45-49	361	300	270
50-54	336	360	290
55-59	255	300	320
60-64	253	230	280
65-69	161	220	190
70-74	112	140	200
75-79	121	100	120
80-84	118	120	90
85+	183	170	160
<b>Total</b>	<b>5,582</b>	<b>5,660</b>	<b>5,700</b>
<b>Median Age</b>	<b>24.6</b>	<b>24.8</b>	<b>24.8</b>

	2010 to 2015	2015 to 2020
<b>Births</b>	170	170
<b>Deaths</b>	210	210
<b>Natural Increase</b>	-40	-40
<b>Net Migration</b>	100	100
<b>Change</b>	60	60

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

Males	2010	2015	2020
0-4	96	90	80
5-9	127	130	130
10-14	127	130	140
15-19	89	110	100
20-24	34	20	20
25-29	24	40	30
30-34	33	50	70
35-39	79	70	90
40-44	121	110	100
45-49	144	120	110
50-54	131	140	120
55-59	87	130	130
60-64	102	80	120
65-69	60	80	60
70-74	46	40	60
75-79	44	40	30
80-84	36	10	10
85+	27	10	10
<b>Total</b>	<b>1,406</b>	<b>1,400</b>	<b>1,410</b>

Females	2010	2015	2020
0-4	112	80	80
5-9	136	140	130
10-14	122	140	150
15-19	83	100	110
20-24	28	10	20
25-29	28	40	20
30-34	46	60	60
35-39	113	90	90
40-44	142	140	110
45-49	146	140	140
50-54	120	140	140
55-59	109	120	140
60-64	97	100	110
65-69	82	80	80
70-74	57	60	60
75-79	46	50	50
80-84	45	40	10
85+	39	10	10
<b>Total</b>	<b>1,552</b>	<b>1,540</b>	<b>1,510</b>

Hardy Elementary

Total	2010	2015	2020
0-4	208	170	160
5-9	263	270	260
10-14	249	270	290
15-19	172	210	210
20-24	62	30	40
25-29	52	80	50
30-34	79	110	130
35-39	192	160	180
40-44	262	250	210
45-49	289	260	250
50-54	250	280	260
55-59	196	250	270
60-64	199	180	230
65-69	142	160	140
70-74	103	100	120
75-79	91	90	80
80-84	81	50	20
85+	65	20	20
<b>Total</b>	<b>2,958</b>	<b>2,940</b>	<b>2,920</b>
<b>Median Age</b>	<b>43.8</b>	<b>43.4</b>	<b>43.3</b>

	2010 to 2015	2015 to 2020
<b>Births</b>	90	90
<b>Deaths</b>	130	130
<b>Natural Increase</b>	-40	-40
<b>Net Migration</b>	100	90
<b>Change</b>	60	50

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



**Hunnewell Elementary**

Males	2010	2015	2020
0-4	74	90	90
5-9	147	120	120
10-14	175	150	120
15-19	121	160	130
20-24	33	40	40
25-29	32	30	40
30-34	34	40	60
35-39	73	70	80
40-44	104	100	110
45-49	150	110	110
50-54	133	150	110
55-59	130	130	140
60-64	105	120	120
65-69	86	90	110
70-74	76	70	70
75-79	51	70	60
80-84	54	40	60
85+	38	40	40
<b>Total</b>	<b>1,616</b>	<b>1,620</b>	<b>1,610</b>

Females	2010	2015	2020
0-4	94	90	80
5-9	146	140	120
10-14	170	150	140
15-19	983	990	960
20-24	1,232	1,260	1,270
25-29	50	60	70
30-34	55	60	70
35-39	95	90	100
40-44	134	120	130
45-49	165	140	140
50-54	155	160	140
55-59	152	150	160
60-64	125	140	140
65-69	93	120	130
70-74	102	80	100
75-79	71	90	70
80-84	89	70	90
85+	77	90	90
<b>Total</b>	<b>3,988</b>	<b>4,000</b>	<b>4,000</b>

Total	2010	2015	2020
0-4	168	180	170
5-9	293	260	240
10-14	345	300	260
15-19	1,104	1,150	1,090
20-24	1,265	1,300	1,310
25-29	82	90	110
30-34	89	100	130
35-39	168	160	180
40-44	238	220	240
45-49	315	250	250
50-54	288	310	250
55-59	282	280	300
60-64	230	260	260
65-69	179	210	240
70-74	178	150	170
75-79	122	160	130
80-84	143	110	150
85+	115	130	130
<b>Total</b>	<b>5,604</b>	<b>5,620</b>	<b>5,610</b>
<b>Median Age</b>	<b>23.5</b>	<b>23.5</b>	<b>24.0</b>

	2010 to 2015	2015 to 2020
<b>Births</b>	150	150
<b>Deaths</b>	200	200
<b>Natural Increase</b>	-50	-50
<b>Net Migration</b>	70	70
<b>Change</b>	20	20

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

**Schofield Elementary**

Males	2010	2015	2020
0-4	132	130	120
5-9	181	190	200
10-14	190	190	200
15-19	127	140	120
20-24	31	50	30
25-29	32	40	60
30-34	51	60	80
35-39	124	100	120
40-44	129	120	110
45-49	172	130	120
50-54	119	170	120
55-59	137	110	160
60-64	129	130	100
65-69	75	110	100
70-74	49	60	90
75-79	35	40	50
80-84	20	30	40
85+	18	20	20
<b>Total</b>	<b>1,752</b>	<b>1,820</b>	<b>1,840</b>

Females	2010	2015	2020
0-4	140	130	110
5-9	186	200	190
10-14	202	190	200
15-19	115	150	130
20-24	48	30	40
25-29	44	60	50
30-34	67	70	100
35-39	137	110	130
40-44	155	140	120
45-49	175	150	140
50-54	161	170	150
55-59	143	150	170
60-64	122	130	130
65-69	84	110	110
70-74	57	70	100
75-79	39	50	70
80-84	38	40	50
85+	26	40	40
<b>Total</b>	<b>1,937</b>	<b>1,990</b>	<b>2,030</b>

Total	2010	2015	2020
0-4	272	260	230
5-9	367	390	390
10-14	392	380	400
15-19	241	290	250
20-24	79	80	70
25-29	76	100	110
30-34	118	130	180
35-39	260	210	250
40-44	283	260	230
45-49	348	280	260
50-54	280	340	270
55-59	280	260	330
60-64	251	260	230
65-69	159	220	210
70-74	106	130	190
75-79	74	90	120
80-84	58	70	90
85+	43	60	60
<b>Total</b>	<b>3,689</b>	<b>3,810</b>	<b>3,870</b>
<b>Median Age</b>	<b>40.7</b>	<b>41.3</b>	<b>41.2</b>

	2010 to 2015	2015 to 2020
<b>Births</b>	140	140
<b>Deaths</b>	120	130
<b>Natural Increase</b>	20	10
<b>Net Migration</b>	80	80
<b>Change</b>	100	90

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



Males	2010	2015	2020
0-4	149	120	110
5-9	201	200	170
10-14	221	210	200
15-19	138	190	180
20-24	50	40	70
25-29	49	60	60
30-34	90	90	90
35-39	112	150	150
40-44	175	120	150
45-49	208	170	120
50-54	168	200	170
55-59	147	160	190
60-64	135	130	140
65-69	112	120	110
70-74	74	90	100
75-79	67	70	80
80-84	48	60	60
85+	39	40	50
<b>Total</b>	<b>2,182</b>	<b>2,220</b>	<b>2,200</b>

Females	2010	2015	2020
0-4	126	110	110
5-9	206	170	160
10-14	192	210	180
15-19	164	160	190
20-24	64	70	40
25-29	55	70	80
30-34	100	90	110
35-39	161	160	160
40-44	187	170	170
45-49	240	190	170
50-54	198	240	180
55-59	167	190	230
60-64	151	140	170
65-69	127	140	130
70-74	104	110	130
75-79	83	100	110
80-84	70	80	90
85+	104	100	110
<b>Total</b>	<b>2,501</b>	<b>2,500</b>	<b>2,520</b>

Sprague Elementary

Total	2010	2015	2020
0-4	275	230	220
5-9	407	370	330
10-14	413	420	380
15-19	303	350	370
20-24	114	110	110
25-29	104	130	140
30-34	190	180	200
35-39	274	310	310
40-44	363	290	320
45-49	447	360	290
50-54	366	440	350
55-59	314	350	420
60-64	286	270	310
65-69	239	260	240
70-74	178	200	230
75-79	150	170	190
80-84	118	140	150
85+	144	140	160
<b>Total</b>	<b>4,683</b>	<b>4,720</b>	<b>4,720</b>
<b>Median Age</b>	<b>43.6</b>	<b>44.5</b>	<b>44.7</b>

	2010 to 2015	2015 to 2020
<b>Births</b>	170	160
<b>Deaths</b>	210	230
<b>Natural Increase</b>	-40	-70
<b>Net Migration</b>	80	70
<b>Change</b>	40	0

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

Males	2010	2015	2020
0-4	60	70	60
5-9	119	110	110
10-14	149	130	120
15-19	109	120	100
20-24	24	20	40
25-29	14	20	20
30-34	18	40	50
35-39	47	40	60
40-44	76	70	70
45-49	110	70	80
50-54	116	110	70
55-59	107	100	90
60-64	79	90	90
65-69	58	60	80
70-74	27	50	50
75-79	17	20	40
80-84	21	10	20
85+	13	20	20
<b>Total</b>	<b>1,162</b>	<b>1,150</b>	<b>1,170</b>

Females	2010	2015	2020
0-4	61	70	60
5-9	88	110	110
10-14	145	100	120
15-19	115	120	70
20-24	17	30	30
25-29	9	20	30
30-34	24	30	40
35-39	55	50	60
40-44	88	80	80
45-49	122	90	90
50-54	129	120	90
55-59	97	120	110
60-64	80	80	100
65-69	57	70	70
70-74	26	50	60
75-79	22	20	50
80-84	18	20	20
85+	21	20	20
<b>Total</b>	<b>1,171</b>	<b>1,200</b>	<b>1,210</b>

Upham Elementary

Total	2010	2015	2020
0-4	120	140	120
5-9	207	220	220
10-14	295	230	240
15-19	224	240	170
20-24	41	50	70
25-29	23	40	50
30-34	42	70	90
35-39	101	90	120
40-44	163	150	150
45-49	231	160	170
50-54	245	230	160
55-59	205	220	200
60-64	158	170	190
65-69	114	130	150
70-74	53	100	110
75-79	39	40	90
80-84	39	30	40
85+	34	40	40
<b>Total</b>	<b>2,334</b>	<b>2,350</b>	<b>2,380</b>
<b>Median Age</b>	<b>43.5</b>	<b>43.2</b>	<b>43.7</b>

	2010 to 2015	2015 to 2020
<b>Births</b>	70	70
<b>Deaths</b>	80	80
<b>Natural Increase</b>	-10	-10
<b>Net Migration</b>	50	50
<b>Change</b>	40	40

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



Wellesley School District  
Hardy, Hunnewell & Upham Elementary Schools  
Wellesley, MA

June 17, 2015

## Conceptual Design Options Estimate

**Architect:**

Symmes, Maini & McKee Associates, Inc.  
1000 Massachusetts Avenue  
Cambridge, MA 02138  
(617) 547-5400

**Estimator:**

Daedalus Projects Incorporated  
112 South Street  
Boston, MA 02111  
(617) 451 2717

## INTRODUCTION

### Project Description:

- Renovation of existing Hardy, Hunnewell and Upham Elementary School Buildings in Wellesley, MA
- Modular classroom trailers during the Renovation period
- MEP
- Sitework

### Project Particulars:

- Drawings received June 2, 2015 from SMMA
- Detailed quantity takeoff from these documents where possible
- Dialogue with the design team
- Daedalus Projects, Inc. experience with similar projects of this nature

### Project Assumptions:

- The project will be constructed by CM at Risk
- Unit rates are based on current dollars, using prevailing wages
- Project assumes a full gut renovation (except to the new construction projects) based on recent bid results of similar size and type
- Sitework based on on-site utilities and not on any off site utilities
- Escalation to start of construction has been carried in the Main Summary at an allowance of 3.5% per year. This project has been escalated to bid 2nd quarter 2016.
- Escalation during construction duration has been included in the unit rate details
- Subcontractor's markups have been included in each unit rate. Markups cover the cost of field overhead home office overhead home office overhead and subcontractor's profit
- Contractor's Construction Contingency markup is an allowance for unforeseen design issues, design detail development and specification clarifications
- General Conditions and Requirements value covers site management, scaffolding, staging and access, temporary protection, cleaning, SubContractor's General Conditions, site office overheads
- Insurance and Bonds markup is calculated on a percentage basis of direct construction costs. The value covers Contractor's Builder's Risk Insurance, General Liability, Sub-Contractor Bonds, and Performance Bond
- Fee markup is calculated on a percentage basis of direct construction costs

**Project Exclusions:**

- Work beyond the boundary of the site, such as any sitework improvements, traffic issues, etc.
- Owner's Project Administration
- Owner's Project Management (OPM) Fees
- Architectural/Engineering; Designer and other Professional fees, testing, printing, surveying
- Project costs; utility company back charges, construction of temporary facilities, relocation
- Testing
- Specialties, loose furnishings, fixtures and equipment beyond those noted

**MAIN SUMMARY**

Description:		Hardy		Hunnewell		Upham		Modulars Lease @ Hardy Site		Modulars Lease @ 900 Worcester St. Site	
		45,909 GSF Renovation		36,441 GSF Renovation		36,481 GSF Renovation		31,500 GSF		31,500 GSF	
Renovation GSF:		Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF
<b>Direct Trade Costs</b>											
Building Renovation		\$8,621,080	\$187.79	\$6,532,463	179.26	\$6,339,815	\$173.78	\$3,497,620	\$111.04	\$3,354,900	106.50
Site Development		\$1,291,837	\$28.14	\$1,055,890	28.98	\$901,964	\$24.72				
<b>Direct Trade Cost SubTotal</b>		<b>\$9,912,917</b>	<b>\$215.93</b>	<b>\$7,588,353</b>	<b>\$208.24</b>	<b>\$7,241,779</b>	<b>\$198.51</b>	<b>\$3,497,620</b>	<b>\$111.04</b>	<b>\$3,354,900</b>	<b>\$106.50</b>
Design Contingency	10.00%	\$991,292	\$21.59	\$758,835	\$20.82	\$724,178	\$19.85	\$349,762	\$11.10	\$335,490	\$10.65
CM/Construction Contingency	5.00%	\$495,646	\$10.80	\$379,418	\$10.41	\$362,089	\$9.93	\$174,881	\$5.55	\$167,745	\$5.33
<b>Trade Cost SubTotal</b>		<b>\$11,399,855</b>	<b>\$248.31</b>	<b>\$8,726,606</b>	<b>\$239.47</b>	<b>\$8,328,046</b>	<b>\$228.28</b>	<b>\$4,022,263</b>	<b>\$127.69</b>	<b>\$3,858,135</b>	<b>\$122.48</b>
General Conditions and Requirements	8.50%	\$968,988	\$21.11	<b>\$741,762</b>	<b>\$20.36</b>	\$707,884	\$19.40	\$341,893	\$10.85	\$327,942	\$10.41
Insurance	1.10%	\$136,058	\$2.96	<b>\$104,153</b>	<b>\$2.86</b>	\$99,396	\$2.72	\$48,006	\$1.52	\$46,047	\$1.46
GC Bonds	1.10%	\$137,554	\$3.00	<b>\$105,298</b>	<b>\$2.89</b>	\$100,489	\$2.75	\$48,534	\$1.54	\$46,554	\$1.48
Fee	4.50%	\$568,911	\$12.39	<b>\$435,502</b>	<b>\$11.95</b>	\$415,612	\$11.39	\$200,732	\$6.37	\$192,541	\$6.11
<b>Estimated Construction Cost Total</b>		<b>\$13,211,366</b>	<b>\$287.77</b>	<b>\$10,113,321</b>	<b>\$277.53</b>	<b>\$9,651,427</b>	<b>\$264.56</b>	<b>\$4,661,428</b>	<b>\$147.98</b>	<b>\$4,471,219</b>	<b>\$141.94</b>
Escalation to 2nd Quarter 2016	5.50%	\$726,626	\$15.83	\$556,233	\$15.26	\$530,829	\$14.55	\$256,379	\$8.14	\$245,918	\$7.81
<b>ECC including Escalation Total</b>		<b>\$13,937,992</b>	<b>\$303.60</b>	<b>\$10,669,554</b>	<b>\$292.79</b>	<b>\$10,182,256</b>	<b>\$279.11</b>	<b>\$4,917,807</b>	<b>\$156.12</b>	<b>\$4,717,137</b>	<b>\$149.75</b>
<b>Two Phases Summer Construction Option</b>											
Construction Cost		\$13,937,992	\$303.60	\$10,669,554	\$292.79	\$10,182,256	\$279.11	\$4,917,807	\$156.12	\$4,717,137	\$149.75
Phasing Impact Cost	10.00%	\$1,393,799	\$30.36	\$1,066,955	\$29.28	\$1,018,226	\$27.91	\$491,781	\$15.61	\$471,714	\$14.98
<b>Two Phases Summer Construction Option Total</b>		<b>\$15,331,791</b>	<b>\$333.96</b>	<b>\$11,736,510</b>	<b>\$322.07</b>	<b>\$11,200,481</b>	<b>\$307.02</b>	<b>\$5,409,588</b>	<b>\$171.73</b>	<b>\$5,188,851</b>	<b>\$164.73</b>
<b>Single Phase Construction Option</b>											
Construction Cost		\$13,937,992	\$303.60	\$10,669,554	\$292.79	\$10,182,256	\$279.11				
30 Modulars Lease		\$4,717,137	\$102.75	\$4,717,137	\$129.45	\$4,717,137	\$129.30				
<b>Single Phase Construction Option Total</b>		<b>\$18,655,129</b>	<b>\$406.35</b>	<b>\$15,386,691</b>	<b>\$422.24</b>	<b>\$14,899,393</b>	<b>\$408.42</b>				

**HARDY SITEWORK SUMMARY**

DESCRIPTION			TRADE COST
G10 SITE PREPARATIONS			\$299,612
G20 SITE IMPROVEMENTS			\$629,475
G30 SITE MECHANICAL UTILITIES			\$262,750
G40 SITE ELECTRICAL UTILITIES			\$100,000
<b>Direct Trade Cost SubTotal</b>			<b>\$1,291,837</b>
Design Contingency	10.00%	\$1,291,837	\$129,184
CM/Construction Contingency	5.00%	\$1,291,837	\$64,592
<b>Trade Cost SubTotal</b>			<b>\$1,485,613</b>
<b>Mark-ups</b>			
General Conditions and Requirements	8.50%	\$1,485,613	\$126,278
Insurance	1.10%	\$1,611,891	\$17,731
Bonds	1.10%	\$1,629,622	\$17,926
Permit	0.00%	\$1,647,548	\$0
Fee	4.50%	\$1,647,548	\$74,140
<b>SubTotal</b>			<b>\$1,721,688</b>
Escalation to 2nd Quarter 2016	5.50%	\$1,721,688	\$94,693
<b>Estimated Construction Cost Total</b>			<b>\$1,816,381</b>

**HARDY SITEWORK DETAILS**

	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
8	<b>G10 SITE PREPARATIONS</b>				
9					
10	Protect trees	1	LS	\$6,000.00	\$6,000
11	Allow for temporary construction fence	1,600	LF	\$12.00	\$19,200
12	Sawcut existing pavement	100	LF	\$15.00	\$1,500
13	Remove asphalt pavement	67,500	SF	\$1.00	\$67,500
14	Remove asphalt walk	11,030	SF	\$1.00	\$11,030
15	Remove bit curb	1,000	LF	\$2.50	\$2,500
16	Remove granite curb	800	LF	\$7.00	\$5,600
17	Remove existing playground	11,250	SF	\$1.00	\$11,250
18	Protect existing items to remain	1	LS	\$5,000.00	\$5,000
19	R & D tree	1	LS	\$4,500.00	\$4,500
20	Misc. demolish other than above	1	AL	\$25,000.00	\$25,000
21	Remove and stockpile topsoil	1	LS	\$5,000.00	\$5,000
22	Temporary construction entrance	1	LS	\$15,000.00	\$15,000
23	Cut and fill for sidewalk	266	CY	\$10.00	\$2,656
24	6" Crushed stone @ sidewalk	97	CY	\$38.00	\$3,700
25	12" Gravel base @ parking lot	3,005	CY	\$38.00	\$114,176
26					
27	<b>G10 SITE PREPARATIONS TOTAL</b>				<b>\$299,612</b>
28					
29					
30	<b>G20 SITE IMPROVEMENTS</b>				
31					
32	Asphalt concrete pavement parking lot	67,500	SF	\$2.75	\$185,625
33	Asphalt concrete roadway	6,250	SF	\$3.00	\$18,750
34	Cape Cod berm	800	LF	\$6.00	\$4,800
35	Remove and reset vertical granite curb	2,100	LF	\$30.00	\$63,000
36	Preminum for new curbing	840	LF	\$18.00	\$15,120
37	Allow for pavement marking, paint crosswalk, parking stall	1	LS	\$7,500.00	\$7,500
38	Concrete sidewalk	4,780	SF	\$6.00	\$28,680
39	New playground	11,250	SF	\$18.00	\$202,500
40	Allow for misc. site improvement other than above	1	LS	\$50,000.00	\$50,000
41	Respreads stockpiled topsoil	1	LS	\$5,000.00	\$5,000
42	Plant bed & mulch, allow	1	LS	\$10,000.00	\$10,000
43	Allow for lawn	1	AL	\$3,500.00	\$3,500
44	Planting trees; allow	1	AL	\$35,000.00	\$35,000
45					
46	<b>G20 SITE IMPROVEMENTS TOTAL</b>				<b>\$629,475</b>
47					
48					
49					
50					



**HARDY BUILDING COST SUMMARY**

DESCRIPTION				TOTAL	COST/SF
A10 FOUNDATIONS				\$0	\$0.00
B10 SUPERSTRUCTURE				\$0	\$0.00
B20 EXTERIOR ENCLOSURE				\$940,019	\$20.48
B30 ROOFING				\$375,125	\$8.17
C10 INTERIOR CONSTRUCTION				\$600,447	\$13.08
C20 STAIRS				\$28,200	\$0.61
C30 INTERIOR FINISHES				\$647,859	\$14.11
D10 CONVEYING				\$18,000	\$0.39
D20 PLUMBING				\$196,600	\$4.28
D30 HVAC				\$1,651,440	\$35.97
D40 FIRE PROTECTION				\$176,940	\$3.85
D50 ELECTRICAL				\$1,494,160	\$32.55
E10 EQUIPMENT				\$0	\$0.00
E20 FURNISHINGS				\$340,000	\$7.41
F10 SPECIAL CONSTRUCTION				\$1,600,000	\$34.85
F20 SELECTIVE BUILDING DEMOLITION				\$552,290	\$12.03
<b>TOTAL</b>				<b>\$8,621,080</b>	<b>\$187.79</b>
Design and Pricing Contingency 5.00% \$8,621,080				\$431,054	\$9.39
<b>Trade Cost SubTotal</b>				<b>\$9,052,134</b>	<b>\$197.18</b>
<b>Mark-ups</b>					
General Conditions and Requirements 8.50% \$9,052,134				\$769,432	\$16.76
Insurance 1.10% \$9,821,566				\$108,038	\$2.35
Bonds 1.10% \$9,929,604				\$109,226	\$2.38
Permit 0.00% \$10,038,830				\$0	\$0.00
Fee 4.50% \$10,038,830				\$451,748	\$9.84
<b>SubTotal</b>				<b>\$10,490,578</b>	<b>\$228.51</b>
Escalation To Start Of Construction 5.50% \$10,490,578				\$576,982	\$12.57
<b>Estimated Construction Cost Total</b>				<b>\$11,067,560</b>	<b>\$241.08</b>

**DETAILED ESTIMATE - HARDY ELEMENTARY SCHOOL**

Hardy, Hunnewell & Upham Elementary Schools

45,909 GSF

	DESCRIPTION	QTY	UNIT	UNIT COST	COST
7	<b>A10 FOUNDATIONS</b>				
8					
9	<b>A1010 STANDARD FOUNDATIONS</b>				
10	No anticipated work				
11					
12	<b>TOTAL SYSTEM A10 FOUNDATION</b>				<b>\$0</b>
13					
14					
15	<b>B10 SUPERSTRUCTURE</b>				
16					
17	<b>B1010 FLOOR CONSTRUCTION</b>				
18	No anticipated work				
19					
20	<b>TOTAL SYSTEM B10 SUPERSTRUCTURE</b>				<b>\$0</b>
21					
22					
23	<b>B20 EXTERIOR ENCLOSURE</b>				
24					
25	<b>B2010 EXTERIOR WALLS</b>				
26	<i>Total exterior closure coverage</i>	25,000	sf		
27	Restore masonry to remain (repoint & repair)	5,000	SF	\$75.00	\$375,000
28	Caulking and sealants	25,000	SF	\$2.50	\$62,500
29	Miscellaneous metals	25,000	SF	\$1.50	\$37,500
30					
31	<b>B2020 EXTERIOR WINDOWS</b>				
32	Remove & replace existing windows; allow 85%	5,315	SF	\$87.50	\$465,019
33					
34	<b>B2030 EXTERIOR DOORS</b>				
35	No anticipated work				
36					
37	<b>TOTAL SYSTEM B20 EXTERIOR ENCLOSURE</b>				<b>\$940,019</b>
38					
39					
40	<b>B30 ROOFING</b>				
41					
42	<b>B3010 ROOF COVERINGS</b>				
43	Remove & replace EPDM roof @ addition 1956	16,625	SF	\$20.00	\$332,500
44	Roof edge flashing	1	LS	\$26,000.00	\$26,000
45	Rough blocking to roof	16,625	SF	\$1.00	\$16,625
46					
47	<b>TOTAL SYSTEM B30 ROOFING</b>				<b>\$375,125</b>
48					

**DETAILED ESTIMATE - HARDY ELEMENTARY SCHOOL**

Hardy, Hunnewell & Upham Elementary Schools

45,909 GSF

	DESCRIPTION	QTY	UNIT	UNIT COST	COST
49					
50	<b>C10 INTERIOR CONSTRUCTION</b>				
51					
52	Minimum new partitions as necessary	1	LS	\$50,000.00	\$50,000
53	Rough carpentry internal partitions and ceilings	45,909	GSF	\$1.00	\$45,909
54	Interior caulking	45,909	GSF	\$0.35	\$16,068
55	Top-of-partition firestopping and bracing as required	45,909	GSF	\$0.25	\$11,477
56					
57	<b>C1020 INTERIOR DOORS &amp; WINDOWS</b>				
58	<i>Interior Door Hardware</i>				
59	New hardware & install; classrooms, offices, toilets & corridors	104	EA	\$1,200.00	\$124,800
60					
61	<b>C1030 FITTINGS</b>				
62	Commemorative plaque; allow	2	LOC	\$7,500.00	\$15,000
63	Dimensional characters; School name; allow	1	LS	\$3,500.00	\$3,500
64	Miscellaneous signage	45,909	GSF	\$0.50	\$22,955
65	Stainless steel corner guards	1	LS	\$5,000.00	\$5,000
66	Toilet compartments & toilet accessories @ Gang restrooms	6	RMS	\$7,500.00	\$45,000
67	Single toilet accessories @ Kindergarten, Admin, Nurse & Staff	5	RMS	\$2,500.00	\$12,500
68	Lockers; 2-tiers @ Corridors	135	EA	\$275.00	\$37,125
69	Lockers; single-tier @ Kindergarten	40	EA	\$250.00	\$10,000
70	Fire extinguisher and cabinet	11	EA	\$15,000.00	\$172,159
71	Tackboards, markerboards, whiteboards	45,909	GSF	\$0.50	\$22,955
72	Motorized projection screen @ Multipurpose Room	1	EA	\$3,500.00	\$3,500
73	Motorized projection screen @ Library/Media Center	1	EA	\$2,500.00	\$2,500
74					
75	<b>TOTAL SYSTEM C10 INTERIOR CONSTRUCTION</b>				<b>\$600,447</b>
76					
77					
78	<b>C20 STAIRS</b>				
79					
80	<b>C2010 STAIRCASES</b>				
81	Railing upgrade to meet code requirement	1	LS	\$22,500.00	22,500
82					
83	<b>C2020 STAIR FINISHES</b>				
84	Install new rubber flooring at landing and stairs	475	SF	\$12.00	\$5,700
85					
86	<b>TOTAL C20 STAIRCASES</b>				<b>\$28,200</b>
87					
88					
89	<b>C30 INTERIOR FINISHES</b>				
90					

**DETAILED ESTIMATE - HARDY ELEMENTARY SCHOOL**

Hardy, Hunnewell & Upham Elementary Schools

45,909 GSF

	DESCRIPTION	QTY	UNIT	UNIT COST	COST
91	<b>C3010 WALL FINISHES</b>				
92	Wall finish @ orig. bldg 1924, add 1956 & corridor add 1994, allow	45,909	SF	\$1.50	\$68,864
93	New ceramic wall tile up to 5'-4" A.F.F @ restrooms & toilets	3,075	SF	\$18.00	\$55,341
94	Rubber base	4,590	LF	\$3.00	\$13,770
95	Wood base at Multipurpose room; assumed	230	LF	\$20.00	\$4,600
96					
97	<b>C3020 FLOOR FINISHES</b>				
98	Patch flooring where new unit ventilators are installed @ Clsm	12	LOC	\$250.00	\$3,000
99	Install new ceramic floor tile @ restrooms & toilets	1,765	SF	\$18.00	\$31,770
100	VCT Flooring	32,330	SF	\$6.00	\$193,977
101	Carpet flooring @ Library/Media Center & Admin area	3,130	SF	\$6.00	\$18,780
102	Install new walk-off mat grille system	150	SF	\$42.00	\$6,300
103	Rubber floor @ Multipurpose room & Stage/SPED OT/PT	3,630	SF	\$8.00	\$29,040
104					
105	<b>C3030 CEILING FINISHES</b>				
106	New 2x4 ACT and grids @ orig bldg & addition 1956	35,610	SF	\$6.00	\$213,657
107	Multipurpose room & Stage ceiling	3,630	SF	\$2.00	\$7,260
108	Patch existing ceiling	1	LS	\$1,500.00	\$1,500
109					
110	<b>TOTAL SYSTEM C30 INTERIOR FINISHES</b>				<b>\$647,859</b>
111					
112					
113	<b>D10 CONVEYING</b>				
114					
115	<b>D1010 ELEVATORS &amp; LIFTS</b>				
116	Platform lift @ stage	1	EA	\$18,000.00	\$18,000
117					
118	<b>D10 CONVEYING TOTAL</b>				<b>\$18,000</b>
119					
120					
121	<b>D20 PLUMBING</b>				
122					
123	Equipment, fixtures, piping, kitchen rough-in & hook-ups	39,320	GSF	\$5.00	\$196,600
124					
125	<b>D20 PLUMBING TOTAL</b>				<b>\$196,600</b>
126					
127					
128	<b>D30 HVAC</b>				
129					
130	Equipment, ducting, piping, controls	39,320	GSF	\$42.00	\$1,651,440
131					
132	<b>D30 HVAC TOTAL</b>				<b>\$1,651,440</b>

**DETAILED ESTIMATE - HARDY ELEMENTARY SCHOOL**

Hardy, Hunnewell & Upham Elementary Schools

45,909 GSF

	DESCRIPTION	QTY	UNIT	UNIT COST	COST
133					
134					
135	<b>D40 FIRE PROTECTION</b>				
136					
137	Equipment, piping, sprinklers	39,320	GSF	\$4.50	\$176,940
138					
139	<b>D40 FIRE PROTECTION TOTAL</b>				<b>\$176,940</b>
140					
141					
142	<b>D50 ELECTRICAL</b>				
143					
144	<b>D5010 ELECTRICAL SERVICE &amp; DISTRIBUTION</b>				
145	Gear & distribution, generator power, lighting, power	39,320	GSF	\$38.00	\$1,494,160
146	systems, AV & performance equipment rough-in, lightning				
147	protection @ existing building of 1924 & addition of 1956				
148					
149	<b>TOTAL SYSTEM D50 ELECTRICAL</b>				<b>\$1,494,160</b>
150					
151					
152	<b>E10 EQUIPMENT</b>				
153					
154	<b>E1020 INSTITUTIONAL EQUIPMENT</b>				
155	No anticipated work				
156					
157	<b>TOTAL SYSTEM E10 EQUIPMENT</b>				<b>\$0</b>
158					
159					
160	<b>E20 FURNISHINGS</b>				
161					
162	Millwork, casework, standing and running trim, misc. metals	1	LS	\$340,000.00	\$340,000
163					
164	<b>TOTAL SYSTEM E20 FURNISHINGS</b>				<b>\$340,000</b>
165					
166					
167	<b>F10 SPECIAL CONSTRUCTION</b>				
168					
169	<b>F1020 INTEGRATED CONSTRUCTION</b>				
170	Modular prefabricated classroom; replace existing	4	EA	400,000.00	\$1,600,000
171					
172	<b>TOTAL SYSTEM F10 SPECIAL CONSTRUCTION</b>				<b>\$1,600,000</b>
173					
174					

**DETAILED ESTIMATE - HARDY ELEMENTARY SCHOOL**

Hardy, Hunnewell & Upham Elementary Schools

45,909 GSF

	DESCRIPTION	QTY	UNIT	UNIT COST	COST
175	<b>F20 SELECTIVE BUILDING DEMOLITION</b>				
176					
177	<b>F2010 BUILDING ELEMENTS DEMOLITION</b>				
178	Remove interior finishes, floors, ceiling, walls	45,909	GSF	\$6.00	\$275,454
179	Remove existing built-in casework	1	LS	\$7,000.00	\$7,000
180	Remove existing door hardware complete	104	EA	\$50.00	\$5,200
181	Remove existing stair guardrails and handrails complete	1	LS	\$2,250.00	\$2,250
182	Remove existing toilet partitions & accessories complete	1	LS	\$5,000.00	\$5,000
183	Clean & prep all ETR walls & trim to receive new paint	45,909	SF	\$1.00	\$45,909
184	Allow for miscellaneous cutting and patching	45,909	SF	\$0.25	\$11,477
185					
186	<b>F2020 HAZARDOUS COMPONENTS ABATEMENT</b>				
187	Hazmat Allowance	1	AL	\$200,000.00	\$200,000
188					
189	<b>TOTAL SYSTEM F20 SELECTIVE BUILDING DEMOLITION</b>				<b>\$552,290</b>
190					
191					
192					
				<b>TOTAL TO SUMMARY</b>	<b>\$8,621,080</b>

**HUNNEWELL SITEWORK SUMMARY**

DESCRIPTION			TRADE COST
G10 SITE PREPARATIONS			\$213,605
G20 SITE IMPROVEMENTS			\$494,535
G30 SITE MECHANICAL UTILITIES			\$262,750
G40 SITE ELECTRICAL UTILITIES			\$85,000
<b>Direct Trade Cost SubTotal</b>			<b>\$1,055,890</b>
Design Contingency	10.00%	\$1,055,890	\$105,589
CM/Construction Contingency	5.00%	\$1,055,890	\$52,795
<b>Trade Cost SubTotal</b>			<b>\$1,214,274</b>
<b>Mark-ups</b>			
General Conditions and Requirements	8.50%	\$1,214,274	\$103,214
Insurance	1.10%	\$1,317,488	\$14,493
Bonds	1.10%	\$1,331,981	\$14,652
Permit	0.00%	\$1,346,633	\$0
Fee	4.50%	\$1,346,633	\$60,599
<b>SubTotal</b>			<b>\$1,407,232</b>
Phasing	0.00%	\$1,407,232	\$0
Escalation to 2nd Quarter 2015	5.50%	\$1,407,232	\$77,398
<b>Estimated Construction Cost Total</b>			<b>\$1,484,630</b>

**HUNNEWELL SITEWORK DETAILS**

	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
8	<b>G10 SITE PREPARATIONS</b>				
9					
10	Protect trees	1	LS	\$7,000.00	\$7,000
11	Allow for temporary construction fence	1,600	LF	\$12.00	\$19,200
12	Sawcut existing pavement	100	LF	\$15.00	\$1,500
13	Remove asphalt pavement	27,500	SF	\$1.00	\$27,500
14	Remove asphalt walk	17,350	SF	\$1.00	\$17,350
15	Remove bit curb	1,000	LF	\$2.50	\$2,500
16	Remove granite curb	750	LF	\$7.00	\$5,250
17	Remove existing playground	11,250	SF	\$1.00	\$11,250
18	Protect existing items to remain	1	LS	\$5,000.00	\$5,000
19	R & D tree	1	LS	\$4,500.00	\$4,500
20	Misc. demolish other than above	1	AL	\$25,000.00	\$25,000
21	Remove and stockpile topsoil	1	LS	\$5,000.00	\$5,000
22	Temporary construction entrance	1	LS	\$15,000.00	\$15,000
23	Cut and fill for sidewalk	478	CY	\$10.00	\$4,778
24	6" Crushed stone @ sidewalk	175	CY	\$38.00	\$6,657
25	12" Gravel base @ parking lot	1,477	CY	\$38.00	\$56,120
26					
27	<b>G10 SITE PREPARATIONS TOTAL</b>				<b>\$213,605</b>
28					
29					
30	<b>G20 SITE IMPROVEMENTS</b>				
31					
32	Asphalt concrete pavement parking lot	27,500	SF	\$2.75	\$75,625
33	Asphalt concrete roadway	8,750	SF	\$3.00	\$26,250
34	Cape Cod berm	750	LF	\$6.00	\$4,500
35	Remove and reset vertical granite curb	1,050	LF	\$30.00	\$31,500
36	Preminum for new curbing	420	LF	\$18.00	\$7,560
37	Allow for pavement marking, paint crosswalk, parking stall	1	LS	\$6,500.00	\$6,500
38	Concrete sidewalk	8,600	SF	\$6.00	\$51,600
39	New playground	11,250	SF	\$18.00	\$202,500
40	Allow for misc. site improvement other than above	1	LS	\$35,000.00	\$35,000
41	Respreads stockpiled topsoil	1	LS	\$5,000.00	\$5,000
42	Plant bed & mulch, allow	1	LS	\$10,000.00	\$10,000
43	Allow for lawn	1	AL	\$3,500.00	\$3,500
44	Planting trees; allow	1	AL	\$35,000.00	\$35,000
45					
46	<b>G20 SITE IMPROVEMENTS TOTAL</b>				<b>\$494,535</b>
47					
48					
49					
50					

**HUNNEWELL SITEWORK DETAILS**

	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
51	<b>G30 SITE MECHANICAL UTILITIES</b>				
52					
53	<b>G3010 WATER SUPPLY</b>				
54	6" Tapping, sleeve & valve	1	EA	\$7,500.00	\$7,500
55	6" Fire water line, trench and backfill; allow	350	LF	\$75.00	\$26,250
56	Fire hydrant	1	EA	\$2,500.00	\$2,500
57	Thrust blocks	1	LS	\$1,500.00	\$1,500
58					
59	<b>G3020 SANITARY SEWER</b>				
60	Sanitary sewer; allow	1	LS	\$50,000.00	\$50,000
61					
62	<b>G3030 STORM SEWER</b>				
63	Storm sewer; allow	1	LS	\$175,000.00	\$175,000
64					
65	<b>G3040 HEATING DISTRIBUTION</b>				
66	No anticipated work				
67					
68	<b>G30 SITE MECHANICAL UTILITIES TOTAL</b>				<b>\$262,750</b>
69					
70					
71	<b>G40 SITE ELECTRICAL UTILITIES</b>				
72					
73	<b>G4010 ELECTRICAL DISTRIBUTION</b>				
74	<b>G4020 SITE LIGHTING</b>				
75	<b>G4030 SITE COMMUNICATIONS &amp; SECURITY</b>				
76	<b>G4090 OTHER SITE ELECTRICAL UTILITIES</b>				
77	Site electrical utilities; allow	1	LS	\$85,000.00	\$85,000
78					
79	<b>G40 SITE ELECTRICAL UTILITIES TOTAL</b>				<b>\$85,000</b>
80					
81					
82					
	<b>TOTAL TO SUMMARY</b>				<b>\$1,055,890</b>

**HUNNEWELL BUILDING COST SUMMARY**

Hardy, Hunnewell & Upham Elementary Schools

36,441 GSF

DESCRIPTION			TOTAL	COST/SF
A10 FOUNDATIONS			\$90,000	\$2.47
B10 SUPERSTRUCTURE			\$0	\$0.00
B20 EXTERIOR ENCLOSURE			\$596,694	\$16.37
B30 ROOFING			\$22,000	\$0.60
C10 INTERIOR CONSTRUCTION			\$562,963	\$15.45
C20 STAIRS			\$10,500	\$0.29
C30 INTERIOR FINISHES			\$571,904	\$15.69
D10 CONVEYING			\$18,000	\$0.49
D20 PLUMBING			\$170,700	\$4.68
D30 HVAC			\$1,433,880	\$39.35
D40 FIRE PROTECTION			\$153,630	\$4.22
D50 ELECTRICAL			\$1,297,320	\$35.60
E10 EQUIPMENT			\$0	\$0.00
E20 FURNISHINGS			\$320,000	\$8.78
F10 SPECIAL CONSTRUCTION			\$800,000	\$21.95
F20 SELECTIVE BUILDING DEMOLITION			\$484,872	\$13.31
<b>TOTAL</b>			<b>\$6,532,463</b>	<b>\$176.79</b>
Design and Pricing Contingency	5.00%	\$6,532,463	\$326,624	\$8.96
<b>Trade Cost SubTotal</b>			<b>\$6,859,087</b>	<b>\$188.22</b>
<b>Mark-ups</b>				
General Conditions and Requirements	8.50%	\$6,859,087	\$583,023	\$16.00
Insurance	1.10%	\$7,442,110	\$81,864	\$2.25
Bonds	1.10%	\$7,523,974	\$82,764	\$2.27
Permit	0.00%	\$7,606,738	\$0	\$0.00
Fee	4.50%	\$7,606,738	\$342,304	\$9.39
<b>SubTotal</b>			<b>\$7,949,042</b>	<b>\$218.13</b>
Escalation To Start Of Construction	5.50%	\$7,949,042	\$437,198	\$12.00
<b>Estimated Construction Cost Total</b>			<b>\$8,386,240</b>	<b>\$230.13</b>

**DETAILED ESTIMATE - HUNNEWELL ELEMENTARY SCHOOL**

	DESCRIPTION	QTY	UNIT	UNIT COST	COST
7	<b>A10 FOUNDATIONS</b>				
8					
9	<b>A1010 STANDARD FOUNDATIONS</b>				
10	Waterproofing @ original building 1938, basement (internally)	1	LS	\$90,000.00	\$90,000
11					
12	<b>TOTAL SYSTEM A10 FOUNDATION</b>				<b>\$90,000</b>
13					
14					
15	<b>B10 SUPERSTRUCTURE</b>				
16					
17	<b>B1010 FLOOR CONSTRUCTION</b>				
18	No anticipated work				
19					
20	<b>TOTAL SYSTEM B10 SUPERSTRUCTURE</b>				<b>\$0</b>
21					
22					
23	<b>B20 EXTERIOR ENCLOSURE</b>				
24					
25	<b>B2010 EXTERIOR WALLS</b>				
26	<i>Total exterior closure coverage</i>	16,860	sf		
27	Restore masonry to remain (repoint & repair); allow 20%	3,370	SF	\$75.00	\$252,743
28	Caulking and sealants	16,860	SF	\$2.50	\$42,149
29	Miscellaneous metals	16,860	SF	\$1.50	\$25,289
30					
31	<b>B2020 EXTERIOR WINDOWS</b>				
32	Remove & replace exist windows; allow 75% @ orig bldg 1938	3,160	SF	\$87.50	\$276,514
33	& addition 1956				
34					
35	<b>B2030 EXTERIOR DOORS</b>				
36	No anticipated work				
37					
38	<b>TOTAL SYSTEM B20 EXTERIOR ENCLOSURE</b>				<b>\$596,694</b>
39					
40					
41	<b>B30 ROOFING</b>				
42					
43	<b>B3010 ROOF COVERINGS</b>				
44	Repair roof & flashing @ dormers; Gym	1	LS	\$22,000.00	\$22,000
45					
46	<b>TOTAL SYSTEM B30 ROOFING</b>				<b>\$22,000</b>
47					
48					

**DETAILED ESTIMATE - HUNNEWELL ELEMENTARY SCHOOL**

	DESCRIPTION	QTY	UNIT	UNIT COST	COST
49	<b>C10 INTERIOR CONSTRUCTION</b>				
50					
51	New partitions	1	GSF	\$50,000.00	\$50,000
52	Rough carpentry internal partitions and ceilings	36,441	GSF	\$1.00	\$36,441
53	Interior caulking	36,441	GSF	\$0.35	\$12,754
54	Top-of-partition firestopping	36,441	GSF	\$0.25	\$9,110
55					
56	<b>C1020 INTERIOR DOORS &amp; WINDOWS</b>				
57	New doors; fire rated @ Corridors	10	PR	\$1,500.00	\$15,000
58	Glazing	1	LS	\$27,000.00	\$27,000
59	New hardware & install; clsrms, offices, toilets & corridors doors	91	EA	\$1,200.00	\$109,200
60					
61	<b>C1030 FITTINGS</b>				
62	Commemorative plaque; allow	2	LOC	\$7,500.00	\$15,000
63	Dimensional characters; School name; allow	1	AL	\$3,500.00	\$3,500
64	Miscellaneous signage	36,441	GSF	\$0.50	\$18,221
65	Stainless steel corner guards	1	LS	\$5,000.00	\$5,000
66	Toilet compartments & toilet accessories @ Gang restrooms	6	RMS	\$7,500.00	\$45,000
67	Single toilet accessories @ Admin area, Nurse & Staff toilets	5	RMS	\$2,500.00	\$12,500
68	Lockers; 2-tiers @ Corridors	140	EA	\$275.00	\$38,363
69	Lockers; single-tier @ Kindergarten	20	EA	\$250.00	\$5,000
70	Fire extinguisher and cabinet	9	EA	\$15,000.00	\$136,654
71	Tackboards, markerboards, whiteboards	36,441	GSF	\$0.50	\$18,221
72	Motorized projection screen @ Multipurpose Room	1	EA	\$3,500.00	\$3,500
73	Motorized projection screen @ Library/Media Center	1	EA	\$2,500.00	\$2,500
74					
75	<b>TOTAL SYSTEM C10 INTERIOR CONSTRUCTION</b>				<b>\$562,963</b>
76					
77					
78	<b>C20 STAIRS</b>				
79					
80	<b>C2010 STAIRCASES</b>				
81	Railing upgrade to meet code requirement @ ramp	1	LS	\$10,500.00	10,500
82					
83	<b>TOTAL C20 STAIRCASES</b>				<b>\$10,500</b>
84					
85					
86	<b>C30 INTERIOR FINISHES</b>				
87					
88	<b>C3010 WALL FINISHES</b>				
89	Wall finish @ orig. bldg 1938, add 1956 & add 1995, allow	36,441	SF	\$1.50	\$54,662
90	New ceramic wall tile up to 5'-4" A.F.F @ restrooms & toilets	2,735	SF	\$18.00	\$49,238

**DETAILED ESTIMATE - HUNNEWELL ELEMENTARY SCHOOL**

	DESCRIPTION	QTY	UNIT	UNIT COST	COST
91	Rubber base	3,645	LF	\$3.00	\$10,935
92	Wood base at Library/Media Center; assumed	155	LF	\$20.00	\$3,100
93					
94	<b>C3020 FLOOR FINISHES</b>				
95	Patch flooring where new unit ventilators are installed @ Clsm	16	LOC	\$250.00	\$4,000
96	Install new ceramic floor tile @ restrooms & toilets	1,335	SF	\$18.00	\$24,030
97	VCT Flooring	27,515	SF	\$6.00	\$165,090
98	Carpet flooring @ Library/Media Center & Admin area	2,055	SF	\$6.00	\$12,330
99	Install new walk-off mat grille system	150	SF	\$42.00	\$6,300
100	New wood flooring @ Gym & Stage	2,600	SF	\$22.00	\$57,200
101					
102	<b>C3030 CEILING FINISHES</b>				
103	New 2x4 ACT and grids @ orig bldg & addition 1956	29,720	SF	\$6.00	\$178,320
104	Gym & Stage ceiling	2,600	SF	\$2.00	\$5,200
105	Patch existing ceiling	1	LS	\$1,500.00	\$1,500
106					
107	<b>TOTAL SYSTEM C30 INTERIOR FINISHES</b>				<b>\$571,904</b>
108					
109					
110	<b>D10 CONVEYING</b>				
111					
112	<b>D1010 ELEVATORS &amp; LIFTS</b>				
113	Platform lift @ stage	1	EA	\$18,000.00	\$18,000
114					
115	<b>D10 CONVEYING TOTAL</b>				<b>\$18,000</b>
116					
117					
118	<b>D20 PLUMBING</b>				
119					
120	Equipment, fixtures, piping, kitchen rough-in & hook-ups	34,140	GSF	\$5.00	\$170,700
121					
122	<b>D20 PLUMBING TOTAL</b>				<b>\$170,700</b>
123					
124					
125	<b>D30 HVAC</b>				
126					
127	Equipment, ducting, piping, controls	34,140	GSF	\$42.00	\$1,433,880
128					
129	<b>D30 HVAC TOTAL</b>				<b>\$1,433,880</b>
130					
131					
132	<b>D40 FIRE PROTECTION</b>				

**DETAILED ESTIMATE - HUNNEWELL ELEMENTARY SCHOOL**

	DESCRIPTION	QTY	UNIT	UNIT COST	COST
133					
134	Equipment, piping, sprinklers	34,140	GSF	\$4.50	\$153,630
135					
136	<b>D40 FIRE PROTECTION TOTAL</b>				<b>\$153,630</b>
137					
138					
139	<b>D50 ELECTRICAL</b>				
140					
141	<b>D5010 ELECTRICAL SERVICE &amp; DISTRIBUTION</b>				
142	Gear & distribution, generator power, lighting, power systems,	34,140	GSF	\$38.00	\$1,297,320
143	AV & performance equipment rough-in, lightning protection				
144					
145	<b>TOTAL SYSTEM D50 ELECTRICAL</b>				<b>\$1,297,320</b>
146					
147					
148	<b>E10 EQUIPMENT</b>				
149					
150	<b>E1020 INSTITUTIONAL EQUIPMENT</b>				
151	No anticipated work				
152					
153	<b>TOTAL SYSTEM E10 EQUIPMENT</b>				<b>\$0</b>
154					
155					
156	<b>E20 FURNISHINGS</b>				
157					
158	Millwork, casework, standing and running trim, misc. metals	1	LS	\$270,000.00	\$270,000
159	Refinish historic items	1	LS	\$50,000.00	\$50,000
160					
161	<b>TOTAL SYSTEM E20 FURNISHINGS</b>				<b>\$320,000</b>
162					
163					
164	<b>F10 SPECIAL CONSTRUCTION</b>				
165					
166	<b>F1020 INTEGRATED CONSTRUCTION</b>				
167	Modular prefabricated classroom; replace existing	2	EA	400,000.00	\$800,000
168					
169	<b>TOTAL SYSTEM F10 SPECIAL CONSTRUCTION</b>				<b>\$800,000</b>
170					
171					
172	<b>F20 SELECTIVE BUILDING DEMOLITION</b>				
173					
174	<b>F2010 BUILDING ELEMENTS DEMOLITION</b>				

**DETAILED ESTIMATE - HUNNEWELL ELEMENTARY SCHOOL**

	DESCRIPTION	QTY	UNIT	UNIT COST	COST
175	Remove interior finishes, floors, ceiling, walls	36,441	GSF	\$6.00	\$218,646
176	Remove existing built-in casework	1	LS	\$10,000.00	\$10,000
177	Remove existing door hardware complete	91	EA	\$50.00	\$4,550
178	Remove existing stair guardrails and handrails complete	1	LS	\$1,125.00	\$1,125
179	Remove existing toilet partitions & accessories complete	1	LS	\$5,000.00	\$5,000
180	Clean & prep all ETR walls & trim to receive new paint	36,441	SF	\$1.00	\$36,441
181	Allow for miscellaneous cutting and patching	36,441	SF	\$0.25	\$9,110
182					
183	<b>F2020 HAZARDOUS COMPONENTS ABATEMENT</b>				
184	Hazmat Allowance	1	AL	\$200,000.00	\$200,000
185					
186	<b>TOTAL SYSTEM F20 SELECTIVE BUILDING DEMOLITION</b>				<b>\$484,872</b>
187					
188					
189				<b>TOTAL TO SUMMARY</b>	<b>\$6,532,463</b>

**UPHAM SITEWORK SUMMARY**

DESCRIPTION			TRADE COST
G10 SITE PREPARATIONS			\$150,494
G20 SITE IMPROVEMENTS			\$413,720
G30 SITE MECHANICAL UTILITIES			\$262,750
G40 SITE ELECTRICAL UTILITIES			\$75,000
<b>Direct Trade Cost SubTotal</b>			<b>\$901,964</b>
Design Contingency	10.00%	\$901,964	\$90,197
CM/Construction Contingency	5.00%	\$901,964	\$45,099
<b>Trade Cost SubTotal</b>			<b>\$1,037,260</b>
<b>Mark-ups</b>			
General Conditions and Requirements	8.50%	\$1,037,260	\$88,168
Insurance	1.10%	\$1,125,428	\$12,380
Bonds	1.10%	\$1,137,808	\$12,516
Permit	0.00%	\$1,150,324	\$0
Fee	4.50%	\$1,150,324	\$51,765
<b>SubTotal</b>			<b>\$1,202,089</b>
Escalation to 2nd Quarter 2016	5.50%	\$1,202,089	\$66,115
<b>Estimated Construction Cost Total</b>			<b>\$1,268,204</b>

**UPHAM SITEWORK DETAILS**

	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
8	<b>G10 SITE PREPARATIONS</b>				
9					
10	Protect trees	1	LS	\$2,000.00	\$2,000
11	Allow for temporary construction fence	1,400	LF	\$12.00	\$16,800
12	Sawcut existing pavement	100	LF	\$15.00	\$1,500
13	Remove asphalt pavement	21,500	SF	\$1.00	\$21,500
14	Remove asphalt walk	6,050	SF	\$1.00	\$6,050
15	Remove bit curb	1,000	LF	\$2.50	\$2,500
16	Remove granite curb	650	LF	\$7.00	\$4,550
17	Remove existing playground	11,250	SF	\$1.00	\$11,250
18	Protect existing items to remain	1	LS	\$5,000.00	\$5,000
19	R & D tree	1	LS	\$2,250.00	\$2,250
20	Misc. demolish other than above	1	AL	\$15,000.00	\$15,000
21	Remove and stockpile topsoil	1	LS	\$5,000.00	\$5,000
22	Temporary construction entrance	1	LS	\$15,000.00	\$15,000
23	Cut and fill for sidewalk	142	CY	\$10.00	\$1,417
24	6" Crushed stone @ sidewalk	52	CY	\$38.00	\$1,974
25	12" Gravel base @ parking lot	1,019	CY	\$38.00	\$38,704
26					
27	<b>G10 SITE PREPARATIONS TOTAL</b>				<b>\$150,494</b>
28					
29					
30	<b>G20 SITE IMPROVEMENTS</b>				
31					
32	Asphalt concrete pavement parking lot	21,500	SF	\$3.00	\$64,500
33	Asphalt concrete roadway	3,500	SF	\$3.00	\$10,500
34	Cape Cod berm	650	LF	\$6.00	\$3,900
35	Remove and reset vertical granite curb	1,600	LF	\$30.00	\$48,000
36	Preminum for new curbing	640	LF	\$18.00	\$11,520
37	Allow for pavement marking, paint crosswalk, parking stall	1	LS	\$2,500.00	\$2,500
38	Concrete sidewalk	2,550	SF	\$6.00	\$15,300
39	New playground	11,250	SF	\$18.00	\$202,500
40	Allow for misc. site improvement other than above	1	LS	\$25,000.00	\$25,000
41	Respreads stockpiled topsoil	1	LS	\$5,000.00	\$5,000
42	Plant bed & mulch, allow	1	LS	\$7,500.00	\$7,500
43	Allow for lawn	1	AL	\$2,500.00	\$2,500
44	Planting trees; allow	1	AL	\$15,000.00	\$15,000
45					
46	<b>G20 SITE IMPROVEMENTS TOTAL</b>				<b>\$413,720</b>
47					
48					
49					
50					



**UPHAM BUILDING COST SUMMARY**

DESCRIPTION			TOTAL	COST/SF
A10 FOUNDATIONS			\$14,625	\$0.32
B10 SUPERSTRUCTURE			\$11,400	\$0.25
B20 EXTERIOR ENCLOSURE			\$783,686	\$17.07
B30 ROOFING			\$4,000	\$0.09
C10 INTERIOR CONSTRUCTION			\$488,617	\$10.64
C20 STAIRS			\$40,400	\$0.88
C30 INTERIOR FINISHES			\$515,972	\$11.24
D10 CONVEYING			\$18,000	\$0.39
D20 PLUMBING			\$170,025	\$3.70
D30 HVAC			\$1,292,190	\$28.15
D40 FIRE PROTECTION			\$153,023	\$3.33
D50 ELECTRICAL			\$1,292,190	\$28.15
E10 EQUIPMENT			\$0	\$0.00
E20 FURNISHINGS			\$270,000	\$5.88
F10 SPECIAL CONSTRUCTION			\$800,000	\$17.43
F20 SELECTIVE BUILDING DEMOLITION			\$485,687	\$10.58
<b>TOTAL</b>			<b>\$6,339,815</b>	<b>\$137.78</b>
Design and Pricing Contingency	5.00%	\$6,339,815	\$316,991	\$6.90
<b>Trade Cost SubTotal</b>			<b>\$6,656,806</b>	<b>\$145.00</b>
<b>Mark-ups</b>				
General Conditions and Requirements	8.50%	\$6,656,806	\$565,829	\$12.33
Insurance	1.10%	\$7,222,635	\$79,449	\$1.73
Bonds	1.10%	\$7,302,084	\$80,323	\$1.75
Permit	0.00%	\$7,382,407	\$0	\$0.00
Fee	4.50%	\$7,382,407	\$332,209	\$7.24
<b>SubTotal</b>			<b>\$7,714,616</b>	<b>\$168.04</b>
Escalation To Start Of Construction	5.50%	\$7,714,616	\$424,304	\$9.24
<b>Estimated Construction Cost Total</b>			<b>\$8,138,920</b>	<b>\$177.28</b>

**DETAILED ESTIMATE - UPHAM ELEMENTARY SCHOOL**

Hardy, Hunnewell &amp; Upham Elementary Schools

36,481 GSF

	DESCRIPTION	QTY	UNIT	UNIT COST	COST
7	<b>A10 FOUNDATIONS</b>				
8					
9	<b>A1010 STANDARD FOUNDATIONS</b>				
10	<i>New addition @ existing stairs for new platform lift:</i>				
11	Concrete foundation, incl's waterproofing	75	LF	\$155.00	\$11,625
12	Concrete slab, incl's vapor barrier	200	SF	\$15.00	\$3,000
13					
14	<b>TOTAL SYSTEM A10 FOUNDATION</b>				<b>\$14,625</b>
15					
16					
17	<b>B10 SUPERSTRUCTURE</b>				
18					
19	<b>B1020 ROOF CONSTRUCTION</b>				
20	Roof deck	200	SF	\$7.00	\$1,400
21	Roof framing	200	SF	\$50.00	\$10,000
22					
23	<b>TOTAL SYSTEM B10 SUPERSTRUCTURE</b>				<b>\$11,400</b>
24					
25					
26	<b>B20 EXTERIOR ENCLOSURE</b>				
27					
28	<b>B2010 EXTERIOR WALLS</b>				
29	<i>Total exterior closure coverage</i>	16,655	sf		
30	Restore masonry to remain (repoint & repair); allow 30%	4,998	SF	\$75.00	\$374,813
31	Caulking and sealants	16,655	SF	\$2.50	\$41,638
32	Miscellaneous metals	16,655	SF	\$1.50	\$24,983
33					
34	<b>B2020 EXTERIOR WINDOWS</b>				
35	Remove & replace existing windows; allow 85%	3,541	SF	\$87.50	\$309,854
36	Storefront @ new addition (for new platform lift)	360	SF	\$90.00	\$32,400
37					
38	<b>B2030 EXTERIOR DOORS</b>				
39	No anticipated work				
40					
41	<b>TOTAL SYSTEM B20 EXTERIOR ENCLOSURE</b>				<b>\$783,686</b>
42					
43					
44	<b>B30 ROOFING</b>				
45					
46	<b>B3010 ROOF COVERINGS</b>				
47	Membrane roof @ new addition (for new platform lift)	200	SF	\$20.00	\$4,000
48					

**DETAILED ESTIMATE - UPHAM ELEMENTARY SCHOOL**

Hardy, Hunnewell & Upham Elementary Schools

36,481 GSF

	DESCRIPTION	QTY	UNIT	UNIT COST	COST
49	<b>TOTAL SYSTEM B30 ROOFING</b>				<b>\$4,000</b>
50					
51					
52	<b>C10 INTERIOR CONSTRUCTION</b>				
53					
54	New partitions	1	GSF	\$50,000.00	\$50,000
55	Rough carpentry internal partitions and ceilings	36,481	GSF	\$1.00	\$36,481
56	Interior caulking	36,481	GSF	\$0.35	\$12,768
57	Top-of-partition firestopping	36,481	GSF	\$0.25	\$9,120
58					
59	<b>C1020 INTERIOR DOORS &amp; WINDOWS</b>				
60	<i>Interior Door Hardware</i>				
61	New hardware & install; classrooms, offices, toilets & corridors	79	EA	\$1,200.00	\$94,800
62					
63	<b>C1030 FITTINGS</b>				
64	Commemorative plaque; allow	2	LOC	\$7,500.00	\$15,000
65	Dimensional characters; School name; allow	1	AL	\$3,500.00	\$3,500
66	Miscellaneous signage	36,481	GSF	\$0.50	\$18,241
67	Stainless steel corner guards	1	LS	\$5,000.00	\$5,000
68	Toilet compartments & toilet accessories @ Gang restrooms	4	RMS	\$7,500.00	\$30,000
69	Single toilet accessories @ Kindergarten, Admin, Nurse & Staff	5	RMS	\$2,500.00	\$12,500
70	Lockers; 2-tiers @ Corridors	92	EA	\$275.00	\$25,163
71	Lockers; single-tier @ Kindergarten	60	EA	\$250.00	\$15,000
72	Fire extinguisher and cabinet	9	EA	\$15,000.00	\$136,804
73	Tackboards, markerboards, whiteboards	36,481	GSF	\$0.50	\$18,241
74	Motorized projection screen @ Multipurpose Room	1	EA	\$3,500.00	\$3,500
75	Motorized projection screen @ Library/Media Center	1	EA	\$2,500.00	\$2,500
76					
77	<b>TOTAL SYSTEM C10 INTERIOR CONSTRUCTION</b>				<b>\$488,617</b>
78					
79					
80	<b>C20 STAIRS</b>				
81					
82	New ramp @ Kindergarten to meet code requirement, allow	1	LS	\$15,400.00	15,400
83	Railing upgrade to meet code requirement	1	LS	\$18,000.00	18,000
84	Stair corrections & modifications @ new platform lift	1	LS	\$7,000.00	7,000
85					
86	<b>TOTAL C20 STAIRCASES</b>				<b>\$40,400</b>
87					
88					
89	<b>C30 INTERIOR FINISHES</b>				
90					

**DETAILED ESTIMATE - UPHAM ELEMENTARY SCHOOL**

Hardy, Hunnewell & Upham Elementary Schools

36,481 GSF

	DESCRIPTION	QTY	UNIT	UNIT COST	COST
91	<b>C3010 WALL FINISHES</b>				
92	Wall finish @ orig. bldg 1952, add 1967 & 1987, allow	36,481	SF	\$1.50	\$54,722
93	New ceramic wall tile up to 5'-4" A.F.F @ restrooms & toilets	2,050	SF	\$18.00	\$36,901
94	Rubber base	3,650	LF	\$3.00	\$10,950
95	Wood base at Multipurpose room; assumed	255	LF	\$20.00	\$5,100
96					
97	<b>C3020 FLOOR FINISHES</b>				
98	Patch flooring where new unit ventilators are installed @ Clsm	14	LOC	\$250.00	\$3,500
99	Install new ceramic floor tile @ restrooms & toilets	1,095	SF	\$18.00	\$19,710
100	VCT Flooring	26,060	SF	\$6.00	\$156,360
101	Carpet flooring @ Library/Media Center & Admin area	1,985	SF	\$6.00	\$11,910
102	Install new walk-off mat grille system	150	SF	\$42.00	\$6,300
103	Rubber floor @ Multipurpose room & Stage/OT/PT	3,985	SF	\$8.00	\$31,880
104					
105	<b>C3030 CEILING FINISHES</b>				
106	New 2x4 ACT and grids @ orig bldg & addition 1956	28,195	SF	\$6.00	\$169,170
107	Multipurpose room & Stage ceiling	3,985	SF	\$2.00	\$7,970
108	Patch existing ceiling	1	LS	\$1,500.00	\$1,500
109					
110	<b>TOTAL SYSTEM C30 INTERIOR FINISHES</b>				<b>\$515,972</b>
111					
112					
113	<b>D10 CONVEYING</b>				
114					
115	<b>D1010 ELEVATORS &amp; LIFTS</b>				
116	Platform lift @ stage	1	EA	\$18,000.00	\$18,000
117	Platform lift @ existing stairs	1	EA	\$18,000.00	\$18,000
118					
119	<b>D10 CONVEYING TOTAL</b>				<b>\$18,000</b>
120					
121					
122	<b>D20 PLUMBING</b>				
123					
124	Equipment, fixtures, piping, kitchen rough-in & hook-ups	34,005	GSF	\$5.00	\$170,025
125					
126	<b>D20 PLUMBING TOTAL</b>				<b>\$170,025</b>
127					
128					
129	<b>D30 HVAC</b>				
130					
131	Equipment, ducting, piping, controls	34,005	GSF	\$38.00	\$1,292,190
132					

**DETAILED ESTIMATE - UPHAM ELEMENTARY SCHOOL**

	DESCRIPTION	QTY	UNIT	UNIT COST	COST
133	<b>D30 HVAC TOTAL</b>				<b>\$1,292,190</b>
134					
135					
136	<b>D40 FIRE PROTECTION</b>				
137					
138	Equipment, piping, sprinklers	<b>34,005</b>	GSF	\$4.50	\$153,023
139					
140	<b>D40 FIRE PROTECTION TOTAL</b>				<b>\$153,023</b>
141					
142					
143	<b>D50 ELECTRICAL</b>				
144					
145	<b>D5010 ELECTRICAL SERVICE &amp; DISTRIBUTION</b>				
146	Gear & distribution, generator power, lighting, power systems,	<b>34,005</b>	GSF	\$38.00	\$1,292,190
147	AV & performance equipment rough-in, lightning protection &				
148	security system				
149					
150	<b>TOTAL SYSTEM D50 ELECTRICAL</b>				<b>\$1,292,190</b>
151					
152					
153	<b>E10 EQUIPMENT</b>				
154					
155	<b>E1020 INSTITUTIONAL EQUIPMENT</b>				
156	No anticipated work				
157					
158	<b>TOTAL SYSTEM E10 EQUIPMENT</b>				<b>\$0</b>
159					
160					
161	<b>E20 FURNISHINGS</b>				
162					
163	Millwork, casework, standing and running trim, misc. metals	<b>1</b>	LS	\$270,000.00	\$270,000
164					
165	<b>TOTAL SYSTEM E20 FURNISHINGS</b>				<b>\$270,000</b>
166					
167					
168	<b>F10 SPECIAL CONSTRUCTION</b>				
169					
170	<b>F1020 INTEGRATED CONSTRUCTION</b>				
171	Modular prefabricated classroom; replace existing	<b>2</b>	EA	\$400,000.00	\$800,000
172					
173	<b>TOTAL SYSTEM F10 SPECIAL CONSTRUCTION</b>				<b>\$800,000</b>
174					

**DETAILED ESTIMATE - UPHAM ELEMENTARY SCHOOL**

Hardy, Hunnewell & Upham Elementary Schools

36,481 GSF

	DESCRIPTION	QTY	UNIT	UNIT COST	COST
175	<b>F20 SELECTIVE BUILDING DEMOLITION</b>				
176					
177	<b>F2010 BUILDING ELEMENTS DEMOLITION</b>				
178	Remove interior finishes, floors, ceiling, walls	36,481	GSF	\$6.00	\$218,886
179	Remove existing built-in casework, allow	1	LS	\$10,000.00	\$10,000
180	Remove existing door hardware complete	79	EA	\$50.00	\$3,950
181	Remove existing stair guardrails and handrails complete	1	LS	\$2,250.00	\$2,250
182	Remove existing toilet partitions & accessories complete	1	LS	\$5,000.00	\$5,000
183	Clean & prep all ETR walls & trim to receive new paint	36,481	SF	\$1.00	\$36,481
184	Allow for miscellaneous cutting and patching	36,481	SF	\$0.25	\$9,120
185					
186	<b>F2020 HAZARDOUS COMPONENTS ABATEMENT</b>				
187	Hazmat Allowance	1	AL	\$200,000.00	\$200,000
188					
189	<b>TOTAL SYSTEM F20 SELECTIVE BUILDING DEMOLITION</b>				<b>\$485,687</b>
190					
191					
192					
				<b>TOTAL TO SUMMARY</b>	<b>\$6,348,815</b>



**MODULARS @ 900 WORCESTER STREET SITE**

	DESCRIPTION	QUANTITY	UNIT	UNIT COST	TOTAL
8	<b>LEASED MODULAR CLASSROOM x 30</b>				
9					
10	Modular Classrooms (assume 950 sf/clsrn + 100sf/circulation)	30	EA	\$14,700.00	\$441,000
11	Add for plumbing fixtures	1	LS	\$150,000.00	\$150,000
12	Foundations - Concrete piers to 4'6" depth				Included
13	Enclosed connectors, allow	3,000	SF	\$200.00	\$600,000
14	Installation	31,500	SF	\$40.00	\$1,260,000
15	Exterior ramps and stairs	1	LS	\$140,000.00	\$140,000
16	Tele/Data/Security/FA tie-in	1	LS	\$50,000.00	\$50,000
17	Electrical service	1	LS	\$100,000.00	\$100,000
18	FP Connection	1	LS	\$100,000.00	\$100,000
19	Water Supply	1	LS	\$75,000.00	\$75,000
20	Sewer Connection	1	LS	\$75,000.00	\$75,000
21					
22	<b>LEASED MODULAR CLASSROOM x 30 TOTAL</b>				<b>\$2,991,000</b>
23					
24					
25	<b>SITework</b>				
26					
27	Allow for temporary construction fence	1,200	LF	\$12.00	\$14,400
28	Misc. demo items	1	AL	\$25,000.00	\$25,000
29	New playground surface	3,250	SF	\$18.00	\$58,500
30	Fence to new playground surface	230	LF	\$35.00	\$8,050
31	Gate to playground area	2	EA	\$1,500.00	\$3,000
32	New ADA walkway to playground	1,000	SF	\$3.00	\$3,000
33	New front plaza entry and walk	1,500	SF	\$20.00	\$30,000
34	Asphalt concrete roadway	10,500	SF	\$3.00	\$31,500
35	Concrete sidewalk	9,300	SF	\$6.50	\$60,450
36	Drainage allowance	1	LS	\$55,000.00	\$55,000
37	Site lighting	1	LS	\$75,000.00	\$75,000
38					
39	<b>SITework TOTAL</b>				<b>\$363,900</b>
40					
41					
42					
	<b>TOTAL TO SUMMARY</b>				<b>\$3,354,900</b>





Wellesley Elementary Schools  
Hardy, Hunnewell, Upham and North 40 Site  
Wellesley, MA

September 14, 2015

## Concept Design Options Estimate

**Design Architect:**

SMMA  
1000 Massachusetts Avenue  
Cambridge, MA 02138

**Estimator:**

Daedalus Projects Incorporated  
112 South Street  
Boston, MA 02111  
(617) 451 2717

## INTRODUCTION

### Project Description:

- Three (3) Existing Elementary School Sites, Hardy, Hunnewell & Upham Schools, and One (1) New Site Called "North 40"
- This project has various options

### Options:

- This Estimate analysis the following Options:
  - North 40 Site: New School for 660 Students
  - North 40 Site: New School for 536 Students
  - Hardy: Renovation (Historic Only)
  - Hardy: New School for 536 Students
  - Hardy: New School for 660 Students
  - Hardy: Historic Only & New for 660 Students
  - Hunnewell: Renovation & Addition 425 Students
  - Hunnewell: Renovation & Addition 536 Students
  - Hunnewell: New School for 536 Students
  - Upham: New School for 536 Students
  - Upham: Renovation & Addition 536 Students

### Project Particulars:

- Drawings received June 2014 from SMMA
- Daedalus Projects, Inc. experience with similar projects of this nature
- Dollar rates are based on historical data and recent bid results on projects similar to these projects.

### Project Assumptions:

- The project will be constructed by CM at Risk
- Unit rates are based on current dollars, using prevailing wages
- Project assumes a full gut renovation (except to the new construction projects) based on recent bid results of similar size and type
- Sitework based on on-site utilities and not on any off site utilities
- Escalation to start of construction has been carried in the Main Summary at an allowance of 3.5% per year.  
This project has been escalated to bid 2nd quarter 2016.
- Escalation during construction duration has been included in the unit rate details
- Subcontractor's markups have been included in each unit rate. Markups cover the cost of field overhead home office overhead home office overhead and subcontractor's profit
- Contractor's Construction Contingency markup is an allowance for unforeseen design issues, design detail development and specification clarifications
- General Conditions and Requirements value covers site management, scaffolding, staging and access, temporary protection, cleaning, SubContractor's General Conditions, site office overheads
- Insurance and Bonds markup is calculated on a percentage basis of direct construction costs. The value covers Contractor's Builder's Risk Insurance, General Liability, Sub-Contractor Bonds, and Performance Bond
- Fee markup is calculated on a percentage basis of direct construction costs

**INTRODUCTION****(Continued)**

## Project Exclusions:

- Work beyond the boundary of the site, such as any sitework improvements, traffic issues, etc.
- Owner's Project Administration
- Owner's Project Management (OPM) Fees
- Architectural/Engineering; Designer and other Professional fees, testing, printing, surveying
- Project costs; utility company back charges, construction of temporary facilities, relocation
- Testing
- Specialties, loose furnishings, fixtures and equipment beyond those noted
- Cost associated with demolition or "mothballing" of unused facilities

# Chart of Options

(including Wellesley College "North 40" Site)

Study	North 40 Site	Hardy Elementary	Hunnewell Elementary	Upham Elementary	Population	Cost Total	Cost/Student
1.	New School 660-Students 95,700 GSF New  \$35,620,734	Close School Renovation (Historic Only) 15,116 GSF Renovation  \$6,768,117	Renovation & Addition 425-Students 47,613 GSF Addition 22,687 GSF Renovation \$32,704,077	Close	1,085	<b>\$75,092,928</b>	\$69,210
2.	New School 536-Students 81,722 GSF \$31,820,807	Close	Close	New School 536-Students 81,722 GSF New \$35,204,701	1,072	<b>\$67,025,508</b>	\$62,524
3.	N/A	New School 536-Students 81,722 GSF New  \$31,993,171	Renovation & Addition 425-Students 47,613 GSF Addition 22,687 GSF Renovation \$32,704,077	Close	961	<b>\$64,697,248</b>	\$67,323
4.	N/A	New School 660-Students 95,700 GSF New \$35,900,517	Close	New School 536-Students 81,722 GSF New \$35,204,701	1,196	<b>\$71,105,218</b>	\$59,453
5.	N/A	Close	Renovation & Addition 425-Students 47,613 GSF Addition 22,687 GSF Renovation \$32,704,077	New School 536-Students 81,722 GSF New  \$35,204,701	961	<b>\$67,908,778</b>	\$70,665
6.	N/A	New School 660-Students 95,700 GSF Renovation (Historic Only) 15,116 GSF Renovation \$41,386,163	New School 536-Students 81,722 GSF New  \$36,636,300	Renovation & Addition 536-Students 57,241 GSF Addition 24,481 GSF Renovation  \$35,022,733	1,732	<b>\$113,045,196</b>	\$65,269

**MAIN SUMMARY**

Description:	North 40 Site: New School 660-Students 95,700 GSF New		North 40 Site: New School 536-Students 81,722 GSF New		Hardy: Renovation (Historic) 15,116 GSF Renovation		Hardy: New School 660-Students 95,700 GSF New		Hardy: New School 536-Students 81,722 GSF New		Hardy: New For 660-Students & Historic Renovation 95,700 GSF New 15,116 GSF Renovation		Hunnewell: Reno. & Addition 425-Students 47,613 GSF Addition 22,687 GSF Renovation		Hunnewell: Reno. & Addition 536-Students 62,805 GSF Addition 18,917 GSF Renovation		Hunnewell: New Construction 536-Students 81,722 GSF New		Upham: New Construction 836-Students 81,722 GSF New		Upham: Reno. & Addition 536-Students 57,241 GSF Addition 24,481 GSF Renovation	
	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF
<b>Direct Trade Costs</b>																						
New Building Trade Costs	\$23,471,048	\$245.26	\$20,427,694	\$249.97			\$23,471,048	\$245.26	\$20,427,694	\$249.97	\$23,471,048	\$245.26	\$12,793,139	\$268.69	\$15,620,931	\$248.72	\$20,427,694	\$249.97	\$20,427,694	\$249.97	\$14,136,217	\$246.96
Site Development Costs	\$5,057,432	\$52.85	\$5,057,432	\$61.89			\$3,500,038	\$36.57	\$3,500,038	\$42.83	\$3,500,038	\$31.58										
Additional Sitework							\$750,000	\$7.84	\$750,000	\$9.18												
Storm Water System													\$125,000	\$1.78	\$125,000	\$1.53	\$125,000	\$1.53				
Earthwork/Ledge Removal																			\$2,800,000	\$34.26	\$2,800,000	\$34.26
Building Demolition					\$161,663	\$10.69	\$241,022	\$2.52	\$241,022	\$2.95	\$161,663	\$1.69	\$72,209	\$1.03	\$92,001	\$1.13	\$191,315	\$2.34	\$191,525	\$2.34	\$63,000	\$0.77
Building Trade Costs Renovation					\$4,009,447	\$265.25					\$4,009,447	\$265.25	\$5,430,203	\$114.05	\$4,780,253	\$252.70					\$6,081,276	\$248.41
Site Development Costs at Renovation (w/Add)					\$1,000,000	\$66.16					\$1,000,000	\$9.02	\$1,892,656	\$26.92	\$1,892,656	\$23.16	\$2,625,029	\$32.12	\$4,000,928	\$48.96	\$4,000,928	\$48.96
Parking Garage at Cameron Street Lot													\$5,166,145	\$108.50	\$5,166,145	\$82.26	\$5,166,145	\$63.22				
<b>Direct Trade Cost SubTotal</b>	<b>\$28,528,480</b>	<b>\$298.10</b>	<b>\$25,485,126</b>	<b>\$311.85</b>	<b>\$5,171,110</b>	<b>\$342.10</b>	<b>\$27,962,108</b>	<b>\$292.19</b>	<b>\$24,918,754</b>	<b>\$304.92</b>	<b>\$32,142,196</b>	<b>\$290.05</b>	<b>\$25,479,352</b>	<b>\$362.44</b>	<b>\$27,676,986</b>	<b>\$338.67</b>	<b>\$28,535,183</b>	<b>\$349.17</b>	<b>\$27,420,147</b>	<b>\$335.53</b>	<b>\$27,081,421</b>	<b>\$331.38</b>
Construction Contingency 3.00%	\$855,854	\$8.94	\$764,554	\$9.36			\$838,864	\$8.77	\$747,563	\$9.15	\$809,133	\$7.30	\$387,544	\$5.51	\$472,378	\$5.78	\$856,056	\$10.48	\$822,605	\$10.07	\$508,087	\$6.22
Construction Contingency Renovation 5.00%					\$258,556	\$17.10		\$0.00		\$0.00	\$250,472	\$2.26	\$369,753	\$5.26	\$338,246	\$4.14		\$0.00		\$0.00	\$507,260	\$6.21
<b>Trade Cost SubTotal</b>	<b>\$29,384,334</b>	<b>\$307.05</b>	<b>\$26,249,680</b>	<b>\$321.21</b>	<b>\$5,429,666</b>	<b>\$359.20</b>	<b>\$28,800,972</b>	<b>\$300.95</b>	<b>\$25,666,317</b>	<b>\$314.07</b>	<b>\$33,201,801</b>	<b>\$299.61</b>	<b>\$26,236,649</b>	<b>\$373.21</b>	<b>\$28,487,610</b>	<b>\$348.59</b>	<b>\$29,391,239</b>	<b>\$359.65</b>	<b>\$28,242,752</b>	<b>\$345.60</b>	<b>\$28,096,768</b>	<b>\$343.81</b>
General Conditions and Requirements 8.50%	\$2,497,669	\$26.10	\$2,231,230	\$27.30	\$461,530	\$30.53	\$2,448,083	\$25.58	\$2,181,640	\$26.70	\$2,822,153	\$25.47	\$2,230,115	\$31.72	\$2,421,447	\$29.63	\$2,498,260	\$30.57	\$2,400,640	\$29.38	\$2,388,230	\$29.22
Insurance 1.10%	\$350,703	\$3.66	\$313,291	\$3.83	\$64,804	\$4.29	\$343,740	\$3.59	\$306,328	\$3.75	\$396,263	\$3.58	\$313,134	\$4.45	\$340,000	\$4.16	\$350,785	\$4.29	\$337,078	\$4.12	\$335,335	\$4.10
GC Bonds 1.10%	\$354,560	\$3.70	\$316,737	\$3.88	\$65,516	\$4.33	\$347,521	\$3.63	\$309,698	\$3.79	\$400,622	\$3.62	\$316,579	\$4.50	\$343,740	\$4.21	\$354,644	\$4.34	\$340,786	\$4.17	\$339,024	\$4.15
Fee 3.00%	\$977,618	\$10.22	\$873,329	\$10.69	\$180,646	\$11.95	\$958,210	\$10.01	\$853,920	\$10.45	\$1,104,625	\$9.97	\$872,894	\$12.42	\$947,784	\$11.60	\$977,848	\$11.97	\$939,638	\$11.50	\$934,781	\$11.44
<b>Estimated Construction Cost Total</b>	<b>\$33,564,884</b>	<b>\$350.73</b>	<b>\$29,984,267</b>	<b>\$366.91</b>	<b>\$6,202,162</b>	<b>\$410.30</b>	<b>\$32,898,526</b>	<b>\$343.77</b>	<b>\$29,317,903</b>	<b>\$358.75</b>	<b>\$37,925,464</b>	<b>\$342.24</b>	<b>\$29,969,371</b>	<b>\$426.31</b>	<b>\$32,540,581</b>	<b>\$398.19</b>	<b>\$33,572,776</b>	<b>\$410.82</b>	<b>\$32,260,894</b>	<b>\$394.76</b>	<b>\$32,094,138</b>	<b>\$392.72</b>
Phasing 3.00%					\$186,065	\$12.31	\$986,956	\$10.31	\$879,538	\$10.76	\$1,137,764	\$11.89	\$899,082	\$39.63	\$976,218	\$51.61	\$1,007,184	\$12.32	\$967,827	\$11.84	\$962,825	\$39.33
Escalation to 2nd Quarter 2016 6.13%	\$2,055,850	\$21.48	\$1,836,540	\$22.47	\$379,890	\$25.13	\$2,015,035	\$21.06	\$1,795,730	\$21.97	\$2,322,935	\$20.96	\$1,835,624	\$26.11	\$1,993,111	\$24.39	\$2,056,340	\$25.16	\$1,975,980	\$24.18	\$1,965,770	\$24.05
<b>ECC including Escalation Total</b>	<b>\$35,620,734</b>	<b>\$372.21</b>	<b>\$31,820,807</b>	<b>\$389.38</b>	<b>\$6,768,117</b>	<b>\$447.75</b>	<b>\$35,900,517</b>	<b>\$375.14</b>	<b>\$31,993,171</b>	<b>\$391.49</b>	<b>\$41,386,163</b>	<b>\$373.47</b>	<b>\$32,704,077</b>	<b>\$465.21</b>	<b>\$35,509,910</b>	<b>\$434.52</b>	<b>\$36,636,300</b>	<b>\$448.30</b>	<b>\$35,204,701</b>	<b>\$430.79</b>	<b>\$35,022,733</b>	<b>\$428.56</b>

\*Phasing Impact Can Be Deleted if North 40 is Phase 1

**DIRECT TRADE COST SUMMARY**

TRADE DESCRIPTION	North 40 Sitework	Hardy Sitework for New	Hunnewell Sitework for New	Hunnewell Sitework for Renovation & New	Upham Sitework	New School for 660 Students		New School for 536 Students		Hardy:		Hunnewell Renovation		Hunnewell Addition		Hunnewell Renovation		Hunnewell Addition		Upham Renovation		Upham Addition	
						95,700 GSF		81,722 GSF		15,116 GSF		22,687 GSF		47,613 GSF		18,917 GSF		62,805 GSF		24,481 GSF		57,241 GSF	
						Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF
A10 FOUNDATIONS						\$1,802,810	\$18.84	\$1,515,085	\$18.55	\$0	\$0.00	\$0	\$0.00	\$846,384	\$17.78	\$0	\$0.00	\$1,098,828	\$17.50	\$0	\$0.00	\$846,384	\$14.79
A20 BASEMENT						\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00
B10 STRUCTURE						\$2,955,765	\$30.89	\$2,534,044	\$31.01	\$0	\$0.00	\$0	\$0.00	\$1,527,310	\$32.08	\$0	\$0.00	\$1,973,749	\$31.43	\$0	\$0.00	\$1,890,286	\$33.02
B20 EXTERIOR CLOSURE						\$4,425,673	\$46.25	\$3,717,137	\$45.49	\$1,197,500	\$79.22	\$1,539,875	\$67.87	\$2,351,616	\$49.39	\$1,499,000	\$79.24	\$2,725,816	\$43.40	\$1,907,750	\$77.93	\$2,351,616	\$41.08
B30 ROOFING						\$1,163,250	\$12.16	\$997,750	\$12.21	\$279,646	\$18.50	\$419,710	\$18.50	\$550,900	\$11.57	\$349,965	\$18.50	\$749,500	\$11.93	\$452,899	\$18.50	\$550,900	\$9.62
C10 INTERIOR CONSTRUCTION						\$2,715,152	\$28.37	\$2,420,558	\$29.62	\$532,234	\$35.21	\$716,441	\$31.58	\$1,785,184	\$37.49	\$633,123	\$33.47	\$2,052,429	\$32.68	\$749,450	\$30.61	\$1,959,344	\$34.23
C20 STAIRCASES						\$122,000	\$1.27	\$122,000	\$1.49	\$10,000	\$0.66	\$10,000	\$0.44	\$71,000	\$1.49	\$10,000	\$0.53	\$71,000	\$1.13	\$10,000	\$0.41	\$71,000	\$1.24
C30 INTERIOR FINISHES						\$1,994,845	\$20.84	\$1,834,319	\$22.45	\$483,080	\$31.96	\$725,035	\$31.96	\$1,179,069	\$24.76	\$604,553	\$31.96	\$1,393,416	\$22.19	\$782,368	\$31.96	\$1,314,903	\$22.97
D10 CONVEYING SYSTEMS						\$102,200	\$1.07	\$102,200	\$1.25	\$0	\$0.00	\$0	\$0.00	\$102,200	\$2.15	\$0	\$0.00	\$102,200	\$1.63	\$0	\$0.00	\$102,200	\$1.79
D20 PLUMBING						\$584,200	\$6.10	\$500,332	\$6.12	\$75,580	\$5.00	\$113,435	\$5.00	\$295,678	\$6.21	\$94,585	\$5.00	\$386,830	\$6.16	\$122,405	\$5.00	\$353,446	\$6.17
D30 HVAC						\$2,891,000	\$30.21	\$2,471,660	\$30.24	\$453,480	\$30.00	\$680,610	\$30.00	\$1,448,390	\$30.42	\$567,510	\$30.00	\$1,904,150	\$30.32	\$734,430	\$30.00	\$1,737,230	\$30.35
D40 FIRE PROTECTION						\$349,520	\$3.65	\$299,199	\$3.66	\$68,022	\$4.50	\$102,092	\$4.50	\$176,407	\$3.71	\$85,127	\$4.50	\$231,098	\$3.68	\$110,165	\$4.50	\$211,068	\$3.69
D50 ELECTRICAL						\$2,881,000	\$30.10	\$2,461,660	\$30.12	\$423,248	\$28.00	\$635,236	\$28.00	\$1,438,390	\$30.21	\$529,676	\$28.00	\$1,894,150	\$30.16	\$685,468	\$28.00	\$1,727,230	\$30.17
E10 EQUIPMENT						\$860,938	\$9.00	\$860,938	\$10.53	\$75,580	\$5.00	\$113,435	\$5.00	\$493,000	\$10.35	\$94,585	\$5.00	\$493,000	\$7.85	\$122,405	\$5.00	\$493,000	\$8.61
E20 FURNISHINGS						\$622,696	\$6.51	\$590,213	\$7.22	\$151,160	\$10.00	\$226,870	\$10.00	\$527,611	\$11.08	\$189,170	\$10.00	\$544,766	\$8.67	\$244,810	\$10.00	\$527,611	\$9.22
F10 SPECIAL CONSTRUCTION						\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00
F20 SELECTIVE DEMOLITION						\$0	\$0.00	\$0	\$0.00	\$259,917	\$17.19	\$147,466	\$6.50	\$0	\$0.00	\$122,961	\$6.50	\$0	\$0.00	\$159,127	\$6.50	\$0	\$0.00
G10 SITE PREPARATION	\$1,093,573	\$835,192	\$626,394	\$615,850	\$1,336,082	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
G20 SITE IMPROVEMENTS	\$1,777,859	\$1,178,847	\$884,135	\$762,806	\$1,178,847	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
G30 SITE CIVIL/MECHANICAL UTILITIES	\$1,686,000	\$1,086,000	\$814,500	\$394,000	\$1,086,000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
G40 SITE ELECTRICAL UTILITIES	\$500,000	\$400,000	\$300,000	\$120,000	\$400,000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Direct Trade Cost SubTotal</b>	<b>\$5,057,432</b>	<b>\$3,500,038</b>	<b>\$2,625,029</b>	<b>\$1,892,656</b>	<b>\$4,000,928</b>	<b>\$23,471,048</b>	<b>\$245.26</b>	<b>\$20,427,694</b>	<b>\$249.97</b>	<b>\$4,009,447</b>	<b>\$265.25</b>	<b>\$5,430,203</b>	<b>\$239.35</b>	<b>\$12,793,139</b>	<b>\$268.69</b>	<b>\$4,780,253</b>	<b>\$252.70</b>	<b>\$15,620,931</b>	<b>\$248.72</b>	<b>\$6,081,276</b>	<b>\$248.41</b>	<b>\$14,136,217</b>	<b>\$246.96</b>
Construction Contingency	3.00%	\$151,723			\$200,046	\$704,131	\$7.36	\$612,831	\$7.50	\$200,473	\$13.26	\$271,511	\$11.97	\$383,795	\$8.06	\$239,013	\$12.63	\$468,628	\$7.46	\$304,064	\$12.42	\$424,087	\$7.41
Construction Contingency Renovation	5.00%		\$175,002	\$131,251	\$94,633																		
<b>Trade Cost SubTotal</b>	<b>\$5,209,155</b>	<b>\$3,675,040</b>	<b>\$2,756,280</b>	<b>\$1,987,289</b>	<b>\$4,200,974</b>	<b>\$24,175,179</b>	<b>\$252.61</b>	<b>\$21,040,525</b>	<b>\$257.46</b>	<b>\$4,209,920</b>	<b>\$278.51</b>	<b>\$5,701,714</b>	<b>\$251.32</b>	<b>\$13,176,934</b>	<b>\$276.75</b>	<b>\$5,019,266</b>	<b>\$265.33</b>	<b>\$16,089,559</b>	<b>\$256.18</b>	<b>\$6,385,340</b>	<b>\$260.83</b>	<b>\$14,560,304</b>	<b>\$254.37</b>
General Conditions and Requirements	8.50%	\$442,780	\$312,380	\$234,290	\$168,920	\$357,090	\$2.05	\$2,054,900	\$21.47	\$1,788,450	\$21.88	\$357,850	\$23.67	\$484,646	\$21.36	\$1,120,040	\$23.52	\$426,638	\$22.55	\$1,367,613	\$21.78	\$542,754	\$22.17
Insurance	1.10%	\$62,171	\$43,862	\$32,896	\$23,718	\$50,139	\$2.88	\$288,531	\$3.01	\$251,119	\$3.07	\$50,245	\$3.32	\$68,050	\$3.00	\$157,267	\$3.30	\$59,905	\$3.17	\$192,029	\$3.06	\$76,209	\$3.11
G Bonds	1.10%	\$62,855	\$44,344	\$33,258	\$23,979	\$50,690	\$2.91	\$291,705	\$3.05	\$253,881	\$3.11	\$50,798	\$3.36	\$68,799	\$3.03	\$158,997	\$3.34	\$60,564	\$3.20	\$194,141	\$3.09	\$77,047	\$3.15
Fee	3.00%	\$173,309	\$122,269	\$91,702	\$66,117	\$139,767	\$8.40	\$804,309	\$8.40	\$700,019	\$8.57	\$140,064	\$9.27	\$189,696	\$8.36	\$438,397	\$9.21	\$186,991	\$8.52	\$535,300	\$8.52	\$212,441	\$8.68
<b>Estimated Construction Cost Total</b>	<b>\$5,950,270</b>	<b>\$4,197,895</b>	<b>\$3,148,426</b>	<b>\$2,270,023</b>	<b>\$4,798,660</b>	<b>\$27,614,624</b>	<b>\$288.55</b>	<b>\$24,033,994</b>	<b>\$294.09</b>	<b>\$4,808,877</b>	<b>\$318.13</b>	<b>\$6,512,905</b>	<b>\$287.08</b>	<b>\$15,051,635</b>	<b>\$316.12</b>	<b>\$5,733,364</b>	<b>\$303.08</b>	<b>\$18,378,642</b>	<b>\$292.63</b>	<b>\$7,293,791</b>	<b>\$297.94</b>	<b>\$16,631,818</b>	<b>\$290.56</b>
Escalation	6.13%	\$364,460	\$257,130	\$192,850	\$139,040	\$293,920	\$1.69	\$1,691,400	\$17.67	\$1,472,090	\$18.01	\$294,550	\$19.49	\$398,916	\$17.58	\$921,913	\$19.36	\$351,169	\$18.56	\$1,125,692	\$17.92	\$446,745	\$18.25
<b>ECC Including Escalation Total</b>	<b>\$6,314,730</b>	<b>\$4,455,025</b>	<b>\$3,341,276</b>	<b>\$2,409,063</b>	<b>\$5,092,580</b>	<b>\$29,306,024</b>	<b>\$306.23</b>	<b>\$25,506,084</b>	<b>\$312.11</b>	<b>\$5,103,427</b>	<b>\$337.62</b>	<b>\$6,911,821</b>	<b>\$304.66</b>	<b>\$15,973,548</b>	<b>\$335.49</b>	<b>\$6,084,533</b>	<b>\$321.64</b>	<b>\$19,504,334</b>	<b>\$310.55</b>	<b>\$7,740,536</b>	<b>\$316.19</b>	<b>\$17,650,517</b>	<b>\$308.35</b>

**GARAGE SUMMARY**

DESCRIPTION	TRADE COST	COST/SF
03 30 00 Cast-in-Place Concrete	\$1,593,148	\$16.60
03 41 00 Precast Structural Concrete	\$1,859,520	\$19.37
<b>03-CONCRETE TOTAL</b>	<b>\$3,452,668</b>	<b>\$35.97</b>
04 20 00 Unit Masonry Assemblies	\$186,304	\$1.94
<b>04-MASONRY TOTAL</b>	<b>\$186,304</b>	<b>\$1.94</b>
05 12 00 Structural Steel	\$60,000	\$0.63
05 30 00 Metal Roof Decking	\$10,500	\$0.11
05 50 00 Metal Fabrications	\$121,610	\$1.27
<b>05-METALS TOTAL</b>	<b>\$192,110</b>	<b>\$2.00</b>
07 13 26 Self-Adhering Sheet Waterproofing	\$1,638	\$0.02
07 16 13 Polymer Modified-Cement Waterproofing	\$2,000	\$0.02
07 42 43 Composite Wall Panels	\$0	\$0.00
07 50 00 Roofing	\$32,250	\$0.34
<b>07-THERMAL AND MOISTURE PROTECTION TOTAL</b>	<b>\$35,888</b>	<b>\$0.37</b>
08 10 00 Hollow Metal Doors and Frames	\$4,000	\$0.04
08 40 00 Aluminum-Framed Entrances & Storefronts	\$35,000	\$0.36
08 70 00 Door Hardware	\$2,400	\$0.03
<b>08-DOORS AND WINDOWS TOTAL</b>	<b>\$41,400</b>	<b>\$0.43</b>
09 90 00 Painting	\$27,741	\$0.29
<b>09-FINISHES TOTAL</b>	<b>\$27,741</b>	<b>\$0.29</b>
10 14 00 Signage	\$43,200	\$0.45
10 44 06 Fire Extinguishers and Cabinets	\$1,800	\$0.02
<b>10-SPECIALTIES TOTAL</b>	<b>\$45,000</b>	<b>\$0.47</b>
11 15 00 Parking Control Equipment	NIC	
<b>11- EQUIPMENT TOTAL</b>	<b>\$0</b>	<b>\$0.00</b>
14 20 00 Elevator	\$100,000	\$1.04
<b>14-CONVEYING SYSTEM TOTAL</b>	<b>\$100,000</b>	<b>\$1.04</b>
21 00 00 Fire Protection	\$372,350	\$3.88
22 0001-Plumbing	\$64,200	\$0.67
23 0001-HVAC	\$20,000	\$0.21
<b>21, 22, 23-MECHANICAL TOTAL</b>	<b>\$456,550</b>	<b>\$4.76</b>
26 0001 Electrical	\$394,000	\$4.10
<b>26-ELECTRICAL TOTAL</b>	<b>\$394,000</b>	<b>\$4.10</b>

**GARAGE SUMMARY**

<b>DESCRIPTION</b>	<b>TRADE COST</b>	<b>COST/SF</b>
31 00 00 Earthwork	\$234,485	\$2.44
<b>31 SITE EARTHWORK TOTAL</b>	<b>\$234,485</b>	<b>\$2.44</b>
<b>Direct Trade Cost SubTotal</b>	<b>\$5,166,145</b>	<b>\$53.81</b>

ELEMENT	QUANTITY	UNIT	UNIT RATE	COST
9	<b>03-CONCRETE</b>			
10				
11	<b>03 30 00 Cast-in-Place Concrete</b>			
12	Concrete to:			
13	81	CY	\$115.00	\$9,315
14	162	CY	\$115.00	\$18,630
15	54	CY	\$115.00	\$6,210
16	933	CY	\$125.00	\$116,625
17	317	CY	\$135.00	\$42,795
18	1,547	CY	\$80.00	\$123,760
19	Reinforcing to:			
20	12,150	LBS	\$1.05	\$12,758
21	16,200	LBS	\$1.05	\$17,010
22	8,100	LBS	\$1.05	\$8,505
23	50,400	SF	\$0.75	\$37,800
24	50,400	SF	\$0.75	\$37,800
25	Formwork:			
26	2,184	SF	\$7.50	\$16,380
27	8,736	SF	\$6.50	\$56,784
28	968	SF	\$9.00	\$8,712
29	50,400	SF	\$2.50	\$126,000
30	50,400		\$2.50	\$126,000
31	<u>Miscellaneous:</u>			
32	55,392	SF	\$12.00	\$664,704
33	48,000	SF	\$0.50	\$24,000
34	48,000	SF	\$1.00	\$48,000
35	3,072	LF	\$5.00	\$15,360
36	1,920	LF	\$25.00	\$48,000
37	1	LS	\$3,000.00	\$3,000
38	1	LS	\$5,000.00	\$5,000
39	1	LS	\$20,000.00	\$20,000
40	<b>03 30 00 Cast-in-Place Concrete total</b>			<b>\$1,593,148</b>
41				
42	<b>03 41 00 Precast Structural Concrete</b>			
43	48,000	SF	\$28.00	\$1,344,000
44	48,000	SF	\$3.50	\$168,000
45	96,000	SF	\$0.50	\$48,000
46	6,240	SF	\$48.00	\$299,520
47	<b>03 41 00 Precast Structural Concrete total</b>			<b>\$1,859,520</b>
48				
49				
50	<b>04-MASONRY</b>			
51				
52	<b>04 20 00 Unit Masonry Assemblies</b>			

ELEMENT	QUANTITY	UNIT	UNIT RATE	COST
53 Scaffolding	8,237	SF	\$3.50	\$28,830
54 12" CMU wall @ lower level	2,184	SF	\$20.00	\$43,680
55 8" CMU wall @ lower level	3,633	SF	\$18.00	\$65,394
56 12" CMU at Elevator shaft wall	880	SF	\$20.00	\$17,600
57 12" CMU at stair	1,540	SF	\$20.00	\$30,800
58 <b>04 20 00 Unit Masonry Assemblies total</b>				\$186,304
59				
60				
61 <b>05-METALS</b>				
62				
63 <b>05 12 00 Structural Steel</b>				
64 Structural steel for roof - at 10 lbs / sq. ft	15.0	TON	\$4,000.00	\$60,000
65 <b>05 12 00 Structural Steel total</b>				\$60,000
66				
67 <b>05 30 00 Metal Roof Decking</b>				
68 Metal deck for roof	3,000	SF	\$3.50	\$10,500
69 <b>05 30 00 Metal Roof Decking total</b>				\$10,500
70				
71 <b>05 50 00 Metal Fabrications</b>				
72 Elevator pit ladder and sill angles	1	SET	\$2,250.00	\$2,250
73 Metal guardrail and support at ramp	312	LF	\$80.00	\$24,960
74 Pipe bollards allowance	16	EA	\$400.00	\$6,400
75 Impact protection barriers allowance	500	LF	\$70.00	\$35,000
76 Metal staircases with wall mounted handrails and balustrades	4	FLTS	\$11,500.00	\$46,000
77 Misc metals not identified above	2	TNS	\$3,500.00	\$7,000
78 <b>05 50 00 Metal Fabrications total</b>				\$121,610
79				
80				
81 <b>07-THERMAL AND MOISTURE PROTECTION</b>				
82				
83 <b>07 13 26 Self-Adhering Sheet Waterproofing</b>				
84 Dampproof foundations	1,092	SF	\$1.50	\$1,638
85 <b>07 13 26 Self-Adhering Sheet Waterproofing total</b>				\$1,638
86				
87 <b>07 16 13 Polymer Modified-Cement Waterproofing</b>				
88 Crystalline waterproofing to elevator pits	1	EA	\$2,000.00	\$2,000
89 <b>07 16 13 Polymer Modified-Cement Waterproofing total</b>				\$2,000
90				
91 <b>07 42 43 Composite Wall Panels</b>				
92 Included in storefront price		SF		\$0
93 <b>07 42 43 Composite Wall Panels total</b>				
94				
95 <b>07 50 00 Roofing</b>				
96 Roof, densdeck	3,000	SF	\$10.75	\$32,250

ELEMENT	QUANTITY	UNIT	UNIT RATE	COST
97 <b>07 50 00 Roofing total</b>				\$32,250
98				
99				
100 <b>08-DOORS AND WINDOWS</b>				
101				
102 <b>08 10 00 Hollow Metal Doors and Frames</b>				
103 Single metal door & frames	4	EA	\$1,000.00	\$4,000
104 <b>08 10 00 Hollow Metal Doors and Frames total</b>				\$4,000
105				
106 <b>08 40 00 Aluminum-Framed Entrances &amp; Storefronts</b>				
107 Aluminum panel / storefront system	220	SF	\$70.00	\$15,400
108 Entrance or vestibule doors, glazed single	2	PR	\$7,000.00	\$14,000
109 Premium for electric operation	2	EA	\$2,800.00	\$5,600
110 <b>08 40 00 Aluminum-Framed Entrances &amp; Storefronts total</b>				\$35,000
111				
112 <b>08 70 00 Door Hardware</b>				
113 Hardware sets, average cost	4	SETS	\$600.00	\$2,400
114 <b>08 70 00 Door Hardware total</b>				\$2,400
115				
116				
117 <b>09-FINISHES</b>				
118				
119 <b>09 90 00 Painting</b>				
120 Paint CMU walls	11,946	SF	\$1.00	\$11,946
121 Paint door and frame	4	LEAF	\$105.00	\$420
122 Parking stall painting, type.	275	EA	\$15.00	\$4,125
123 Parking stall -accessible	5	EA	\$250.00	\$1,250
124 Msic pavement painting	1	LS	\$5,000.00	\$5,000
125 Painting metal surfaces ( stairs, handrails etc)	1	LS	\$5,000.00	\$5,000
126 <b>09 90 00 Painting total</b>				\$27,741
127				
128				
129 <b>10-SPECIALTIES</b>				
130				
131 <b>10 14 00 Signage</b>				
132 Signage required by code	96,000	SF	\$0.45	\$43,200
133 <b>10 14 00 Signage total</b>				\$43,200
134				
135 <b>10 44 06 Fire Extinguishers and Cabinets</b>				
136 Fire extinguishers,	4	EA	\$450.00	\$1,800
137 <b>10 44 06 Fire Extinguishers and Cabinets total</b>				\$1,800
138				
139				
140 <b>11- EQUIPMENT</b>				

ELEMENT	QUANTITY	UNIT	UNIT RATE	COST
141				
142 <b>11 15 00 Parking Control Equipment</b>				
143 Parking access and revenue control				NIC
144 <b>11 15 00 Parking Control Equipment total</b>				NIC
145				
146				
147 <b>14-CONVEYING SYSTEM</b>				
148				
149 <b>14 20 00 Elevator</b>				
150 Elevator, 2 stops	1	EA	\$100,000	\$100,000
151 <b>14 20 00 Elevator total</b>				\$100,000
152				
153				
154 <b>21, 22, 23-MECHANICAL</b>				
155				
156 <b>21 00 00 Fire Protection</b>				
157 Sprinkler Coverage	96,000	SF	\$3.00	\$288,000
158 Dry Alarm Valve w/compressor	-	EA	N/A	\$0
159 Fire Dept. Connections	2	EA	\$2,500.00	\$5,000
160 FDV w/ 6" standpipe (two standpipes)	10	EA	\$1,500.00	\$15,000
161 Main piping:				
162 - 6"	700	LF	\$85.00	\$59,500
163 Coring, Sleeves & sleeves	1	LS	\$1,250.00	\$1,250
164 Lift	1	LS	\$1,000.00	\$1,000
165 Permits & Fees	1	LS	\$750.00	\$750
166 Shop drawings/hydraulic calculations	1	LS	\$1,850.00	\$1,850
167 <b>21 00 00 Fire Protection total</b>				\$372,350
168				
169 <b>22 0001-Plumbing</b>				
170 Oily Water Separator	1	EA	\$10,000.00	\$10,000
171 Trench Drains	1	LS	\$12,000.00	\$12,000
172 Floor Drains ( garage )	8	EA	\$3,000.00	\$24,000
173 Roof Drains	2	EA	\$4,800.00	\$9,600
174 Permits & Fees	1	EA	\$2,000.00	\$2,000
175 Test and sterilize	1	EA	\$2,100.00	\$2,100
176 Shop drawings	1	EA	\$4,500.00	\$4,500
177 <b>22 0001-Plumbing total</b>				\$64,200
178				
179 <b>23 0001-HVAC</b>				
180 Exhaust	1	LS	\$20,000.00	\$20,000
181 <b>23 0001-HVAC total</b>				\$20,000
182				
183				
184 <b>26-ELECTRICAL</b>				

ELEMENT	QUANTITY	UNIT	UNIT RATE	COST
185				
186 <b>26 0001 Electrical</b>				
187 Allow for "Plug-In" Electric cars	4	LOC	\$2,500.00	\$10,000
188 Electrical allowance	<b>96,000</b>	SF	\$4.00	<u>\$384,000</u>
189 <b>26 0001 Electrical total</b>				<u>\$394,000</u>
190				
191				
192 <b>31 SITE EARTHWORK</b>				
193				
194 <b>31 00 00 Earthwork</b>				
195 Rough grade for slab on grade	<b>55,200</b>	SF	\$0.70	\$38,640
196 New foundation excavation	<b>2,030</b>	CY	\$11.00	\$22,330
197 Backfill, using imported clean fill	<b>739</b>	CY	\$24.00	\$17,724
198 Disposal off site	<b>1,227</b>	CY	\$18.00	\$22,085
199 Elevator pit excavation	<b>1</b>	EA	\$3,800.00	\$3,800
200 Perimeter foundation drainage allowance	<b>1,040</b>	LF	\$15.00	\$15,600
201 Crushed stone base to slab	<b>1,310</b>	CY	\$30.00	\$39,307
202 De-watering	<b>1</b>	LS	\$25,000.00	\$25,000
203 Earthwork support	<b>1</b>	LS	\$50,000.00	<u>\$50,000</u>
204 <b>31 00 00 Earthwork total</b>				<u>\$234,485</u>
205				





Wellesley Elementary Schools  
Hardy, Hunnewell, Upham and North 40 Site  
Wellesley, MA

October 21, 2015

## Concept Design Options Estimate

**Design Architect:**

SMMA  
1000 Massachusetts Avenue  
Cambridge, MA 02138

**Estimator:**

Daedalus Projects Incorporated  
112 South Street  
Boston, MA 02111  
(617) 451 2717

## INTRODUCTION

### Project Description:

- Three (3) Existing Elementary School Sites, Hardy, Hunnewell & Upham Schools, and One (1) New Site Called "North 40"
- This project has various options

### Options:

- This Estimate analysis the following Options:
  - North 40 Site: New School for 660 Students
  - North 40 Site: New School for 536 Students
  - Hardy: Renovation (Historic Only)
  - Hardy: New School for 536 Students
  - Hardy: New School for 660 Students
  - Hardy: Historic Only & New for 660 Students
  - Hardy: Historic Only & Addition 308 Students
  - Hardy: "Repair Only" 308 Students
  - Hunnewell: Renovation & Addition 425 Students
  - Hunnewell: Renovation & Addition 536 Students
  - Hunnewell: New School for 536 Students
  - Hunnewell: Renovation & Addition 330 Students
  - Hunnewell: "Repair Only" 330 Students
  - Upham: New School for 536 Students
  - Upham: Renovation & Addition 536 Students
  - Upham: New School 264 Students
  - Upham: "Repair Only" 264 Students
- Public Roadway Extension at Hardy Elementary School: \$296,100

### Project Particulars:

- Drawings received June 2014 from SMMA
- Daedalus Projects, Inc. experience with similar projects of this nature
- Dollar rates are based on historical data and recent bid results on projects similar to these projects.
- See Daedalus estimate, dated June 17, 2015 for detail estimate of "Repair Only" options

## INTRODUCTION

### (Continued)

#### Project Assumptions:

- The project will be constructed by CM at Risk
- Unit rates are based on current dollars, using prevailing wages
- Project assumes a full gut renovation (except to the new construction projects and repair only projects) based on recent bid results of similar size and type
- Sitework based on on-site utilities and not on any off site utilities
- Escalation to start  
This project has
- Escalation during construction duration has been included in the unit rate details
- Subcontractor's markups have been included in each unit rate. Markups cover the cost of field overhead home office overhead home office overhead and subcontractor's profit
- Contractor's Construction Contingency markup is an allowance for unforeseen design issues, design detail development and specification clarifications
- General Conditions and Requirements value covers site management, scaffolding, staging and access, temporary protection, cleaning, SubContractor's General Conditions, site office overheads
- Insurance and Bonds markup is calculated on a percentage basis of direct construction costs. The value covers Contractor's Builder's Risk Insurance, General Liability, Sub-Contractor Bonds, and Performance Bond
- Fee markup is calculated on a percentage basis of direct construction costs

#### Project Exclusions:

- Work beyond the boundary of the site, such as any sitework improvements, traffic issues, etc.
- Owner's Project Administration
- Owner's Project Management (OPM) Fees
- Architectural/Engineering; Designer and other Professional fees, testing, printing, surveying
- Project costs; utility company back charges, construction of temporary facilities, relocation
- Testing
- Specialties, loose furnishings, fixtures and equipment beyond those noted
- Cost associated with demolition or "mothballing" of unused facilities

# Chart of Options

(including Wellesley College "North 40" Site)

Study	North 40 Site	Hardy Elementary	Hunnewell Elementary	Upham Elementary	Population	Cost Total	Cost/Student
1.	New School 660-Students 95,700 GSF New  \$35,620,734	Close School Renovation (Historic Only) 15,116 GSF Renovation  \$6,768,117 **	Renovation & Addition 425-Students 47,613 GSF Addition 22,687 GSF Renovation \$32,704,077	Close	1,085	<b>166,000 GSF</b>  <b>\$68,324,811</b>	\$62,972
2.	New School 536-Students 81,722 GSF \$31,820,807	Close	Close	New School 536-Students 81,722 GSF New \$35,204,701	1,072	<b>163,444 GSF</b>  <b>\$67,025,508</b>	\$62,524
3.	N/A	New School 536-Students 81,722 GSF New \$31,993,171 Renovation (Historic Only) 15,116 GSF Renovation \$6,768,117 **	Renovation & Addition 425-Students 47,613 GSF Addition 22,687 GSF Renovation \$27,012,360	Close	961	<b>152,022 GSF</b>  <b>\$59,005,531</b>	\$61,400
4.	N/A	New School 660-Students 95,700 GSF New \$35,900,517	Close	New School 536-Students 81,722 GSF New \$35,204,701	1,196	<b>177,422 GSF</b>  <b>\$71,105,218</b>	\$59,453
5.	N/A	Close	Renovation & Addition 425-Students 47,613 GSF Addition 22,687 GSF Renovation \$27,012,360	New School 536-Students 81,722 GSF New \$35,204,701	961	<b>152,022 GSF</b>  <b>\$62,217,061</b>	\$64,742
6.	N/A	New School 660-Students 95,700 GSF Renovation (Historic Only) 15,116 GSF Renovation \$41,386,163	New School 536-Students 81,722 GSF New \$36,636,300	Renovation & Addition 536-Students 57,241 GSF Addition 24,481 GSF Renovation \$35,022,733	1,732	<b>274,260 GSF</b>  <b>\$113,045,196</b>	\$65,269
7.	Two Phases Summer Construction N/A	Renovation & Modular 308-Students 45,909 GSF \$15,331,791	Renovation & Modular 330-Students 36,441 GSF \$11,736,510	Renovation & Modular 264-Students 36,481 GSF \$11,200,481	902	<b>118,831 GSF</b>  <b>\$38,268,782</b>	\$42,427
7a.	Single Phase Summer Construction N/A	Renovation & Modular 308-Students 45,909 GSF \$13,937,992 30 Modulares \$4,717,137 ***	Renovation & Modular 330-Students 36,441 GSF \$10,669,554 30 Modulares \$4,717,137 ***	Renovation & Modular 264-Students 36,481 GSF \$10,182,256 30 Modulares \$4,717,137 ***	902	<b>118,831 GSF</b>  <b>*** \$48,941,213</b>	\$54,259
8.	N/A	Renovation & Addition 308-Students 40,037 GSF New Renovation (Historic Only) 15,116 GSF Renovation \$21,682,330 1.5Yr Leased Modular (1) Classrm \$521,084	Renovation & Addition 330-Students 35,558 GSF New 22,687 GSF Renovation  \$24,109,260	New School 264-Students 47,523 GSF New  \$25,292,293 3Yr Leased Modular (3) Classrms \$1,627,211	902	<b>160,921 GSF</b>  <b>\$73,232,178</b>	\$81,189

\*\* Renovation Cost For Historic Hardy School For Reference Only - Not Carried In Final Cost

\*\*\* Modular Cost Will Be Reduced By Redundant Install and Removal Cost Based On Final Master Plan Sequence

**MAIN SUMMARY**

Description:	North 40 Site: New School 660-Students 95,700 GSF New		North 40 Site: New School 536-Students 81,722 GSF New		Hardy: Renovation (Historic) 15,116 GSF Renovation		Hardy: New School 660-Students 95,700 GSF New		Hardy: New School 536-Students 81,722 GSF New		Hardy: New For 660-Students & Historic Renovation 95,700 GSF New		Hardy: Reno. & Addition 308-Students 40,037 GSF Addition		Hunnewell: Reno. & Addition 425-Students 47,613 GSF Addition		Hunnewell: Reno. & Addition 536-Students 62,805 GSF Addition		Hunnewell: New Construction 536-Students 81,722 GSF New		Hunnewell: Reno. & Addition 330-Students 35,558 GSF Addition		Upham: New Construction 536-Students 81,722 GSF New		Upham: Reno. & Addition 536-Students 57,241 GSF Addition		Upham: New Construction 264 47,523 GSF New				
	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	
<b>New Construction GSF:</b>	95,700		81,722		15,116		95,700		81,722		95,700		40,037		47,613		62,805		81,722		35,558		81,722		57,241		47,523				
<b>Renovation GSF:</b>					15,116						15,116		15,116		22,687		18,917				22,687										
<b>New and Renovation GSF:</b>	95,700		81,722		30,793		95,700		81,722		110,816		55,153		70,300		81,722		81,722		35,558		81,722		57,241		47,523				
<b>Area of Demolition GSF:</b>											30,793		30,793		13,754		17,524		36,441		36,481		12,000				36,481				
<b>Direct Trade Costs</b>																															
New Building Trade Costs	\$23,471,048	\$245.26	\$20,427,694	\$249.97			\$23,471,048	\$245.26	\$20,427,694	\$249.97	\$23,471,048	\$245.26	\$11,624,210	\$290.34	\$12,793,139	\$268.69	\$15,620,931	\$248.72	\$20,427,694	\$249.97	\$11,114,502	\$312.57	\$20,427,694	\$249.97	\$14,136,217	\$246.96	\$12,707,141	\$267.39			
Site Development Costs	\$5,057,432	\$52.85	\$5,057,432	\$61.89			\$3,500,038	\$36.57	\$3,500,038	\$42.83	\$3,500,038	\$42.83																			
Additional Sitework							\$750,000	\$7.84	\$750,000	\$9.18	\$750,000	\$9.18			\$125,000	\$1.78	\$125,000	\$1.53	\$125,000	\$1.53	\$125,000	\$2.15									
Storm Water System																							\$2,800,000	\$34.26	\$2,800,000	\$34.26	\$2,800,000	\$58.92			
Earthwork/Ledge Removal																															
Building Demolition					\$161,663	\$10.69	\$241,022	\$2.52	\$241,022	\$2.95	\$161,663	\$1.69	\$161,663	\$4.04	\$72,209	\$1.03	\$92,001	\$1.13	\$191,315	\$2.34	\$72,209	\$1.24	\$191,525	\$2.34	\$63,000	\$0.77	\$191,525	\$4.03			
Building Trade Costs Renovation					\$4,009,447	\$265.25					\$4,009,447	\$265.25	\$4,009,447	\$265.25	\$5,430,203	\$114.05	\$4,780,253	\$252.70			\$5,430,203	\$239.35			\$6,081,276	\$248.41					
Site Development Costs at Renovation (w/Add)					\$1,000,000	\$66.16					\$1,000,000	\$9.02	\$1,000,000	\$18.13	\$1,892,656	\$26.92	\$1,892,656	\$23.16	\$2,625,029	\$32.12	\$1,892,656	\$32.49	\$4,000,928	\$48.96	\$4,000,928	\$48.96	\$4,000,928	\$84.19			
Parking Garage at Cameron Street Lot															\$5,166,145	\$129.03	\$5,166,145	\$108.50													
<b>Direct Trade Cost SubTotal</b>	\$28,528,480	\$298.10	\$25,485,126	\$311.85	\$5,171,110	\$342.10	\$27,962,108	\$292.19	\$24,918,754	\$304.92	\$32,142,196	\$290.05	\$16,795,320	\$304.52	\$25,479,352	\$362.44	\$27,676,996	\$338.67	\$28,535,183	\$348.17	\$18,634,570	\$319.83	\$27,420,147	\$335.53	\$27,081,421	\$331.38	\$19,699,594	\$414.53			
Construction Contingency	3.00%	\$855,854	\$8.94	\$764,554	\$9.36			\$838,864	\$8.77	\$747,563	\$9.15	\$809,133	\$7.30	\$348,726	\$6.32	\$387,544	\$5.51	\$472,378	\$5.78	\$856,056	\$10.48	\$337,185	\$5.79	\$822,605	\$10.07	\$508,087	\$6.22	\$590,988	\$12.44		
Construction Contingency Renovation	5.00%					\$258,556	\$17.10			\$0.00	\$0.00	\$250,472	\$2.26	\$250,472	\$4.54	\$369,753	\$5.26	\$338,246	\$4.14	\$0.00	\$0.00	\$369,753	\$6.35	\$0.00	\$0.00	\$507,260	\$6.21	\$290,988	\$6.15		
<b>Trade Cost SubTotal</b>	\$29,384,334	\$307.05	\$26,249,680	\$321.21	\$5,429,666	\$359.20	\$28,800,972	\$300.95	\$25,666,317	\$314.07	\$33,201,801	\$299.61	\$17,394,518	\$315.39	\$26,236,649	\$373.21	\$28,487,610	\$348.59	\$29,391,239	\$359.65	\$19,341,508	\$332.07	\$28,242,752	\$345.60	\$28,096,768	\$343.81	\$20,290,582	\$426.96			
General Conditions and Requirements	8.50%	\$2,497,669	\$26.10	\$2,231,230	\$27.30	\$461,530	\$30.53	\$2,448,083	\$25.58	\$2,181,640	\$26.70	\$2,822,153	\$25.47	\$1,478,534	\$26.81	\$2,230,115	\$31.72	\$2,421,447	\$29.63	\$2,498,260	\$30.57	\$1,644,028	\$28.23	\$2,400,640	\$29.38	\$2,388,230	\$29.22	\$1,724,700	\$36.29		
Insurance	1.10%	\$350,703	\$3.66	\$313,291	\$3.83	\$64,804	\$4.29	\$343,740	\$3.59	\$306,328	\$3.75	\$396,263	\$3.58	\$207,604	\$3.76	\$313,134	\$4.45	\$340,000	\$4.16	\$350,785	\$4.29	\$230,841	\$3.96	\$337,078	\$4.12	\$335,335	\$4.10	\$242,169	\$5.10		
GC Bonds	1.10%	\$354,560	\$3.70	\$316,737	\$3.88	\$65,516	\$4.33	\$347,521	\$3.63	\$309,698	\$3.79	\$400,622	\$3.62	\$209,887	\$3.81	\$316,579	\$4.50	\$343,740	\$4.21	\$354,644	\$4.34	\$233,380	\$4.01	\$340,786	\$4.17	\$339,024	\$4.15	\$244,832	\$5.15		
Fee	3.00%	\$977,618	\$10.22	\$873,329	\$10.69	\$180,646	\$11.95	\$958,210	\$10.01	\$853,920	\$10.45	\$1,104,625	\$9.97	\$578,716	\$10.49	\$872,894	\$12.42	\$947,784	\$11.60	\$977,848	\$11.97	\$643,493	\$11.05	\$939,638	\$11.50	\$934,781	\$11.44	\$675,069	\$14.21		
<b>Estimated Construction Cost Total</b>	\$33,564,884	\$350.73	\$29,984,267	\$366.91	\$6,202,162	\$410.30	\$32,898,526	\$343.77	\$29,317,903	\$358.75	\$37,925,464	\$342.24	\$19,869,259	\$360.26	\$29,969,371	\$426.31	\$32,540,581	\$398.19	\$33,572,776	\$410.82	\$22,093,250	\$379.32	\$32,260,894	\$394.76	\$32,094,138	\$392.72	\$23,177,352	\$487.71			
Phasing	3.00%					\$186,065	\$12.31	\$986,956	\$10.31	\$879,538	\$10.76	\$1,137,764	\$11.89	\$596,078	\$14.89	\$899,082	\$39.63	\$976,218	\$51.61	\$1,007,184	\$12.32	\$662,798	\$29.21	\$967,827	\$11.84	\$962,825	\$39.33	\$695,321	\$14.63		
Escalation to 2nd Quarter 2016	6.13%	\$2,055,850	\$21.48	\$1,836,540	\$22.47	\$379,890	\$25.13	\$2,015,035	\$21.06	\$1,795,730	\$21.97	\$2,322,935	\$20.96	\$1,216,993	\$22.07	\$1,835,624	\$26.11	\$1,993,111	\$24.39	\$2,056,340	\$25.16	\$1,353,212	\$23.23	\$1,975,980	\$24.18	\$1,965,770	\$24.05	\$1,419,620	\$29.87		
<b>ECC including Escalation Total</b>	\$35,620,734	\$372.21	\$31,820,807	\$389.38	\$6,768,117	\$447.75	\$35,900,517	\$375.14	\$31,993,171	\$391.49	\$41,386,163	\$373.47	\$21,682,330	\$393.13	\$32,704,077	\$465.21	\$35,509,910	\$434.52	\$36,636,300	\$448.30	\$24,109,260	\$413.93	\$35,204,701	\$430.79	\$35,022,733	\$428.56	\$25,292,293	\$532.21			

\*Phasing Impact Can Be Deleted If North 40 is Phase 1

MAIN SUMMARY 2

Description:	North 40 Site: New School 660-Students 95,700 GSF New		North 40 Site: New School 536-Students 81,722 GSF New		Hardy: Renovation (Historic) 15,116 GSF Renovation		Hardy: New School 660-Students 95,700 GSF New		Hardy: New School 536-Students 81,722 GSF New		Hardy: New For 660-Students & Historic Renovation 95,700 GSF New		Hardy: Reno. & Addition 308-Students 40,037 GSF Addition		Hunnewell: Reno. & Addition 425-Students 47,613 GSF Addition		Hunnewell: Reno. & Addition 536-Students 62,805 GSF Addition		Hunnewell: New Construction 536-Students 81,722 GSF New		Hunnewell: Reno. & Addition 330-Students 35,558 GSF Addition		Upham: New Construction 536-Students 81,722 GSF New		Upham: Reno. & Addition 536-Students 57,241 GSF Addition		Upham: New Construction 264 47,523 GSF New			
	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF
<b>New Construction GSF:</b>	95,700		81,722		15,116		95,700		81,722		95,700		40,037		47,613		62,805		81,722		35,558		81,722		57,241		47,523			
<b>Renovation GSF:</b>					15,116						110,816		15,116		22,687		18,917				22,687									
<b>New and Renovation GSF:</b>	95,700		81,722		30,232		95,700		81,722		206,516		55,153		70,300		81,722		81,722		58,245		81,722		57,241		47,523			
<b>Area of Demolition GSF:</b>											30,793		30,793		13,754		17,524		36,441		13,754		36,481		12,000		36,481			
<b>Direct Trade Costs</b>																														
New Building Trade Costs	\$23,471,048	\$245.26	\$20,427,694	\$249.97			\$23,471,048	\$245.26	\$20,427,694	\$249.97	\$23,471,048	\$245.26	\$11,624,210	\$290.34	\$12,793,139	\$268.69	\$15,620,931	\$248.72	\$20,427,694	\$249.97	\$11,114,502	\$312.57	\$20,427,694	\$249.97	\$14,136,217	\$246.96	\$12,707,141	\$267.39		
Site Development Costs	\$5,057,432	\$52.85	\$5,057,432	\$61.89			\$3,500,038	\$36.57	\$3,500,038	\$42.83	\$3,500,038	\$42.83																		
Additional Sitework							\$750,000	\$7.84	\$750,000	\$9.18																				
Storm Water System															\$125,000	\$1.78	\$125,000	\$1.53	\$125,000	\$1.53	\$125,000	\$2.15	\$2,800,000	\$34.26	\$2,800,000	\$34.26	\$2,800,000	\$58.92		
Earthwork/Ledge Removal																														
Building Demolition					\$161,663	\$10.69	\$241,022	\$2.52	\$241,022	\$2.95	\$161,663	\$1.69			\$72,209	\$1.03	\$92,001	\$1.13	\$191,315	\$2.34	\$72,209	\$1.24	\$191,525	\$2.34	\$63,000	\$0.77	\$191,525	\$4.03		
Building Trade Costs Renovation					\$4,009,447	\$265.25					\$4,009,447	\$265.25	\$4,009,447	\$265.25	\$5,430,203	\$114.05	\$4,780,253	\$252.70			\$5,430,203	\$239.35			\$6,081,276	\$248.41				
Site Development Costs at Renovation (w/Add)					\$1,000,000	\$66.16					\$1,000,000	\$9.02	\$1,000,000	\$18.13	\$1,892,656	\$26.92	\$5,166,145	\$108.50	\$2,625,029	\$32.12	\$1,892,656	\$32.49	\$4,000,928	\$48.96	\$4,000,928	\$48.96	\$4,000,928	\$84.19		
Parking Garage at Cameron Street Lot															(No Garage)															
Underground Parking Garage (20 Spaces)															\$800,000															
<b>Direct Trade Cost SubTotal</b>	\$28,528,480	\$298.10	\$25,485,126	\$311.85	\$5,171,110	\$342.10	\$27,962,108	\$292.19	\$24,918,754	\$304.92	\$32,142,196	\$290.05	\$16,795,320	\$304.52	\$20,913,207	\$297.49	\$27,676,996	\$338.67	\$28,535,183	\$349.17	\$18,634,570	\$319.93	\$27,420,147	\$335.53	\$27,081,421	\$331.38	\$19,699,594	\$414.53		
Construction Contingency	3.00%	\$855,854	\$8.94	\$764,554	\$9.36			\$838,864	\$8.77	\$747,563	\$9.15	\$809,133	\$7.30	\$348,726	\$6.32	\$387,544	\$5.51	\$472,378	\$5.78	\$856,056	\$10.48	\$337,185	\$5.79	\$822,605	\$10.07	\$508,087	\$6.22	\$590,988	\$12.44	
Construction Contingency Renovation	5.00%					\$258,556	\$17.10		\$0.00		\$0.00			\$250,472	\$2.26	\$369,753	\$5.26	\$338,246	\$4.14		\$369,753	\$6.35		\$507,260	\$6.21		\$0.00			
<b>Trade Cost SubTotal</b>	\$29,384,334	\$307.05	\$26,249,680	\$321.21	\$5,429,666	\$359.29	\$28,800,972	\$300.95	\$25,666,317	\$314.07	\$33,201,801	\$299.61	\$17,394,518	\$315.39	\$21,670,504	\$308.26	\$28,487,610	\$348.59	\$29,391,239	\$359.65	\$19,341,508	\$332.07	\$28,242,752	\$345.60	\$28,096,768	\$343.81	\$20,290,582	\$426.96		
General Conditions and Requirements	8.50%	\$2,497,669	\$26.10	\$2,231,230	\$27.30	\$461,530	\$30.53	\$2,448,083	\$25.58	\$2,181,640	\$26.70	\$2,822,153	\$25.47	\$1,478,534	\$26.81	\$1,841,993	\$26.20	\$2,421,447	\$29.63	\$2,498,260	\$30.57	\$1,644,028	\$28.23	\$2,400,640	\$29.38	\$2,388,230	\$29.22	\$1,724,700	\$36.29	
Insurance	1.10%	\$350,703	\$3.66	\$313,291	\$3.83	\$64,804	\$4.29	\$343,740	\$3.59	\$306,328	\$3.75	\$396,263	\$3.58	\$207,604	\$3.76	\$258,637	\$3.68	\$340,000	\$4.16	\$350,785	\$4.29	\$230,841	\$3.96	\$337,078	\$4.12	\$335,335	\$4.10	\$242,169	\$5.10	
GC Bonds	1.10%	\$354,560	\$3.70	\$316,737	\$3.88	\$65,516	\$4.33	\$347,521	\$3.63	\$309,698	\$3.79	\$400,622	\$3.62	\$209,887	\$3.81	\$261,482	\$3.72	\$343,740	\$4.21	\$354,644	\$4.34	\$233,380	\$4.01	\$340,786	\$4.17	\$339,024	\$4.15	\$244,832	\$5.15	
Fee	3.00%	\$977,618	\$10.22	\$873,329	\$10.69	\$180,646	\$11.95	\$958,210	\$10.01	\$853,920	\$10.45	\$1,104,625	\$9.97	\$578,716	\$10.49	\$720,978	\$10.26	\$947,784	\$11.60	\$977,848	\$11.97	\$643,493	\$11.05	\$939,638	\$11.50	\$934,781	\$11.44	\$675,069	\$14.21	
<b>Estimated Construction Cost Total</b>	\$33,564,884	\$350.73	\$28,984,267	\$356.91	\$6,202,162	\$410.30	\$32,898,526	\$343.77	\$29,317,903	\$358.75	\$37,925,464	\$342.24	\$19,869,259	\$360.26	\$24,753,594	\$352.11	\$32,540,581	\$398.19	\$33,572,776	\$410.82	\$22,093,250	\$379.32	\$32,260,894	\$394.76	\$32,094,138	\$392.72	\$23,177,352	\$487.71		
Phasing	3.00%				\$186,065	\$12.31	\$986,956	\$10.31	\$879,538	\$10.76	\$1,137,764	\$11.89	\$596,078	\$14.89	\$742,608	\$32.73	\$976,218	\$51.61	\$1,007,184	\$12.32	\$662,798	\$29.21	\$967,827	\$11.84	\$962,825	\$39.33	\$695,321	\$14.63		
Escalation to 2nd Quarter 2016	6.13%	\$2,055,850	\$21.48	\$1,836,540	\$22.47	\$379,890	\$25.13	\$2,015,035	\$21.06	\$1,795,730	\$21.97	\$2,322,935	\$20.96	\$1,216,993	\$22.07	\$1,516,158	\$21.57	\$1,993,111	\$24.39	\$2,056,340	\$25.16	\$1,353,212	\$23.23	\$1,975,980	\$24.18	\$1,965,770	\$24.05	\$1,419,620	\$29.87	
<b>ECC including Escalation Total</b>	\$35,620,734	\$372.21	\$31,820,807	\$389.38	\$6,768,117	\$447.75	\$35,900,517	\$375.14	\$31,993,171	\$391.49	\$41,386,163	\$373.47	\$21,682,330	\$393.13	\$27,012,360	\$384.24	\$35,509,910	\$434.52	\$36,636,300	\$448.30	\$24,109,260	\$413.93	\$35,204,701	\$430.79	\$35,022,733	\$428.56	\$25,292,293	\$532.21		

\*Phasing Impact Can Be Deleted if North 40 is Phase 1

**DIRECT TRADE COST SUMMARY**

TRADE DESCRIPTION	North 40 Sitework	Hardy Sitework for New	Hunnewell Sitework for New	Hunnewell Sitework for Renovation & New	Upham Sitework	New School for 660 Students 95,700 GSF		New School for 536 Students 81,722 GSF		Hardy: 15,116 GSF		Hunnewell Renovation 22,687 GSF		Hunnewell Addition 47,613 GSF		Hunnewell Renovation 18,917 GSF		Hunnewell Addition 62,805 GSF		Upham Renovation 24,481 GSF		Upham Addition 57,241 GSF		New School for 308 Students 55,153 GSF		New School for 330 Students 58,245 GSF		New School for 264 Students 47,523 GSF					
						Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF	Total	Cost/GSF
A10 FOUNDATIONS						\$1,802,810	\$18.84	\$1,515,685	\$18.55	\$0	\$0.00	\$0	\$0.00	\$846,384	\$17.78	\$0	\$0.00	\$1,098,828	\$17.50	\$0	\$0.00	\$846,384	\$14.79	\$0	\$0.00	\$908,832	\$16.48	\$955,831	\$16.41	\$808,204	\$17.01		
A20 BASEMENT						\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00		
B10 STRUCTURE						\$2,955,765	\$30.89	\$2,534,044	\$31.01	\$0	\$0.00	\$0	\$0.00	\$1,527,310	\$32.08	\$0	\$0.00	\$1,973,749	\$31.43	\$0	\$0.00	\$1,890,286	\$33.02	\$1,752,977	\$31.78	\$1,850,019	\$31.78	\$1,513,509	\$31.85				
B20 EXTERIOR CLOSURE						\$4,425,673	\$46.25	\$3,717,137	\$45.49	\$1,197,500	\$79.22	\$1,539,875	\$67.87	\$2,351,616	\$49.39	\$1,499,000	\$79.24	\$2,725,816	\$43.40	\$1,907,750	\$77.93	\$2,351,616	\$41.08	\$2,268,528	\$41.13	\$2,367,581	\$40.65	\$2,103,440	\$44.28				
B30 ROOFING						\$1,163,250	\$12.16	\$997,750	\$12.21	\$279,646	\$18.50	\$419,710	\$18.50	\$550,900	\$11.57	\$349,965	\$18.50	\$749,500	\$11.93	\$452,899	\$18.50	\$550,900	\$9.62	\$635,169	\$11.52	\$665,873	\$11.43	\$559,403	\$11.77				
C10 INTERIOR CONSTRUCTION						\$2,715,152	\$28.37	\$2,405,558	\$29.62	\$532,234	\$35.21	\$716,441	\$31.58	\$1,785,184	\$37.49	\$633,123	\$33.47	\$2,052,429	\$32.68	\$749,450	\$30.61	\$1,959,344	\$34.23	\$1,908,149	\$34.60	\$1,965,650	\$33.75	\$1,769,086	\$37.23				
C20 STAIRCASES						\$122,000	\$1.27	\$122,000	\$1.49	\$10,000	\$0.66	\$10,000	\$0.44	\$71,000	\$1.49	\$10,000	\$0.53	\$71,000	\$1.13	\$10,000	\$0.41	\$71,000	\$1.24	\$122,000	\$2.21	\$122,000	\$2.09	\$122,000	\$2.57				
C30 INTERIOR FINISHES						\$1,994,845	\$20.84	\$1,834,319	\$22.45	\$483,080	\$31.96	\$725,035	\$31.96	\$1,179,069	\$24.76	\$604,553	\$31.96	\$1,393,416	\$22.19	\$782,368	\$31.96	\$1,314,903	\$22.97	\$1,226,147	\$22.23	\$1,270,282	\$21.81	\$1,117,195	\$23.51				
D10 CONVEYING SYSTEMS						\$102,200	\$1.07	\$102,200	\$1.25	\$0	\$0.00	\$0	\$0.00	\$102,200	\$2.15	\$0	\$0.00	\$102,200	\$1.63	\$0	\$0.00	\$102,200	\$1.79	\$102,200	\$1.85	\$102,200	\$1.75	\$102,200	\$2.15				
D20 PLUMBING						\$594,200	\$6.10	\$500,332	\$6.12	\$75,580	\$5.00	\$113,435	\$5.00	\$295,678	\$6.21	\$94,585	\$5.00	\$398,830	\$6.16	\$122,405	\$5.00	\$353,446	\$6.17	\$451,224	\$8.18	\$475,960	\$8.17	\$390,184	\$8.21				
D30 HVAC						\$2,891,000	\$30.21	\$2,471,660	\$30.24	\$453,480	\$30.00	\$680,610	\$30.00	\$1,448,390	\$30.42	\$567,510	\$30.00	\$1,904,150	\$30.32	\$734,430	\$30.00	\$1,737,230	\$30.35	\$1,674,590	\$30.36	\$1,767,350	\$30.34	\$1,445,690	\$30.42				
D40 FIRE PROTECTION						\$349,520	\$3.65	\$299,199	\$3.66	\$68,022	\$4.50	\$102,092	\$4.50	\$176,407	\$3.71	\$85,127	\$4.50	\$231,098	\$3.68	\$110,165	\$4.50	\$211,068	\$3.69	\$203,551	\$3.69	\$214,682	\$3.69	\$176,083	\$3.71				
D50 ELECTRICAL						\$2,881,000	\$30.10	\$2,461,660	\$30.12	\$423,248	\$28.00	\$635,236	\$28.00	\$1,438,390	\$30.21	\$529,676	\$28.00	\$1,894,150	\$30.16	\$685,468	\$28.00	\$1,727,230	\$30.17	\$1,664,590	\$30.18	\$1,757,350	\$30.17	\$1,435,690	\$30.21				
E10 EQUIPMENT						\$880,938	\$9.00	\$880,938	\$10.53	\$75,580	\$5.00	\$113,435	\$5.00	\$493,000	\$10.35	\$94,585	\$5.00	\$493,000	\$7.85	\$122,405	\$5.00	\$493,000	\$8.61	\$724,518	\$13.14	\$729,029	\$12.53	\$711,165	\$14.96				
E20 FURNISHINGS						\$622,696	\$6.51	\$590,213	\$7.22	\$151,160	\$10.00	\$226,870	\$10.00	\$527,611	\$11.08	\$189,170	\$10.00	\$544,766	\$8.67	\$244,810	\$10.00	\$527,611	\$9.22	\$478,627	\$8.68	\$504,812	\$8.67	\$417,649	\$8.79				
F10 SPECIAL CONSTRUCTION						\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00	\$0	\$0.00		
F20 SELECTIVE DEMOLITION						\$0	\$0.00	\$0	\$0.00	\$259,917	\$17.19	\$147,466	\$6.50	\$0	\$0.00	\$122,961	\$6.50	\$0	\$0.00	\$159,127	\$6.50	\$0	\$0.00	\$41,365	\$0.75	\$43,684	\$0.75	\$0	\$0.00	\$35,642	\$0.75		
G10 SITE PREPARATION	\$1,093,573	\$835,192	\$626,394	\$615,850	\$1,336,082	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		
G20 SITE IMPROVEMENTS	\$1,777,859	\$1,178,847	\$884,135	\$762,806	\$1,178,847	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		
G30 SITE CIVIL/MECHANICAL UTILITIES	\$1,086,000	\$1,086,000	\$814,500	\$394,000	\$1,086,000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		
G40 SITE ELECTRICAL UTILITIES	\$500,000	\$400,000	\$300,000	\$120,000	\$400,000	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		
<b>Direct Trade Cost SubTotal</b>	<b>\$5,957,432</b>	<b>\$3,500,038</b>	<b>\$2,625,029</b>	<b>\$1,892,656</b>	<b>\$4,000,928</b>	<b>\$23,471,048</b>	<b>\$245.26</b>	<b>\$20,427,694</b>	<b>\$249.97</b>	<b>\$4,009,447</b>	<b>\$265.25</b>	<b>\$5,430,203</b>	<b>\$239.35</b>	<b>\$12,793,136</b>	<b>\$268.69</b>	<b>\$4,780,263</b>	<b>\$252.70</b>	<b>\$15,620,931</b>	<b>\$248.72</b>	<b>\$6,081,276</b>	<b>\$248.41</b>	<b>\$14,126,217</b>	<b>\$246.96</b>	<b>\$14,169,467</b>	<b>\$256.79</b>	<b>\$14,793,203</b>	<b>\$263.98</b>	<b>\$12,707,161</b>	<b>\$267.39</b>				
Construction Contingency	3.00%	\$151,723								\$200,473	\$13.26	\$271,511	\$11.97	\$383,795	\$8.06	\$239,013	\$12.63	\$468,628	\$7.46	\$304,064	\$12.42	\$424,087	\$7.41	\$424,875	\$7.70	\$443,797	\$7.62	\$381,215	\$8.02				
Construction Contingency Renovation	5.00%		\$175,002	\$131,251	\$94,633	\$200,046		\$704,131	\$7.36	\$612,831	\$7.50																						
<b>Trade Cost SubTotal</b>	<b>\$5,209,155</b>	<b>\$3,675,040</b>	<b>\$2,756,280</b>	<b>\$1,987,289</b>	<b>\$4,200,974</b>	<b>\$24,175,179</b>	<b>\$252.61</b>	<b>\$21,040,525</b>	<b>\$257.46</b>	<b>\$4,209,920</b>	<b>\$278.51</b>	<b>\$5,701,714</b>	<b>\$251.32</b>	<b>\$13,176,934</b>	<b>\$276.75</b>	<b>\$5,019,266</b>	<b>\$265.33</b>	<b>\$16,089,559</b>	<b>\$256.18</b>	<b>\$6,385,340</b>	<b>\$260.83</b>	<b>\$14,560,304</b>	<b>\$254.37</b>	<b>\$14,587,342</b>	<b>\$264.49</b>	<b>\$15,237,000</b>	<b>\$261.60</b>	<b>\$13,088,356</b>	<b>\$275.41</b>				
General Conditions and Requirements	8.50%	\$442,780	\$312,380	\$234,290	\$168,920	\$357,090	\$2,054,900	\$21.47	\$1,788,450	\$21.88	\$357,850	\$23.67	\$484,646	\$21.36	\$1,120,040	\$23.52	\$426,638	\$22.55	\$1,367,613	\$21.78	\$542,750	\$22.17	\$1,237,777	\$21.62	\$1,239,930	\$22.48	\$1,295,150	\$22.24	\$1,112,520	\$23.41			
Insurance	1.10%	\$62,171	\$43,862	\$32,896	\$23,718	\$50,139	\$288,531	\$3.01	\$251,119	\$3.07	\$50,245	\$3.32	\$66,050	\$3.00	\$167,267	\$3.30	\$59,905	\$3.17	\$192,029	\$3.06	\$76,209	\$3.11	\$173,777	\$3.04	\$174,100	\$3.16	\$181,854	\$3.12	\$156,210	\$3.29			
GC Bonds	1.10%	\$62,855	\$44,344	\$33,258	\$23,979	\$50,690	\$291,705	\$3.01	\$253,881	\$3.11	\$50,798	\$3.36	\$66,799	\$3.03	\$168,997	\$3.34	\$60,564	\$3.20	\$194,141	\$3.09	\$77,047	\$3.15	\$175,689	\$3.07	\$176,015	\$3.19	\$183,854	\$3.16	\$157,928	\$3.32			
Fee	3.00%	\$173,309	\$122,269	\$91,702	\$66,117	\$159,767	\$804,309	\$8.40	\$700,019	\$8.67	\$140,064	\$9.27	\$189,696	\$8.36	\$438,397	\$9.21	\$166,991	\$8.83	\$535,300	\$8.52	\$212,441	\$8.68	\$484,422	\$8.46	\$485,322	\$8.80	\$506,936	\$8.70	\$435,450	\$9.16			
<b>Estimated Construction Cost Total</b>	<b>\$5,950,270</b>	<b>\$4,197,895</b>	<b>\$3,148,426</b>	<b>\$2,270,023</b>	<b>\$4,798,660</b>	<b>\$27,614,624</b>	<b>\$288.55</b>	<b>\$24,033,994</b>	<b>\$294.09</b>	<b>\$4,808,877</b>	<b>\$318.13</b>	<b>\$6,512,905</b>	<b>\$287.08</b>	<b>\$15,051,635</b>	<b>\$316.12</b>	<b>\$5,733,364</b>	<b>\$303.08</b>	<b>\$16,378,642</b>	<b>\$292.63</b>	<b>\$7,293,791</b>	<b>\$297.94</b>	<b>\$16,631,818</b>	<b>\$290.56</b>	<b>\$16,662,709</b>	<b>\$302.12</b>	<b>\$17,404,794</b>	<b>\$298.82</b>	<b>\$14,950,464</b>	<b>\$314.59</b>				
Escalation	6.13%	\$364,460	\$257,130	\$192,850	\$139,040	\$293,920	\$1,691,400	\$17.67	\$1,472,000	\$18.01	\$294,550	\$19.49	\$398,916	\$17.58	\$921,913	\$19.36	\$351,169	\$18.56	\$1,125,692	\$17.92	\$446,745	\$18.25	\$1,018,699	\$17.80	\$1,020,600	\$18.50	\$1,066,050	\$18.30	\$915,720	\$19.27			
<b>ECC including Escalation Total</b>	<b>\$6,314,730</b>	<b>\$4,455,025</b>	<b>\$3,341,276</b>	<b>\$2,409,063</b>	<b>\$5,092,580</b>	<b>\$29,306,024</b>	<b>\$306.23</b>	<b>\$25,506,084</b>	<b>\$312.11</b>	<b>\$5,103,427</b>	<b>\$337.62</b>	<b>\$6,911,821</b>	<b>\$304.66</b>	<b>\$15,973,548</b>	<b>\$335.49</b>	<b>\$6,084,533</b>	<b>\$321.64</b>	<b>\$19,504,334</b>	<b>\$310.55</b>	<b>\$7,740,536</b>	<b>\$316.19</b>	<b>\$17,650,517</b>	<b>\$308.35</b>	<b>\$17,683,309</b>	<b>\$320.62</b>	<b>\$18,470,844</b>	<b>\$317.12</b>	<b>\$15,866,184</b>	<b>\$333.86</b>				





Symmes Maini & McKee  
Associates

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