

SMMA

10 Year Facility Master Plan  
3 School Pilot Study for:

## *Boston Public Schools*

Boston, Massachusetts

11.09.2015





# *10 Year Facility Master Plan 3 School Pilot Study*

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# *Facility Master Plan Pilot Study Prepared for:*

City of Boston—Martin J. Walsh, Mayor

Boston Public Schools—Dr. Tommy Chang,  
Superintendent

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SMMA

# Boston Public Schools SY2016 Organizational Chart (TBD)



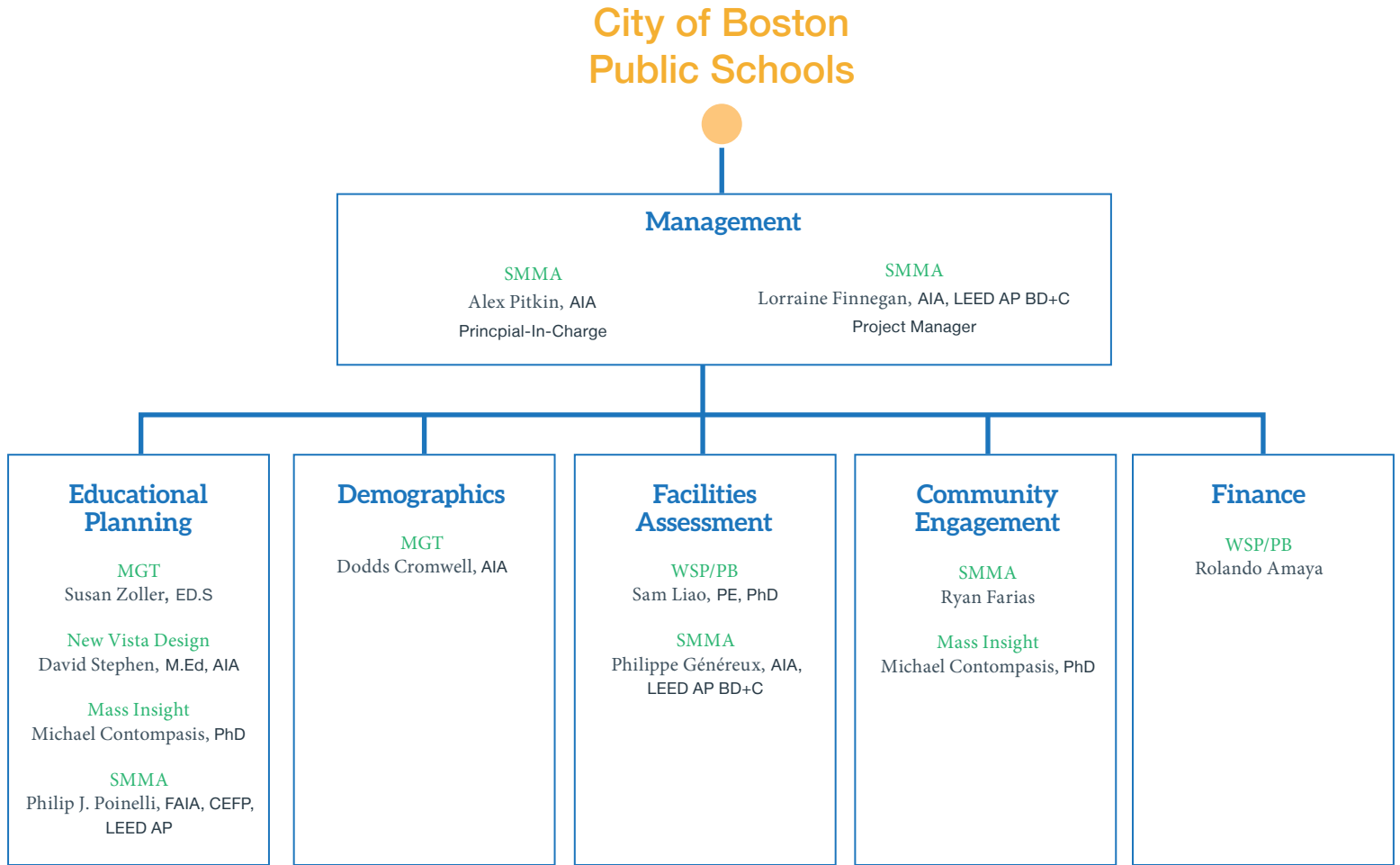
## *Introduction*

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# 10 Year Facility Master Plan Organizational Chart (TBD)

# Team Organization Chart



# Executive Summary

During the week of August 3rd, SMMA's full team of in house architects, engineers and educational planners joined forces with our partners to conduct the three school, four building Pilot Study for the first phase of the 10 Year Facility Masterplan (FMP) for the Boston Public Schools. Boston Public Schools (BPS) and the FMP Management team selected the three schools for a variety of attributes and unique features relative to the portfolio of schools in the Boston Public School system. The purpose of the Pilot Study was to test the amount and quality of data available from the State, City, and BPS, understand the amount of data the various teams can collect given the budget and time constraints relative to evaluating 128 schools and 133 total buildings for the final FMP. Our team evaluated the pilot buildings and schools four different ways in order to capture the greatest amount of data and to test the data's relevancy with the FMP Management team prior to finalizing the scope for the Educational and Physical assessments scheduled to commence in January 2016.

## Educational Assessments

Educational assessments should and will be conducted while school is in session and will include high level interviews with school leaders. For the Pilot study the teams leaned on the depth of experience and understanding of education to infer the qualitative and numeric links between the building space and its educational efficacy for 21<sup>st</sup> Century learning.

The educational assessment teams consisted of two teams, one was SMMA's educational planners and the second our Educational Planning partners MGT's two planners. The teams toured the schools over the same four hour time period walking the schools with the principals to glean as much insight as possible regarding the educational adequacy relative to the physical environment and in anticipation of potential changes to accommodate 21<sup>st</sup> Century educational pedagogy. MGT gathered their data in their BASYS (Building Assessment System) tablet based data management system "scoring" each school relative to observations in the field. SMMA also toured the schools and noted the general capacity and spatial constraints in order to develop diagrammatic program and deficiency plans relative to the Massachusetts School Building Authority's (MSBA) space summary of standards creating a baseline level of understanding for further potential study. The educational assessments will be critical for evaluating the potential retention and best utilization for each building.

## Physical Assessments

Physical Assessments were also conducted using two teams of experts, SMMA's architects and engineers walked the buildings with our partner Parsons Brinkerhoff (PB) spending a full day at each school, and a half day at each Henderson building. Tours were conducted by a custodian familiar with the building and the intention was to observe and record as much information as possible and in a format to be reviewed by BPS and the City's Property and Construction Management Department (PCMD). The full assessment is scheduled to be conducted in the summer of 2016 with empty buildings to allow for maximum ease of access. Each school will receive a much shortened and tighter time allotment than the pilot due to budget and time constraints of the FMP. The PB assessment team collected their data in a template utilizing data software created by INDUS and intended to be entirely inputted at the site by an assessment team (it is intended that PB will field up to four teams in order to complete the assessments in the course of three months). SMMA engineers also worked on the INDUS platform and tablets but primarily reviewed the schools in a truncated due diligence format that follows the MSBA standard for preliminary feasibility analysis.

## City and Neighborhood Data

SMMA also collected data pertinent to the three schools' educational, physical, social/economic, and ecological milieu. Its value should lie in coordinating with the Citywide 2030 vision planning commencing in 2015. Ultimately some of this data may play a key role in defining where and what types of school facilities will come to define the BPS District for the future and what buildings are invested in over the next 10+ years.

While all of these methodologies have their benefits and drawbacks it is critical to seek the most pertinent data for creating and supporting the various masterplan options to engage the citizens of the City of Boston, the mayor's office, the school committee, and Superintendent Chang with an actionable framework for leading BPS into the educational vanguard for large urban districts and in a long range and sustainable manner.

## Vision and Observations

### BPS Vision: Aspirational Goals *(Approved April 30, 2014)*

Thematic Category	Goal Statement
1 Improved student outcomes:	BPS will graduate all students as life-long learners and engaged global citizens, well-prepared for post-secondary pathways.
2 Improved school quality:	BPS will be a district of all high-performing schools, eliminating both the opportunity gap and the achievement gap.
3 Strong school and district leadership/ high-quality, action-oriented teachers & staff:	BPS will recruit, hire, develop, support, and retain highly effective, culturally proficient school and district leaders, teachers, and staff who are held accountable for improving student outcomes.
4 Effective resource allocation:	BPS will make effective and equitable use of all available resources.
5 Greater community engagement:	BPS will strengthen student, family, and community investment to enable student success.

## BPS Vision: Priority Area *(Approved April 30, 2014)*

1. BPS will provide rigorous, effective, and engaging curriculum, instruction, and enrichment. Special focus will be given to the following areas.
  - Literacy, particularly in early and transition years, to build a strong foundation for academic success across all subject areas and across all grades.
  - College readiness and/or career preparedness.
2. BPS will continue to foster an environment of high expectations combined with targeted interventions and support in order to meet the learning needs of all students.
3. BPS will provide equitable access to quality facilities and highly effective programs.
4. BPS will implement strategies to ensure every school will have highly effective school leaders, teachers, and staff. The workforce will reflect the rich diversity of the students BPS serves.
5. BPS will continue to increase school autonomy and support to schools while also strengthening clear systems of accountability for both central office and schools.
6. BPS will empower, support, and hold accountable school leaders, teachers, and staff to effectively engage with families, partners, and the community to foster shared responsibility for student achievement.

## BPS Vision: Identified Educational Considerations

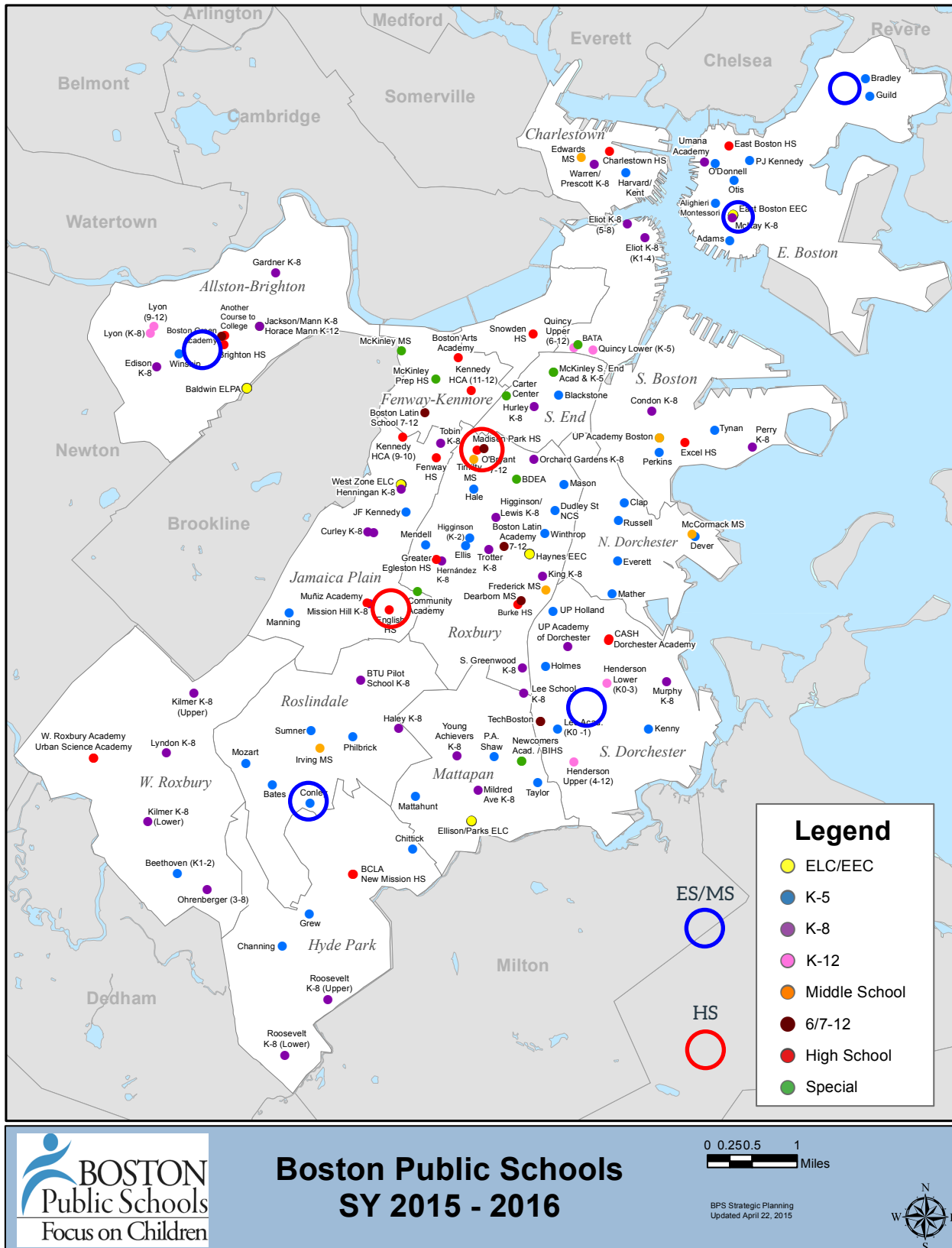
1. Increased early childhood programs with Universal Pre-K.
2. Differentiated space for schools serving students in inclusion and dual language classrooms.
3. Differentiated space for various grade levels and academic subjects:
  - a) STEM Labs and Project Based Learning Areas
  - b) Arts and Music
  - c) Sciences
4. Classroom design and infrastructure conducive to supporting technology-enhanced education through seamless online access and one-to-one devices.

Note: It is anticipated that Superintendent Chang's 100 day plan and the FMP educational visioning/planning process commencing in the fall of 2015 will add to, alter or confirm aspects of the 2014 vision plan.

## Early Observations (*FMP-in-Process Actions*)

1. Develop template based on Pilot observations
2. Develop standards and implementation strategies for system-wide uniformity in the following key areas:
  - a. Accessibility
  - b. Technology
    - › Infrastructure and power support
    - › Equipment
    - › Software and educational visioning alignment
  - c. Energy Management
  - d. Furniture study and program for 21<sup>st</sup> Century learning styles and flexibility
  - e. Security
3. Identify operational “optimization”: most efficient schools by typology
  - a. Transportation
  - b. Energy
  - c. Other
4. Develop approach to swing space for Master Plan implementation
  - a. Review space and site availability for various school types
5. Identify City Owned Parcels greater than 3 acres for potential elementary/middle schools
6. Develop approach to Emergency Maintenance for systems during Master Plan for 10-20 years and 20-30 years

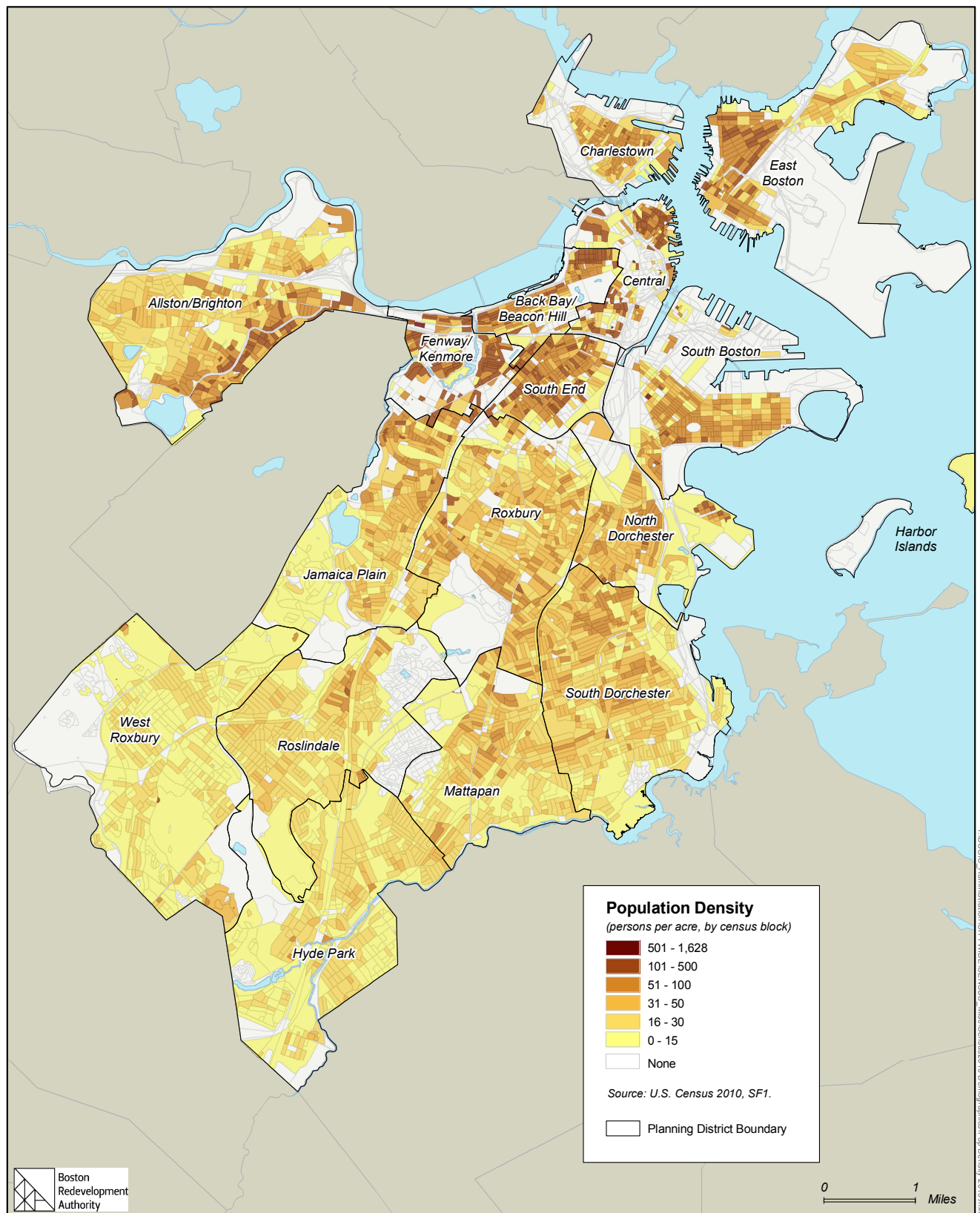
## Early Observations: Swing Space Geographic Targets



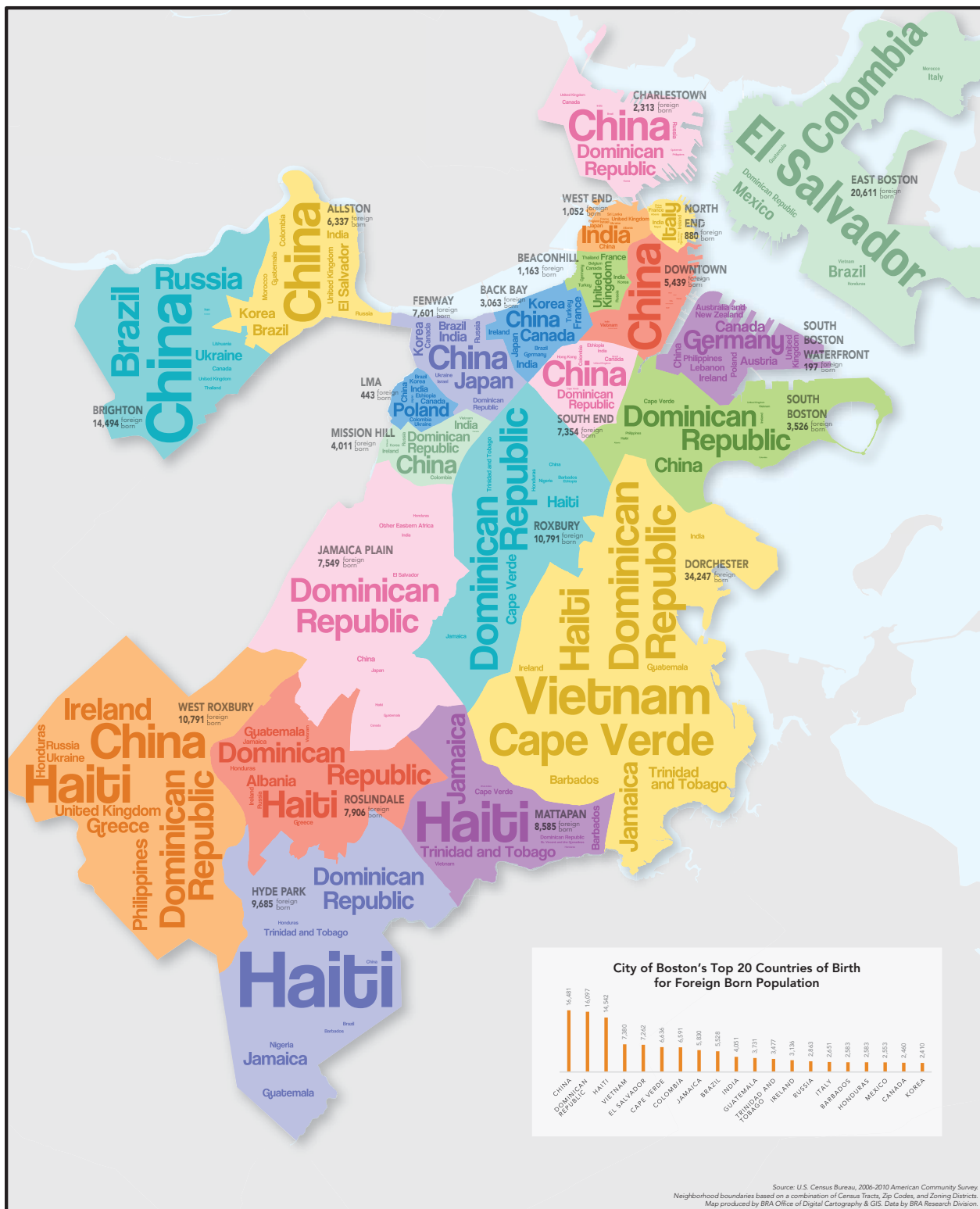
# Demographics

As part of the 10 Year Facility Master Plan, SMMA's partner MGT will be conducting a demographic analysis for BPS to best understand trends and pressures effecting school enrollment. MGT will work closely with the city, Boston Redevelopment Authority (BRA) and BPS to analyze and illustrate the most accurate data possible. The following pages from the BRA 2010 Census report also provide valuable insight into neighborhood by neighborhood demography that might influence school planning strategies in the master plan.

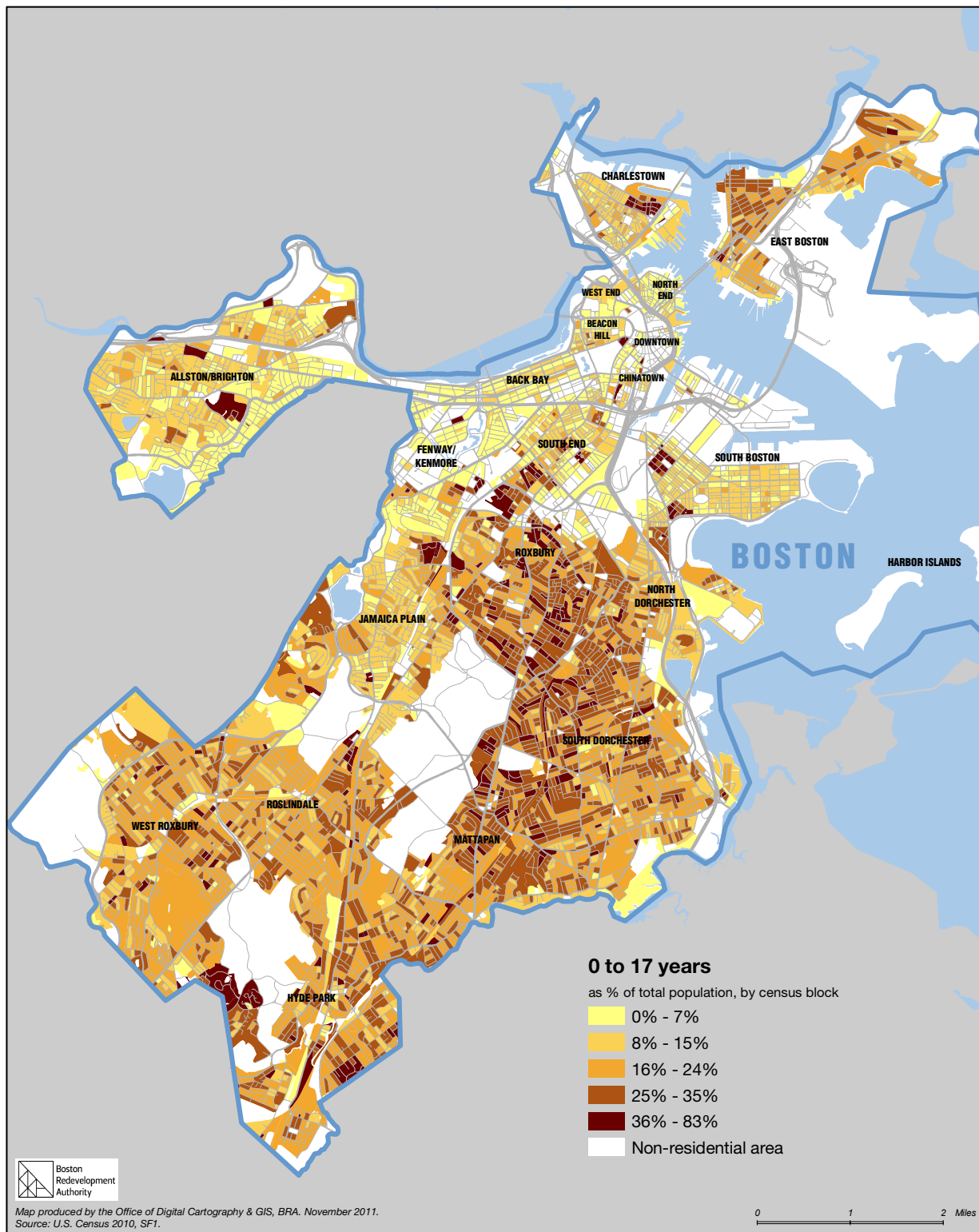
## 2010 Population Density by Census Block



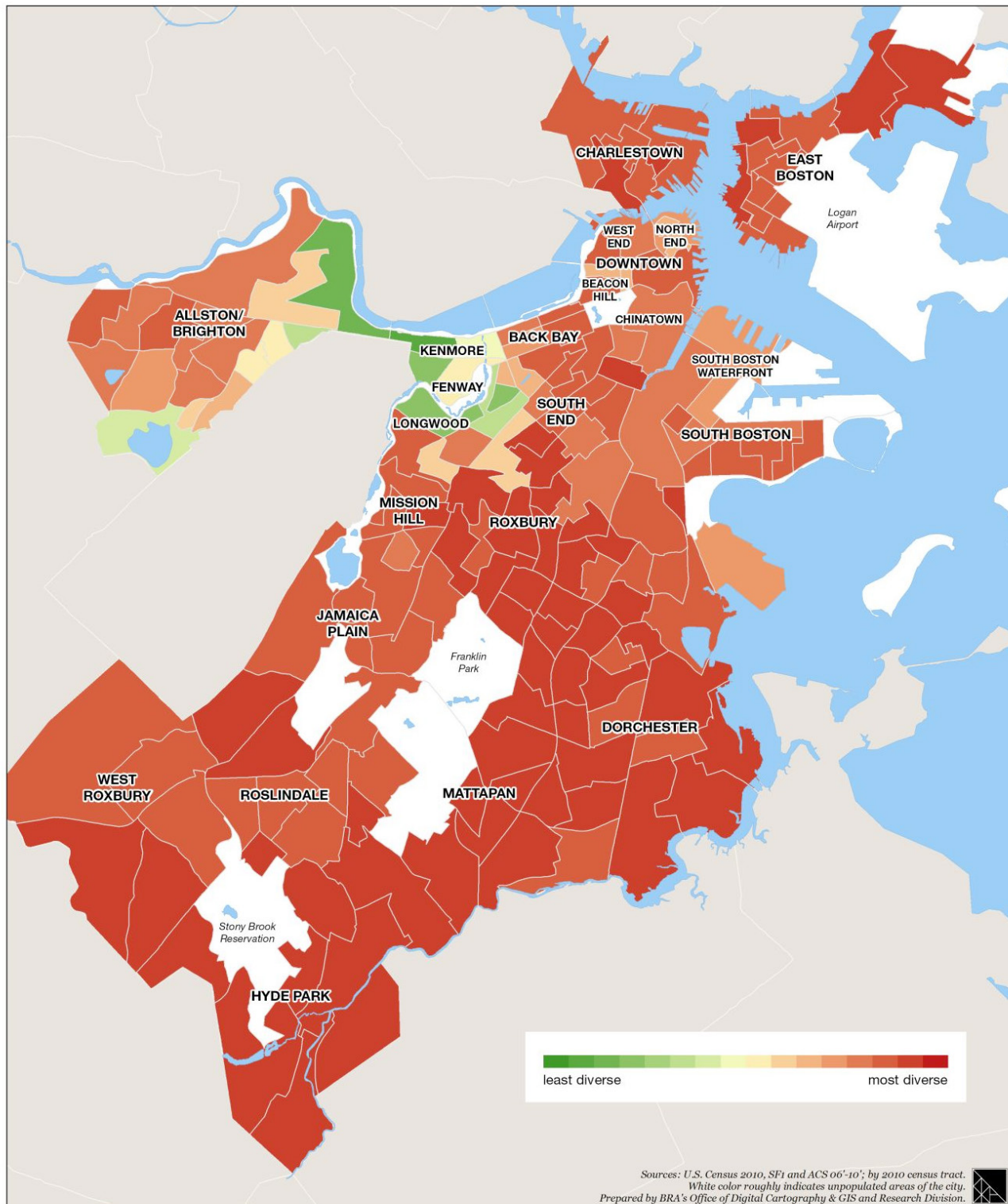
## Top 10 Countries of Birth for Foreign-born Population



## Children 0–17 Years Old

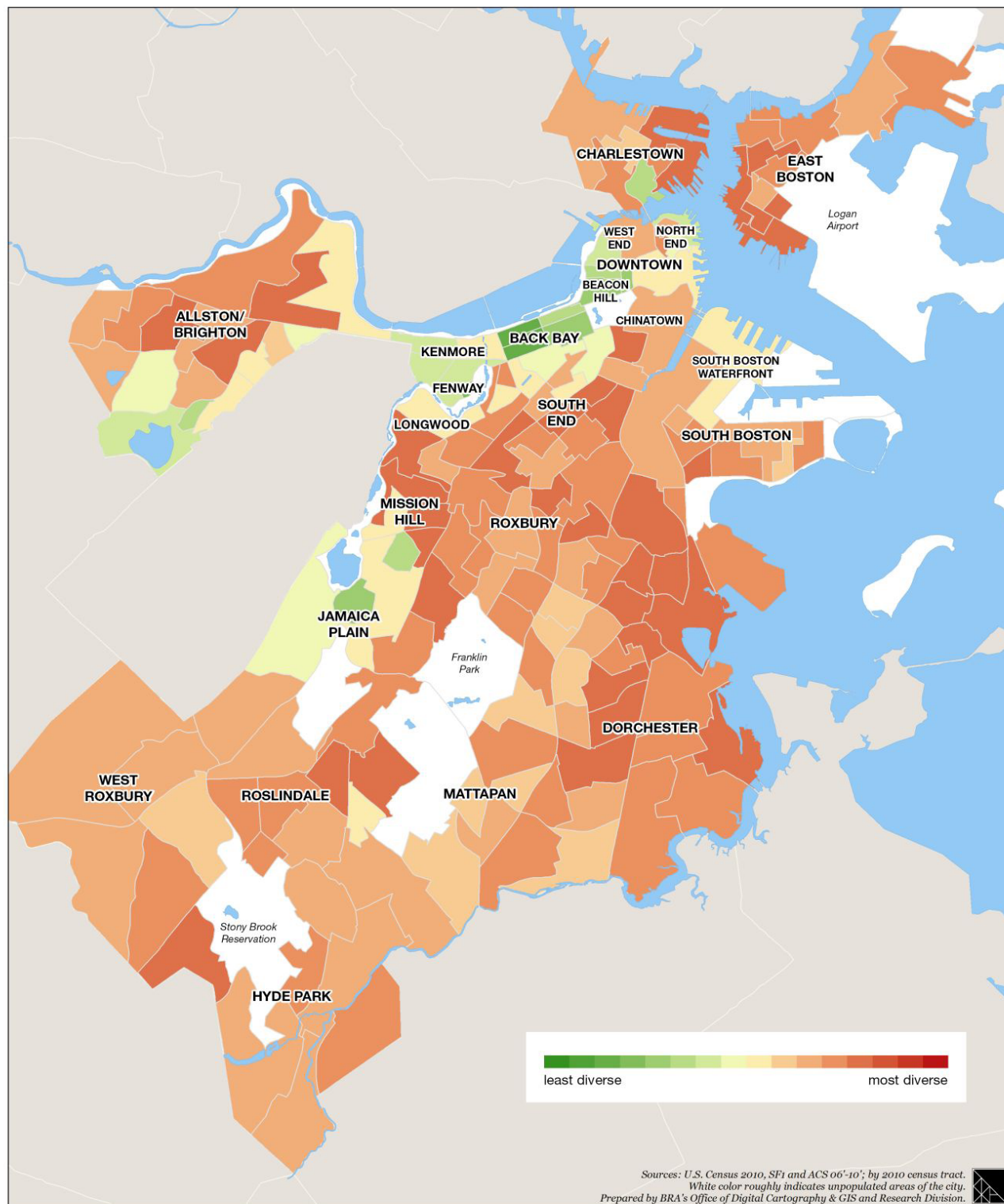


## Diversity by Age, 2010



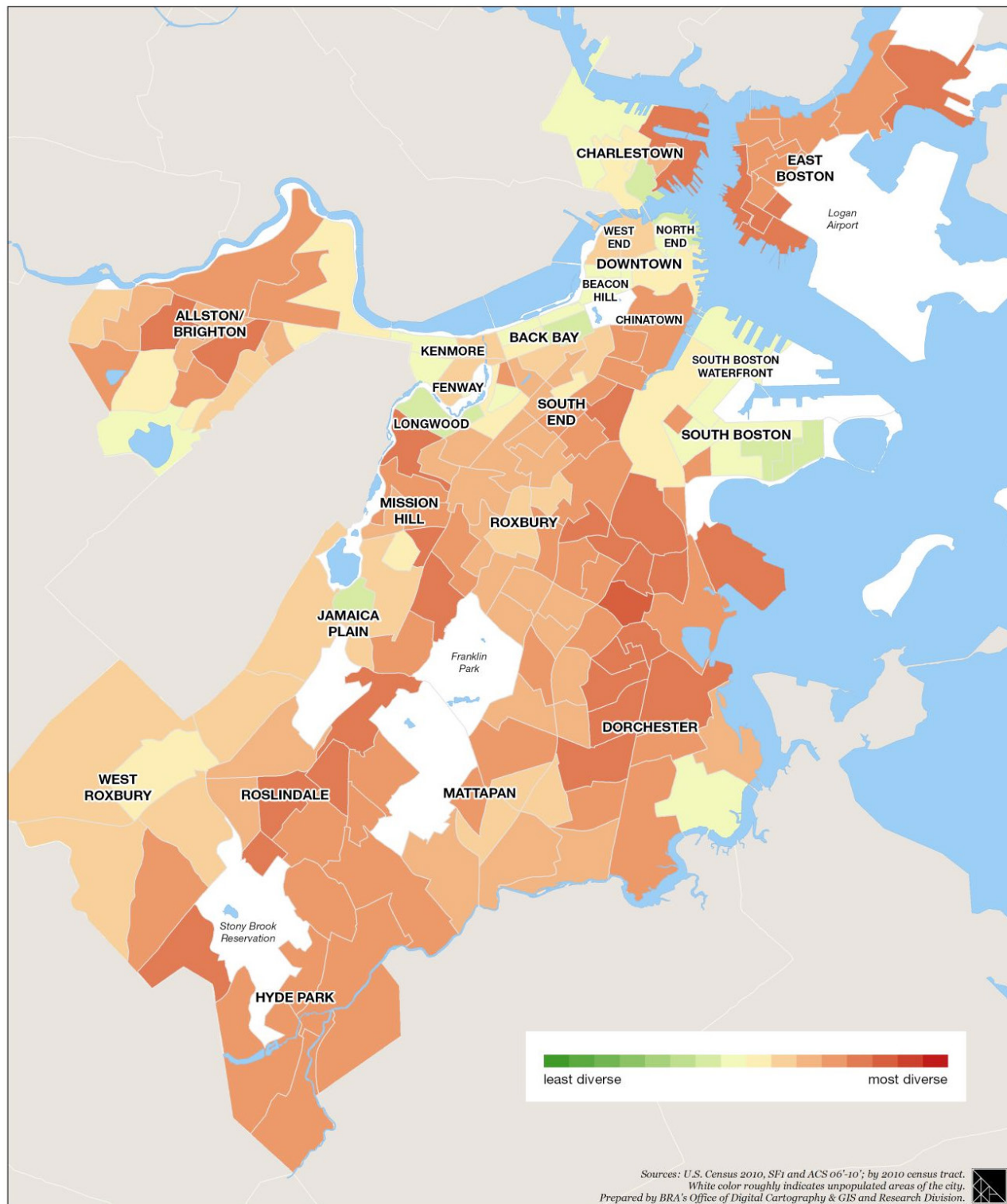
Source: Boston Redevelopment Authority, Research Division  
 Maps by Boston Redevelopment Authority, Office of Digital Cartography and GIS

## Diversity by Education, 2010



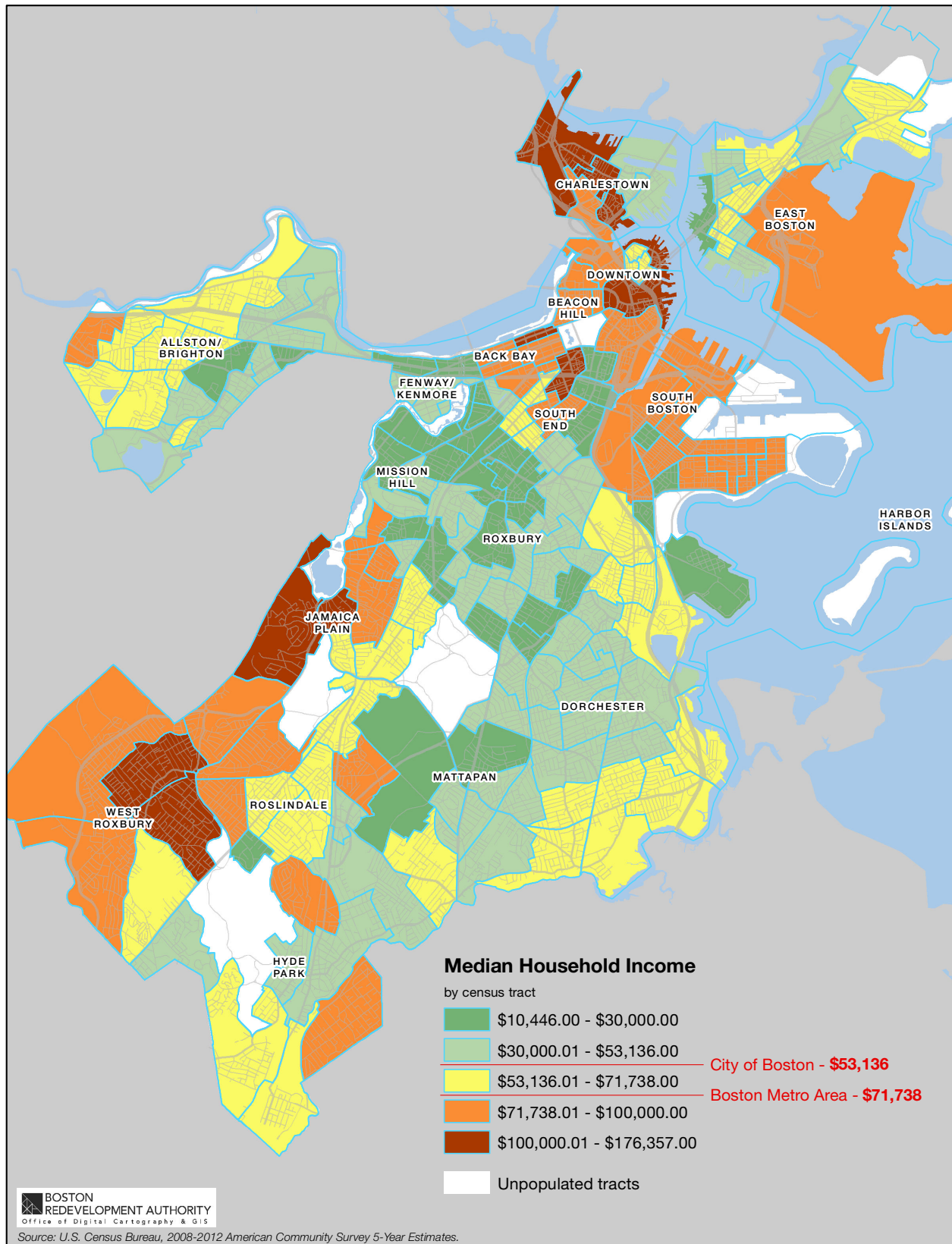
Source: Boston Redevelopment Authority, Research Division  
Maps by Boston Redevelopment Authority, Office of Digital Cartography and GIS

## Diversity Composite Score, 2010



Source: Boston Redevelopment Authority, Research Division  
 Maps by Boston Redevelopment Authority, Office of Digital Cartography and GIS

## Median Household Income



# Mario Umana K-8 Academy Report

## 1 Planning Considerations

*Summary*

*Context and Research*

*Floor Plans*

*Site*

## 2 Building Educational Assessments

*Summary & Mission*

*Background*

*Methodology & Approach*

*Pilot Study Report*

*Findings and Recommendations*

## 3 Building Physical Assessments

*Summary*

*Due Diligence Report*

*Energy & Sustainability*

## 4 Facility Condition Assessments

*Methodology*

*Reports*

## 5 Appendix

*Wallace Floyd 1993 Report*

*MSBA 2010 Needs Survey (missing)*

*Agendas*

*Sample Schedule*



# Planning Considerations

## Summary

### Context & Research

### Floor Plans

### Site

## Summary

The Mario Umana Academy is a K-8 Academy located at 312 Border St. in East Boston that serves nearly 800 students. An Expanded Learning Time (ELT) school – school hours are 7:20 AM to 2:30 PM – Umana Academy is able to offer a wide array of enrichment opportunities and experiential learning, including additional support and classes in Math, English Language Arts (ELA) and English as a Second Language (ESL) for students needing that help. Local community and corporate partners provide programs in music, fitness/nutrition, sports and engineering as well as offering unique opportunities for students to broaden their academic and cultural horizons.

### History of the School

The former East Boston Technical High School was located on the current site In 1976, and formed in partnership with the Massachusetts Institute of Technology (MIT), the Wentworth Institute of Technology and the Massachusetts Port Authority, the Boston School Committee established the Mario Umana Harbor School of Science and Technology, a citywide magnet school in technical education for students in grades 7-12.

In 1989, the school merged with Boston Technical High School and retained that name, eventually becoming what is now the John D. O'Bryant School of Mathematics and Science. Another merger with the former Joseph H. Barnes School led to the founding of the Umana/Barnes Middle School at the current location. In 2007, the school was renamed the Umana Middle School Academy. After the closure of the Dante Alighieri School in 2011, the school expanded from a middle school to a K-8 school and was renamed once again as Mario Umana Academy.

### Student Profile

In one of the fastest growing and changing demographic areas of the City the Umana and other East Boston facilities face unique challenges along Racial/Ethnic Demographics:

- 77% Hispanic
- 9.5% White
- 7% Black
- 2.3% Asian
- 4.2% Mixed/Other
- More than 90% of Umana Academy students live in households below the poverty level
- About 23% of the students receive special education services
- 50% are English Language Learners, nearly two-thirds speak a non-English first language

### Academics

- Umana's long-term vision is to transform Umana Academy into a STEM-focused (Science, Technology, Engineering and Mathematics) dual language learning organization. The educational model will allow for flexibility in staffing and scheduling to maximize Expanded Learning Time.
- In September 2014, the Umana became a Dual Language School (English and Spanish) starting with this year's K2 students. Our Language Model starts in kindergarten with 80% of instruction in Spanish and 20% in English. During each subsequent school year, the amount of Spanish instruction will decrease until by grade 3 – 50% of instruction will be in Spanish and 50% in English. This 50/50 instructional model will continue through grades 4 – 8.

## At a Glance: Mario Umana K-8 Academy

312 Border Street  
East Boston, MA 02128  
Phone: 617.635.8481  
Fax: 617.635.9595

DOE Code: TBD  
BPS Code: TBD

<http://www.bostonpublicschools.org>

### Building Assessment

Educational Program Support (FEA)	Physical Condition (FCA)
Operational	Community

Tax & Values as of 2015					
Tax Parcel ID 103668000	Tax P Type 976	Tax Land Usage E	Tax Bld Value \$17,520,100	Tax Land Value \$16,279,900	Tax Total Value \$33,800,000
Tax Gross Area \$169,500	Tax LV SF \$403,445	Tax Living Area \$169,500	Compliance Trigger \$5,256,000		

MSBA School Data					
Year Built 1899	Year Founded 1975	Renovations 2010	Additions		

### Historic District: Grove Hall Mass Historic State Registry

Historic Building Designation: None  
Original Building Name: Mario Umana Academy

Site Acreage: 9.44

Building Gross Floor Area: 193,500 SF (+/-)

Parking: Limited

School Gross Floor Area: 175,015 SF (+/-)

Building Net Assignable Area: (+/-)

Recommendation: No

Source: SMMA  
Approximated using available data

Ratio: Net/Gross 1.71

Site Expansion:

Requires purchase of adjacent parcels

### Climate Preparedness

Flood Zone: No  
Shelter: Yes

Resiliency: No

Redundancy: No

Energy Efficiency: Poor/Fair

Open Space: Moderate

Schools Housed			Community Uses	
	Population	Ed Plan	Connection w/School Programs	
Mario Umana Academy	245	X	Boston Public Library:	N/A
K-5		X	Community Center (Pool):	No
6-8	485	No	Community Resource Room:	Yes
Total	730			

Documentation				Excellent	Good	Fair	Poor	Failing
Plans (CD's):	Site: Yes	Architecture: Yes	Engineering: Yes					
Plans: Program	Site:	Educational: Yes	Deficiency: TBD					
Past Reports:	Wallace Floyd 1993							
BeSafe:	No							
MSBA:	No							

## DOE Student Data

<b>FY2015 Total Enrollment:</b> 488	<b>Student Demographics</b>
<b>Enrolled by Grade</b>	7.1% African American
9th: 135	79.6% Hispanic
10th: 100	9.7% White
11th: 151	2.3% Asian
12th: 149	1% Other/Multi-racial
<b>Gender</b>	.3% Native American
407 Male	82.9% of students are low income
373 Female	

## Contact

<b>School Hours</b>
7:20 am - 2:00 pm
Early Dismissal: 12:00 pm
<b>Grades:</b> K2-8
<b>Level:</b> K-8
<b>School Type:</b> Traditional

<b>Out of School Suspension Rate:</b>	1.8%
<b>In School Suspension Rate:</b>	0.0%
<b>Graduation Rate:</b>	N/A
<b>Absentee Students:</b>	11.7%
<b>Annual Dropout Rate:</b>	No data exists
<b>2012 Graduates Attending Higher Ed.:</b>	No data exists
<b>SAT Scores:</b>	N/A
<b>2013 Mass Core:</b>	No data reported

## DOE Teacher Data

<b>Number of Teachers:</b>	58.2
<b>Student/Teacher Ratio:</b>	12.5 to 1
<b>Teachers Licensed in Teaching Assignment:</b>	94.8%
<b>Number of Classes in Core Academic Areas:</b>	281
<b>Core Academic Classes Taught by Highly Qualified Teachers:</b>	68%

## BPS 2014 Vision Accommodations (current inclusion)

Pre-K	Inclusion	STEM	Technology	21st Century	FF&E
No	Partial	No	Poor	Partial	No

## MSBA School Data

<b>MSBA GSF</b> 163,851	<b>MSBA SF/Student</b> 335
<b>MSBA Space Utilization</b> Below	<b>MSBA Students/Classroom</b> 17
<b>MSBA Enrollment</b> 448	<b>Building Conditions</b> 2 (1-4, 1 highest)
<b>Building Enrollment</b> — (1-4, 1 highest)	<b>Classrooms</b> 65
<b>Floors</b> 3	<b>Structural Class</b> A

# Mario Umana K-8 Academy: At A Glance

One of the more critical challenges facing the BPS leadership is developing consensus on how to evaluate the 128 schools in 133 building's in the public school system. How to select, evaluate, and "weight" the criteria most pertinent to alignment of each building's physical characteristics with its current and/or potential educational program for validating need for a new structure, renovations and additions or consolidation/closure.

For the pilot schools' discussion we have categorized criteria into four elements useful when considering master plan options:

- Building: Educational Facility Assessment
- Building: Physical Facility Assessment
- Building: Operational Assessment
- Community

## Potential criteria in each category:

### 1. Building: Facility Educational Adequacy Assessment (FEA)

Dr. Chang's educational plan (currently in development during the 100 day plan) will ultimately align with or supersede the five goals of the School Committee's 2014 Strategic Vision Plan and will be the primary physical measure for BPS's facilities. Another tool we have employed is the basic Space Summary of the MSBA, the space summary is a good starting point with solid, well tested space allowances, most existing buildings will fall outside of the standards particularly for SPED, ELL and evolving technology programs. Understanding the rapidly evolving educational landscape will require a critical eye to ascertain if a school's physical attributes can be transformed for 21st Century Educational needs – whatever grade structure or school typology is envisioned. It is also important to measure each school with an understanding of the MSBA criteria relative to potential funding approval.

#### *Potential Criteria:*

- BPS Visioning and program goals
- MSBA Summary of Spaces
- Oversubscribed or under-subscribed facility
- Site availability for future growth
- BASYS report

### 2. Building: Physical Assessment (FCA)

The sheer scale of the BPS school inventory and the limited budget for physical analysis will require a "triage" approach to physically assessing the various facilities. By using the initial Educational Facility Assessments (FEA) as a primary filter during the master plan options and scenarios phase of a more nuanced or targeted strategy for understanding the scope of the FCA work can be developed for implementation in the summer of 2015.

#### *Potential Criteria:*

- Simplified Due Diligence Engineering Reports
- Security Systems complete and in place
- FCA Reports

### 3. Building: Operational Assessment

During recent conversations the cost of operations for various schools within the system have been discussed – although not directly a part of the 10 Year FMP this issue is acknowledged to be a critical factor for BPS to determine a plan direction for sustainability BPS into the future.

*The following criteria can be generated using the FMP data:*

- Cost per student (cost to maintain the building and run the school)
- Cost per Square footage
- Cost analysis of school typology (Grade structure and program)
- Energy consumption

### 4. Community

Schools play an important physical and social roles in the communities and neighborhoods they serve, perhaps one of the intense topics of conversation with community engagement process will be how schools are valued at the grass roots level.

*Potential Criteria:*

- Demographic data
- Choice popularity
- Forced assignment
- Neighborhood “impact”
- Pathways and feeder patterns
- Access to community resources (City as a School)
- Climate readiness
- Open Space Utilization

#### Key



Excellent   Good   Fair   Poor   Failing

### Educational Performance of the School

For the Pilot study the DOE rating has been taken into account, as no school should be judged solely by its test scores BPS Leadership will provide additional criteria for consideration. BPS is in the process of refining this process through the SQI

*Potential Criteria:*

- DESE rating(s)
- Year over year changes
- Choice popularity
- Feeder school patterns
- Type of program



## Summary

## Context &amp; Research

## Floor Plans

## Site

## Educational Planning Summary

### Boston Public Schools 10 Year Facility Master Plan: Educational Vision Plan for K-8 Schools and Middle Schools

Superintendent Dr. Tommy Chang and his leadership team will be reviewing educational programs and pedagogy for the middle and K-8 school curriculum relative to the school committee's 2014 vision statement.

For the Pilot Study the MSBA's space metrics for elementary and middle schools have been used to "evaluate" the Umana's spaces as a school and determine its capacity. Note that additional Special Education (SPED), English Language Learners (ELL), and 21<sup>st</sup> Century space initiatives will have an impact in further space utilization analysis.

#### Grade Configurations

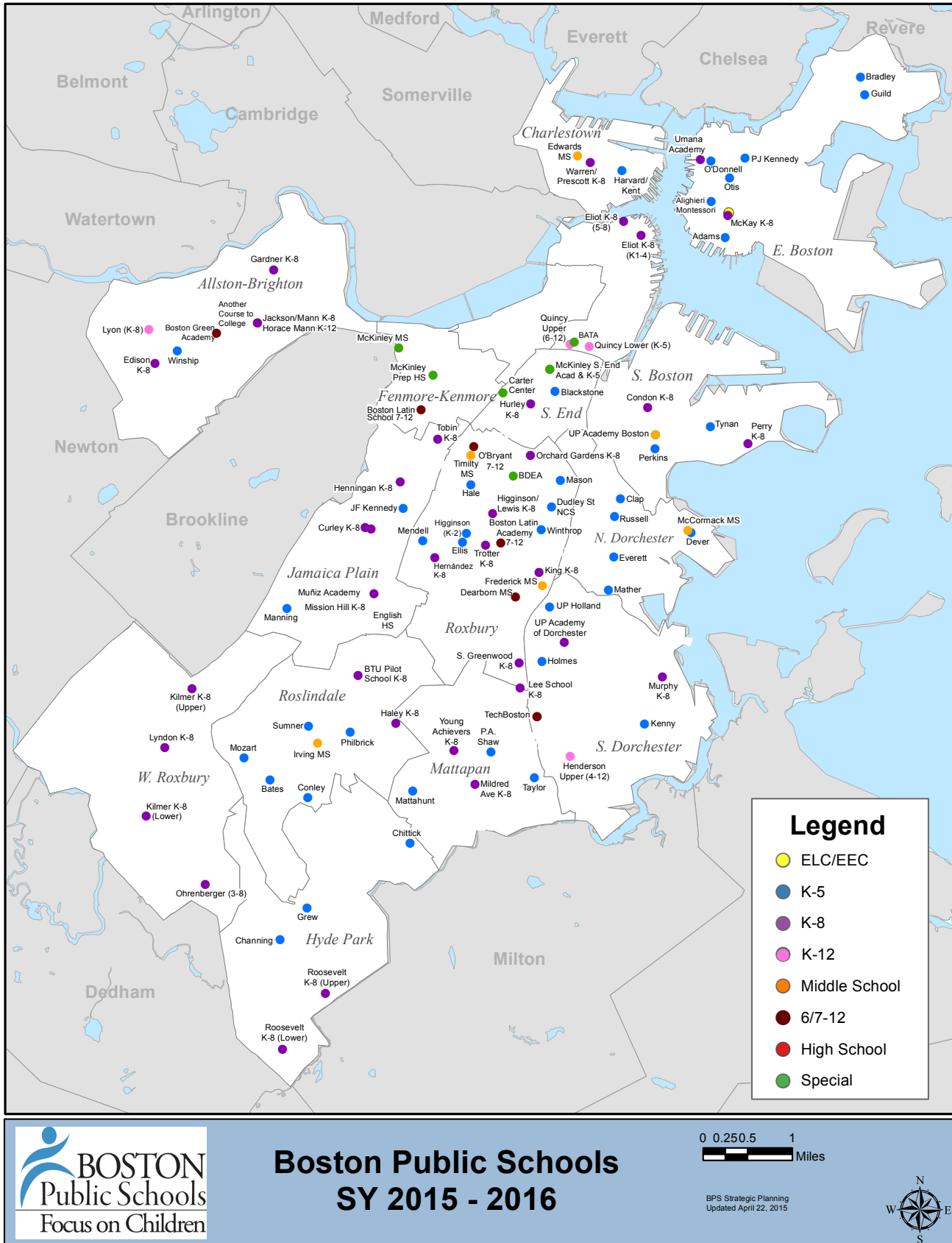
Within the District there are nine different typologies of middle and K-8 schools within a total of 39 schools (see chart below). Although no one would presume that in a district as large as Boston's there could or should ever be a one size fits all for meeting the challenges of educating its constellation of students one of the goals facing the district is creating clear pathways for students and parents as they negotiate the transitions from grade K to grade 12.

<b>Visioning and Issues for BPS</b> <b>19 Total Configurations</b>	Grade Configuration	Number Of Schools	Grade Configuration	Number Of Schools
	K0-1	5	<b>6-8</b>	<b>12 (11) *</b>
	K0-4	1	<b>6-9</b>	<b>1</b>
	K0-12	1	<b>6-12</b>	<b>3 (4) *</b>
	K-1	3	<b>7-12</b>	<b>3</b>
	K-5	49	9-10	1
	K-6	1	9-11	1
	<b>K-8</b>	<b>17</b>	9-12	17
	<b>2-8</b>	<b>1</b>	10-12	1
	<b>3-8</b>	<b>1</b>	12+	2
	5-12	1	<b>Total</b>	<b>121</b>

\*Dearborn will expand to High School grade levels SY2016.

☐ Includes Mario Umana K-8 Academy

## BPS Middle and K-8 Schools



# Boston Charter Schools

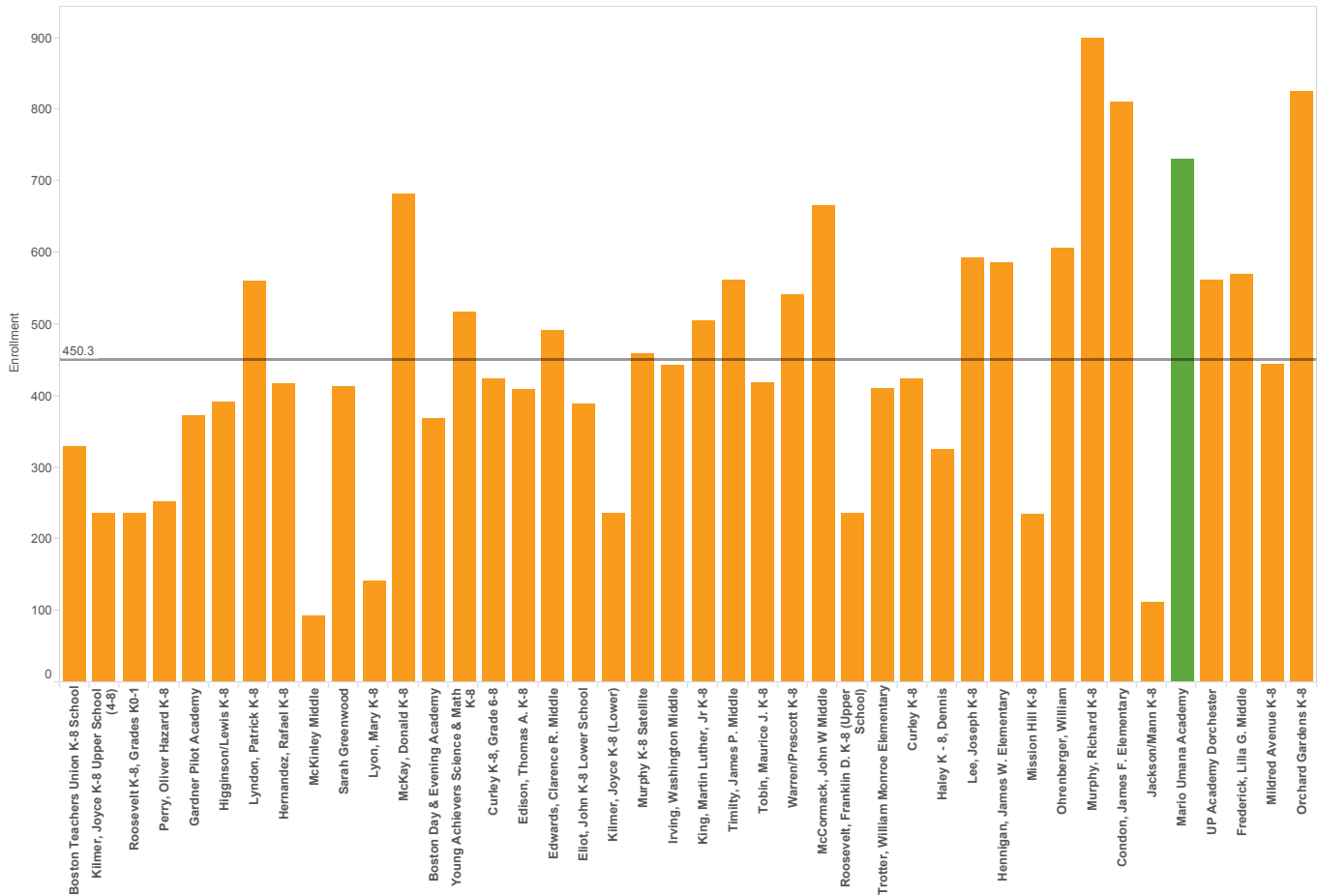


- | Boston Charter Schools   |  |
|--|--|
| Academy of the Pacific Rim Charter Public School; Boston Collegiate Charter School - High School; Boston Collegiate Charter School - Lower School; Boston Day and Evening Academy - Horace Mann Charter School; Boston Green Academy - Horace Mann Charter School; Boston Preparatory Charter Public School; Boston Renaissance Charter Public School; Bridge Boston Charter School; Brooke East Boston Charter School; Brooke Mattapan Charter School; Brooke Roslindale Charter School; City on a Hill Charter Public School; City on a Hill II; Codman Academy Charter Public School; Conservatory Lab Charter School (Allston); Conservatory Lab Charter School (Dorchester); Dorchester Collegiate Academy Charter School; Dudley Street Neighborhood School - Horace Mann Charter School; Health Careers Academy - Edward Kennedy Academy - Horace Mann Charter School; Excel Academy Charter School - Orient Heights; Excel Academy Charter School - East Boston; Helen Y. Davis Leadership Academy Charter Public School; Kipp Academy Boston Elementary and Middle Schools; Match Charter Public School - High School; Match Charter Public School - Middle School; Match Community Day Charter Public School; Neighborhood House Charter School; Roxbury Preparatory Charter School Dorchester Campus; Roxbury Preparatory Charter School - Lucy Stone Campus; Roxbury Preparatory Charter School - Mission Hill Campus; UP Academy Charter School of Dorchester; UP Academy Charter School - Horace Mann Charter School |  |
| In-District Charters   |  |
| Paul A. Dever Elementary School, UP Academy Dorchester, UP Academy Holland, UP Academy South Boston  |  |
| Future Charter School Sites  |  |
| Boston Preparatory Charter Public School (River St.); Conservatory Lab Charter School (Roxbury); Excel Academy (East Boston); Kipp Academy (Mattapan); Match Charter School (Hyde Park)  |  |

## Typology and Relevancy

### BPS K-8 and Middle School Enrollment (2013-2014)

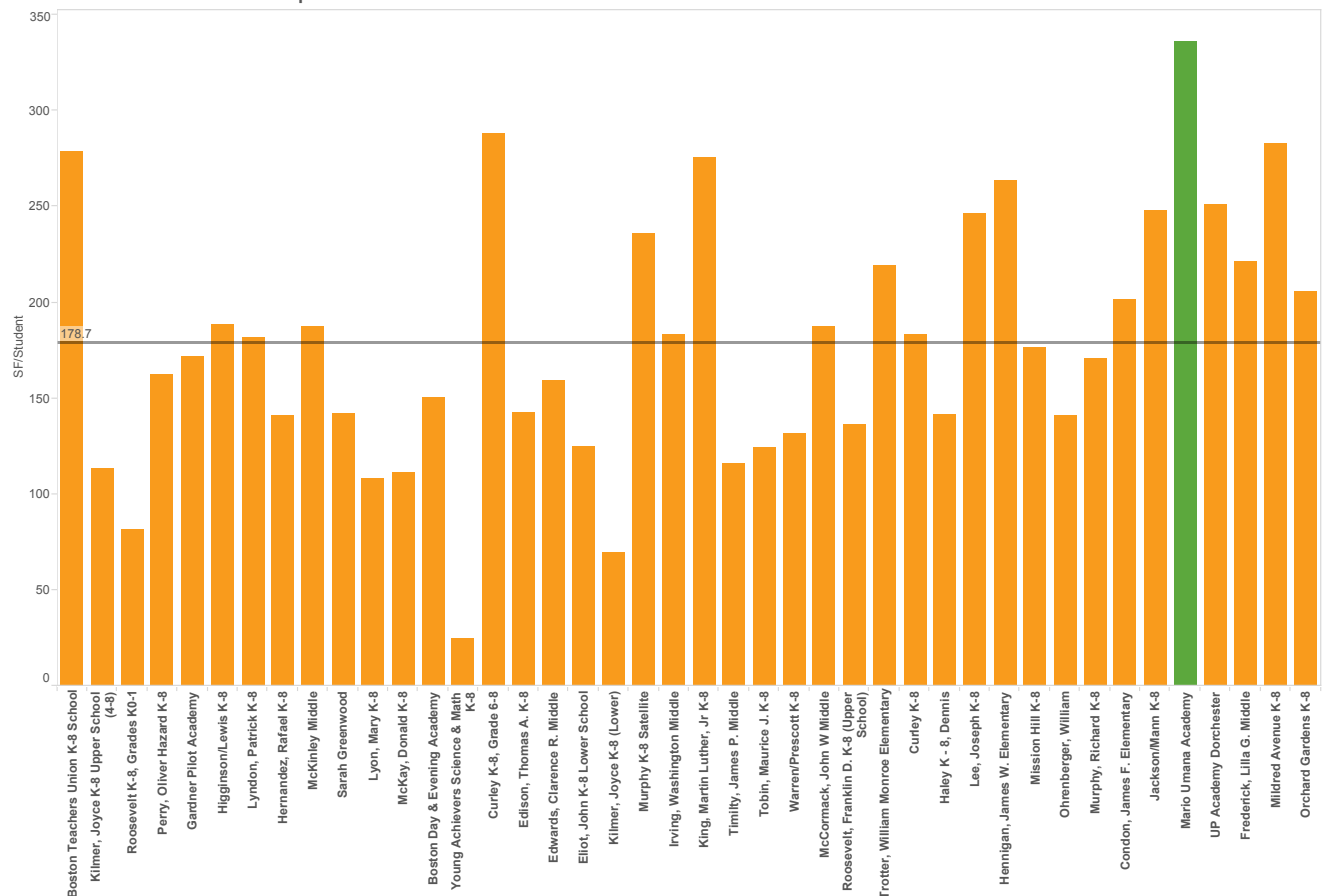
K-8 & Middle Schools: Enrollment



## Typology and Relevancy

### BPS K-8 and Middle School Square Foot Per Student

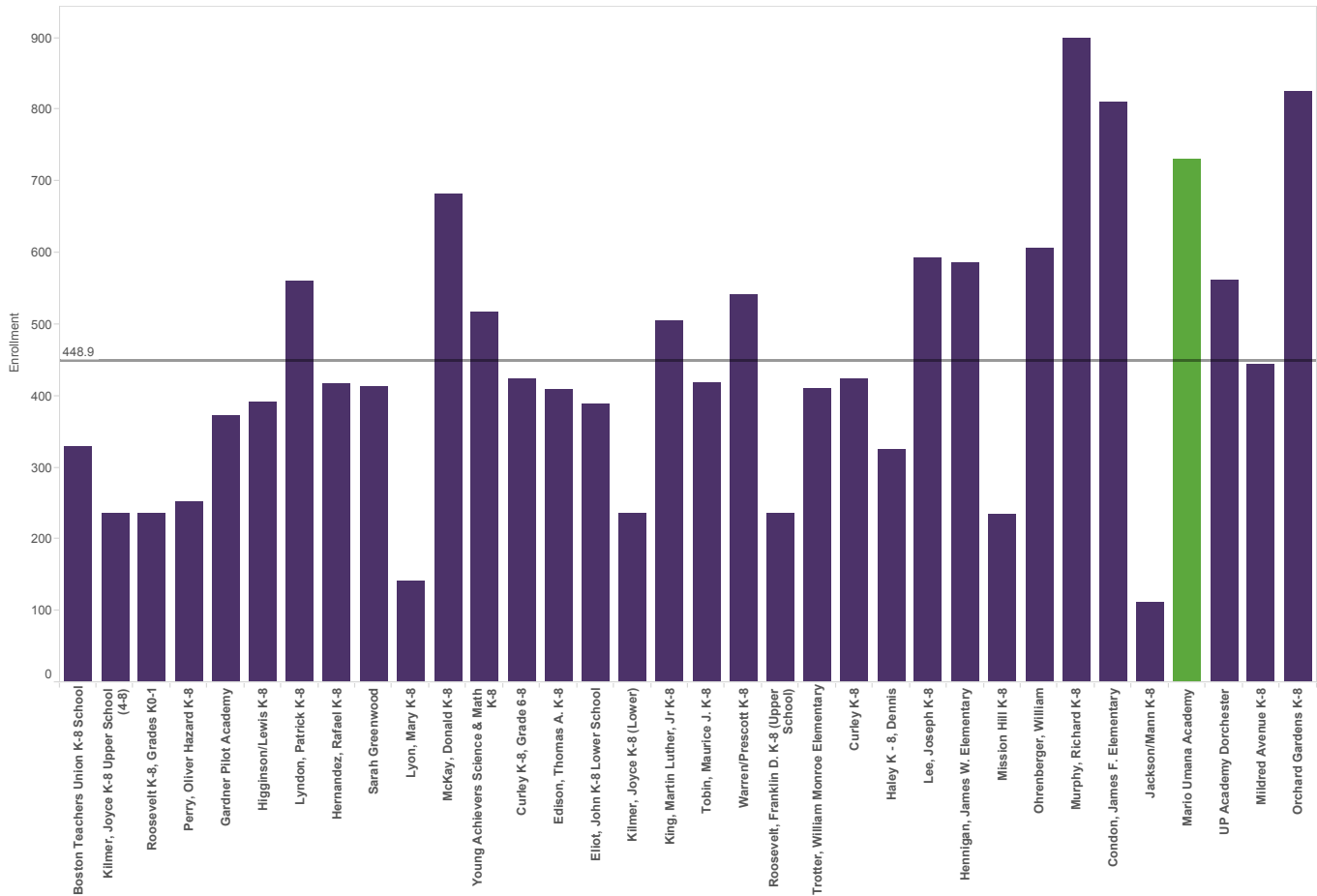
K-8 & Middle Schools: Area per Student



## Typology and Relevancy

### BPS K-8 Enrollment (2013-2014)

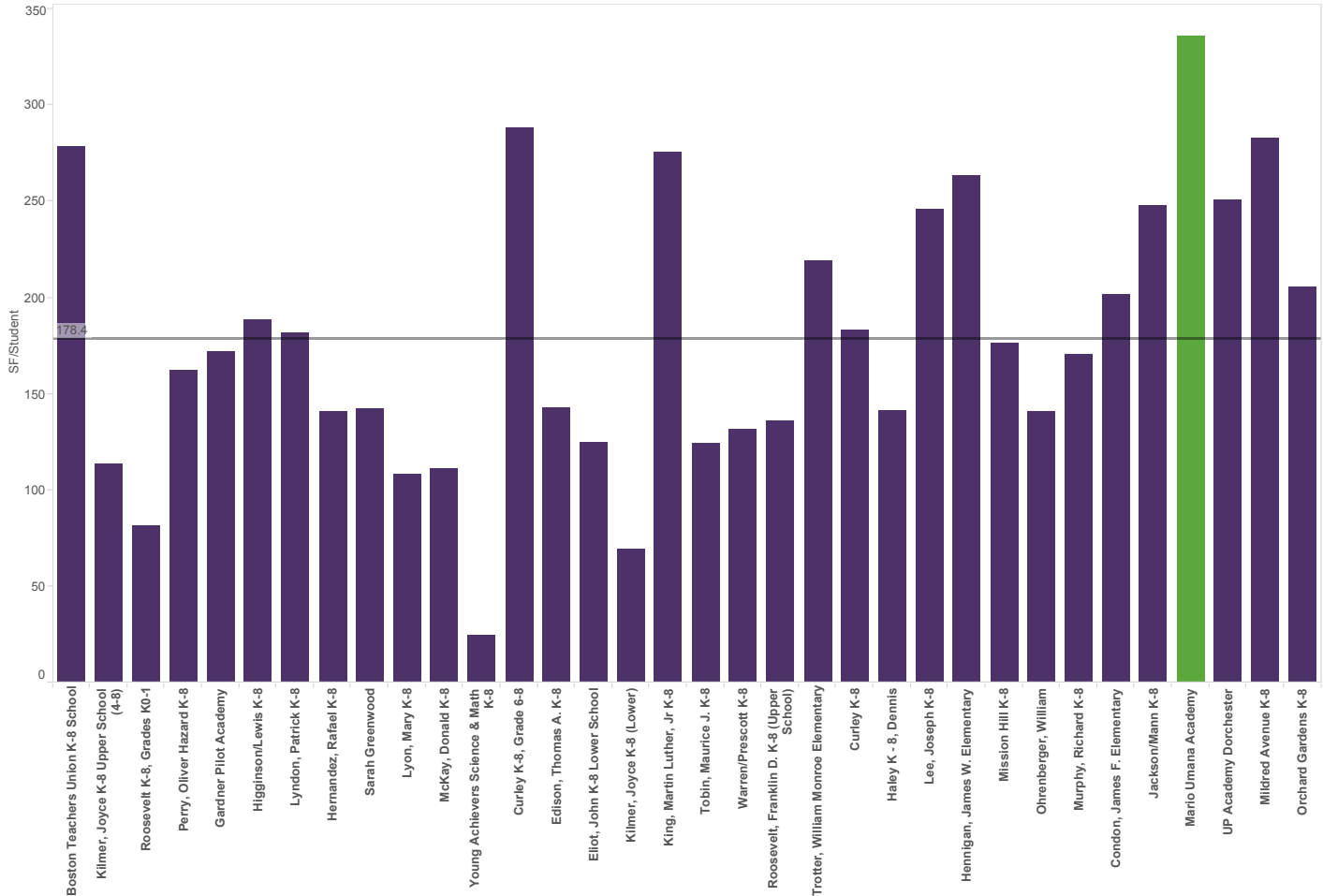
K-8 Schools: Enrollment



# Typology and Relevancy

## BPS K-8 Square Foot Per Student

K-8 Schools: Area per Student



# Typology and Relevancy

## K-8 and Middle School Performance Analysis



	2013 Enrollment:	2010-2013 Enrollment Slope	2013 Student Attendance:	2013 Student to Teacher Ratio:
Boston Teachers Union K-8 School	324	↑	94.3	15.2
Kilmer, Joyce K-8 Upper School (4-8)	456	↑	95.6	14.5
Roosevelt K-8, Grades K0-1		↓		
Perry, Oliver Hazard K-8	249	↑	92.6	14.1
Gardner Pilot Academy	386	↑	94.4	14.5
Higginson/Lewis K-8	416	↑	92.4	12.6
Lyndon, Patrick K-8	550	↑	94.7	15.5
Hernandez, Rafael K-8	422	↑	95.2	18
Sarah Greenwood		↓		
Lyon, Mary K-8	139	↑	94.5	10.6
McKay, Donald K-8	697	↑	95.6	17.9
Young Achievers Science & Math K-8	507	↑	93.4	10.1
Curley K-8, Grade 6-8		↓		
Edison, Thomas A. K-8	779	↑	91.7	14.2
Eliot, John K-8 Lower School	453	↑	97.6	14.3
Kilmer, Joyce K-8 (Lower)		↓		
King, Martin Luther, Jr K-8	495	↑	91.4	14.1
Tobin, Maurice J. K-8	438	↑	92.5	14.1
Warren/Prescott K-8	532	↑	95.1	17
Roosevelt, Franklin D. K-8 (Upper School)	440	↑	95.1	13.7
Trotter, William Monroe Elementary	488	↑	92.6	14.5
Curley K-8	876	↑	92.2	13.9
Haley K - 8, Dennis	385	↑	95.1	10.5
Lee, Joseph K-8	649	↑	92.5	14.1
Hennigan, James W. Elementary	620	↑	93.2	13.5
Mission Hill K-8	232	↑	95.9	18
Ohrenberger, William	611	↑	94.2	15.7
Murphy, Richard K-8	882	↑	95.6	15.8
Condon, James F. Elementary	799	↑	93.5	14.5
Jackson/Mann K-8	749	↑	91.7	16.1
Mario Umana Academy	780	↑	93.3	12.5
UP Academy Dorchester		↓		
Mildred Avenue K-8	382	↑	92	12.8
Orchard Gardens K-8	837	↑	95.1	13.3

\*2013 School Profiles Massachusetts Department of Elementary and Secondary Education \* 2014 Accountability Report  
 \*\*September 2014 SchoolDigger.com Rankings; Data Source: National Center for Education Statistics, U.S. Dept of Education and MA Dept. of Education

### Network A (K-8)

Network Supt:

DNA:

OL:

DES:

SA:

Adams Elementary	Umana Academy K-8	<b>EDUCATIONAL OPTIONS</b>
Alighieri Montessori	Warren/Prescott K-8	<b>Executive Director:</b>
Bradley Elementary	Eliot K-8	<b>SA:</b>
East Boston EEC	Guild Elementary	<i>Programs not located in BPS Buildings:</i>
Edwards Middle	Harvard/Kent Elementary	ABCD University High School
O'Donnell Elementary	Kennedy, P.J. Elementary	College Bound Middle School
Otis Elementary	McKay K-8	Dorchester Youth Alternative
Quincy Elementary		EDCO Youth Alternative
		Ostiguy High School
		St. Mary's Alternative School

- DNA Director of Network Academies  
 DES Director of Educational Services (Network G)  
 OL Operational Leader  
 SA Staff Assistant  
 ► Exam School (3)  
 ❖ Horace Mann (in-district) Charter School (6)  
 \* Innovation School (8)  
 ◆ Pilot School (20)  
 IB International Baccalaureate Program (2)

## Option Summary: Umana K-8 Academy

Mario Umana K-8 Academy

680/730 (107%)

K-8

Building Assessment

Educational Program Support (FEA)	Physical Condition (FCA)
Operational	Community

Sciences, STEM, ELL, SPED

Repairs: \$

Renovate for Program: \$

Additions/Renovations: \$

Full Replacement: \$

School Name  
(Building if different)

Design Capacity Enrollment  
Current Enrollment  
Utilization

Grades or Sections

Building Evaluation

Renovations or Additions  
Program Modifications

Cost Models

### Evaluation Criteria

Physical Conditions:

- BASYS Report
- Deficiency Plans
- FCA Report(s)
- Due Diligence Report(s)

Building Operations: (BPS)

- Energy (total)
- Salary (per student)
- Transportation

Educational Performance:

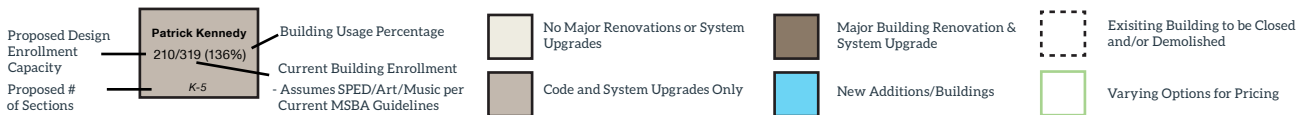
- DESE Ratings
- MCAS
- BPS

Community:

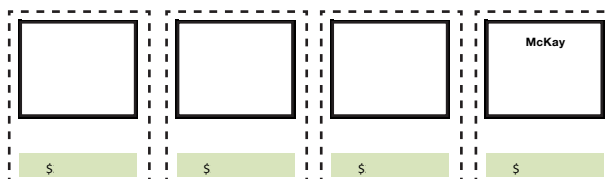
- Location
- Mass Historic Commission
- Access



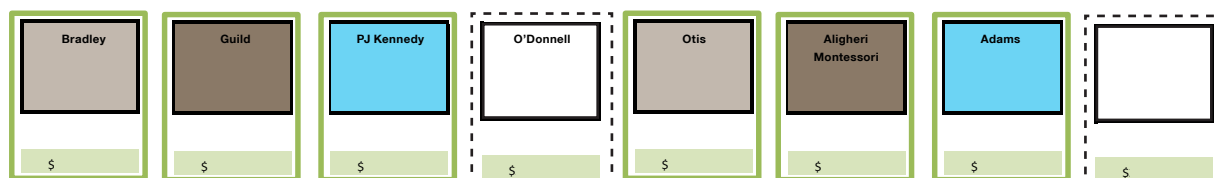
### Legend



### Middle/K-8 Schools



### Elementary Schools





[Summary](#)[Context & Research](#)[Floor Plans](#)[Site](#)

## Floor Plans

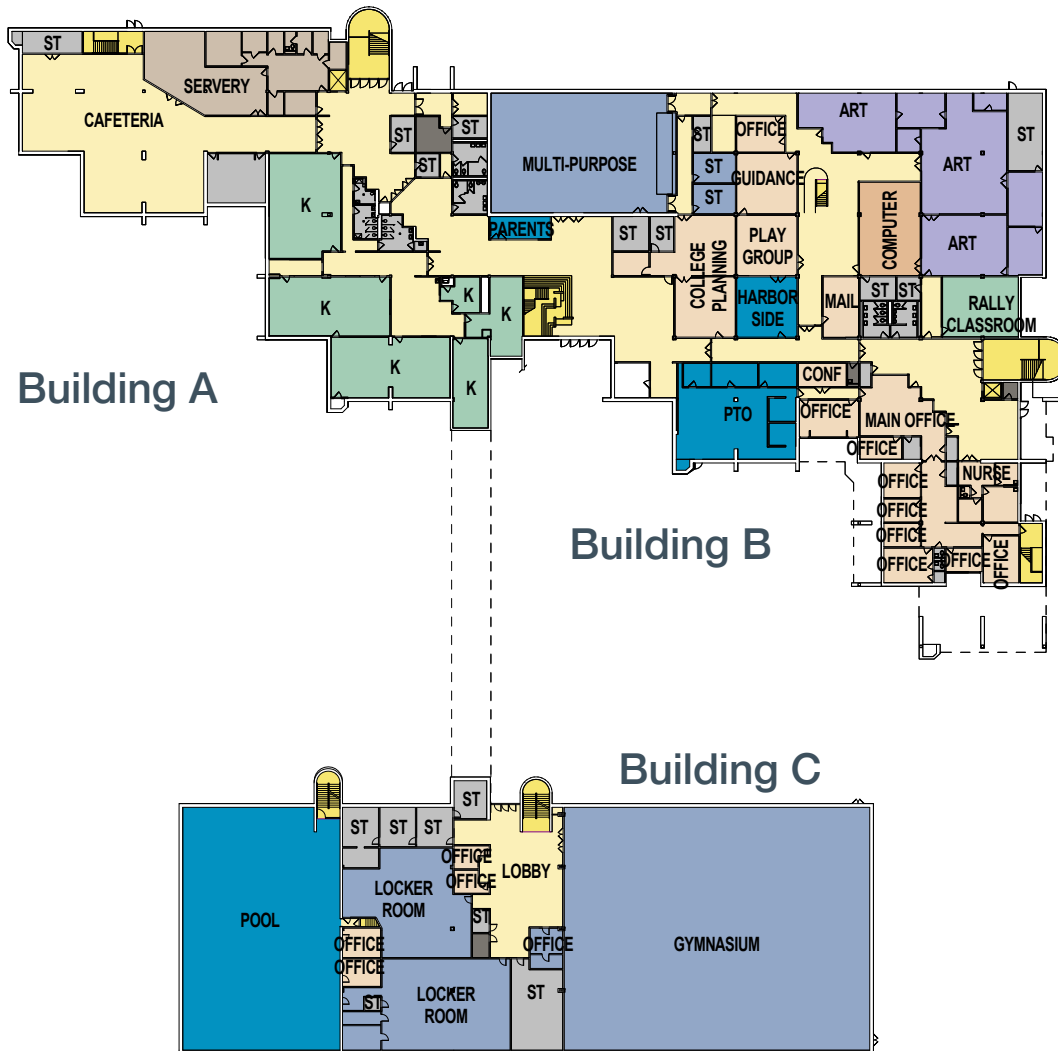
Accurate floor plans can be a concise and clear way to describe a number of educational and physical attributes in a masterplanning process. For the pilot study we have added building plans to our study process for clarity and discussion purposes – PCMD and BPS facility staff and the facility assessment sub committee should review the long term potential for data visualization and storage.

- **Program Plans:** Illustrate the types of spaces currently in use by a given school program. This can be a quick visual tool to understand how well a program is fitting within its assigned building.
- **Deficiency Plans:** Illustrate where programs fall severely short (or greatly exceed) standards as established by the MSBA (eventually BPS vision “standards”). We have taken the plan analysis further to include adjacency or location inadequacies and spaces least likely supported by the MSBA grant program.
- **Opportunities:** Illustrating a few basic plan interventions responsive to program deficiencies and 21<sup>st</sup> Century learning objectives.

# Mario Umana Academy

## First Floor

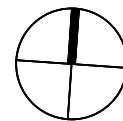
## Program Plans



### PROGRAM PLAN LEGEND

<span style="display:inline-block; width:15px; height:15px; background-color:orange; border:1px solid black;"></span> ADMINISTRATION / GUIDANCE / STUDENT SERVICES / NURSE	<span style="display:inline-block; width:15px; height:15px; background-color:gray; border:1px solid black;"></span> CUSTODIAL / MAINTENANCE / STORAGE
<span style="display:inline-block; width:15px; height:15px; background-color:purple; border:1px solid black;"></span> ART & MUSIC	<span style="display:inline-block; width:15px; height:15px; background-color:brown; border:1px solid black;"></span> KITCHEN / SERVERY
<span style="display:inline-block; width:15px; height:15px; background-color:darkgray; border:1px solid black;"></span> BUILDING EQUIPMENT	<span style="display:inline-block; width:15px; height:15px; background-color:blue; border:1px solid black;"></span> PHYSICAL EDUCATION & SPORT SUPPORT
<span style="display:inline-block; width:15px; height:15px; background-color:yellow; border:1px solid black;"></span> CAFETERIA & CIRCULATION	<span style="display:inline-block; width:15px; height:15px; background-color:yellow; border:1px solid black;"></span> VERTICAL CIRCULATION
<span style="display:inline-block; width:15px; height:15px; background-color:green; border:1px solid black;"></span> CLASSROOM & GENERAL EDUCATION SUPPORT	<span style="display:inline-block; width:15px; height:15px; background-color:orange; border:1px solid black;"></span> VOCATIONS & TECHNOLOGY
<span style="display:inline-block; width:15px; height:15px; background-color:blue; border:1px solid black;"></span> COMMUNITY USE	

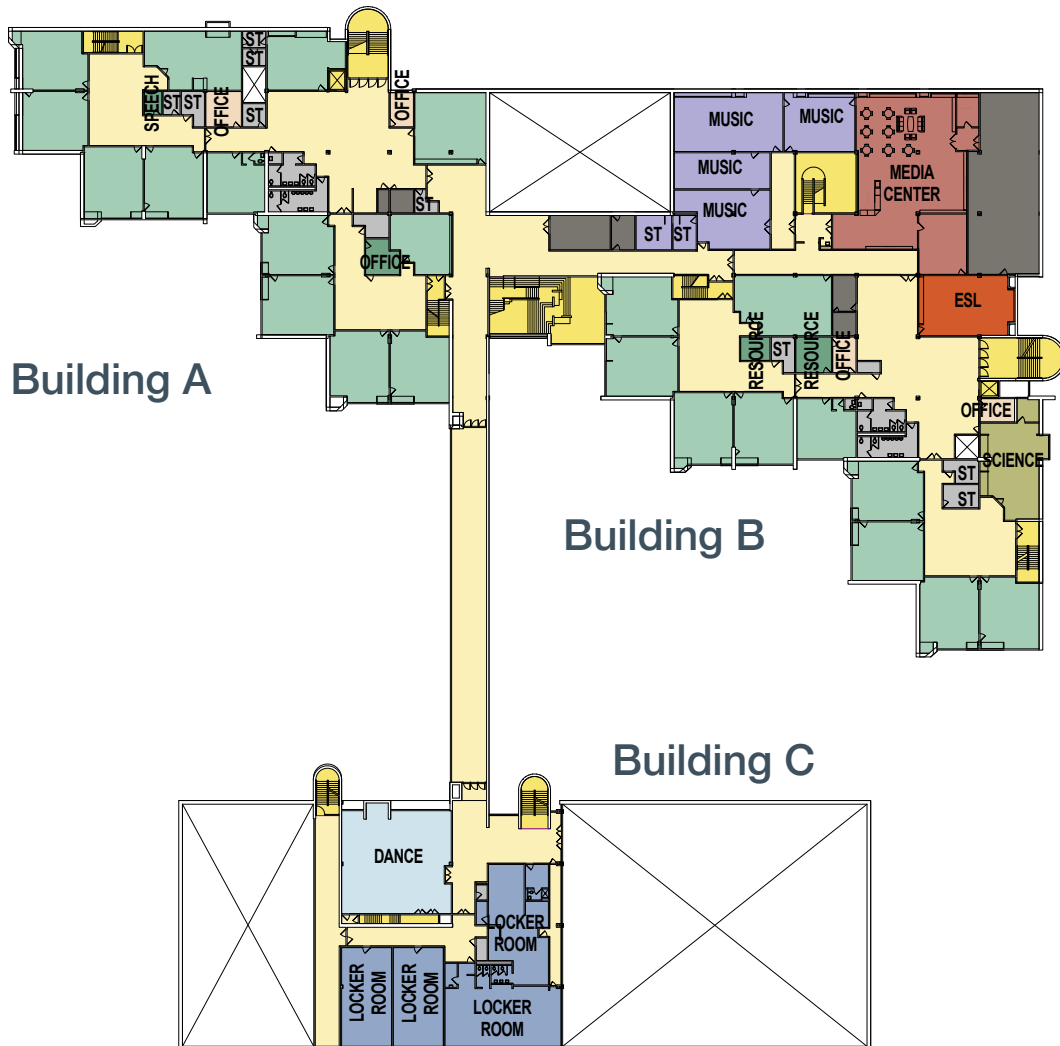
**Boston Public Schools**  
UMANA ACADEMY - 1ST FLOOR PROGRAM PLAN



# Mario Umana Academy

## Second Floor

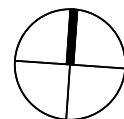
### Program Plans



#### PROGRAM PLAN LEGEND

ADMINISTRATION / GUIDANCE / STUDENT SERVICES / NURSE	HEALTH & FITNESS
ART & MUSIC	MEDIA CENTER
BUILDING EQUIPMENT	PHYSICAL EDUCATION & SPORT SUPPORT
CAFETERIA & CIRCULATION	SCIENCE CLASSROOM & SUPPORT
CLASSROOM & GENERAL EDUCATION SUPPORT	SPECIAL EDUCATION
CUSTODIAL / MAINTENANCE / STORAGE	VERTICAL CIRCULATION
ELL / SEI	

**Boston Public Schools**  
UMANA ACADEMY - 2ND FLOOR PROGRAM PLAN

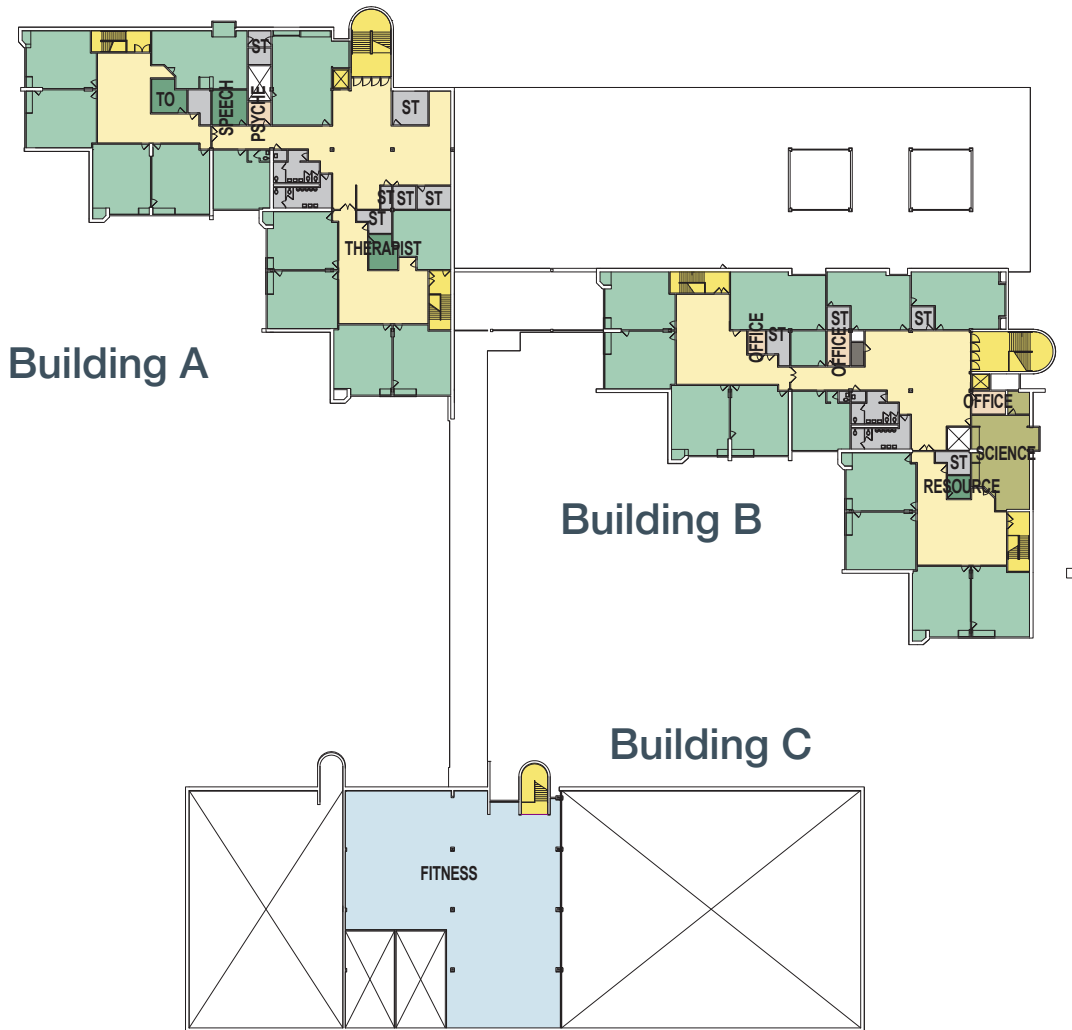


SMMA

# Mario Umana Academy

## Third Floor

## Program Plans



### PROGRAM PLAN LEGEND

ADMINISTRATION / GUIDANCE / STUDENT SERVICES / NURSE	HEALTH & FITNESS
BUILDING EQUIPMENT	SCIENCE CLASSROOM & SUPPORT
CAFETERIA & CIRCULATION	SPECIAL EDUCATION
CLASSROOM & GENERAL EDUCATION SUPPORT	VERTICAL CIRCULATION
CUSTODIAL / MAINTENANCE / STORAGE	

**Boston Public Schools**  
UMANA ACADEMY - 3RD FLOOR PROGRAM PLAN

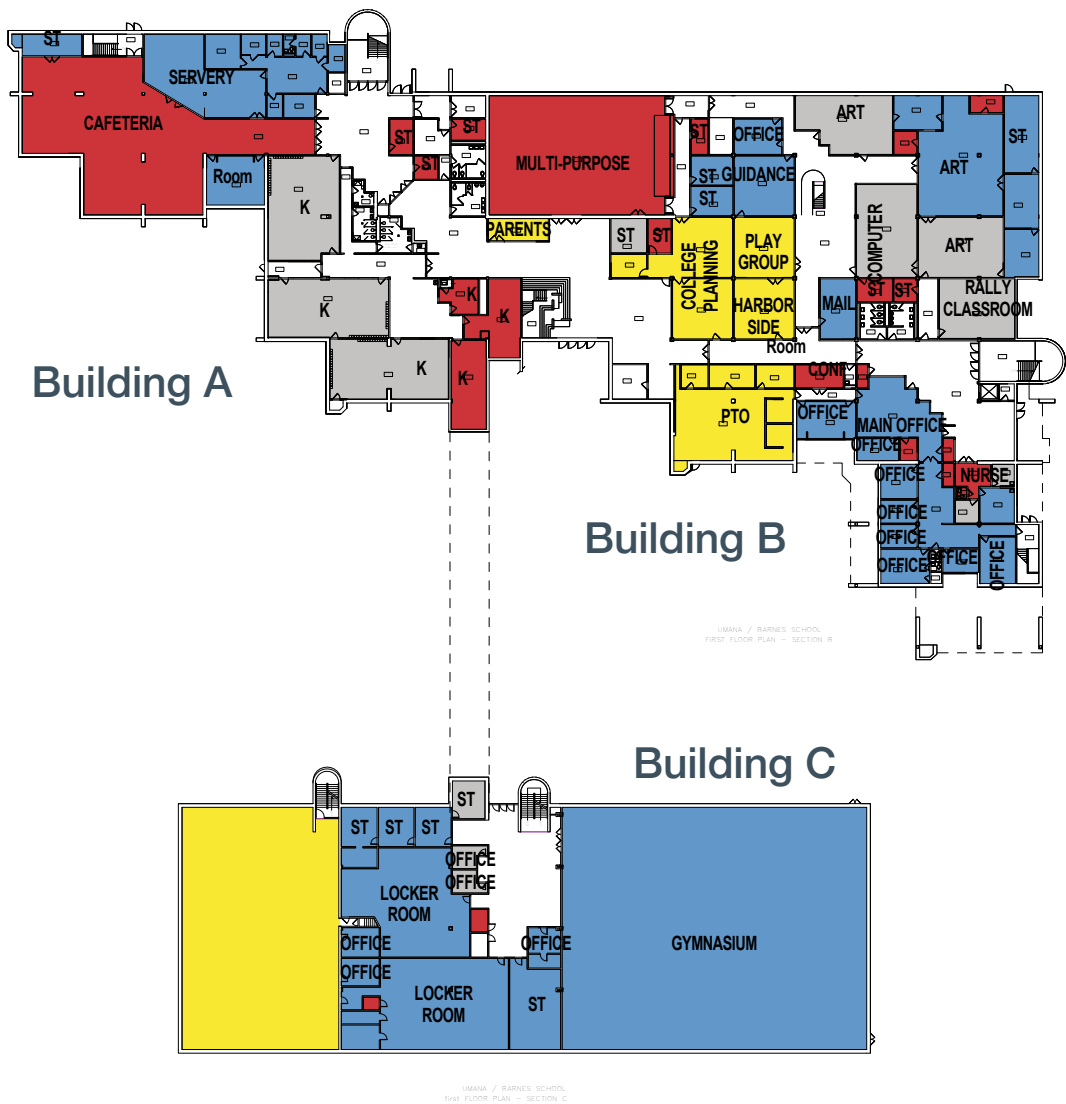


SMMA

Mario Umana Academy

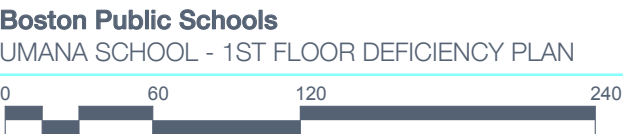
First Floor

MSBA Deficiency Plan



MSBA DEFICIENCY PLAN

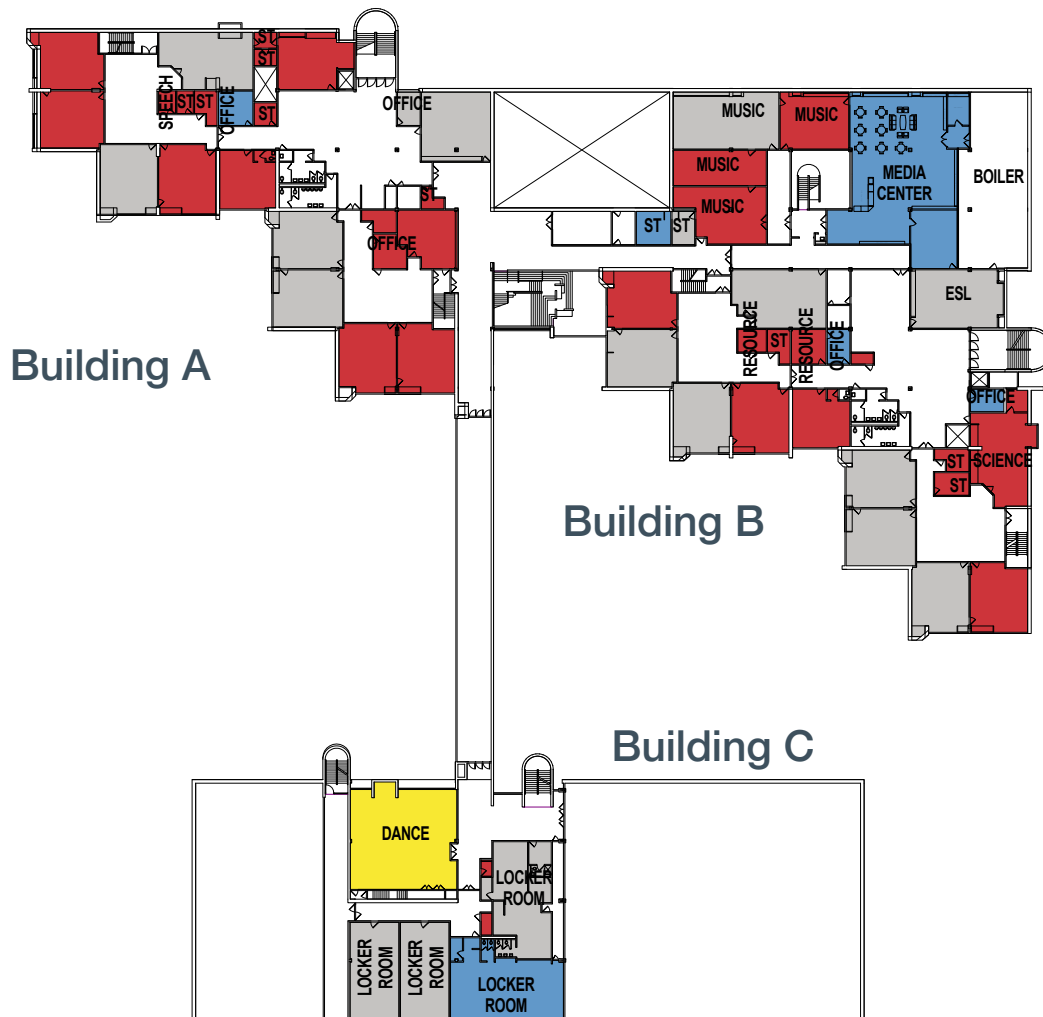
- INAPPROPRIATE LOCATION OR ADJACENCY
- NOT INCLUDED IN A TYPICAL MSBA PROJECT
- NSF 10% GREATER THAN MSBA GUIDELINES
- NSF AT LEAST 20% LESS THAN MSBA GUIDELINES
- NSF MEETS MSBA GUIDELINES (-20% TO +10%)



# Mario Umana Academy

## Second Floor

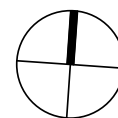
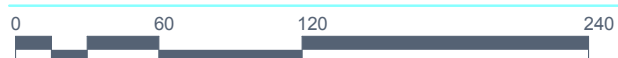
### MSBA Deficiency Plan



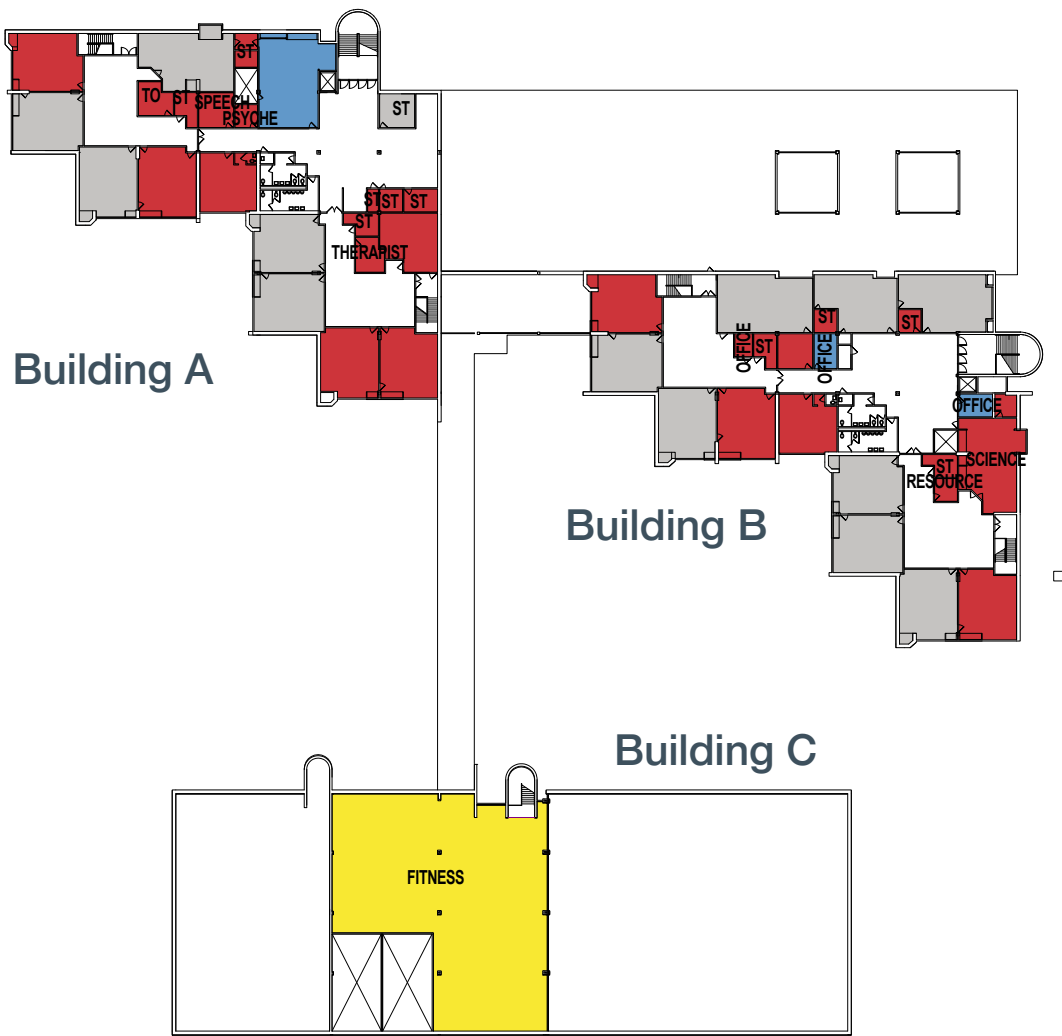
#### MSBA DEFICIENCY PLAN

- INAPPROPRIATE LOCATION OR ADJACENCY
- NOT INCLUDED IN A TYPICAL MSBA PROJECT
- NSF 10% GREATER THAN MSBA GUIDELINES
- NSF AT LEAST 20% LESS THAN MSBA GUIDELINES
- NSF MEETS MSBA GUIDELINES (-20% TO +10%)

**Boston Public Schools**  
UMANA ACADEMY - 2ND FLOOR DEFICIENCY PLAN

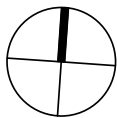
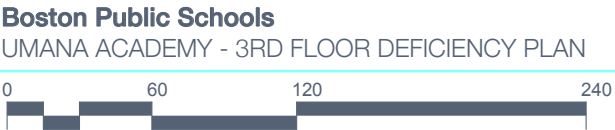


Mario Umana Academy  
Third Floor  
MSBA Deficiency Plan



MSBA DEFICIENCY PLAN

- INAPPROPRIATE LOCATION OR ADJACENCY
- NOT INCLUDED IN A TYPICAL MSBA PROJECT
- NSF 10% GREATER THAN MSBA GUIDELINES
- NSF AT LEAST 20% LESS THAN MSBA GUIDELINES
- NSF MEETS MSBA GUIDELINES (-20% TO +10%)



SMMA

## MSBA Space Summary K-8 Schools

<b>Umana Academy</b>		Existing Conditions	
ROOM TYPE	ROOM NFA <sup>1</sup>	# OF RMS	area totals
CORE ACADEMIC SPACES			41,519
SPECIAL EDUCATION			1,942
ART & MUSIC			7,588
VOCATIONS & TECHNOLOGY			0
HEALTH & PHYSICAL EDUCATION			2,901
MEDIA CENTER			3,295
DINING & FOOD SERVICE			4,533
MEDICAL			552
ADMINISTRATION & GUIDANCE			5,537
CUSTODIAL & MAINTENANCE			4,395
OTHER			29,180
Non-MSBA Spaces and Community Use		9	29,180
Total Building Net Floor Area (NFA)			101,442
Proposed Student Capacity / Enrollment			
Total School Gross Floor Area (GFA) <sup>2</sup>			175,015
Total Building Gross Floor Area (GFA) <sup>2</sup>			192,500
Grossing factor (GFA/NFA)			1.73

MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
ROOM NFA <sup>1</sup>	# OF RMS	area totals	Comments
	42	37,300	
		8,560	
		5,550	
		3,200	
		8,366	
		4,369	
		9,831	
		610	
		3,291	
		2,247	
		0	
		83,324	
	730		Enter grade enrollments to the right
		124,986	
		1.50	

Grades K-5	34%
245	
Grades 6-8	66%
485	



Summary

Context & Research

Floor Plans

Site

## Site

### The Neighborhood

Boston prides itself on being a city of distinct neighborhoods, walkable due to its short blocks and dense urban fabric. Ease of access to urban schools like the Umana, and the quality of the streets, sidewalks, bike-routes and vitality of the businesses surrounding an urban school site give confidence to parents and students investing in their students' future. By mapping local businesses, BPS can continue to grow its initiatives to recognize that the city is the school and foster relationships and partnerships with businesses, organizations, colleges and universities and provide students with mentoring and coop experience that benefit all partners involved while instilling confidence and civic pride in our students.

As a choice based school system access to Boston's schools is a challenge and a concern not only for students but for parents to remain engaged in the student's school life. Attracting the most talented teachers, staff, and administrators the geography of BPS's high school's can directly affect the ability for daily and after-hours access and participation. Identifying both good and poor sites will help BPS plan its distribution of facilities at all levels to best serve all users.

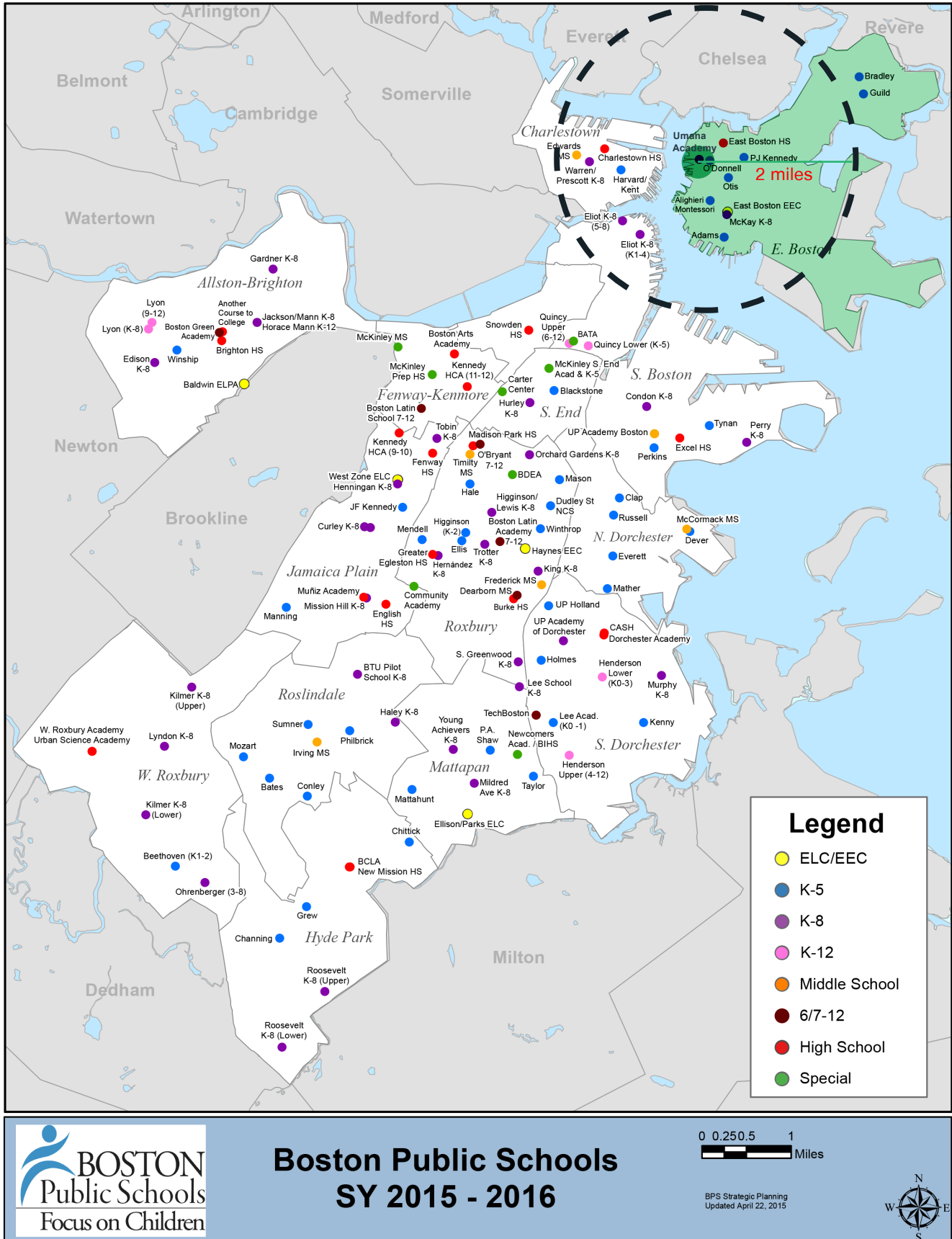
East Boston currently has seven K-5 elementary schools and two K-8 schools including the Mario Umana Academy. Transition from "pure" elementary schools to a middle school within a K-8 program creates unique transition challenges. The Umana site will face heightened analysis as a ocean front property susceptible to climate induced sea level rise.

There are a number of neighborhood/organization groups that will be invaluable to understanding the particular issues of the community:

- Councilor Salvatore LaMattina
- Corinne Petraglia
- Office of State Representative Carlo P. Basile
- Office of Senator Anthony D. Petrucci
- Office of Congressman Michael E. Capuano
- Airport Impact Relief, Inc.
- Atlantic Works Studio & Gallery
- Casa El Salvador
- Centro Presente
- Crossroads Family Shelter
- Eagle Hill Civic Association (EHCA)
- East Boston Community Activity Corp
- EastBoston.com
- East Boston APAC (Area Planning Action Council)
- East Boston Chamber of Commerce
- East Boston Community Development Corp. (EBCDC)
- East Boston Environmental/Chelsea Creek Action Group
- East Boston Ecumencial Community Council (EBECC)
- East Boston Foundation
- East Boston Harborside Community School
- East Boston Main Streets
- East Boston Museum
- East Boston Police Department

- East Boston Social Center
- EastieNow
- El Salvador Consulate
- Friends of Belle Isle Marsh (FBIM)
- Friends of East Boston Greenway
- Friends of LoPresti Park
- HarborArts
- Jeffries Point Neighborhood Association
- Let's Get Movin' Programs (including CSA and East Boston Farmer's Market)
- BCYF Marty Pino Community Center (formerly BCYF Orient Heights Community Center)
- Maverick Association of Residents (MAR)
- Maverick Family Support Program
- Maverick Landing Community Services (MLCS)
- Neighborhood of Affordable Housing (NOAH)
- Neighbors United for a Better East Boston (NUBE)
- Thrive in 5/Countdown to Kindergarten
- Orient Heights Neighborhood Council (OHNC)
- Paris Street Community Center/Boston Centers for Youth and Families (BCYF)
- Piers Park Advisory Committee
- Veronica Robles Cultural Center
- YMCA East Boston
- Zumix

## Locus Plan



Site Aerial



Site Area 9.44 Acres

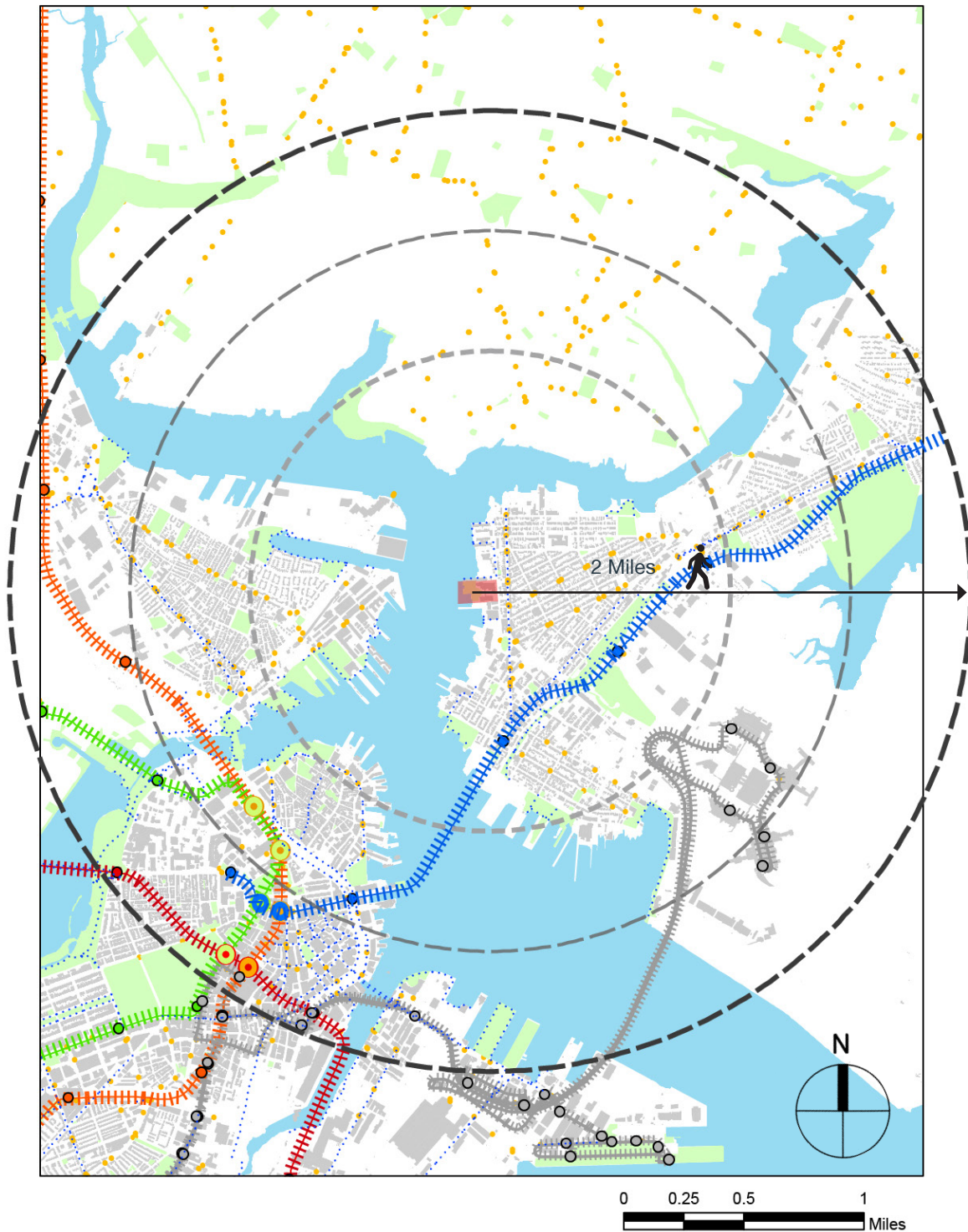
Property Line

Set Back

Entrances

Parking

## Site Plan



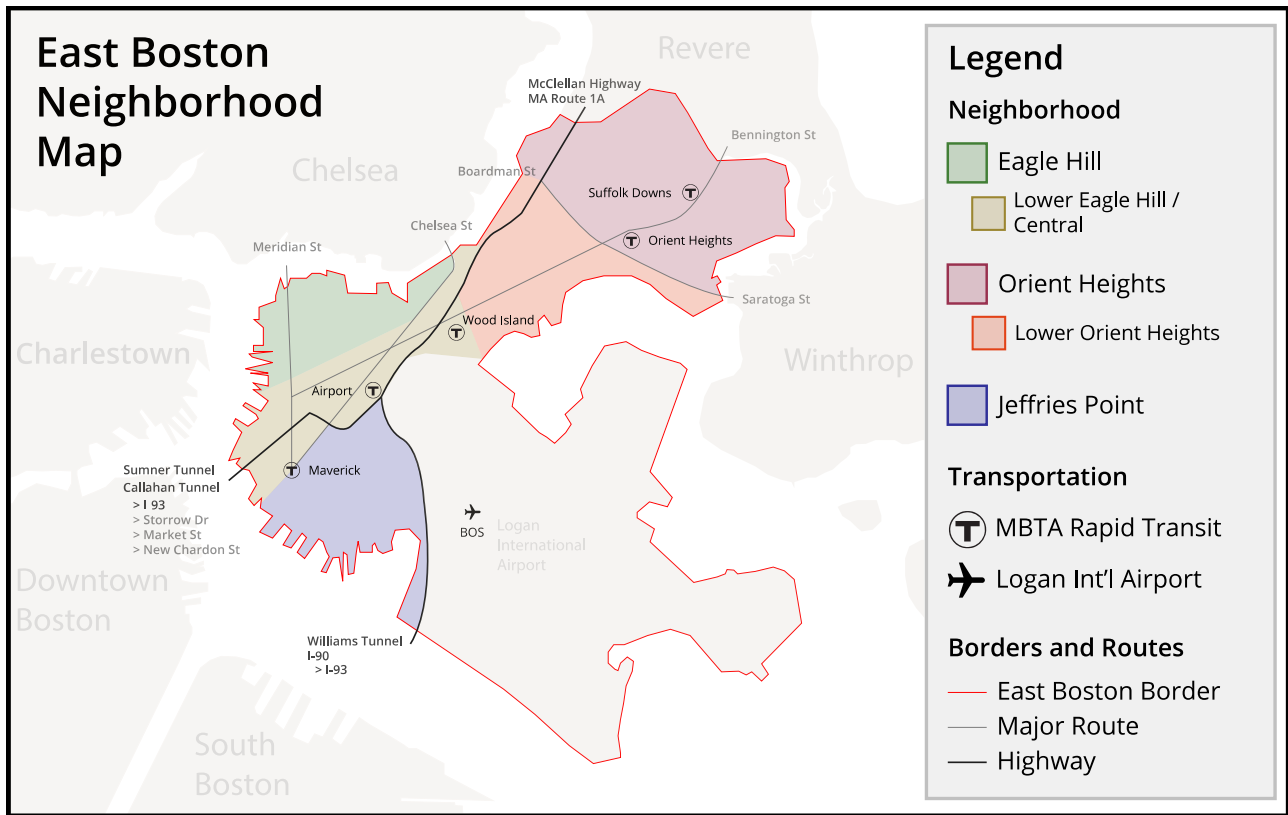
### Busing Policy Key

- >2mi High School T-Pass
- >1 ½ mi 6<sup>th</sup> Grade & Below
- >K-8 up to 8th Grade
- >1mi Grades K-5

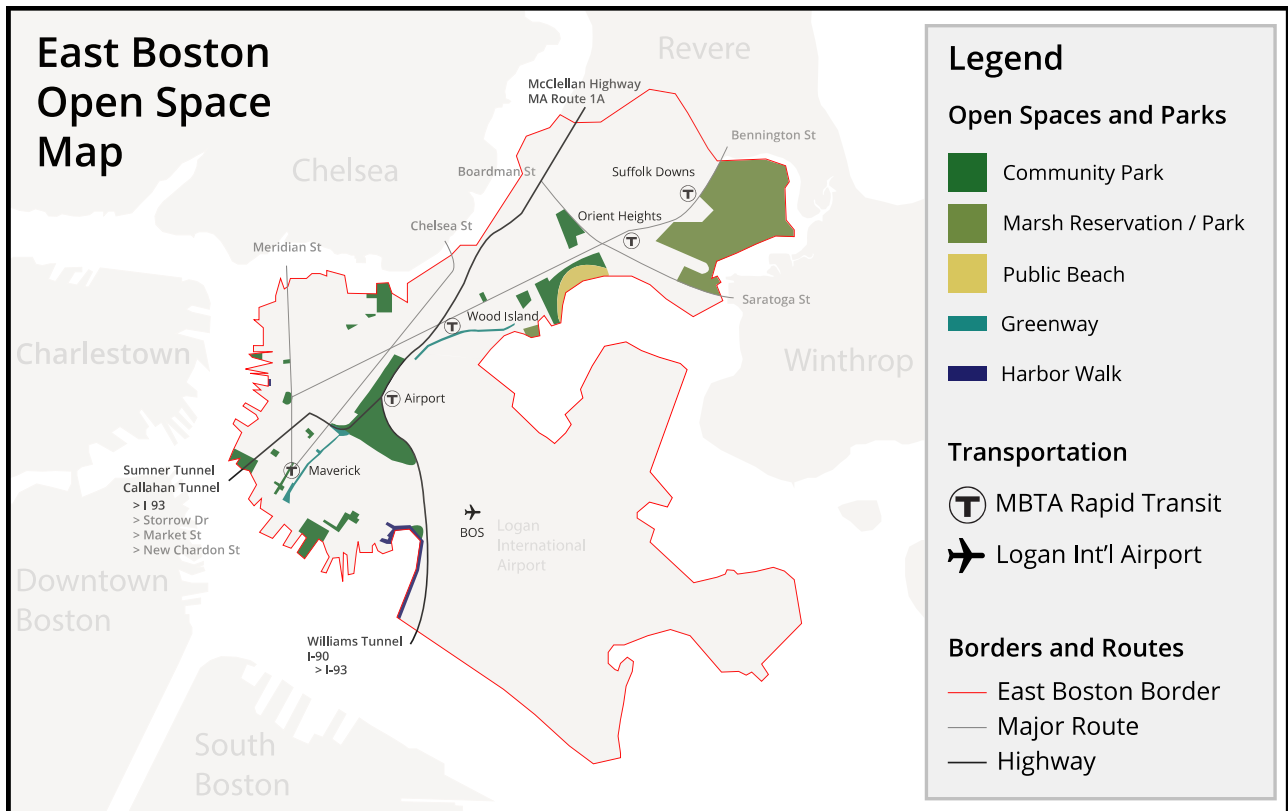
### Transportation

- T Stops
- Bus Routes
- Bike Routes

## Neighborhoods



## Open Space



Source: Wikimedia.org

## Climate Preparedness

School Buildings are often the largest facilities in a neighborhood or particular community and usually include large gathering spaces such as gymnasiums and cafeterias, and typically have cooking facilities. Schools serve well as emergency shelters when properly designed and equipped. Emergency shelter designation requires minimum requirements to safely serve this purpose for Red Cross or FEMA designation.

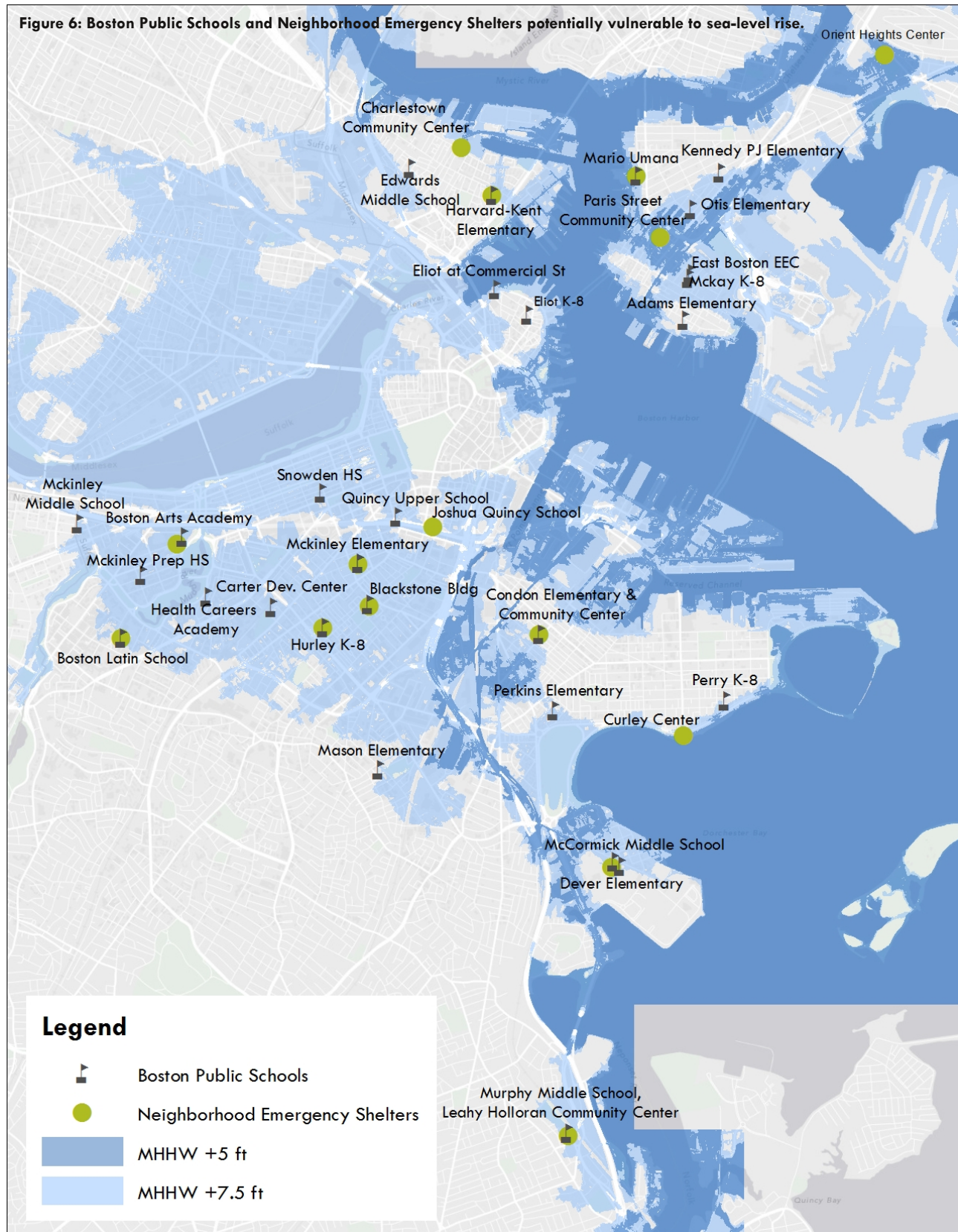
The Umana K-8 Academy is located directly on Boston Harbor and is considered a highly vulnerable site for storm surge flooding and long-term climate change induced sea level rise. According to climate ready Boston, the Umana is designated Neighborhood Emergency Shelter along with the Paris Street Community Center and the Orient Heights Center in East Boston.

There is risk in assigning shelter status to the Umana building as its systems and capacity require major review and overhaul to insure safety for residents in time of crisis.

### Considerations:

- All systems elevated above ground floor level.
- PV array and/or linkage to nearby wind turbines (coastal access).
- Provide shelter equipment, cot and first aid storage above ground floor level.
- Flood “proof” major ground floor spaces essential for shelter (gymnasium, cafeteria, kitchen, etc.) or revoke hurricane/flood shelter designation.
- Emergency food storage capacity.

## Flood and Climate/Change Map



Source: *Climate Ready Boston: Municipal Vulnerability to Climate Change*



# Building Educational Assessments

## Summary & Mission

Background

Methodology & Approach

Pilot Study Report

Findings & Recommendations

## Summary & Mission

### Mario Umana K-8 Academy Mission Statement

The Mission of the Umana Academy is to provide its students with the following areas of focus:

Umana mission: Provide students with a rigorous student-centered curriculum integrated across subject areas in a safe, respectful, learning environment where all community members work together to enable our students to become life-long learners and productive members of society.

- Umana instructional focus: Read To Know, Write to Show, Speak to Grow.
- Expanded Learning Time school, with an additional one hour of instruction each day.
- Thirty minute block of time when everyone—students, teachers and staff—are dedicated to our literacy support and acceleration initiative.
- Celebration of students' academic, social and behavioral successes at the end of every term.
- Developing pathways with East Boston High School.
- Instrumental and ensemble music instruction in partnership with ZUMIX (a local music program).
- Becoming a dual language (English/Spanish) school starting in September 2014.
- K-8 Pathway: Guaranteed assignment for students from the Adams, Bradley, Guild, P. Kennedy, O'Donnell, and Otis.

Assessment data from the Achievement Network (ANET) and district assessments are regularly analyzed to monitor and impact student academic achievement. Many partner programs are offered during the academic day, while other programs, such as sports, engineering and science clubs, are primarily offered after school.

### Special Academic Programs

- Advanced Work Classes for eligible students in grade 6.
- Special Education: program for students with intellectual impairment, K2-grade 8.

### Before and After School Programs in our Building

- Before school: Students come to school for open gym or use of the computer lab at 6:30 am.
- After school: For Kids Only offers academic, recreational and social opportunities. This program runs during the summer, vacation weeks and most holidays.

### Academic Core Values

- The academic programs at Mario Umana Academy are inclusive of all students.
- Students engage in rigorous lessons that meet their diverse learning styles, as we continually strive for academic excellence and the teaching of 21st century skills.
- Students participate in a range of collaborative work to attain the skills necessary to become scholars who will ultimately pursue a lifetime love of learning.
- Teachers work collaboratively in grade level and content area teams in order to vertically align instructional practices across all (K-8) grade levels.

- In order to provide meaningful instruction to all students, teachers are committed to the collection and analysis of data through inquiry cycles, which allow for the identification of individual student needs.
- Teachers then create academically rigorous lessons that meet the diverse learning styles and needs.
- Students are provided with clear expectations throughout the school; these expectations are rooted in the belief that safety, respect, and responsibility are the cornerstones of a successful school.

## General Facility Observations Relative to the Educational Program

- The average existing classrooms are approximately 720 sf - (18% undersized).
- The science labs are generally 860 sf - (29% undersized) and lacks the proper safety equipment.
- Other undersized spaces include (by current MSBA Guidelines): administration; cafeteria; medical suite; and music classrooms.
- The music rooms have no vertical baffling making it unsuitable for music instruction.
- There are no individual music practice areas.
- Classrooms are noisy due to the lack of adequate acoustical treatment, mechanical noise and single glazed interior partitions allowing for noise infiltration.
- In general, all the corridors and classrooms have outdated and inadequate fluorescent lighting.
- The toilet facilities are not fully handicapped accessible. Some sink heights and toilet sizes are not appropriate to the age group it serves.
- The kindergarten area was renovated in 2013. It consists of a one large room, another smaller adjacent room and an underutilized common area.
- There are no designated facility work rooms.

## Background

### Purpose

The purpose of this pilot study for Boston Public Schools was to test a methodology for future, district-wide assessments, to test an assessment tool and determine any needed adjustments, and to identify issues or concerns that need to be explored or considered prior to the FMP on-site assessments. Put another way the pilot study is done to ensure that current and future curricular/instructional outcomes are defined, to ensure the facility implications of the instructional needs are defined, and to ensure that the tools utilized by the consultant team accurately assess those facility implications.

The pilot assessments were conducted without having completed initial program discussions with the district. Therefore, the standards used for the pilot are those routinely found in districts across the country, but are not necessarily aligned to Boston. Program discussions with BPS staff will enable us to assess schools based on current or planned educational program plans and ensure that the facility assessments are aligned with the program goals for Boston. In order to meet these expectations, staff from BPS needs to be actively engaged in defining both current and future educational programs and the resulting facility implications. MGT consultants will analyze the data collected during the pilot study and utilize that information along with information gathered from interviews and discussions with district staff prior to developing the final assessment tools.

### Pilot Sites

Four schools were selected for the pilot study because they represented a cross section of schools throughout the district. These schools provided a variety of grade levels, grade level configurations, specialized, as well as regular, program offerings, buildings of different ages, and locations in different Boston neighborhoods.

- **Mario Umana Academy.** This K-8 school is housed in a former vocational high school. Normally this would be a major liability, but the building's general organization is well suited as a cluster/team centered plan. The relatively strong division between elementary and middle school spaces - with some notable exceptions is also conducive to a relevant programming approach that can be age and circular specific.

### Methodology to Determine Educational Adequacy

MGT's BASYS® facility assessment software was used to assess each of the pilot schools. The purpose of the educational suitability assessment is to evaluate how well the facility supports the educational program that it houses. Each school receives one suitability score which applies to all the buildings at the facility. The educational suitability of each pilot school was assessed using the following categories:

Summary & Mission

Background

Methodology &  
Approach

Pilot Study Report

Findings &  
Recommendations

## Methodology & Approach

<b>Environment</b>	The overall environment of the schools with respect to creating a safe and positive learning environment.
<b>Circulation</b>	Pedestrian/vehicular circulation and the appropriateness of site facilities and signage.
<b>Support Space</b>	The existence of facilities and spaces to support the educational program being offered. These include general classrooms, special learning spaces (e.g. music rooms, libraries, science labs), and support spaces (e.g. administrative offices, counseling offices, reception areas, kitchens, health clinics).
<b>Size</b>	The adequacy of the size of the program spaces.
<b>Location</b>	The appropriateness of adjacencies (e.g., physical education space separated from quiet spaces).
<b>Storage &amp; Fixed Equipment</b>	The appropriateness of utilities, fixed equipment, storage, and room surfaces (e.g. flooring, ceiling materials, and wall coverings).

Educational suitability is intended to assess how well the facility supports the educational program that it houses. Since this was a pilot study and the actual program specifications needed to create an Educational Suitability Assessment Guide for the Boston Public Schools has not yet been developed, MGT used national program specifications developed over many similar assessments. MGT staff walked each school with the building principal to review each space based on the program housed there and then scored the various components based on the program standards outlined in BASYS®.

The pilot assessments were conducted without having completed initial program discussions with the district. Therefore, the standards used for the pilot are those routinely found in districts across the country, but are not necessarily aligned to Boston. Program discussions with BPS staff will enable us to assess schools based on current or planned educational program plans and ensure that the facility assessments are aligned with the program goals for Boston. In order to meet these expectations, staff from BPS needs to be actively engaged in defining both current and future educational programs and the resulting facility implications. MGT consultants will analyze the data collected during the pilot study and utilize that information along with information gathered from interviews and discussions with district staff prior to developing the final assessment tools. Suitability scores can be interpreted as follows:

90%	Good: The facility is designed to provide for and support the educational program offered. It may have minor suitability issues but generally meets the needs of the educational program.
75-89	Fair: The facility has some problems meeting the needs of the educational program and may require some remodeling.
50-74	Poor: The facility has numerous problems meeting the needs of the educational program and needs significant remodeling or additions.
Below 50	Unsatisfactory: The facility is unsuitable in many areas of the educational program.

### Methodology to Determine Technology Readiness

MGT's BASYS® software was also used to assess the technology readiness of each of the pilot schools. The BASYS® technology readiness score measures the capability of the existing infrastructure to support information technology and associated equipment. It is not based on the number of computers or interactive boards.

Technology readiness scores can be interpreted as follows:

90%	Good: The facility has the infrastructure to support information technology.
75-89	Fair: The facility is lacking in some infrastructure.
50-74	Poor: The facility is lacking significant infrastructure to support information technology.
Below 50	Unsatisfactory: The facility has little or no infrastructure to support information technology.

MGT staff walked each building with the principal to assess the technology readiness of the school based on the program standards outlined in BASYS®.

Summary &amp; Mission

Background

Methodology &  
Approach

Pilot Study Report

Findings &  
Recommendations

## Pilot Study Report

### Results of the Pilot Assessment

School	Educational Adequacy Score	Technology Readiness Score	Rating Category
Henderson Upper	71	55	Adequacy - Poor Technology - Poor
Henderson Lower	61	48	Adequacy - Poor Technology - Unsatisfactory
Umana	71	66	<b>Adequacy - Poor Technology - Poor</b>
Burke	75	92	Adequacy - Fair Technology - Fair

Based on the assessments of these four pilot schools, there is likely to be a significant need in regard to improving both educational adequacy and technology readiness in many schools in Boston. The wide range in technology readiness scores is not uncommon, as improved technology is often seen as a necessity when schools are renovated, as was the case with the Burke HS. The score of “Fair” regarding educational adequacy at Burke points out the need to identify the facility implications of the instructional program prior to implementing facility renovations. Although many components of the instructional spaces at Burke are excellent – like the new media center, some rooms are too small (e.g., science and art), some rooms lack adequate storage, and some areas lack adequate HVAC to make them comfortable (e.g., the new art room spaces at the old gym). There are no fume hoods or exhaust fans in science rooms.

When the detail scores for each of the pilot schools are examined (See attached Suitability Report for the detailed scoring report for the Burke school), a number of specific program areas consistently scored low. Included among those are the following:

- Art Spaces
- Music Spaces
- Cafeteria and Food Services
- Parking and Access
- Safety and Security Issues



## Suitability Report - Full

Project #: 7330	County: Boston	Site #: 3
Project: Assessments 2015	Region: 1	Site: Mario Umana Academy
Grade Config: K-8	Site Type:	Site Size: 0.00

Suitability	Rating	Score	Possible Score	Percent Score
<b>Suitability - PK-8</b>				
<b>Learning Environment</b>				
Learning Style Variety	Excel	5.00	5.00	100.00
Interior Environment	Poor	1.00	2.00	50.00
Exterior Environment	Excel	1.50	1.50	100.00
<b>General Classrooms</b>				
Environment	Fair	2.41	3.70	65.00
Size	Fair	6.01	9.25	65.00
Location	Good	2.22	2.78	80.00
Storage/Fixed Equip	Good	2.22	2.78	80.00
<b>Kindergarten</b>				
Environment	Good	0.27	0.34	80.00
Size	Good	0.67	0.84	80.00
Location	Excel	0.25	0.25	100.00
Storage/Fixed Equip	Good	0.20	0.25	80.00
<b>ECE</b>				
Environment	(N/A)	0.00	0.00	0.00
Size	(N/A)	0.00	0.00	0.00
Location	(N/A)	0.00	0.00	0.00
Storage/Fixed Equip	(N/A)	0.00	0.00	0.00
<b>Self-Contained Special Ed</b>				
Environment	Fair	0.37	0.56	65.00
Size	Good	1.12	1.41	80.00
Location	Good	0.34	0.42	80.00
Storage/Fixed Equip	Fair	0.27	0.42	65.00
<b>Instructional Resource Rooms</b>				
Environment	Fair	0.55	0.84	65.00
Size	Excel	2.11	2.11	100.00
Location	Good	0.51	0.63	80.00
Storage/Fixed Equip	Fair	0.41	0.63	65.00
<b>Science</b>				
Environment	Fair	0.50	0.77	65.00
Size	Fair	1.25	1.93	65.00
Location	Good	0.46	0.58	80.00
Storage/Fixed Equip	Poor	0.29	0.58	50.00
<b>Music</b>				
Environment	Poor	0.38	0.76	50.00

Project #: 7330	County: Boston	Site #: 3
Project: Assessments 2015	Region: 1	Site: Mario Umana Academy
Grade Config: K-8	Site Type:	Site Size: 0.00

Suitability	Rating	Score	Possible Score	Percent Score
Size	Poor	0.94	1.89	50.00
Location	Fair	0.37	0.57	65.00
Storage/Fixed Equip	Poor	0.28	0.57	50.00
<b>Art</b>				
Environment	Poor	0.22	0.44	50.00
Size	Good	0.88	1.09	80.00
Location	Good	0.26	0.33	80.00
Storage/Fixed Equip	Poor	0.16	0.33	50.00
<b>Career Tech Ed</b>				
Environment	Fair	0.80	1.22	65.00
Size	Good	2.45	3.06	80.00
Location	Good	0.73	0.92	80.00
Storage/Fixed Equip	Poor	0.46	0.92	50.00
<b>Computer Labs</b>				
Environment	Poor	0.15	0.30	50.00
Size	Good	0.60	0.75	80.00
Location	Fair	0.15	0.23	65.00
Storage/Fixed Equip	Fair	0.15	0.23	65.00
<b>P.E.</b>				
Environment	Good	1.65	2.06	80.00
Size	Good	4.13	5.16	80.00
Location	Good	1.24	1.55	80.00
Storage/Fixed Equip	Good	1.24	1.55	80.00
<b>Performing Arts</b>				
Environment	Poor	0.23	0.47	50.00
Size	Fair	0.76	1.17	65.00
Location	Fair	0.23	0.35	65.00
Storage/Fixed Equip	Unsat	0.00	0.35	0.00
<b>Media Center</b>				
Environment	Fair	0.45	0.69	65.00
Size	Excel	1.74	1.74	100.00
Location	Good	0.42	0.52	80.00
Storage/Fixed Equip	Good	0.42	0.52	80.00
<b>Restrooms (Student)</b>	Poor	0.45	0.91	50.00
<b>Administration</b>	Fair	1.47	2.27	65.00
<b>Counseling</b>	Fair	0.27	0.41	65.00
<b>Clinic</b>	Good	0.27	0.34	80.00
<b>Staff Lounge-WkRm</b>	Fair	0.59	0.91	65.00
<b>Cafeteria</b>	Poor	2.50	5.00	50.00
<b>Food Service and Prep</b>	Fair	5.10	7.84	65.00
<b>Custodial and Maintenance</b>	Good	0.40	0.50	80.00
<b>Outside</b>				
Vehicular Traffic	Fair	1.95	3.00	65.00
Pedestrian Traffic	Good	0.80	1.00	80.00
Parking	Fair	0.88	1.35	65.00
Athletic Courts and Fields	Good	1.31	1.64	80.00

Project #: 7330	County: Boston	Site #: 3
Project: Assessments 2015	Region: 1	Site: Mario Umana Academy
Grade Config: K-8	Site Type:	Site Size: 0.00

Suitability	Rating	Score	Possible Score	Percent Score
<b>Safety and Security</b>				
Fencing	Good	0.97	1.22	80.00
Signage & Way Finding	Fair	0.10	0.15	65.00
Ease of Supervision	Poor	1.00	2.00	50.00
Controlled Entrances	Fair	0.33	0.50	65.00
<b>Total For Site:</b>		<b>69.80</b>	<b>98.32</b>	<b>70.99</b>

#### Comments

##### Suitability - PK-8

The Mario Umana Academy is a three-story brick building that houses students in grades K-8 in classroom clusters. The school includes a gym/pool building that is connected via an overhead walkway. The school provides a bi-lingual Spanish program, starting in grade K and is the neighborhood middle school for nearby elementary students, starting in grade 6. The school was designed with many unassigned areas, both in the classroom clusters, and in the building as a whole, that support opportunities for flexible learning groupings and activities. The school

##### Suitability - PK-8->Learning Environment-->Learning Style Variety

Each classroom cluster has a small, glassed room in the center where students or teachers could work. The commons space in each cluster provides significant space to "flow out" of the glassed classrooms. Additionally, the school has other spaces outside the clusters that could support large and small group instruction, including the glassed walkway to the gym complex.

##### Suitability - PK-8->Learning Environment-->Interior Environment

The interior of the school is dimly lighted, has poor acoustics in some areas, and has some structural impediments to flexibility. For example, the music room and one kindergarten room have a large post in the middle of the rooms. The HVAC system is not consistent for either heating or air conditioning across the school. There are no permanent drinking fountains in the school. Water is available in the school from bottled water dispensers that are refilled by students or adults from a supply on the first floor.

##### Suitability - PK-8->Learning Environment-->Exterior Environment

The school has a well-developed outdoor classroom area and a concrete amphitheater.

##### Suitability - PK-8->General Classrooms-->Environment

The general classrooms are dimly lighted. The interior partitions between rooms and the commons area are not adequate to provide consistent acoustic separation. Additionally, the HVAC system is not consistent for either heating or air conditioning across the school.

##### Suitability - PK-8->General Classrooms-->Size

The general classrooms are approximately 700 SF.

##### Suitability - PK-8->General Classrooms-->Location

One cluster of classrooms is located distant from other portions of the school. Students cross through another classroom cluster to go to the library, cafeteria, gym, music, etc.

##### Suitability - PK-8->General Classrooms-->Storage/Fixed Equip

Each general classroom has some permanent casework. In addition, each cluster has a large storage room with shelving.

##### Suitability - PK-8->Kindergarten-->Environment

The kindergarten rooms are a newer renovation of the school library. There are three classrooms with an adjacent set of restrooms. The rooms have amazing views of the city. One kindergarten classroom has a large, concrete post in the middle of the room which limits flexibility. The HVAC system is not consistent among the classrooms.

##### Suitability - PK-8->Kindergarten-->Storage/Fixed Equip

There are adjacent restrooms, but the fixtures are not age appropriate.

Project #: <b>7330</b>	County: <b>Boston</b>	Site #: <b>3</b>
Project: <b>Assessments 2015</b>	Region: <b>1</b>	Site: <b>Mario Umana Academy</b>
Grade Config: <b>K-8</b>	Site Type:	Site Size: <b>0.00</b>

Suitability	Rating	Score	Possible Score	Percent Score
Suitability - PK-8->Self-Contained Special Ed-->Environment				
The self-contained special education room is housed in a room designed for science. The lighting is dim and the HVAC system is unpredictable.				
Suitability - PK-8->Self-Contained Special Ed-->Storage/Fixed Equip				
The room is designed for science with science cabinets along one wall. There is a sink in the cabinets, but it does not have water. There is an adjacent restroom with a changing table. There is no space for storage of large pieces of student-required equipment.				
Suitability - PK-8->Instructional Resource Rooms				
The school was designed with a resource room space adjacent to each classroom cluster. However, these rooms are used as general classrooms, due to current enrollment at the school.				
Suitability - PK-8->Instructional Resource Rooms-->Environment				
The space designed for instructional resource rooms has windows for natural light and great views of the city. However, the lighting is dim and the HVAC system is inconsistent.				
Suitability - PK-8->Instructional Resource Rooms-->Storage/Fixed Equip				
There is limited permanent casework in the instructional resource rooms.				
Suitability - PK-8->Science				
There are seven rooms used for science. Four rooms appear to have been designed for science with a greenhouse, bump-out window and storage/prep areas.				
Suitability - PK-8->Science-->Environment				
The science rooms have dim lighting and the HVAC system is inconsistent among the rooms.				
Suitability - PK-8->Science-->Size				
The rooms designed for science meet approximately 65% of the standard for room size.				
Suitability - PK-8->Science-->Storage/Fixed Equip				
There is inconsistent fixed equipment and storage among the seven science rooms. Some rooms have sinks with water, others just have sinks, but no water connected. Permanent casework varied and was mostly not adequate. Safety equipment also varied. Two rooms had fume hoods with ventilation, but they were missing in others. One room had an eyewash station, but no water connected to it; one room had a shower in the ceiling, but no pull chain for water. Two rooms had a fire blanket; two rooms had fire extinguishers.				
Suitability - PK-8->Music-->Environment				
The music suite is on the first floor of the school. Although it is on a separate hall, it is not acoustically isolated and sounds bleed through to adjacent offices and programs. The acoustics in the classrooms is not appropriate for music. The lighting is dim in all rooms. One room has a large, concrete post in the middle, reducing flexible use of space.				
Suitability - PK-8->Music-->Size				
The music room meets approximately 60% of the size standard. There are no practices spaces.				
Suitability - PK-8->Music-->Location				
The music suite is appropriately located, but lacks adequate acoustic separation.				
Suitability - PK-8->Music-->Storage/Fixed Equip				
There is a small music storage room, but it is not adequate for the instruments. There is no permanent casework in the music classrooms.				
Suitability - PK-8->Art-->Environment				
There are two rooms used for art instruction. Both are dimly lighted; one lacks windows for natural light and is on an interior wall. The HVAC system is inconsistent between the rooms.				
Suitability - PK-8->Art-->Size				
There are two rooms used for art. The designed art room meets the size standard; the other room meets approximately 60% of the size standard.				

Project #: 7330	County: Boston	Site #: 3
Project: Assessments 2015	Region: 1	Site: Mario Umana Academy
Grade Config: K-8	Site Type:	Site Size: 0.00

Suitability	Rating	Score	Possible Score	Percent Score
Suitability - PK-8->Art-->Storage/Fixed Equip				
There are two rooms identified for art. One has no water and no permanent casework appropriate for the program. The other room has a foot-operated sink with no clay trap. It has a kiln, separated from the room by a 3-foot metal fence, and includes a ventilation system above it. There is inadequate permanent casework in the second art room and no separate storage room to support this program. *				
Suitability - PK-8->Career Tech Ed				
The school was designed with a drafting/engineering space on the first floor and a family and consumer science space on the second floor. The family and consumer science space has been converted into the library. The drafting/engineering space includes a classroom area and an adjacent work area, but it is being used as office space for itinerant staff.				
Suitability - PK-8->Career Tech Ed-->Environment				
The room designed for drafting is dimly lighted and lacks windows for natural light. The HVAC system is inconsistent. The room designed for FACS has been converted to the media center.				
Suitability - PK-8->Career Tech Ed-->Storage/Fixed Equip				
The room no longer serves as a career technology space. There is no fixed equipment appropriate to that program.				
Suitability - PK-8->Computer Labs-->Environment				
The computer labs are dimly lighted and the HVAC system is inconsistent across the spaces. One lab is located near an open stairwell and the music suite and lacks adequate acoustic separation.				
Suitability - PK-8->Computer Labs-->Location				
One computer lab is located on the first floor, close to the music room and an open staircase that leads to the library. There is inadequate acoustic separation.				
Suitability - PK-8->Computer Labs-->Storage/Fixed Equip				
There is limited permanent casework for storage of materials or equipment in either of the computer labs.				
Suitability - PK-8->P.E.				
The school has a large gym with a curtain divider, two handball courts, a dance room, and a swimming pool. There are 4 locker rooms, complete with showers and lockers.				
Suitability - PK-8->P.E.-->Location				
The pool viewing area does not allow observation of 2 lanes in the pool.				
Suitability - PK-8->P.E.-->Storage/Fixed Equip				
The gym has only 4 sections of movable bleachers.				
Suitability - PK-8->Performing Arts-->Environment				
The performing arts space is a large, multi-use room. It has a high ceiling, but the acoustics are poor. The lighting is dim and the HVAC system is inconsistent for both heating and cooling.				
Suitability - PK-8->Performing Arts-->Size				
The multi-purpose room does not meet the size standard.				
Suitability - PK-8->Performing Arts-->Location				
The location in the school is appropriate, but there is no capacity to separately open this facility and block access to the rest of the school. This space is regularly used by a large number of community groups during non-school hours.				
Suitability - PK-8->Performing Arts-->Storage/Fixed Equip				
The multi-use room lacks a permanent stage and no portable stage is available at the site. There are no curtains, lights, or sound system. The room has no storage connected to it and a baby grand piano and several refrigerators are typically located in this space.				
Suitability - PK-8->Media Center-->Environment				
The room is well-lighted and has appropriate acoustical treatment. There are windows for natural light.				

Project #: 7330	County: Boston	Site #: 3
Project: Assessments 2015	Region: 1	Site: Mario Umana Academy
Grade Config: K-8	Site Type:	Site Size: 0.00

Suitability	Rating	Score	Possible Score	Percent Score
<b>Suitability - PK-8-&gt;Restrooms (Student)</b>				
There are student restrooms located adjacent to each double cluster of general classrooms (typically 4 CR to a cluster). This is not an adequate number without careful scheduling of student breaks. Some of the restroom sinks do not have running water. There is no urinal separation.				
<b>Suitability - PK-8-&gt;Administration</b>				
The administrative space is adjacent to the front door and controls access through a camera/buzzer system. There are an adequate number of offices, but the space is not arranged for efficient access by the large number of staff.				
<b>Suitability - PK-8-&gt;Counseling</b>				
There are counseling offices located on each floor, adjacent to each pod of classrooms.				
<b>Suitability - PK-8-&gt;Clinic</b>				
There is a large clinic area at the school that includes a restroom that is not ADA accessible.				
<b>Suitability - PK-8-&gt;Staff Lounge-WkRm</b>				
The school was designed with faculty work rooms, but they are currently being used as instructional spaces. There are not an adequate number of adult restrooms in the school for the size of the staff.				
<b>Suitability - PK-8-&gt;Cafeteria</b>				
The cafeteria is small for the enrollment. The only restrooms adjacent to the cafeteria also support the kindergarten classrooms. The fixtures are appropriately sized for upper grade children, but not kindergarten. There is no space for storage of tables and chairs.				
<b>Suitability - PK-8-&gt;Food Service and Prep</b>				
The food delivery area is shared with the garbage disposal area. There is inadequate turning space for delivery by a large truck.				
<b>Suitability - PK-8-&gt;Custodial and Maintenance</b>				
There is adequate designed storage and work space. One area is planned to be used as a staff lounge for 2015-16.				
<b>Suitability - PK-8-&gt;Outside--&gt;Vehicular Traffic</b>				
Buses and parents unload off street, but there is no separation between them, except that provided by staff members who direct traffic. The large entrance to the parking/loading area lacks painted or signed traffic information to direct the public.				
<b>Suitability - PK-8-&gt;Outside--&gt;Parking</b>				
There are no parking spaces identified for visitors.				
<b>Suitability - PK-8-&gt;Outside--&gt;Athletic Courts and Fields</b>				
Outdoors, there is a grassed field area, two basketball courts, and a fenced play area. There is a separately fenced play area for kindergarten with appropriate play equipment. However, this space is not ADA accessible from the building.				
<b>Suitability - PK-8-&gt;Safety and Security--&gt;Fencing</b>				
The school is adequately fenced, but the section next to the water around the grass field is in poor condition with holes that allow the public in and students out.				
<b>Suitability - PK-8-&gt;Safety and Security--&gt;Signage &amp; Way Finding</b>				
The exterior of the school lacks signage to direct the public to the main entrance. There are signs at the doors, but they are not visible from the parking area. The interior has some wayfinding signage directing the public to the large spaces. There are room numbers and some usage at most doors, but the numbers do not match the floor plans and the usage often does not match the current use.				
<b>Suitability - PK-8-&gt;Safety and Security--&gt;Ease of Supervision</b>				
This is a complex facility with many staircases and hiding places that are not easily supervised.				

Project #: 7330	County: Boston	Site #: 3
Project: Assessments 2015	Region: 1	Site: Mario Umana Academy
Grade Config: K-8	Site Type:	Site Size: 0.00

Suitability	Rating	Score	Possible Score	Percent Score
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## Suitability - PK-8->Safety and Security-->Controlled Entrances

There are two entrances used by students. Only the entrance on the street has a buzzer/camera system to allow entrance. The school also serves as the BPS Welcome Center. That entrance is not controlled and there is no control to limit access from the rear of the Welcome Center into the school.



### Technology Readiness Report - Full

Project #: 7330	County: Boston	Site #: 3
Project: Assessments 2015	Region: 1	Site: Mario Umana Academy

Technology Readiness	Rating	Score	Possible Score	Percent Score
<b>Technology Readiness</b>				
Comm\IT Equipment Environment	Fair	7.50	15.00	50.00
Electrical Power	Fair	5.00	10.00	50.00
Cooling	Unsat	0.00	10.00	0.00
Equity of Access	Fair	6.70	10.00	67.00
LAN Connectivity	Good	15.00	15.00	100.00
WAN Backbone	Good	10.00	10.00	100.00
LAN-WAN Performance	Good	10.00	10.00	100.00
Video Distribution	Fair	2.50	5.00	50.00
Voice Distribution	Fair	2.50	5.00	50.00
Faculty & Staff Technology	Fair	6.70	10.00	67.00
<b>Total For Site:</b>		<b>65.90</b>	<b>100.00</b>	<b>65.90</b>

#### Comments

Technology Readiness->Comm\IT Equipment Environment

Communications equipment is located in the storage area under the central staircase. It is surrounded by teaching materials.

Technology Readiness->Electrical Power

About half of the instructional spaces have adequate electrical service.

Technology Readiness->Cooling

The HVAC system in the school is not reliable.

Technology Readiness->Equity of Access

Wireless is not available in all areas of the school.

Technology Readiness->Video Distribution

Most of the instructional spaces have access to interactive white boards for video distribution.

Technology Readiness->Voice Distribution

All instructional areas had access to intercom. There are no telephones and staff do not have voice mail.

Technology Readiness->Faculty & Staff Technology

Not all faculty have access to technology.

*\*Discussion between BPS, SMMA, and MGT warranted.*

## Findings & Recommendations

### Findings and Recommendations

Based on the assessments of the four pilot schools, MGT provides the following findings and accompanying recommendations for next steps.

<b>Finding #1</b>	Educational programs/goals and the accompanying facility implications are unclear.
<b>Recommendation</b>	Conduct educational program discussions with district staff to ensure that existing/future educational program goals are understood and facility implications are outlined prior to renovation or reconstruction.
<b>Finding #2</b>	Facility standards designed to support the educational program are unclear.
<b>Recommendation</b>	Develop specific standards for each instructional area, including: <ul style="list-style-type: none"> <li>– Learning environment</li> <li>– Size</li> <li>– Location</li> <li>– Storage/Fixed equipment</li> <li>– Technology Readiness</li> </ul>
<b>Finding #3</b>	Future plans should reflect district priorities and coordination to support improved condition and educational adequacy as well as address long-term growth, capacity, and utilization.
<b>Recommendation</b>	Determine weighting for components, including facility condition, educational adequacy, technology readiness, and facility utilization in order to appropriately account for each factor as priorities are developed and the master plan is constructed.



# Building Physical Assessments

## Summary

### *Due Diligence Report*

## Summary

### Evaluation of Existing Conditions: Mario Umana Academy

The following evaluations are based on building walk-throughs and reviews of the existing construction documents. The evaluations were performed by SMMA architectural and engineering professionals on August 6, 2015.

The building was built in 1975. The school includes a gym and pool building that is connected via an overhead walkway. The average existing classrooms are approximately 720 sf - (18% undersized). The science labs are generally 860 sf - (29% undersized) and lacks the proper safety equipment. Other undersized spaces include (by current MSBA Guidelines): administration; cafeteria; medical suite; and music classrooms. As a result, the interior educational spaces are not capable of supporting current technological needs and teaching methods.

The physical floor and exterior wall structure is in good condition. A new roof system of heat sealed rolled on asphalt and bitumen built-up roofing system on top of new tapered insulation was completed in February 2015. This was required due to failure in the original 1975 roof causing water damage to the ceilings throughout the facility. Hence, most of the acoustical ceiling tiles and grid system is damaged or missing.

The existing fluorescent 2x4 lighting units in the ceiling grid do not meet the lumen requirements and repetition frequency discharge above 100 Hz recommended in educational facilities.

The building was erected to meet the code requirements of the time, but as these have evolved, and as accessibility standards have been established, the building and surrounding site are no longer in compliance with current standards. Extensive work will be required to bring the building up to meet current codes.

The building is listed as an emergency shelter location. However, its location next to the Boston Harbor and coastal flood zone makes it susceptible to long-term flooding.

### General Description

The building and systems have been maintained well, but systems and finishes are in fair condition in many cases and some in need of upgrade. Mechanical systems are in very poor condition. There is a fire protection system in the building. The existing infrastructure is not capable of supporting current technological needs and teaching methods. The original 1975 building was built to meet the code requirements of the time, but as these have evolved, and as accessibility standards have been established, the building and surrounding site are no longer in compliance with current standards. Extensive work will be required to bring the building up to meet current codes.

The building was built in one phase. The construction documents for the original building were not available and documents for an "addition" are dated January 2006. For consistency we are referring to the buildings as the original and new. Building areas are taken from available sources and should not be considered "measured".



## Summary

## Due Diligence Report

## Due Diligence Report

### Architectural Building Description

- 163,851 GSF completed in 1975
- Use Group: E- Education (with accessory occupancies A1 – Auditorium; A 2 Cafeteria; A-3 Library/Media Center, A-4 Gymnasium, and Pool)
- Type of Construction: IA or IB – Noncombustible, potentially steel encased in concrete

The building is a 3-story structure built on a concrete slab. The floor slabs are concrete slabs on composite deck supported by composite steel beams and steel columns.

#### Exterior Walls

The exterior walls are a combination of steel studs with brick veneer, Poured concrete with



brick veneer, CMU backup with metal panels and curtain walls. The stair towers are formed reinforced concrete.

The the mortar is generally in good condition. In general, sealant at all joints are in need of replacement, particularly at building expansion joints. There were no control joints noted in the exterior masonry walls, however the expansion joints were noted to have missing or deteriorated seals that require replacement.



The north and east face walls show signs of efflorescence and a dark discoloration.

## Exterior Windows/Louvers

The various original windows and replacement windows are aluminum double glazed fixed windows with a few operable awning window units. The lintels are in generally good condition, even if surface rust is visible. The perimeter sealant at all window units throughout the building is in fair condition. Old sealant needs to be removed from the masonry. Window sills are in poor condition. Some of the replacement windows have a different tint from the original unit's glazing. The exterior panels and trim on the surface on the original windows are losing their finish.



## Exterior Doors

Most of the exits are ADA compliant (panic hardware, frame and door material) and meets compliance with all applicable fire/life safety codes. Sealant at the perimeter of all exterior door frames is in poor condition. Some of the metal doors attached to the pool / fitness building show rust deterioration at the door and frame base.

## Loading Dock

Space provided at the loading dock in its current configuration is adequate. The turning radius for delivery trucks is too narrow. The overhang covering the dock is too low for standard box trucks and has been damaged in the past.



## Roofing

A new rolled on asphalt and bitumen built-up roofing system was installed in 2014. The roofs are minimally pitched and drained internally. The new tapered insulation appears not to have enough pitch causing ponding in many locations.



Drains appear to be from the original system and in their original locations. Many of the original skylights appear to be in good condition, but with evident leaks. Mechanical curbs also appear to be in good condition. Metal coping and flashing is in fair condition with only some discoloration at many locations.

### Interior Partitions

The interior unitized panel system partitions are generally in good condition at all corridors. The glass and panel units separating the classrooms from the common areas are missing most of their bottom covers.



Partitions between classrooms and administration spaces are generally wallboard and plaster throughout and are in fair condition throughout.

The partitions at the gymnasiums and locker rooms are painted or bare CMU or GCMU. The kitchen walls are painted CMU throughout. Cafeteria walls are painted CMU. The auditorium walls are painted CMU with acoustic fiber panels around the upper part of the auditorium.



Library walls are gypsum wallboard, glass and wood.

Generally, all walls are in good condition. The masonry walls do not exhibit any cracks or signs of structural movement.



The interior pool walls show signs of water and humidity damage.

## Flooring

Flooring in general is in good condition other than a few locations where the conditions are poor. The ground floor corridors have resilient tile floors (VCT) and are in very good condition. Carpets in the small meeting areas should be replaced or removed due to age and environmental concern.

In most classrooms vinyl composition tile has been installed. Stairs have rubber treads and risers as well as landings and are ADA compliant. The Gym floor appears to be in fair condition. The ceramic tile flooring in locker areas is in failing condition. The terrazzo floor in shower areas appears in good/fair condition.

## Ceilings

Most classrooms and corridors have 2'x2' - 2'x4' ACT tiles with exposed grid. Many tiles need replacement due to sustained water damage. Light fixtures are surface-mounted within an coffered 2'x4' unit. The existing fluorescent reflected lighting units in the ceiling grid do not meet the lumen requirements and repetition frequency discharge above 100 Hz recommended in educational facilities.



## Signage, Wayfinding

Corridor way finding is minimal or nonexistent for the layout and geometry of the building.

### Lockers

Student lockers are in good condition. Padlock hasps often provide much easier maintenance and eliminate the need to manage and administer combinations to the students.



### Casework

Offices, workrooms and administration spaces have built-in wood casework. Casework at administrative areas is generally in fair condition. Existing casework in general does not provide any areas that are accessible.

Classroom storage is not adequate but is generally in good condition.

The science lab casework and lab benches are in poor condition.

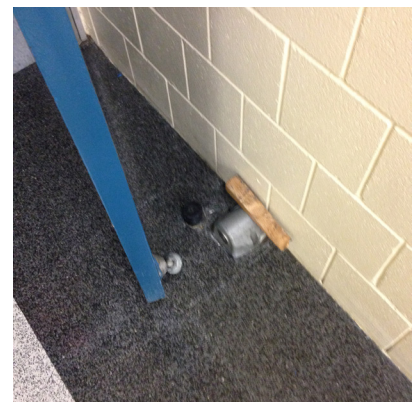
### Means of Egress and Doors

The configuration of the corridor egress system and capacity of the egress doors appear to meet egress code requirements to allow the calculated population of the various building wings to safely exit the building. There are several existing egress corridor partitions constructed with large glazing panels that are of questionable fire rating. Some of the egress doors open on to stepped landings with no ramps or area of refuge provided.

The doors and hardware are deficient in several categories. No indications were visible (label either missing or painted over) to indicate that stair doors were labeled by UL or other testing agency to indicate the required fire rating. In addition, almost all of the glazed doors contain wired glass which is no longer permitted as safety glazing by the current code for educational use.

In most corridors, there are doors that limit corridor lengths. It cannot be determined if these doors were intended as fire separation assemblies or smoke compartment doors, which earlier codes may have required. These doors tend to limit the width and flow of traffic in corridors as well.

These doors should be held open with magnetic floor stoppers that will close upon activation of the fire alarm. None of them are operable. The doors themselves have no fire rating as the label is either missing or was never a labeled door making these doors non-compliant for fire or smoke separation.



## Passageways and Corridors

Air-lock vestibules are not present at the entries. Ceiling heights in corridors are generous. Corridor lighting is ceiling mounted and insufficient.

## Stairs

The riser and tread dimensions of all the stairs appear to comply with egress code but the presence of a nosing makes those stairs non Code compliant. The railings and guardrails do not comply with the 42" height requirement. The guard below the top rail is too large to comply with the 4" ball rule for the maximum open space in a guard rail. The handrails do not comply with the extension requirements at the walls for the top and bottom of each run of stairs.

The width of the stairs appears to be sufficient to meet the required egress capacity.

## Elevator

The elevator was locked and not accessible, but is reportedly fully compliant with the code and works well.

## ADA/MAAB Accessibility

In general the building does not meet current accessibility standards. Most toilet rooms do meet current standards, and some multi-fixture toilet rooms do provide handicapped stall.



Handicapped door operators are not present at the main entries. Main entries are accessible, but other Means of Egress doors open onto stepped pads without ramps.

Many of the classroom entrance doors are without the necessary side maneuvering and push/pull clearances required to meet accessibility code. Accessible showers and lockers are provided in the locker rooms.

## Toilet Rooms

The handicapped accessibility fixtures are damaged, inoperable, show evidence of improper installation and clearances. The toilet rooms require comprehensive renovation and repair.

## Fire Separation

The building is not sprinklered. The building is not compartmented to meet today's code requirement for total floor area.

### Auditorium

The Auditorium is generally in good condition, but is dated and lighting quality is poor. The functionality of the sound absorptive panels on the walls is questionable.

### Energy Code and Exterior Issues

Though grandfathered, the lack of appropriately insulated exterior walls, ground floor slab, the lack of vestibule airlocks, and the absence of continuous air barrier make the facility non-compliant with the current energy and stretch codes.

## Site/Civil

### Site Context

The academy is located between Border Street (to the east) and Boston Harbor (to the west) in East Boston; the nearest cross street is Eutaw Street. The school is composed of two primary buildings. The larger north building is the academic building, to the south is the athletic building. Between the two is a large paved courtyard, used primarily for parking and pick-up/drop-off. To the west of the courtyard, adjacent to the harbor, are athletic fields, ball courts and a playground. The school has three entrances. The main entrance is on Border Street. Two secondary entrances, one for each building, open off of the paved courtyard.

The site is very flat with 24" to 36" of grade change across the site. The street and first floor elevation is approximately 17.0' BCB (Boston City Base) and slopes down slightly towards the harbor, where a granite block sea wall drops to water elevation. The average high tide elevation (MHHW) is 11.5' BCB, below the top of the sea wall.

About a third of the site is located in the FEMA 100-year flood zone (1% chance of occurrence every year); FEMA map # 25025C0018G 9-25-2009. Such a flood would put the athletic spaces towards the harbor out of commission and possibly some of the parking. It is unlikely that this flood would enter the building, but it may block emergency egress routes.



Sea level rise due to climate change at this site is a concern. NOAA has documented a foot of relative sea level rise over the last 90 years, approximately half due to actual rise in sea levels and half due to ground subsidence at the shore line. Sea level projections over the next 90 years, as reported by the City, will lead to an additional one to two feet of sea level rise. And if there is rapid ice melting on Greenland, Iceland and Antarctica, sea level rise could be as high as 4' to 6'. In both cases, the 100-year storm will flood the site, Border Street and the first floor of the school. In the rapid ice melting scenario, this level of flooding will occur during each high tide.

<http://www.cityofboston.gov/climate/sealevelriseboston.asp>

### Utilities

The site drainage is in poor condition. Most of the catch basin grates have been replaced with steel plates that limit flow, causing ponding. The ponding water has infiltrated around the catchbasins, undermining the subsoils, which cause the pavement to settle and crack. The catchbasins also appear to be settling, and should be inspected. No water quality structures were found on site. No stormwater systems to reduce runoff volume or rates were found on site.

We found no records of the age or condition of the water, sewer, gas, electrical and communication utility connections. The utility connections are likely the age of the building. Since the building rests on piles, all underground utility connections should be inspected for settlement damage. We recommend a TV inspection of the underground sewer and drainage systems.

Some of the fire hydrants appear to be damaged and inoperable.



### Surfaces

The concrete vehicular paving throughout the courtyard has surpassed its useful life and should be replaced. It appears the sub base is also failing, likely due to subsurface erosion caused by failed pavement, especially around catchbasins. Even recently repaired concrete pavement is failing, which suggests sub base failure. Repaving should be accompanied by replacing the sand and gravel sub base.

Asphalt paving, primarily the parking and loading on the north side of the site, is in fair to poor condition. The asphalt is failing, but could be repaired with a mill and overlay. The sub base appears in acceptable condition, if the few potholes are dugout and regravelled prior to repaving. The bituminous curbing has failed throughout due to snowplowing and removal. The loading dock is at a ninety degree angle to the aisle, which is awkward but serviceable for single unit delivery trucks. The concrete bollards at the rear of the parking and the gate at the entrance have both failed and should be removed or replaced.

The pedestrian walkways and sidewalks are mostly in fair condition. The planters and other hardscape is also in fair condition. They all require some maintenance and weeding to continue serviceable condition. The sidewalk along Border Street does have some major cracking and settlement that have created 1" to 2" lips that create tripping hazards and impact ADA accessibility.

Perimeter fencing throughout is in fair condition, though numerous isolated sections are failing and should be replaced. At some sections by the harbor one can crawl beneath the fencing, which is a safety hazard.

The asphalt play courts and playground are in good condition. The basketball court has one major crack adjacent to its catchbasin. This crack should be filled, and the catchbasin cover should be replaced with a standard grate.

A softball field is located between the school and the harbor. It appears to have a sinkhole in the center of the field, and is often saturated. The field is unusable for softball and the backstop has rusted and collapsed. The outfield is usable as a small play field. The saturated conditions are likely due to poorly drained soils over a high water table. The sinkhole may be caused by one or two site conditions. First, the sinkhole is partially located atop an old shipway that may not have been filled correctly when the school was constructed. Second, the north side of the field is an un-reinforced and eroding slope that falls into the harbor beneath the adjacent pile-supported building.



## RECOMMENDATIONS:

- Flood study of building and egress, and analysis of the risk of sea level rise and strategies to adapt.
- Install standard grates on catchbasins.
- Reconstruct sub base and repair courtyard.
- Mill and overlay north side parking lot and replace berms.
- Selective Border Street sidewalk panel repair.
- Repair basketball court crack.
- Study athletic field failures.
- TV sewer and drain systems to assess condition.



*Failed catchbasin*



*Failed asphalt*



*Poor sidewalk*



*Basketball crack*

## HVAC Systems

### Executive Summary

The Mario Umana Academy school building appears to have received below average maintenance of the HVAC systems over its occupied years. Generally, most systems are operational. During the time of the survey the building appeared to be overcooled. While there are no catastrophic failures obvious with the present equipment, the piping systems are experiencing corrosion and leak in many locations. The continued operation will be at the expense of increased maintenance and operating costs due to the inefficiency of the existing systems and through the generally antiquated nature of the systems themselves. Most of the systems installed within this building have exceeded their maximum serviceable life and are in need of replacement. With overall repair, maintenance, cleaning and calibrating of the system, a continued limited service life could be achieved however, length of service remaining is unpredictable at best.

### Buildings A and B

#### Boiler Room, Cooling Tower(s)

The boiler room is provided with two (2) H.B. Smith gas fired cast iron sectional boilers. Each boiler generates hot water which is distributed to hot water coils at terminal units, hot water coils at air handling units and the various heating apparatus. The boilers appear to be original to the building and generally in good condition, but boiler headers are showing signs of corrosion.



*Existing boilers*



*Boiler header showing rust*

Breeching from boilers is through an insulated venting system. The breeching insulation is damaged in several places. The boilers are provided with induced draft fans. There is some interior contamination at these fans. The draft fan's insulation is missing. The breeching discharges into a metal flue which is vented vertically through the building to the exterior. The breeching connection to the masonry chimney does not appear to be sealed. The metal vertical flue insulation is damaged.



*Flue damaged insulation*

The connection between the induced draft fans & boiler vents, boilers vents & breeching and breeching connection to masonry chimney should be tested for leakage.

The hot water piping is arranged in primary/secondary pumping distribution. The hot water primary/secondary pumps are base mounted. The flexible connections between hot water piping and the pumps are bulging/damaged. Hot water piping flexible connections should be replaced.

There are two (2) primary and two (2) secondary hot water pumps. All hot water pumps are leaking.



*Hot water pumps bulging flexible connections*



*Hot water pump leaks*

There are leaks on hot water piping at valves, pumps, gauges, sensors, etc.

Condenser water piping is leaking between boiler room and cooling tower(s) at multiple locations.

Domestic water heater flues had been replaced over the years, appear in good condition.

Combustion air is introduced to the boiler room via intake ductwork with high/low openings controlled by motorized dampers.

Automatic temperature controls are pneumatic, original to the building. It appears the automatic temperature control panel was retrofitted over the years and some controls were replaced with similar type. Some of the controls do not appear operational.

Considering the age and antiquated nature of the compressed air equipment a consideration should be given to upgrading.

It is our understanding all building temperature controls are conducted remotely by Boston School District Energy Department.

There are one (1) water cooled chiller, two (2) chilled water pumps and one (1) condenser water pump installed in the boiler room – all in good condition. A strong vibration was experienced around the chiller and vibration isolation is missing at the chiller. A second condenser water pump is missing – it was removed over the years and never replaced, therefore there is no pump redundancy in the condenser water systems.

Chiller, chiller controls, chilled and condenser water piping and its insulation are in good condition. It appears the chilled water system was provided with newer controls. The chilled water is distributed to the air handling units located in penthouses of Buildings A and B.

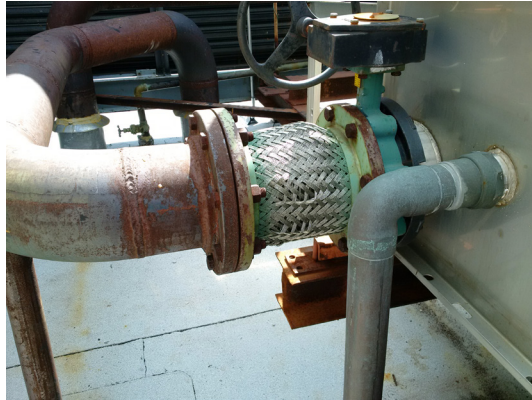
Further investigation is required to determine whether the refrigerant system is monitored and vented according to the code.



*Missing condenser water pumps*

Cooling tower is original to the building. It is located on the roof and appears to receive low maintenance, requires cleaning and replacement of certain parts. Flexible connections between the cooling tower and condenser water piping are damaged and require replacement.

The condenser water piping on the roof requires additional supports.



*Cooling tower damaged flexible connections*



*Insufficient condenser water piping support at cooling tower*

There is a plate and frame heat exchanger installed in the boiler room. The heat exchanger and an associated in-line pump are part of a cogeneration system. The plate & frame heat exchanger, associated in-line pump, piping, valves and accessories are leaking.



*Cogeneration heat exchanger leaks*



*Cogeneration in-line pump, piping, valve leaks*

*Cogeneration heat exchanger covered by carton  
(installed by maintenance personnel trying to protect  
from overhead pipe leaks)*



All the rest of cogeneration equipment is installed inside the cabin on the roof. The roof of the cogeneration cabin is leaking directly on all equipment installed inside the cabin. The cogeneration system is gas fired.

Located outside are dry coolers. Dry coolers appear to be a part of the cogeneration system. The condenser water piping appears to be also a part of the cogeneration system. The cogeneration equipment shows signs of wear and rust. The insulation on the roof mounted piping between the cogeneration outdoor cabin and the boiler room is damaged.



*Cogeneration roof-mounted piping damaged insulation and roof flashing*



*Cogeneration control panel showing active alarm mode*

Temperature/pressure gauges are corroded and several gauges are missing. The cogeneration instruments/gauges indicated during the time of the visit the system was in active “alarm” mode.

Hot water piping is leaking at multiple locations in the boiler room.

At the time of the visit the room exhaust fan was operational, the outdoor air dampers were fully open, but the room temperature was high. It appears the boiler room is not provided with adequate ventilation.

## Roof, Mechanical Penthouses

Buildings A and B have one mechanical penthouse each.

Buildings A and B are fully air conditioned. HVAC units serving Buildings A and B are located in the penthouses. The air handling units include, but not limited to the following components: supply and return fans, hot and chilled water coils, filters, mixing section. Portions of ductwork are missing insulation.

All units appear to be original to the building and appear to be operational. The air handling units appear to be lacking proper maintenance/service. Outside air damper actuators are not operational. Outside air dampers were closed while an associated air handling unit was operational.

Gauges/instruments are either missing at some locations, or not functioning at other locations.



*Outside air dampers closed during air handling unit operation*

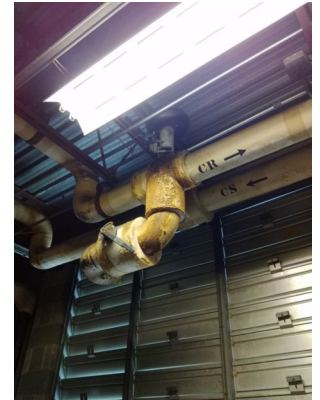
The HVAC unit component's interiors are full of dust/dirt and require cleaning.

There are leaks at multiple locations on piping, including but not limited to the valves, piping connections and at the gauges/sensor inserts, etc. As a result there is a lot of rust/corrosion on all piping.

Piping insulation is damaged throughout. The valves and other appurtenances on piping in the penthouses appear corroded and non operational.



*Piping damaged insulation*



*Control valve leaks*

The ductwork is leaking at multiple locations, including but not limited to the ductwork connections, at the gauges/sensors inserts, etc. The ductwork insulation is either damaged or missing.

The roof drain in penthouse A is leaking directly on the ACU-3. The leak appears to be old and the air handling unit and equipment under this leak has corroded.



*Non-insulated ductwork leaks*



*Roof leak on top of air handling unit*

Not all units in the penthouse are provided with vibration isolation, therefore a floor vibration is present throughout the penthouse.

Controls installed on the units, associated piping and ductwork do not appear to be operational.

Roof exhaust fans are original to the building. Some fans do not appear to be operational.



*Exhaust fan on roof*

## Administration Area

The administration area is fully air conditioned. The rooms/spaces are overcooled. Space temperature appears to be controlled remotely by the School District Energy Department.

## Electrical Rooms

Electrical rooms are not provided with ventilation, or air conditioning. Several electrical rooms are provided with door grilles. The door louver is dirty, air movement through the louver is restricted. The door louver requires replacement.

## IT Server/Data Rooms

IT Server room (Building A) is provided with a dedicated terminal unit, but the unit is insufficient to cool the room. To provide some relief from heat the ceiling tiles were removed, thus opening the room to the return air plenum. The temperature in the room remains high.

Data room (Building B) is served by an exhaust fan with a vari-speed controller. The controller does not appear to be working, the room thermostat is missing. The room door louver is dirty, air movement through the louver is restricted. The door louver requires replacement.

## Classrooms and Other Occupied Spaces

For the classrooms and other occupied spaces, heating and cooling is provided by air terminal units. The terminal units appear to be original to the building.

The air is distributed via linear ceiling diffusers. Each classroom/space is served by dedicated terminal units equipped with hot water coils. The hot water piping shows signs of corrosion, piping insulation is damaged or missing.

The temperatures in spaces are controlled by the wall mounted temperature sensor, installed high on wall. Terminal units control valves actuators appear to be damaged.

It appears not every classroom (space) has a temperature sensor. Therefore, an assumption is made that several classrooms share a temperature sensor. Space temperature appears to be controlled remotely by Boston School District Energy Department.



*Terminal unit HW piping*



*Terminal unit damaged actuator*

One Science classroom has a fume hood exhaust connected to vinyl exhaust duct. The fume exhaust system was not operational at the time of the survey. The fume hood exhaust controls are missing. The fume hood size/style/capacity, exhaust ductwork material, and associated fume hood exhaust fan should be verified for code compliance.

No dedicated exhaust fans were noted in other science/prep rooms.

There are multiple water damage spots in the ceilings throughout Buildings A and B indicating piping leaks.

The classrooms were overcooled during the time of the survey.



*Fume hood exhaust*

### **Bathrooms**

Bathrooms are provided with exhaust air systems. The exhaust registers appear dirty (blocking air movement) and require replacement.

### **Multipurpose Auditorium**

Multipurpose Auditorium heating and cooling is provided via ceiling linear diffusers. The air is returned via wall mounted registers. The temperature is controlled by the wall mounted temperature sensors. Space temperature appears to be controlled remotely by Boston School District Energy Department. The space was overcooled during the time of the survey.

### **Kitchen**

Kitchen exhaust equipment controls do not appear to be in operational condition. Kitchen hoods operation was not confirmed.

### **Elevator Machine Room**

There is an air transfer opening between elevator machine room (off kitchen) and elevator shaft. The air grille is dirty (blocking air movement) and requires replacement. There is no HVAC equipment proving room temperature control (code requirements) in elevator machine room.

## **Building C**

### **Gymnasium**

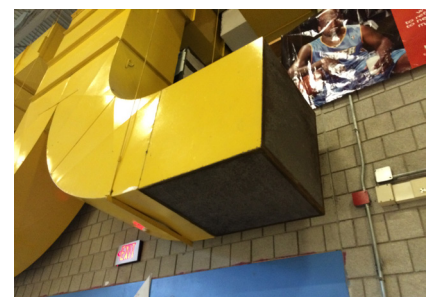
The gymnasium is provided with a heating and ventilating unit. The unit is original to the building, appears to be in fair condition, however the squeaking motor sounds and stretched belts indicate a lack of service/maintenance. The air in Gym is distributed via exposed spiral ductwork and jet style diffusers. Some diffusers are missing, the other diffusers appear to be rotated in the wrong plane.

Gym return registers are dirty (blocking air movement) and require replacement.

Temperature is controlled via room temperature sensors remotely by Boston School District Energy Department. Temperature controls appear original to the building.



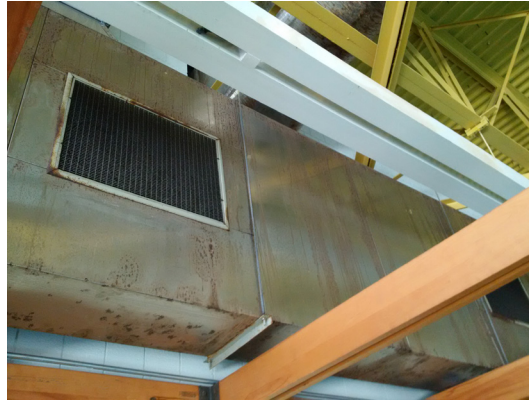
*Gym supply diffusers*



*Gym return registers*

## Pool and Adjacent Spaces

The pool is provided with heating and ventilating units. The space does not have any air conditioning and there is no humidity control. The level of humidity in the space was extremely high and the space was very uncomfortable. There was condensate on walls, windows, structural members, ductwork, diffusers, etc. Corrosion was noted on structural members. The air is distributed via exposed spiral ductwork. The ductwork and diffusers are corroding. It appears there is no space temperature control. Although the pool HVAC unit was operational, the air movement was not sensed in the space. The Pool space temperature is controlled remotely by Boston School District Energy Department.



*Pool air distribution*

Pool equipment and piping (installed in the rooms adjacent to pool) does not appear in good working order, is leaking and corroded.



*Leaking/corroded in-line pump (pool equipment)*



*Corroded pool heater*

## Basketball Court, Small Gym, Locker Rooms

The basketball court, small gym and locker rooms are provided with heating and ventilating units. The air distribution registers are dirty and damaged and in need of replacement. Although the heating and ventilating units were operational, there was no air movement in the spaces. The indoor air quality in all these spaces is poor. There are multiple locations in the ceiling indicating leaking pipes.



*Small gym air dirty/missing register*

### Electrical Room, Data Room

Electrical and Data rooms do not have any space temperature control HVAC equipment.

### Penthouse C

Pool and locker rooms' air handling units are located in the penthouse. The pool unit was replaced three years ago due to the condensate drain issues with the previous unit. However, at the time of survey the pool unit was operational and there was a substantial amount of condensate inside the unit cabinet at several locations. The condensate was not discharged from the unit and the drain pans appeared either sloped to the wrong direction, or the condensate drains outlets were plugged.



*Pool air handling unit floor condensate drain plugged*

The condensate pan was not present under one of the coils and condensate was accumulating directly at the bottom on the unit cabinet. One of the coils inside the unit did not appear to be connected to any piping outside of the unit.

Outside air intake louvers for the air handling units in the penthouse appear dirty and require cleaning. The outside air intake was closed while the air handling units were operational.

The locker rooms and small gym units are original to the building and do not appear to be in good condition: motors squeaking sounds, stretched belts and dirt/dust inside the unit cabinets indicate that the equipment requires service. The air handling units control panels do not appear to be operational.

There is no vibration isolation under the HVAC units in the penthouse. There is a strong vibration around the air handling unit.

## RECOMMENDATIONS:

Considering the general state of HVAC equipment and systems, maintenance and repair provided to HVAC systems are below average, many components/systems are in need of replacement.

Based on observed performance of HVAC equipment and automatic temperature controls the energy consumption within the building is likely above average when compared to similar buildings. Building temperature controls do not appear to be efficient and are not responsive to the space temperature requirements. The air conditioned classrooms/spaces appear to be overcooled. The school personnel have no ability to control space temperature as they are being controlled remotely by Boston School District Energy department. Some local control is advisable.

Pneumatic controls appear outdated, system components are not operational in many locations – all temperature controls should be inspected and replaced as required.

All HVAC systems gauges/sensors are outdated, many are not working and are leaking and require replacement.

HVAC valves and piping accessories appear corroded, not operational and are leaking throughout the building requiring replacement.

Most of the HVAC piping insulation is damaged requiring replacement.

The quantity of ventilation air being brought into the building is potentially compromised due to failed motorized dampers at the air handling units.

Many outside air dampers and associated actuators do not appear operational requiring replacement.

HVAC units installed in mechanical penthouses of Buildings A and B should be cleaned and broken parts replaced.

Ductwork should be cleaned, repaired and sealed.

Diffusers and registers in Buildings A and B need to be cleaned and replaced as required and the plenum vacuumed. Diffusers and registers in both buildings need to be replaced.

There are water stains at the ceiling throughout the building indicating piping leaks at multiple locations. A lot of piping leaks are in the penthouses. All HVAC piping should be inspected and damaged sections replaced.

The pool has poor indoor air quality, and humidity does not appear to be controlled. The condensate has accumulated on ducts, registers, structure, windows, etc. The ventilation air introduced to the pool and other building spaces is potentially compromised due to failed/misadjusted outside air dampers at the air handling units. The condensate is collecting inside the pool air handling unit and is not being drained. The pool air handling unit operation should be checked and corrected to address space temperature/moisture issues.

The pool equipment appears corroded and not operational. All pool equipment if not operational should be inspected and replaced.

HVAC systems serving other spaces in the pool building appear outdated and should be inspected and replaced if not operating properly.

A further evaluation of building is recommended to identify all code non-compliant HVAC systems and equipment. As the building presently exists, the following systems are not in compliance with the current code requirements:

- Ventilation air quantity introduced to the building appears to be compromised due to the misadjusted/broken equipment.
- The quantity of exhaust air from the buildings appears to be compromised due to the misadjusted/ broken equipment.
- Boilers and domestic water heaters' venting is damaged/broken.
- Fume hood style/type and associated exhaust ductwork material, and dedicated exhaust fan control should be provided.
- Exhaust fans are missing in science labs, chemical storage and prep rooms.
- Refrigerant piping monitoring and exhaust should be provided.

Considering the overall age of the building and systems', all HVAC mechanical systems approach or exceed their life expectancy and should be replaced. HVAC systems are operational and they could continue to serve the building for a short period of time. We do not recommend upgrading the components of the systems on a sectional basis since the mechanical systems and their components work together as a single system, e.g. changing the boilers without changing the venting and combustion air system would not result in achieving the benefits of the investment of upgrading the components since a failure is eminent at any point within the existing components. Any interruption at any point in the system could render the entire system inoperative with continued poor performance.

## Electrical Systems

### Electrical Power Distribution System

#### Buildings A and B

Existing dedicated utility service extends from the street towards the existing main electric room and terminates at existing main switchboard. The main switchboard manufactured by Sylvania, is rated at 3,000 Amp at 480/277 volt 3 phase. It consists of fused disconnect switches utilized as overcurrent protection devices for downstream feeders to panelboards and transformers. The main switchboard appears to be original to the building, and therefore its useful life expectancy is reaching its limit (photo 1). Panelboards installed throughout Buildings A and B, manufactured by Sylvania, appear to be original to the building as well, and reaching their expected useful life limits.

The main electric room shall be cleared of chairs and other building equipment not related to electrical system in order to provide maintenance clearances in front of equipment as required by Code (photo 2).

#### Building C

Majority of panelboards are found to be either in poor condition (broken, missing covers) or installed in violation of Code (maintenance clearance in front of panels required by Code is not provided, photo 3).

## RECOMMENDATIONS:

The main switchboard is recommended for replacement. Existing main electrical room shall be cleared to provide the required Code maintenance clearances. All original panelboards, both at 480/277 volt and 120/208 volt systems, installed throughout the building and associated power feeders from the main switchboard are recommended for replacement. Those panels that are observed to be in a poor condition (broken/missing circuit breakers, open/missing covers, observed and/or estimated quantity - about ten total) need immediate repair or full replacement.



*Existing main switchboard*



*Main electrical room*



*Examples of original panelboards in poor/failing condition*



## Emergency Power Distribution

### Buildings A and B

An indoor type 125 KW diesel-fired emergency generator is installed in room 123 (Photo 4). It is currently supporting emergency lighting in Buildings A and B. Emergency generator appears old, but in fair and operational condition.

Location of an Automatic Transfer Switch (ATS) associated with the generator power distribution system was not found anywhere – it appear to be missing and therefore the emergency power distribution system wiring appears to be out of compliance with the current Code (Photo 5).

## RECOMMENDATIONS:

Examine and trace the existing emergency power distribution system wiring to identify/confirm Code violations and upgrade/reinstall accordingly.



*Emergency generator*



*Example of "emergency power" equipment installation (no ATS found)*

## Branch Circuit Power Circuits

In general, power distribution and receptacle coverage is found to be adequate throughout. Majority of duplex receptacles are in good and operational conditions.

Duplex receptacles in the kitchen area and servery are of regular non-GFCI type as required by the latest electrical code.

## RECOMMENDATIONS:

The regular non-GFCI receptacles in kitchen and servery areas shall be replaced with GFCI type.

## Building Lighting

Although the existing lighting system was upgraded a few years ago with energy-efficient T8 lamps and ballasts, the overall lighting system appears worn and of poor quality – lamp enclosures appear old and deteriorated, and many enclosures are missing or broken.

In general, the lighting systems in Building A and B are in fair and operational condition.

Lighting illumination (FC levels) in educational spaces such as classrooms appears to be adequate, except for teacher areas in a few non-rectangular shape classrooms, where lighting appears a bit dim.

Automatic controls such as occupancy sensors and daylight sensors required per current Energy Code were not observed in classrooms or offices.

Lighting system condition in Building C varies – it was found acceptable in locker room areas and gym, but not appropriate in pool and the main entrance lobby.

The pool lights are old and at least three different types (open bottom, lensed bottom, different diameter sizes, etc.) are installed in the same area. Lighting illumination (FC levels) could not be evaluated since lights were not energized. Lighting in the main lobby of Building C appear old and lighting illumination is not adequate.

## RECOMMENDATIONS:

Old lights throughout are recommended for replacement. Installation of occupancy sensors and daylight sensors in classrooms in compliance with the Energy Code is recommended.

### Fire Alarm System

#### Buildings A and B

The existing fire alarm manufactured by Simplex is an addressable system. The Fire Alarm Control Panel (FACP) is installed in the administration main office. The FACP is equipped with a hand-held microphone for emergency live announcements by the fire department. Buildings A and B fire alarm condition is transmitted via a dedicated Master Box installed adjacent to the FACP (Photo 6).

The fire alarm system is in good operational condition and provides adequate detection and signaling coverage.



*Existing FACP and associated equipment*

#### Building C

The existing fire alarm manufactured by Simplex is an addressable system. The Fire Alarm Control Panel (FACP) is installed in a dedicated room named “Fire Command Center”. The FACP is equipped with a hand-held microphone for emergency live announcements by the fire department. Building C’s fire alarm condition is transmitted via a dedicated master box installed adjacent to the FACP (Photo 7).

The fire alarm system is in good operational condition, and provides adequate detection and signaling coverage.



*Existing FACP, master box and associated equipment*

### Exterior Lighting System

Perimeter building- and roof-mounted flood lights are in good operational condition. The lights are a mixture of time-controlled and photocell controlled types.

### Lightning System

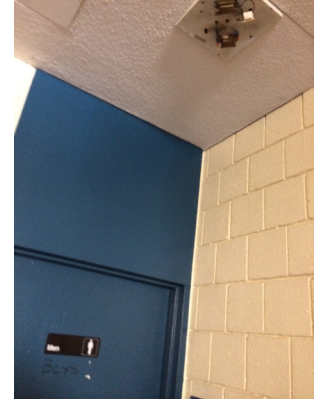
Buildings A, B and C are equipped with a Lightning Protection System consisting of roof-mounted air terminals, interconnecting conductors and grounding. The system is a recent installation, about 3 years old. It appears to be in good operational condition.

### Security

The school is currently equipped with a video intercom and a proximity card reader at the front entrance. The video intercom provides two-way audio communication and a video signal to an attendant in the main office. The attendant can view and speak with the visitor and elect to remotely unlock the door from the office. There is no card access system inside the building. The adjoining Building C is equipped with a proximity card reader at the entrance.



*Video intercom and card reader at front entrance*



*Damaged motion detectors*

Motion sensors are distributed in corridors to detect intrusion. It was noted that some devices are damaged.

The school is not equipped with a closed circuit television system (CCTV).

There are numerous recessed and hidden areas at the sides and back of the building where students or intruders can hide. The sightlines on approach from the street are good. Plantings near the building are low or pruned and do not obscure views of the exterior.

Classrooms and other learning spaces are equipped with panic switches which were originally provided for communication with the office in the event of an emergency. These devices are no longer reliable and many no longer operate.

Corridors are generally wide and long with straight views. There are numerous corridor intersections throughout the building where CCTV cameras would be useful for documenting events. Classroom doors are keyed.

Not all exterior doors are numbered. Room numbers are not posted on the building exterior.



*Potential hideout in recessed area at loading dock*



*Typical panic switch*



*Typical corridor sight lines*

## Communications

Verizon provides a combination of multi-pair copper and fiber optic cables entering the school via an underground duct bank. Some of the cabling and terminal equipment appears to be abandoned in place. The Verizon entrance facility is in a shared mechanical space that is dusty which may potentially compromise communications and creates a difficult working environment for future upgrades.

The Main Distribution Frame (MDF) is the only communications equipment room with air conditioning. Power services in the room will require upgrades to accommodate future equipment loads.

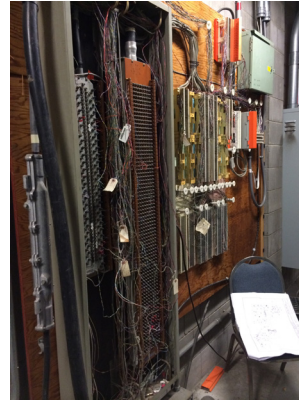
The school is equipped with two IDF rooms on each floor. Each is connected to the MDF over 62.5-micron multimode fiber optic cable. The IDFs are not air conditioned, and are located in closets or storage spaces where conditions are cramped making access to equipment difficult. The equipment is not securely protected from tampering or accidental damage. Electrical services in each location will require upgrades to accommodate future equipment loads.

The horizontal cable plant is composed of Category 5e cable. Horizontal cable is installed above ceilings. Wireless access points are distributed throughout the building.

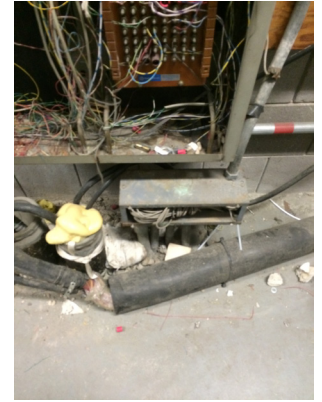
The typical classroom is wired with surface mounted raceways that include power, data outlets and audio/video connectors installed approximately 10-years ago. Jacks are often hand labeled and some have fallen out of the back boxes. The classrooms are equipped with telephone jacks, however, there are no handsets and teachers rely on cell phones.

In addition to the surface mounted race ways classrooms are equipped with original room control panels that include light switches, empty clock receptacles, volume controls and program selection dials, power receptacles and abandoned media inputs (microphone jacks and similar devices). Other than power and lights, these control panels no longer serve the classrooms.

Computer labs are wired for direct network connectivity to the workstations. Power and data is typically provided through data/power poles at each row of workstations. Cable management is poor, exposing power and patch cables in aisle areas.



*Verizon cables and terminal equipment at the service entrance*



*Typical IDF*



*Room control panel*



*Surface-mounted raceway  
in classroom*



*Computer lab exposed power  
and network cables  
(Note: data/power poles)*

Classrooms are equipped with small CRT television monitors that appear to no longer serve an educational purpose. Cable television programming is not distributed in the building.

The auditorium is equipped with a local sound system. The original speakers are no longer functional and there is no permanent video projection system in the room.

The paging system is outdated, does not provide adequate coverage and reaching the end of its service life.

The original clock system is no longer functioning. Clocks throughout the building have been replaced with battery operated, stand-alone units.



*Classroom television*



*Auditorium speaker (1 of 4)*



*Auditorium amplifier*

## Plumbing and Fire Protection Systems

### Fire Protection System

#### Buildings A and B

There is no wet sprinkler system in the buildings but there are existing surface mounted fire hose cabinets and standpipes which are installed throughout the buildings. However, the fire hose connections were removed a number of years ago (photo 1). Existing fire department connection test headers are located outside of storage room (photo 2).



Photo 1: Existing fire hose cabinets

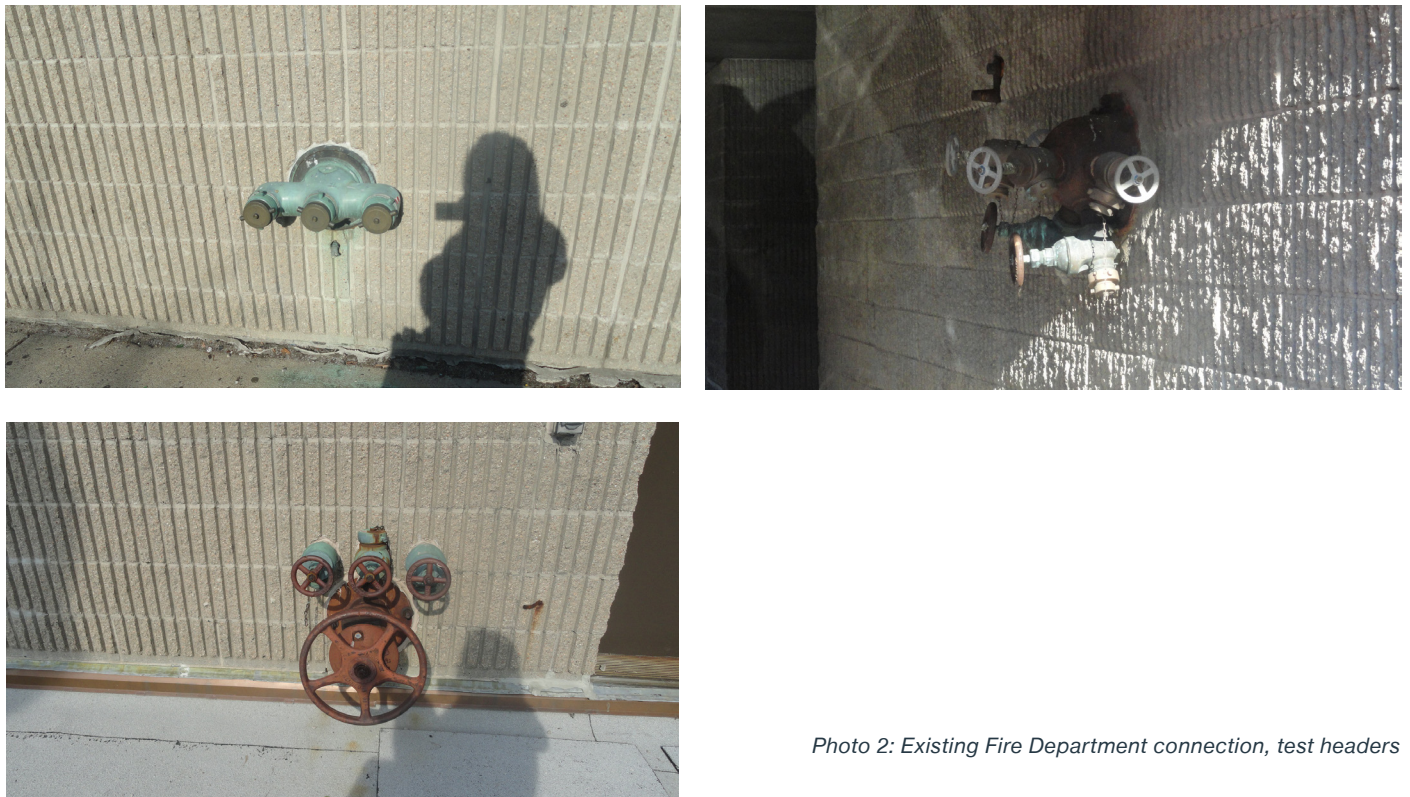


Photo 2: Existing Fire Department connection, test headers

There are existing sprinklers, branch piping and other components in mechanical room 402, formerly the incinerator room, but they are not operational. There is no double check valve assembly installed and the fire protection riser is connected to a domestic water with pipe insulation (Photo 3). The fire protection components are not wired or disconnected electrically. The wiring is exposed and not secured (Photo 4). There is an existing fire hose cabinet and standpipe but the fire hose connection was removed a few years ago. The cabinet is not readily accessible or obstructed by a table and boxes of things stored in front of it (Photo 5). There is also an existing fire hose cabinet and standpipe in mechanical room 400 but the fire hose connection was removed.



*Photo 3: Existing fire protection system in Mechanical Room 402*



*Photo 4: Fire protection components that are not wired*



*Photo 5: Inaccessible fire hose cabinet*

### Building C

There is no wet sprinkler system in the buildings but there are existing fire hose cabinets and standpipes which are installed throughout, however, the fire hose connections were removed a number of years ago.

### Plumbing System

The building was built in 1975. Most piping is not visible and some system condition issues noted herein are presumed to be due to age and the condition of piping which is visible.

### Buildings A and B

#### Domestic Cold Water

Most domestic cold water piping is not visible and assumed to be original and is not expected to last more than 10 years without exhibiting widespread problems and possible failure. Piping, insulation and valves that are visible are in poor condition.

There is an existing backflow preventer and a separate water meter in the boiler room for HVAC make-up, non-potable cold water system (see Photo 1).



Photo 6: Existing fire hose cabinet



Photo 1: RPBP and Water Meter for HVAC Make-Up

#### Domestic Hot Water

Domestic hot water for the facility is supplied from two sources; a gas-fired water heater and electric water heater.

The gas-fired water heater, manufactured/built in 2015, is located in the boiler room, and in excellent condition. Domestic hot water system also includes two (2) 120 gallon glass-lined storage tanks, in excellent condition, and one (1) thermal expansion tank, in good condition. Hot water is circulated from hot water distribution loops by pumps in the boiler room (see photo 2). The gas-fired water heater and storage tanks were replaced early this year (2015). Valves and piping appear to be original. However, some PVC jackets and pipe insulation were damaged and stained. Some piping is not insulated (see photo 3).

The other water heater is a 120 gallon electric water heater located in room 162 and serves the kitchen. It was installed more than 16 years ago and it has exceeded its warranty. The electric water heater is not expected to last more than 10 years without exhibiting problems and possible failure (see photo 4).

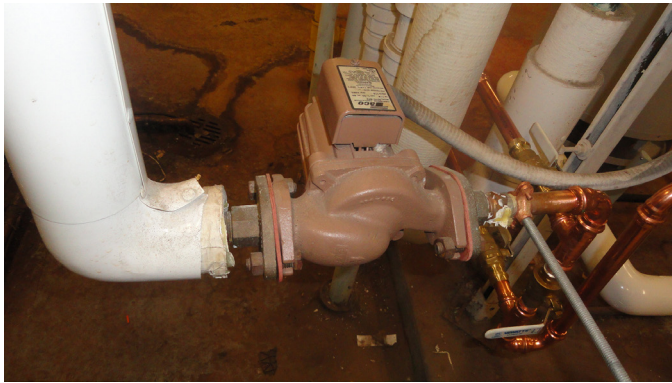


Photo 2: Gas-Fired Water Heater, Storage Tanks, Expansion Tank and Circulation Pump



*Photo 3: Damaged PVC jackets and pipe insulation*



*Photo 4: Electric water heater*

### Natural Gas

The existing natural gas system enters the building through the service/mechanical room located on the first floor. The existing gas piping includes a gas meter, valves, and gas regulators (see photo 5). Gas is distributed throughout for the kitchen equipment, water heaters and gas boilers. Piping that is visible appears to be in fair condition and should last 10 more years.



Photo 5: Gas Service, Gas Meter and Piping

### Sanitary Waste and Vent

Sanitary waste and vent system is collected below the slab and is therefore not visible. The above slab piping in the building was at times visible, and is expected to be in poor condition due to its age. Sanitary drainage piping is not expected to last more than 10 years without exhibiting widespread problems and possible failure.

There is a typical issue regarding existing floor drains. From time to time, methane gas fumes come up from the floor drains as the trap seals dry up. Constant maintenance or trap primers are required.

The kitchen's triple pot sink is provided with above slab grease trap. A piece of wood is placed on top of the grease trap which is used as a shelf (see Photo 6).

Piping installation at triple pot sink is not code compliant (see photo 7).



Photo 6: Grease trap at triple pot sink



Photo 7: Waste Piping Installation at Triple Pot Sink

Hand Sinks are not ADA compliant and piping is not insulated (see photo 8).



*Photo 8: Hand sink*

There is no emergency shower/eyewash installed in the boiler room.

There is an existing non-ADA emergency shower/eyewash that is no longer operational in computer lab room 225 (formerly science lab) (see photo 9).

There is existing exposed gas valve and piping in computer lab room 225 (formerly science lab). This installation is not code compliant (see photo 10).



*Photo 9: Non-ADA, not operational Emergency Shower/Eyewash*



*Photo 10: Exposed gas valve*

## Storm Drainage

Storm drainage system is collected below the slab and is therefore not visible. The above slab piping in the building was at times visible, and is expected to be in poor condition due to its age. Storm drainage piping is not expected to last more than ten (10) years without exhibiting widespread problems and possible failure.

An existing roof drain above AHU-3 in Mechanical Room 400 is leaking (see photo 11).

There is a sign of pipe leakage on the existing horizontal storm piping in mechanical room 400. Pipe insulation is in poor condition (see photo 12).

Storm piping does not have cleanouts in some areas.

An existing insulated horizontal piping is installed above electrical panels in the main electrical room. The pipe installation is not compliant with electrical code regarding clearances and wet pipes over an electrical equipment (see photo 13).

An existing pipe with a valve is installed behind a door and the pipe prevents the door from opening/swinging fully (see photo 14).

Scuppers are installed around the perimeter of the high roofs. Some areas have downspouts, others don't (see photo 15).

There are major ponding issues on the roof (see photo 16).



Photo 11: Leaking Roof Drain



Photo 12: Pipe Insulation in poor condition

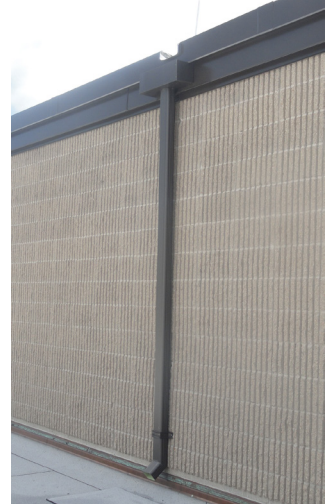
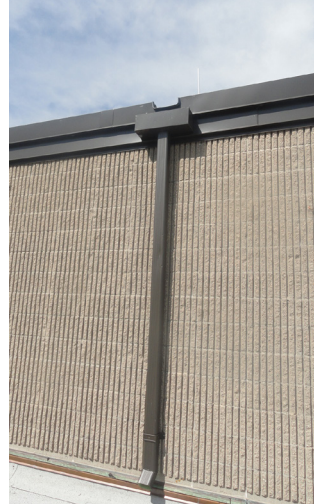


*Photo 13: Wet pipe  
installed above  
Electrical Panels*



*Photo 14: Pipe Installed behind a door*





*Photo 15: Scuppers and Downspouts*



*Photo 16: Ponding Issues on the roof*

## Plumbing Fixtures

Some toilet plumbing fixtures in Buildings A and B appear to be original and ADA compliant in limited locations, all are in fair condition. No plumbing fixtures were observed to be current water-saving fixtures.

Water closets are primarily wall mounted with manual flush valves, generally in fair condition (see photo 17).

Urinals are wall mounted with manual flush valves, generally in fair condition.

Lavatories are wall hung with self-closing push-down faucets or lever handles, generally in fair condition. Some of the lavatories are non-ADA compliant and pipe insulation is not installed.

Pipe insulation installed in some lavatories are not pre-formed type (see photo 18).

The domestic water supply on some plumbing fixtures takes a while for hot water to come out on some lavatories and some lavatories have no water supply.

Bi-level electric water coolers are not installed in Buildings A and B. Potable water cooler dispensers are used throughout the entire facility (see photo 19).

An existing mop receptor is in poor condition (see photo 20).

The sink installed in the art room is non-ADA compliant and is in fair condition (see photo 21).

The warewasher installed in the art room is in poor condition (see photo 22).



*Photo 17: Existing Water Closets*



Photo 18: Existing lavatories



Photo 19: Existing Water Dispenser



Photo 20: Existing Mop Receptor



Photo 21: Existing Art Room Sink



Photo 22: Existing Warewasher in Art Room

## Building C

### Domestic Cold Water

Domestic cold water for the entire facility is fed from a single water service located in Building C. Existing cold water mains and pipe insulation appear to be original and in poor condition, and has missing insulation. Valves appear to be original in many cases and in poor condition. Valve tags were not installed in some areas. The original domestic cold water piping is not expected to last more than ten (10) years without exhibiting widespread problems and possible failure. Domestic cold water system also includes a water meter and appear to be in fair condition (see photo 23).

The existing water service does not include a backflow preventer assembly.



Photo 23: Existing Domestic Water Service

### Domestic Hot Water

Domestic hot water system for Building C is supplied from a gas-fired water heaters in Buildings A and B.

HW and HWC's pipe insulation is in poor condition (see photo 24).



Photo 24: Poor pipe insulation

### Sanitary Waste and Vent

Sanitary waste and vent system is collected below the slab and is therefore not visible. The above slab piping in the building was at times visible, and is expected to be in poor condition due to its age. Sanitary drainage piping is not expected to last more than ten (10) years without exhibiting widespread problems and possible failure.

### Storm Drainage

Storm drainage system is collected below the slab and is therefore not visible. The above slab piping in the building was at times visible, and is expected to be in poor condition due to its age. Storm drainage piping is not expected to last more than ten (10) years without exhibiting widespread problems and possible failure.

Storm piping does not have cleanouts in some areas.

An existing storm pipe in the penthouse is rusted/corroded, in poor condition. The piping is not expected to last more than ten (10) years without possible failure. The pipe insulation is stained and in poor condition (see photo 25).

An existing pipe in the Stairwell to Penthouse is rusted/corroded (see photo 26).



*Photos 25: Existing rusted/corroded storm piping*

*Photos 26: Existing rusted/corroded piping*

### Plumbing Fixtures

Some toilet plumbing fixtures in Building C appear to be original and ADA compliant in some locations and are in fair condition. No plumbing fixtures were observed to be current water-saving fixtures.

Water closets are primarily wall mounted with manual flush valves, generally in fair condition.

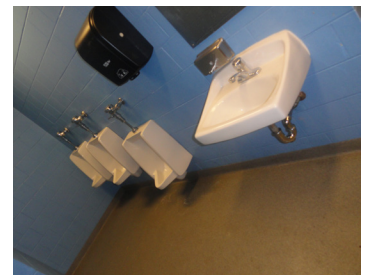
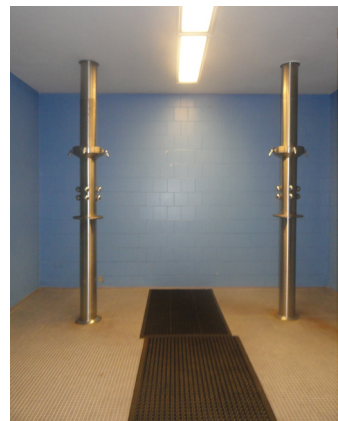
Urinals are wall mounted with manual flush valves, generally in fair condition.

Lavatories are wall hung with self-closing push-down faucets generally in fair condition. Some of the lavatories are non-ADA compliant and pipe insulation is not installed.

Bi-level electric water coolers are not installed in Building C. Potable water cooler dispensers are used throughout.

Gang showers in the locker room are in fair condition.

Lavatories/faucets, gang showers, water closets and urinals in boy's locker room 263A are not operational. There is a major leak that has damaged the ceiling and flooded the floor.



*Photo 27:  
Existing plumbing fixtures*

## Pool Area

Some pipes in filter room 187 are rusted/corroded and in poor condition. Some are deteriorating and some are not insulated (see photo 28).

An existing pump in filter room 187 is leaking (see photo 29).

There is an existing non-ADA emergency eyewash in filter room 187 (see photo 30).

Components of the pool system are in fair condition.

There is an existing pool pump that is below grade.



*Photo 28: Existing piping in the filter room*



*Photo 29: Leaking pump in the Filter Room*



*Photo 30: Non-ADA Emergency Eyewash in the Filter Room*

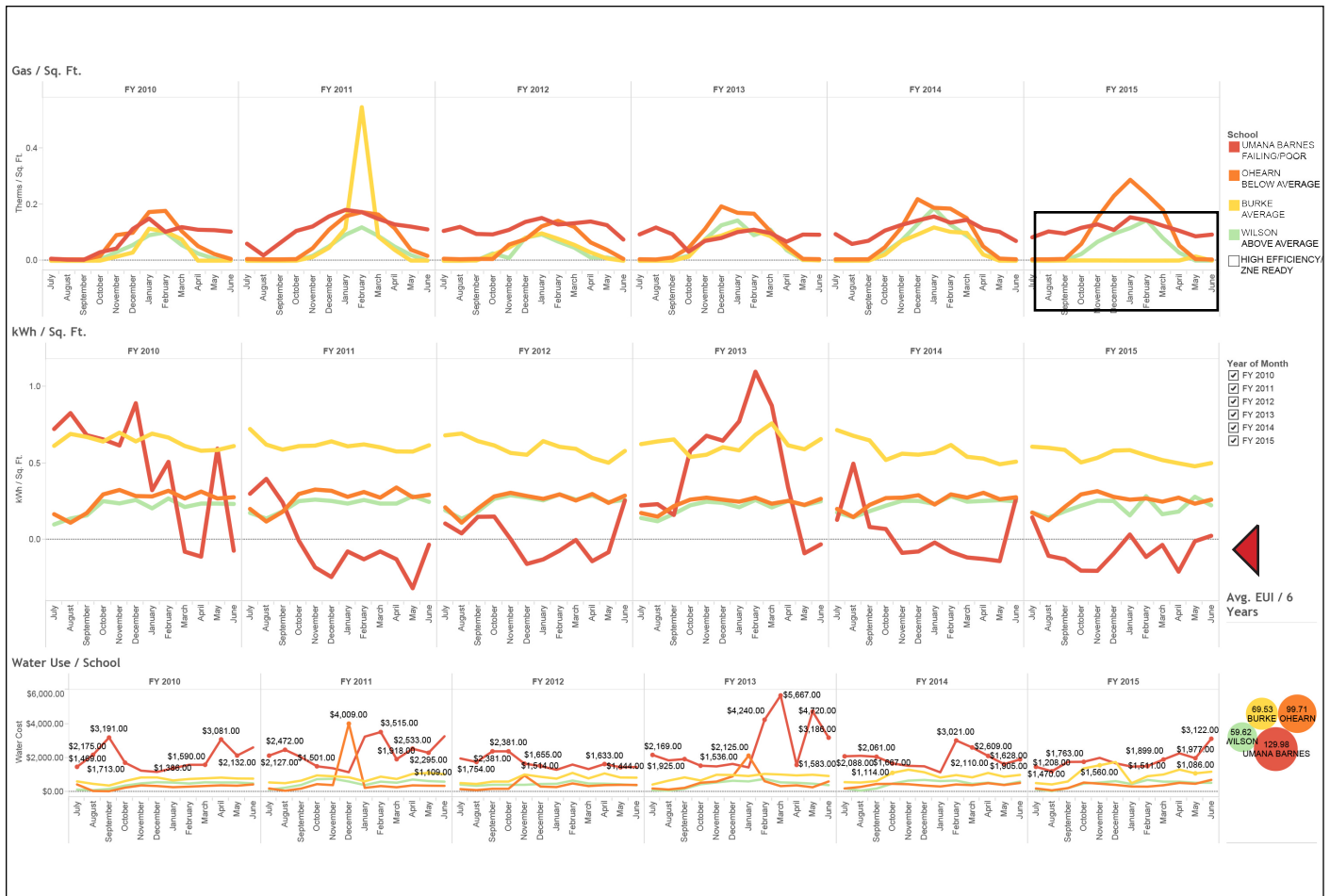
[Methodology](#)[Reports](#)[Energy &  
Sustainability](#)

## Energy & Sustainability

Understanding current energy consumption patterns for Boston Public School's existing facilities will be an important metric for determining building suitability for long-term usage and operational cost modeling. Currently BPS's Energy Division monitors utility usage, water consumption and operates an Energy Management System in an effort to aggressively save resources and money. Long-term reductions in climate change contributing energy sources (fossil fuels), utilizing utility company rebates and preparing facilities for redundancy and resiliency will be additional considerations for both building and site evaluations in the 10 Year Facility Master Plan.

The Pilot Study includes the last six years of electrical, gas and water consumption and total costs for the four buildings. More typically buildings can be analyzed by typology, age, renovation age, size, etc. The data should be used to spur investigation and encourage 'constant' vigilance necessitated with modern systems. This data can be analyzed in a number of ways as illustrated in the following pages.

## Month by Month Utility Use

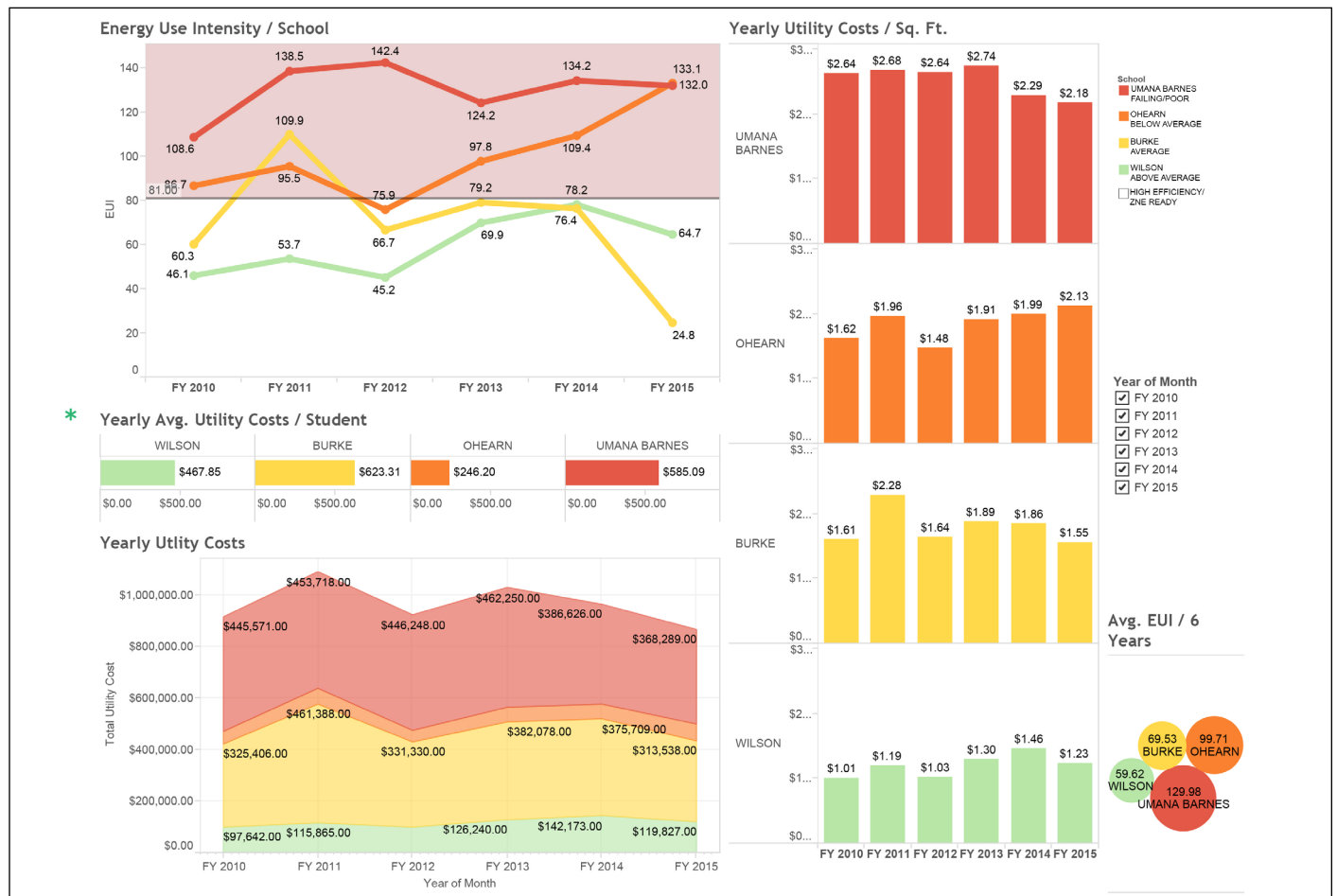


Month over month utility usage and cost data is the most powerful tool to analyze building and system functionality. Trendlines can be observed, operational cost planning and maintenance addressed through careful analysis. This can be a snapshot on how users are actually interfacing with building systems rather than relying on modeling. Operational behavior can then be addressed and modified.

☐ Example: Burke High School's flat line gas use through the winter of 2014/2015 reflects a failed meter, so consumption data is not captured correctly for this period throwing off year over year statistics.

▶ Negative electrical use at Umana suggests necessary investigations as well.

## Comparative Analysis



The City of Boston and BPS can monitor a number of useful benchmarks for the portfolio of schools in the district, comparing buildings of a certain era, typology (HS, MS, K-5), school size, etc.

Energy Use Intensity (EUI) is then evaluated against our regional average for similar schools. As codes and LEED ratings continue to evolve and tighten energy use in the buildings we consider high performing today will eventually move down the spectrum. Planning for Net Zero becomes imperative for the flexibility of BPS and improving operational costs and budget predictability.

\*Note: The cost per student metric is an “inverse indicator” (in this instance) the low cost per student at older schools such as O’Hearn and Wilson (Henderson Upper and Lower) are indicative of dated systems and non-code compliant ventilation provision, or systems operating below capacity that lack of power and data infrastructure required for BPS educational vision implementation.

### Energy Use Intensity (EUI)

EUI is an average measurement - in this instance specifically for K-12 schools in Climate Zone 5 is used as a baseline for comparative analysis from the US Energy Information Administration's - Commercial Buildings Energy Consumption Survey (CBECS) updated in 2012.

## Energy Performance

### Umana

<u>Period</u>	<u>Kilowatt Hours</u>	<u>Electric Cost</u>	<u>Gas Therms</u>	<u>Gas Cost</u>	<u>mmbtu per sq. ft.</u>	<u>Total mmbtu</u>	<u>Water (Cubic Ft.)</u>	<u>Water Cost</u>	<u>Total Utility Cost</u>
<b><u>FY 2010</u></b>									
Jul-09	122,172	\$23,849	1,236	\$4,948	3.2	540	13,900	1,469	\$30,266
Aug-09	139,652	\$21,758	675	\$4,194	3.22	544	20,790	2,175	\$28,127
Sep-09	115,292	\$21,068	582	\$4,071	2.67	452	30,680	3,191	\$28,330
Oct-09	110,692	\$13,906	5,127	\$10,037	5.27	890	16,270	1,713	\$25,656
Nov-09	104,012	\$12,582	7,390	\$12,072	6.47	1,094	11,730	1,243	\$25,897
Dec-09	150,492	\$32,517	19,098	\$25,518	14.34	2,423	10,980	1,169	\$59,204
Jan-10	54,812	\$19,726	25,357	\$32,765	16.11	2,722	13,100	1,386	\$53,877
Feb-10	85,932	\$14,379	17,365	\$23,491	12.01	2,029	15,050	1,588	\$39,458
Mar-10	-12,948	\$5,583	20,199	\$26,743	11.69	1,975	15,120	1,590	\$33,916
Apr-10	-18,388	\$6,284	18,630	\$24,963	10.65	1,800	28,870	3,081	\$34,328
May-10	100,492	\$22,279	18,379	\$24,648	12.9	2,180	19,640	2,132	\$49,059
Jun-10	-11,788	\$11,352	17,491	\$23,491	10.11	1708	24,110	2,610	\$37,453
	<b>940,424</b>	<b>\$205,283</b>	<b>151,529</b>	<b>\$216,941</b>	<b>108.64</b>	<b>18,357</b>	<b>220,240</b>	<b>23,347</b>	<b>\$445,571</b>
<b><u>FY 2011</u></b>									
Jul-10	50,892	\$17,556	10,240	\$15,133	7.09	1,197	19,550	2,127	\$34,826
Aug-10	67,212	\$18,078	3,229	\$7,025	3.27	552	22,800	2,472	\$27,575
Sep-10	41,372	\$19,390	10,593	\$15,550	7.1	1,200	18,710	2,036	\$36,976
Oct-10	-828	\$11,480	17,925	\$24,074	10.59	1,789	13,700	1,501	\$37,055
Nov-10	-30,228	\$2,660	20,605	\$27,236	11.58	1,957	12,610	1,385	\$31,281
Dec-10	-40,828	\$4,399	26,666	\$34,409	14.95	2,527	10,440	1,151	\$39,959
Jan-11	-12,708	\$4,512	30,560	\$38,964	17.82	3,012	29,510	3,245	\$46,721
Feb-11	-21,308	\$5,160	29,201	\$37,280	16.84	2,847	31,690	3,515	\$45,955
Mar-11	-12,668	\$6,732	25,180	\$32,613	14.64	2,474	17,160	1,918	\$41,263
Apr-11	-21,268	\$5,203	21,835	\$28,806	12.49	2,110	22,720	2,533	\$36,542
May-11	-53,148	\$4,537	20,519	\$25,862	11.07	1,870	20,560	2,295	\$32,694
Jun-11	-5,268	\$15,832	18,837	\$23,774	11.04	1,865	29,400	3,265	\$42,871
	<b>-38,776</b>	<b>\$115,539</b>	<b>235,390</b>	<b>\$310,726</b>	<b>138.48</b>	<b>23,400</b>	<b>248,850</b>	<b>27,443</b>	<b>\$453,718</b>
<b><u>FY 2012</u></b>									
Jul-11	18,052	\$13,861	17,925	\$23,177	10.97	1,854	17,530	1,960	\$39,998
Aug-11	7,252	\$16,260	20,336	\$26,113	12.18	2,058	15,660	1,754	\$44,127
Sep-11	25,452	\$18,599	16,100	\$21,013	10.04	1,696	21,340	2,381	\$41,993
Oct-11	25,692	\$11,999	15,829	\$20,879	9.88	1,670	21,340	2,381	\$35,259
Nov-11	972	\$8,517	18,568	\$24,092	11	1,860	14,750	1,655	\$34,264
Dec-11	-26,388	\$5,431	23,333	\$28,852	13.27	2,243	13,450	1,514	\$35,797
Jan-12	-21,428	\$6,746	25,703	\$31,083	14.77	2,497	11,080	1,295	\$39,124
Feb-12	-11,788	\$6,990	21,772	\$27,023	12.64	2,136	13,480	1,602	\$35,615
Mar-12	-68	\$7,362	22,562	\$28,144	13.35	2,255	11,170	1,335	\$36,841
Apr-12	-23,388	\$6,882	23,592	\$28,885	13.48	2,279	13,730	1,633	\$37,400
May-12	-13,508	\$8,643	21,383	\$22,628	12.38	2,092	12,120	1,444	\$32,715
Jun-12	43,412	\$17,408	12,760	\$14,250	8.42	1,424	12,210	1,457	\$33,115
	<b>24,264</b>	<b>\$128,698</b>	<b>239,863</b>	<b>\$296,139</b>	<b>142.38</b>	<b>24,064</b>	<b>177,860</b>	<b>20,411</b>	<b>\$446,248</b>

## Energy Performance

### Umana

<u>Period</u>	<u>Kilowatt Hours</u>	<u>Electric Cost</u>	<u>Gas Therms</u>	<u>Gas Cost</u>	<u>mmbtu per sq. ft.</u>	<u>Total mmbtu</u>	<u>Water (Cubic Ft.)</u>	<u>Water Cost</u>	<u>Total Utility Cost</u>
<b><u>FY 2013</u></b>									
Jul-12	38,012	\$17,994	15,847	\$17,014	10.14	1,714	18,330	2,169	\$37,177
Aug-12	39,372	\$16,754	19,963	\$20,280	12.6	2,130	15,580	1,848	\$38,882
Sep-12	27,532	\$17,274	15,983	\$17,578	10.01	1,692	16,220	1,925	\$36,777
Oct-12	98,132	\$17,817	5,481	\$7,621	5.22	883	12,890	1,536	\$26,974
Nov-12	114,692	\$18,517	11,918	\$17,755	9.37	1,583	12,550	1,494	\$37,766
Dec-12	109,332	\$18,054	13,690	\$19,737	10.31	1,742	13,780	1,640	\$39,431
Jan-13	130,532	\$20,316	17,246	\$23,051	12.84	2,170	11,790	1,433	\$44,800
Feb-13	185,132	\$26,565	18,636	\$23,959	14.76	2,495	34,740	4,240	\$54,764
Mar-13	147,812	\$20,303	16,641	\$22,668	12.83	2,168	46,290	5,667	\$48,638
Apr-13	57,772	\$13,164	11,482	\$17,319	7.96	1,345	12,830	1,583	\$32,066
May-13	-14,668	\$8,743	15,736	\$16,740	9.01	1,523	38,670	4,720	\$30,203
Jun-13	-4,908	\$15,132	15,627	\$16,454	9.15	1,546	26,040	3,186	\$34,772
	<b>928,744</b>	<b>\$210,633</b>	<b>178,250</b>	<b>\$220,176</b>	<b>124.2</b>	<b>20,991</b>	<b>259,710</b>	<b>31,441</b>	<b>\$462,250</b>
<b><u>FY 2014</u></b>									
Jul-13	22,172	\$16,462	16,006	\$16,847	9.92	1,676	17,000	2,088	\$35,397
Aug-13	83,892	\$18,040	10,118	\$11,484	7.68	1,298	17,240	2,118	\$31,642
Sep-13	14,252	\$17,933	12,008	\$13,197	7.39	1,249	16,760	2,061	\$33,191
Oct-13	12,012	\$12,285	18,114	\$18,947	10.96	1,852	13,520	1,667	\$32,899
Nov-13	-14,228	\$8,069	21,499	\$23,480	12.43	2,101	12,380	1,529	\$33,078
Dec-13	-12,708	\$7,341	24,155	\$26,243	14.03	2,372	12,140	1,500	\$35,084
Jan-14	-2,868	\$9,002	26,603	\$28,385	15.68	2,650	8,950	1,147	\$38,534
Feb-14	-13,148	\$3,752	22,882	\$24,749	13.27	2,243	23,590	3,021	\$31,522
Mar-14	-19,308	\$3,794	24,556	\$26,563	14.14	2,389	20,360	2,609	\$32,966
Apr-14	-20,948	\$2,887	19,207	\$21,732	10.94	1,849	16,420	2,110	\$26,729
May-14	-23,268	\$5,775	17,395	\$16,906	9.82	1,660	12,630	1,628	\$24,309
Jun-14	45,412	\$16,131	11,906	\$13,239	7.96	1,345	14,810	1,905	\$31,275
	<b>71,264</b>	<b>\$121,471</b>	<b>224,449</b>	<b>\$241,772</b>	<b>134.22</b>	<b>22,684</b>	<b>185,800</b>	<b>23,383</b>	<b>\$386,626</b>
<b><u>FY 2015</u></b>									
Jul-14	24,812	\$15,912	14,091	\$15,073	8.84	1,493	11,380	1,470	\$32,455
Aug-14	-17,468	\$12,246	17,622	\$17,288	10.07	1,702	9,240	1,208	\$30,742
Sep-14	-21,228	\$14,955	16,308	\$16,327	9.22	1,558	13,630	1,757	\$33,039
Oct-14	-33,828	\$4,797	19,785	\$19,568	11.02	1,863	13,690	1,763	\$26,128
Nov-14	-34,028	\$5,658	21,866	\$24,056	12.25	2,070	15,520	1,996	\$31,710
Dec-14	-15,188	\$6,242	18,512	\$21,440	10.64	1,799	12,990	1,675	\$29,357
Jan-15	5,932	\$6,448	26,133	\$28,605	15.58	2,633	11,240	1,483	\$36,536
Feb-15	-18,708	\$3,070	24,301	\$26,657	14	2,366	11,180	1,511	\$31,238
Mar-15	-5,508	\$3,409	21,032	\$23,881	12.33	2,084	14,080	1,899	\$29,189
Apr-15	-34,908	\$4,802	18,026	\$20,542	9.96	1,683	16,830	2,266	\$27,610
May-15	-1,468	\$7,905	14,679	\$14,651	8.65	1,463	14,660	1,977	\$24,533
Jun-15	4,532	\$17,171	15,721	\$15,459	9.39	1,587	23,200	3,122	\$35,752
	<b>-147,056</b>	<b>\$102,615</b>	<b>228,076</b>	<b>\$243,547</b>	<b>131.95</b>	<b>22,301</b>	<b>167,640</b>	<b>22,127</b>	<b>\$368,289</b>



# Facility Condition Assessments

Methodology

Reports

Energy &  
Sustainability

## Reports

Facility Condition Assessment Data Report follows on next pages.



## Facility Condition Assessment Data Report

Assessment Date **05 Aug 2015**Campus/School: **Mario Umana Middle School Academy**Address: **312 Border Street**Building Name: **Mario Umana Middle School Academy**City/Town: **East Boston, MA 02128**

### Facility Campus Address

Address1	Address2	City	ZipCode
<b>312 Border Street</b>		<b>Boston</b>	<b>02128</b>

### Facility Asset / Building Address

Address1	Address2	City	ZipCode
<b>312 Border Street</b>		<b>Boston</b>	<b>02128</b>

### Building / Asset ID Photo(s)

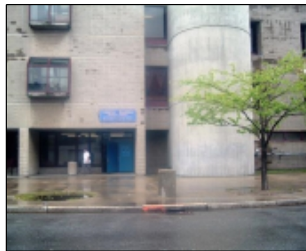


Photo To  
Be Added When  
Available

Photo To  
Be Added When  
Available

### Facility Contact Information

Name	Title	Telephone	Email
<b>Claudia Gutierrez</b>	<b>Principal</b>		

### Facility Asset Basic Information - Provided by BPS

Asset Name ID	Alias Other Name ID	Historic Name ID1	Historic Name ID2	Neighborhood
<b>Mario Umana Middle School Academy</b>	<b>Barnes Middle School</b>	<b>Barnes Middle School</b>		<b>East Boston</b>
Construction Year	Addition Year	GSF	Property Status	Floors Above Basement
<b>1975</b>		<b>No Data Provided</b>	<b>Active</b>	<b>3</b>
Date of Most Recent Renovation for Current Use	Tile	Carpet	Painted	Windows
	<b>NA</b>	<b>NA</b>	<b>2004</b>	<b>1995</b>
Roof	General Condition of Building circa 2005, per BPS: <b>Good</b>			
<b>2007</b>				

### Real Estate Tax Data - Provided by BPS

Tax Parcel ID	Tax Year Built	Tax_Bld Value	Tax_Land Value	Tax_Total Value
<b>No Data Provided</b>	<b>No Data Provided</b>	<b>No Data Provided</b>	<b>No Data Provided</b>	<b>No Data Provided</b>
Tax_LVsf	Tax_Gross Area	Tax_Living Area	Tax_Year Reno	Tax_PTYPE
<b>No Data Provided</b>	<b>No Data Provided</b>	<b>No Data Provided</b>	<b>No Data Provided</b>	<b>No Data Provided</b>
Tax_Struct Class	Tax_Num Floor	Latitude	Longitude	
<b>No Data Provided</b>	<b>No Data Provided</b>	<b>No Data Provided</b>	<b>No Data Provided</b>	



Boston Public Schools

Assessment Team **Pilot**

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WSP Parsons Brinckerhoff / SMMA

Leader Initials **CP**Printed: **20 Oct 2015**

## Facility Condition Assessment Data Report

Assessment Date **05 Aug 2015**

Campus/School: **Mario Umana Middle School Academy**

Address: **312 Border Street**

Building Name: **Mario Umana Middle School Academy**

City/Town: **East Boston, MA 02128**

### Use and Occupancy Information per DOE / BPS / MSBA

DOE Code	Category	Grades	Type	2014/2015 DOE Enrollment
<b>350405</b>	<b>E/MS</b>	<b>K - 8</b>	<b>Traditional</b>	<b>730</b>
Total Occupancy	Aud/Cafe Capacity	No. Teachers	DOE Student Teacher Ratio	DOE Total # of Classes
<b>1200</b>	<b>614</b>	<b>58.2</b>	<b>12.5 to 1</b>	<b>281</b>
MSBA Class Rooms	MSBA_sf Student	MSBA_Students Class Room	MSBA_Space Util	MSBA_Gen Envir
<b>65</b>	<b>335</b>	<b>7</b>	<b>Below</b>	<b>1</b>
BPS Open	BPS Close			
<b>7:20AM</b>	<b>4:15PM</b>			

### Historical Listing

State Register	Local Significance	Federal Listing	Within Historical District	Recommended for Listing
<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
Comments				



**Boston Public Schools**

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Printed: **20 Oct 2015**

## Facility Condition Assessment Data Report

Assessment Date: **05 Aug 2015**Campus/School: **Mario Umana Middle School Academy**Address: **312 Border Street**Building Name: **Mario Umana Middle School Academy**City/Town: **East Boston, MA 02128**

### Initial Interview

Lead/Contact Interviewee Title	Interviewee Name	Phone No.	Email
<b>Principal</b>	<b>Claudia Gutierrez</b>		
Others at Interview			
<u>Question</u>		<u>Answer</u>	
Are there any special access requirements?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<u>Comments</u> <b>The penthouse is difficult to get to and has a special key. Some stairs don't have handles on the inside of the stair case. If the door closes you're locked inside. Also there is a summer program so be careful when entering into certain spaces.</b>			
Are mechanical and electrical spaces accessible?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<u>Comments</u>			
Are there hazardous materials present? If so, what types?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<u>Comments</u>			
Are there hazardous materials (asbestos) reports available?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<u>Comments</u>			
Are construction documents (drawings and specs) of the building available?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<u>Comments</u>			
Are certificates for building components available, i.e. elevator, boiler and pressure vessel, NFPA 101 Life Safety, ADA/UFAS, sprinkler system, and any others?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<u>Comments</u>			
Do you have current issues of concern, i.e. inadequate heating, ventilation, power, etc., and if so what?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<u>Comments</u>			
Have there been any recent or scheduled maintenance or renovation activities and what types?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<u>Comments</u> <b>Room 266 is a dance room and needs major repair from damage caused by old damage from the roof. Its proposed for this room to be done. A budget has supposedly been set.</b>			
Can you provide information on recently completed or proposed improvement projects? Please indicate whether proposed or completed.		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<u>Comments</u> <b>March this year the roof was entirely replaced. The pool had the ventilation done about 3 years ago.</b>			
Have you or your staff identified any deficiencies you wish noted, and what are the locations of the deficiencies?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<u>Comments</u>			
Can you make an assessment of the condition and performance of the building's existing components or systems?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<u>Comments</u> <b>Things work and function.</b>			



Boston Public Schools

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## Facility Condition Assessment Data Report

Assessment Date **05 Aug 2015**


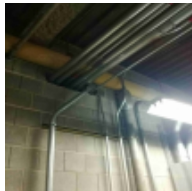


Campus/School: **Mario Umana Middle School Academy**

Address: **312 Border Street**

Building Name: **Mario Umana Middle School Academy**

City/Town: **East Boston, MA 02128**

### Condition Assessment - Deficiencies

Floor <b>1</b>	Room ID <b>outside main elec</b>	Room Alias Name <b>Building B</b>		
System <b>D-SERVICES-ELECTRICAL</b>	Subsystem - Assembly <b>Equipment</b>	Component <b>distribution panel</b>	Type <b>dist panel</b>	Deficiency/Need <b>Generic - Per Correction/Enhancement</b>
Correction/Enhancement <b>4-Replace/Install New</b>	Reason to Correct <b>3-Wear/Damage/Asset Preservation</b>	Priority/Urgency <b>B-Years 0 to 2</b>	Photo(s) 	<b>1 more photos available</b> 
Quantity <b>90</b>	Unit of Measure <b>AMPS</b>	Unit Cost <b>\$155</b>		
Total Cost <b>\$13,950</b>				
Comments:	<b>90amp dist panel is corroded, taped but reported still operational. Should be replaced. Also doesn't lock. About \$1k maybe \$500?</b>			
Floor <b>2</b>	Room ID <b>225</b>	Room Alias Name <b>Building B</b>		
System <b>C-INTERIORS</b>	Subsystem - Assembly <b>Ceiling</b>	Component <b>Metal</b>	Type <b>Panel</b>	Deficiency/Need <b>Generic - Per Correction/Enhancement</b>
Correction/Enhancement <b>1-Maintain</b>	Reason to Correct <b>9-Safety: Structural/Life/ Fire Life/Health</b>	Priority/Urgency <b>A-Highest-Immediate</b>	Photo(s) 	
Quantity <b>1</b>	Unit of Measure <b>SQFT</b>	Unit Cost <b>\$11.62</b>		
Total Cost <b>\$1.74</b>				
Comments:	<b>Old eye wash station too low and hazardous. Could hit head (ADA). Fixture should be removed.</b>			
Floor <b>Roof</b>	Room ID <b>mechanical penthouse</b>	Room Alias Name <b>Building B</b>		
System <b>D-SERVICES-ELECTRICAL</b>	Subsystem - Assembly <b>Distribution</b>	Component <b>motor control system</b>	Type <b>mcc</b>	Deficiency/Need <b>Generic - Per Correction/Enhancement</b>
Correction/Enhancement <b>3-Renovate/Renew/Repoint</b>	Reason to Correct <b>3-Wear/Damage/Asset Preservation</b>	Priority/Urgency <b>E-Years 10 plus</b>	Photo(s) 	
Quantity <b>600</b>	Unit of Measure <b>AMPS</b>	Unit Cost <b>\$1,000</b>		
Total Cost <b>\$480,000</b>				
Comments:	<b>MCC in mech pH is original (40 years old) operational now but typical service life is 30-60 years therefore may require replacement in the next ten years. Two units (double cost).</b>			



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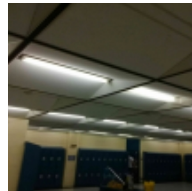
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## Facility Condition Assessment Data Report

Assessment Date: **05 Aug 2015**Campus/School: **Mario Umana Middle School Academy**Address: **312 Border Street**Building Name: **Mario Umana Middle School Academy**City/Town: **East Boston, MA 02128**

Floor	Room ID	Room Alias Name				
Roof	mechanical penthouse	Building B				
System	Subsystem - Assembly	Component	Type	Deficiency/Need		
D-SERVICES-MECHANICAL	drainage	pipng	roof drain	Generic - Per Correction/Enhancement		
Correction/Enhancement	Reason to Correct	Priority/Urgency	Photo(s)			
2-Repair	6-Functionality/Operations/Restore	A-Highest-Immediate				
Quantity	Unit of Measure	Unit Cost				
1	EACH	\$1,500				
Total Cost						
\$900						
Comments:						
Roof drain leaking above AHU3						

Floor	Room ID	Room Alias Name		
All Floors	through out	Building B		
System	Subsystem - Assembly	Component	Type	Deficiency/Need
D-SERVICES-ELECTRICAL	Lighting	Fixtures	florescent ceiling	Generic - Per Correction/Enhancement
Correction/Enhancement	Reason to Correct	Priority/Urgency	Photo(s)	
3-Renovate/Renew/Repoint	3-Wear/Damage/Asset Preservation	D-Years 5 to 10		
Quantity	Unit of Measure	Unit Cost		
1850	EACH	\$200		
Total Cost				
\$296,000				
Comments:				
The lamps have been replaced to T8 in about 2012. The fixtures are still original and appear to operate with switches (no occupancy sensors found). Many fixtures are missing covers. Based on age the lighting fixtures will require replacement in the next 10 years.				

Floor	Room ID	Room Alias Name		
2	pool and locker rooms	Building C		
System	Subsystem - Assembly	Component	Type	Deficiency/Need
D-SERVICES-ELECTRICAL	Lighting	Fixtures	florescent ceiling	Generic - Per Correction/Enhancement
Correction/Enhancement	Reason to Correct	Priority/Urgency	Photo(s)	
4-Replace/Install New	6-Functionality/Operations/Restore	B-Years 0 to 2		
Quantity	Unit of Measure	Unit Cost		
40	EACH	\$200		
Total Cost				
\$8,000				
Comments:	dance room light fixtures			
Lighting in the old locker rooms is T12 / partially not working. The lighting in the dance room is all damaged from leakage, mixture of lighting above pool some broken (mixture of fixtures).				



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## Facility Condition Assessment Data Report

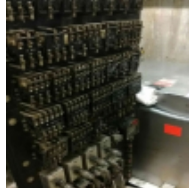
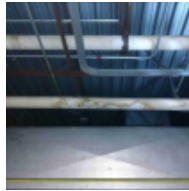
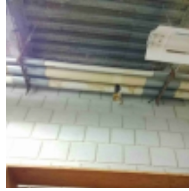
Assessment Date **05 Aug 2015**

Campus/School: **Mario Umana Middle School Academy**

Address: **312 Border Street**

Building Name: **Mario Umana Middle School Academy**

City/Town: **East Boston, MA 02128**

Floor <b>1</b>	Room ID <b>elevator</b>	Room Alias Name <b>Building B</b>		
System <b>D-SERVICES-CONVEYING</b>	Subsystem - Assembly <b>D1010-Verticle Conveying</b>	Component <b>Elevator</b>	Type <b>Medium: 20 to 60 hp</b>	Deficiency/Need <b>Generic - Per Correction/Enhancement</b>
Correction/Enhancement <b>4-Replace/Install New</b>	Reason to Correct <b>3-Wear/Damage/Asset Preservation</b>	Priority/Urgency <b>D-Years 5 to 10</b>	Photo(s) 	
Quantity <b>2</b>	Unit of Measure <b>HP</b>	Unit Cost <b>\$240,600</b>		
Total Cost <b>\$481,200</b>				
Comments:	<p>There are two hydraulic elevators for the building. The motor\ oil tank was noted to have been replaced in 2014 however the controls are original (relay) to the building. Each elevator serves 4 floors. Super reports a couple service calls are required each year. Would need to call elevator service contractor to ask why controls were not replaced (or what the condition of the cylinders are).</p>			
Floor <b>Roof</b>	Room ID <b>mechanical penthouse</b>	Room Alias Name <b>Building B</b>		
System <b>D-SERVICES-MECHANICAL</b>	Subsystem - Assembly <b>D20-Plumbing</b>	Component <b>piping</b>	Type <b>drainage</b>	Deficiency/Need <b>Generic - Per Correction/Enhancement</b>
Correction/Enhancement <b>3-Renovate/Renew/Repoint</b>	Reason to Correct <b>3-Wear/Damage/Asset Preservation</b>	Priority/Urgency <b>C-Years 2 to 5</b>	Photo(s) 	
Quantity <b>10</b>	Unit of Measure <b>LNFT</b>	Unit Cost <b>\$200</b>		
Total Cost <b>\$1,600</b>				
Comments:	<p>Drainage piping insulation from roof drain has water damage. Replacement cost about \$500.</p>			
Floor <b>1</b>	Room ID <b>fire command 183</b>	Room Alias Name <b>Building C</b>		
System <b>D-SERVICES-MECHANICAL</b>	Subsystem - Assembly <b>D20-Plumbing</b>	Component <b>piping</b>	Type <b>domestic supply</b>	Deficiency/Need <b>Generic - Per Correction/Enhancement</b>
Correction/Enhancement <b>2-Repair</b>	Reason to Correct <b>3-Wear/Damage/Asset Preservation</b>	Priority/Urgency <b>B-Years 0 to 2</b>	Photo(s) 	
Quantity <b>5</b>	Unit of Measure <b>LNFT</b>	Unit Cost <b>\$500</b>		
Total Cost <b>\$1,500</b>				
Comments:	<p>Possible pipes Leak.</p>			



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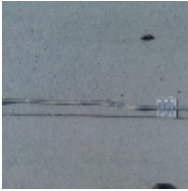
Leader Initials **CP**

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## Facility Condition Assessment Data Report

Assessment Date **05 Aug 2015**Campus/School: **Mario Umana Middle School Academy**Address: **312 Border Street**Building Name: **Mario Umana Middle School Academy**City/Town: **East Boston, MA 02128**

Floor <b>Roof</b>	Room ID <b>main roof</b>	Room Alias Name <b>Building B</b>		
System <b>D-SERVICES-ELECTRICAL</b>	Subsystem - Assembly <b>Equipment</b>	Component <b>lightning protection</b>	Type <b>lighting rods and wires</b>	Deficiency/Need <b>Generic - Per Correction/Enhancement</b>
Correction/Enhancement	Reason to Correct <b>6-Functionality/Operations/Restore</b>	Priority/Urgency <b>B-Years 0 to 2</b>	Photo(s) 	
Quantity <b>5</b>	Unit of Measure <b>LNFT</b>	Unit Cost <b>\$100</b>		
Total Cost <b>\$500</b>				
Comments: <b>Slight damage to lightning protection wires.</b>			<b>lighting protection wire damage</b>	

Floor <b>Entire Building</b>	Room ID	Room Alias Name		
System <b>D-SERVICES-ELECTRICAL</b>	Subsystem - Assembly <b>Equipment</b>	Component <b>all</b>	Type <b>all</b>	Deficiency/Need <b>Generic - Per Correction/Enhancement</b>
Correction/Enhancement <b>4-Replace/Install New</b>	Reason to Correct <b>3-Wear/Damage/Asset Preservation</b>	Priority/Urgency <b>D-Years 5 to 10</b>	Photo(s)	
Quantity <b>1</b>	Unit of Measure <b>AMPS</b>	Unit Cost <b>\$500,000</b>		
Total Cost <b>\$500,000</b>				
Comments: <b>All the main electrical equipment has an expected life of 40-75 years. Replacement of a portion of the electrical equipment should be planned for in the next 5-10 years. To cost this you would need to inventory all the equipment and budget for about 5-10%.</b>				

Floor <b>1</b>	Room ID <b>generator room</b>	Room Alias Name <b>Building B</b>		
System <b>D-SERVICES-ELECTRICAL</b>	Subsystem - Assembly <b>D5010-Facility Power Generation</b>	Component <b>Emergency Generator Set</b>	Type <b>Medium: 100 to 300 kva</b>	Deficiency/Need <b>Generic - Per Correction/Enhancement</b>
Correction/Enhancement <b>4-Replace/Install New</b>	Reason to Correct <b>3-Wear/Damage/Asset Preservation</b>	Priority/Urgency <b>C-Years 2 to 5</b>	Photo(s)	
Quantity <b>1</b>	Unit of Measure <b>KVA</b>	Unit Cost <b>\$139,600</b>		
Total Cost <b>\$139,600</b>				
Comments: <b>The generator is operational but has reached its expected life. Replacement should be expected in the next 2-7 years.</b>				



Boston Public Schools

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# Facility Condition Assessment Data Report

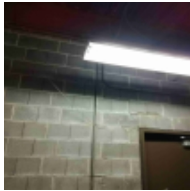


Assessment Date **05 Aug 2015**

Campus/School: **Mario Umana Middle School Academy**

Address: **312 Border Street**

Building Name: **Mario Umana Middle School Academy**

City/Town: **East Boston, MA 02128**

Floor <b>3</b>	Room ID <b>mech ph</b>	Room Alias Name <b>Building C</b>		
System <b>B-SHELL-SUPERSTRUCTURE</b>	Subsystem - Assembly <b>walls</b>	Component <b>masonry wall</b>	Type <b>concrete block</b>	Deficiency/Need <b>Generic - Per Correction/Enhancement</b>
Correction/Enhancement <b>2-Repair</b>	Reason to Correct <b>6-Functionality/Operations/Restore</b>	Priority/Urgency <b>C-Years 2 to 5</b>	Photo(s) 	
Quantity <b>20</b>	Unit of Measure <b>SQFT</b>	Unit Cost <b>\$500</b>		
Total Cost <b>\$6,000</b>				
Comments:			<b>step crack in mech ph wall</b>	
<b>Step crack 5mm wide (at least) 10ft long in concrete block above door to exterior roof. There is also efflorescence staining on the walls indicating leakage from the exterior or due to the excessive humidity of the room.</b>				
Floor <b>1</b>	Room ID <b>filter room</b>	Room Alias Name <b>Building C</b>		
System <b>D-SERVICES-MECHANICAL</b>	Subsystem - Assembly <b>D20-Plumbing</b>	Component <b>Pump</b>	Type <b>Small: &lt; 20 hp</b>	Deficiency/Need <b>Generic - Per Correction/Enhancement</b>
Correction/Enhancement <b>2-Repair</b>	Reason to Correct <b>6-Functionality/Operations/Restore</b>	Priority/Urgency <b>A-Highest-Immediate</b>	Photo(s) 	
Quantity <b>1</b>	Unit of Measure <b>HP</b>	Unit Cost <b>\$1,300</b>		
Total Cost <b>\$780</b>				
Comments:			<b>leaking pump in pool mechanical room</b>	
<b>Pipes corroded and circ pump needs to be replaced - actively leaking. (1/4hp pump) replace pump \$2k and clean and paint piping (in house staff).</b>				
Floor <b>3</b>	Room ID <b>mech ph</b>	Room Alias Name <b>Building C</b>		
System <b>D-SERVICES-MECHANICAL</b>	Subsystem - Assembly <b>D20-Plumbing</b>	Component <b>piping</b>	Type <b>drainage</b>	Deficiency/Need <b>Generic - Per Correction/Enhancement</b>
Correction/Enhancement <b>1-Maintain</b>	Reason to Correct <b>3-Wear/Damage/Asset Preservation</b>	Priority/Urgency <b>D-Years 5 to 10</b>	Photo(s) 	
Quantity <b>12</b>	Unit of Measure <b>LNFT</b>	Unit Cost <b>\$200</b>		
Total Cost <b>\$360</b>				
Comments:			<b>corroded drain pipe from roof drain</b>	
<b>Corroded drain pipe from roof beside HVU3.</b>				



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Printed: **20 Oct 2015**

## Facility Condition Assessment Data Report

Assessment Date **05 Aug 2015**Campus/School: **Mario Umana Middle School Academy**Address: **312 Border Street**Building Name: **Mario Umana Middle School Academy**City/Town: **East Boston, MA 02128**

Floor <b>1</b>	Room ID <b>main electrical room</b>	Room Alias Name <b>Building B</b>		
System <b>D-SERVICES-ELECTRICAL</b>	Subsystem - Assembly <b>Distribution</b>	Component <b>Panel</b>	Type <b>Main Panel</b>	Deficiency/Need <b>Generic - Per Correction/Enhancement</b>
Correction/Enhancement <b>4-Replace/Install New</b>	Reason to Correct <b>5-Maintenance/Efficiency</b>	Priority/Urgency <b>A-Highest-Immediate</b>	Photo(s)	
Quantity <b>3</b>	Unit of Measure <b>EACH</b>	Unit Cost <b>\$1,809.49</b>		
Total Cost <b>\$5,428.47</b>				
Comments: <b>A drainage pipe is running above the electrical distribution panels in the main electrical room. This is a safety hazard is the pipe where to leak. A drainage pan can be installed below the pipe for under \$1k.</b>				
Floor <b>1</b>	Room ID <b>main mechanical room</b>	Room Alias Name <b>Building B</b>		
System <b>D-SERVICES-ELECTRICAL</b>	Subsystem - Assembly <b>Equipment</b>	Component <b>distribution panel</b>	Type <b>dist panel</b>	Deficiency/Need <b>Generic - Per Correction/Enhancement</b>
Correction/Enhancement <b>2-Repair</b>	Reason to Correct <b>3-Wear/Damage/Asset Preservation</b>	Priority/Urgency <b>A-Highest-Immediate</b>	Photo(s)	
Quantity <b>90</b>	Unit of Measure <b>AMPS</b>	Unit Cost <b>\$155</b>		
Total Cost <b>\$8,370</b>				
Comments: <b>90amp dist panel is corroded, taped but reported still operational. Should be replaced. Also doesn't lock. About \$1k maybe \$500?</b>				
Floor <b>1</b>	Room ID <b>kitchen</b>	Room Alias Name <b>Building B</b>		
System <b>D-SERVICES-ELECTRICAL</b>	Subsystem - Assembly <b>Distribution</b>	Component <b>Outlets</b>	Type <b>Receptacle (Only)</b>	Deficiency/Need <b>Replace</b>
Correction/Enhancement <b>4-Replace/Install New</b>	Reason to Correct <b>9-Safety: Structural/Life/ Fire Life/Health</b>	Priority/Urgency <b>A-Highest-Immediate</b>	Photo(s) 	
Quantity <b>2</b>	Unit of Measure <b>EACH</b>	Unit Cost <b>\$94.05</b>		
Total Cost <b>\$188.10</b>				
Comments: <b>Outlets in kitchen do not have gfi protection.</b>			<b>kitchen outlet</b>	



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## Facility Condition Assessment Data Report


Assessment Date **05 Aug 2015**

Campus/School: **Mario Umana Middle School Academy**

Address: **312 Border Street**

Building Name: **Mario Umana Middle School Academy**

City/Town: **East Boston, MA 02128**

Floor <b>2</b>	Room ID <b>electrical</b>	Room Alias Name <b>Building C</b>		
System <b>D-SERVICES-ELECTRICAL</b>	Subsystem - Assembly <b>Distribution</b>	Component <b>Panel</b>	Type <b>Main Panel</b>	Deficiency/Need <b>Loose, Damaged, Missing Cover</b>
Correction/Enhancement <b>2-Repair</b>	Reason to Correct <b>9-Safety: Structural/Life/ Fire Life/Health</b>	Priority/Urgency <b>A-Highest-Immediate</b>	Photo(s) 	
Quantity <b>3</b>	Unit of Measure <b>EACH</b>	Unit Cost <b>\$1,809.49</b>		
Total Cost <b>\$5,428.47</b>				
Comments:	<b>Panels are missing covers, open switches, equipment stored on transformers.</b>			

**2nd floor elec room building c**

Floor <b>1</b>	Room ID <b>electrical</b>	Room Alias Name <b>Building C</b>		
System <b>D-SERVICES-ELECTRICAL</b>	Subsystem - Assembly <b>Distribution</b>	Component <b>Panel</b>	Type <b>Main Panel</b>	Deficiency/Need <b>Loose, Damaged, Missing Cover</b>
Correction/Enhancement <b>2-Repair</b>	Reason to Correct <b>9-Safety: Structural/Life/ Fire Life/Health</b>	Priority/Urgency <b>A-Highest-Immediate</b>	Photo(s)	
Quantity <b>3</b>	Unit of Measure <b>EACH</b>	Unit Cost <b>\$1,809.49</b>		
Total Cost <b>\$5,428.47</b>				
Comments:	<b>Panels are missing covers, open switches, equipment stored on transformers. All original equipment.</b>			

Floor <b>Roof</b>	Room ID <b>Mechanical Rooms</b>	Room Alias Name <b>Penthouse</b>		
System <b>D-SERVICES-MECHANICAL</b>	Subsystem - Assembly <b>D30-Heating, Ventilating, and Air Conditioning (HVAC)</b>	Component <b>Air Handler Unit</b>	Type <b>Medium: 5,000 to 30,000 cfm</b>	Deficiency/Need <b>Generic - Per Correction/Enhancement</b>
Correction/Enhancement <b>1-Maintain</b>	Reason to Correct <b>9-Safety: Structural/Life/ Fire Life/Health</b>	Priority/Urgency <b>A-Highest-Immediate</b>	Photo(s)	
Quantity <b>7</b>	Unit of Measure <b>CFM</b>	Unit Cost <b>\$30,400</b>		
Total Cost <b>\$31,920</b>				
Comments:	<b>Interior units are dirty and providing poor indoor air quality to the building.</b>			



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## Facility Condition Assessment Data Report

Assessment Date: **05 Aug 2015**Campus/School: **Mario Umana Middle School Academy**Address: **312 Border Street**Building Name: **Mario Umana Middle School Academy**City/Town: **East Boston, MA 02128**

Floor	Room ID	Room Alias Name		
Roof	Mechanical Rooms	Penthouse		
System	Subsystem - Assembly	Component	Type	Deficiency/Need
D-SERVICES-MECHANICAL	Ductwork	Grilles/Diffusers/Dampers	Diffusers	Inoperative
Correction/Enhancement	Reason to Correct	Priority/Urgency	Photo(s)	
2-Repair	6-Functionality/Operations/Restore	B-Years 0 to 2		
Quantity	Unit of Measure	Unit Cost		
10	EACH	\$65.76		
Total Cost				
\$657.60				
Comments:				
Many of the dampers are not operational. The outside air damper in Penthouse A is not linked to an actuator for example.				
Floor	Room ID	Room Alias Name		
1	Boiler Room			
System	Subsystem - Assembly	Component	Type	Deficiency/Need
D-SERVICES-MECHANICAL	D30-Heating, Ventilating, and Air Conditioning (HVAC)	Cooling Tower	Medium: 200 to 750 tons	Generic - Per Correction/Enhancement
Correction/Enhancement	Reason to Correct	Priority/Urgency	Photo(s)	
4-Replace/Install New	6-Functionality/Operations/Restore	B-Years 0 to 2		
Quantity	Unit of Measure	Unit Cost		
1	TONS	\$73,600		
Total Cost				
\$73,600				
Comments:				
No redundant condenser water pump. removed and never replaced.				
Floor	Room ID	Room Alias Name		
Entire Building	Entire Building			
System	Subsystem - Assembly	Component	Type	Deficiency/Need
D-SERVICES-MECHANICAL	D30-Heating, Ventilating, and Air Conditioning (HVAC)	Controls	Pneumatic Controls	Generic - Per Correction/Enhancement
Correction/Enhancement	Reason to Correct	Priority/Urgency	Photo(s)	
2-Repair	6-Functionality/Operations/Restore	A-Highest-Immediate		
Quantity	Unit of Measure	Unit Cost		
0	WATTS	\$0		
Total Cost				
\$0				
Comments:				
Building controls are not fully operational for the temperature control in the building. The temperatures in the building fluctuate and are not and cold throughout the whole year. Controls directly correlate to occupant comfort and health. (Quantity to be determined.)				



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## Facility Condition Assessment Data Report

Assessment Date **05 Aug 2015**

Campus/School: **Mario Umana Middle School Academy**

Address: **312 Border Street**

Building Name: **Mario Umana Middle School Academy**

City/Town: **East Boston, MA 02128**

Floor	Room ID	Room Alias Name			
Roof	Roof	Roof			
System	Subsystem - Assembly	Component	Type	Deficiency/Need	
D-SERVICES-MECHANICAL	D30-Heating, Ventilating, and Air Conditioning (HVAC)	Building Exhaust	Medium: 1 to 5 hp	Generic - Per Correction/Enhancement	
Correction/Enhancement	Reason to Correct	Priority/Urgency	Photo(s)		
4-Replace/Install New	6-Functionality/Operations/Restore	C-Years 2 to 5			
Quantity	Unit of Measure	Unit Cost			
5	HP	\$7,200			
Total Cost					
\$36,000					
Comments:					
Beyond life expectancy. However, with proper maintenance can last 2-5 years longer. Should be considered for upgrade.					

Floor	Room ID	Room Alias Name		
Roof	Mechanical 401	Penthouse B		
System	Subsystem - Assembly	Component	Type	Deficiency/Need
D-SERVICES-MECHANICAL	Distribution	Valve	Valve	Leakage
Correction/Enhancement	Reason to Correct	Priority/Urgency	Photo(s)	
2-Repair	3-Wear/Damage/Asset Preservation	B-Years 0 to 2		
Quantity	Unit of Measure	Unit Cost		
20	EACH	\$162.66		
Total Cost				
\$3,253.20				
Comments:				
Valves, unions, etc. are leaking all over the penthouse and on equipment and control devices.				

Floor	Room ID	Room Alias Name				
Roof	Mechanical 400/401	Penthouse A/B				
System	Subsystem - Assembly	Component	Type	Deficiency/Need		
D-SERVICES-MECHANICAL	D30-Heating, Ventilating, and Air Conditioning (HVAC)	Air Handler Unit	Medium: 500,000 to 2,000,000 btu	Generic - Per Correction/Enhancement		
Correction/Enhancement	Reason to Correct	Priority/Urgency	Photo(s)			
4-Replace/Install New	6-Functionality/Operations/Restore	C-Years 2 to 5				
Quantity	Unit of Measure	Unit Cost				
7	BTU	\$30,400				
Total Cost						
\$212,800						
Comments:						
Units are close to or past their extended useful life expectancy and should be considered for upgrade.						



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## Facility Condition Assessment Data Report

Assessment Date: **05 Aug 2015**Campus/School: **Mario Umana Middle School Academy**Address: **312 Border Street**Building Name: **Mario Umana Middle School Academy**City/Town: **East Boston, MA 02128**

Floor <b>Roof</b>	Room ID <b>Mechanical 401</b>	Room Alias Name <b>Penthouse B</b>		
System <b>D-SERVICES-MECHANICAL</b>	Subsystem - Assembly <b>Distribution</b>	Component <b>Insulation</b>	Type <b>Insulation</b>	Deficiency/Need <b>Wet, Damaged, Missing Insulation</b>
Correction/Enhancement <b>4-Replace/Install New</b>	Reason to Correct <b>3-Wear/Damage/Asset Preservation</b>	Priority/Urgency <b>B-Years 0 to 2</b>	Photo(s)	
Quantity <b>1</b>	Unit of Measure <b>SQFT</b>	Unit Cost <b>\$19.53</b>		
Total Cost <b>\$19.53</b>				
Comments: <b>Damaged insulation everywhere and needs to be replaced.</b>				
Floor <b>Roof</b>	Room ID <b>Mechanical 400</b>	Room Alias Name <b>Penthouse A</b>		
System <b>D-SERVICES-MECHANICAL</b>	Subsystem - Assembly <b>Distribution</b>	Component <b>Insulation</b>	Type <b>Insulation</b>	Deficiency/Need <b>Wet, Damaged, Missing Insulation</b>
Correction/Enhancement <b>2-Repair</b>	Reason to Correct <b>3-Wear/Damage/Asset Preservation</b>	Priority/Urgency <b>B-Years 0 to 2</b>	Photo(s)	
Quantity <b>1</b>	Unit of Measure <b>SQFT</b>	Unit Cost <b>\$19.53</b>		
Total Cost <b>\$19.53</b>				
Comments: <b>Damaged insulation throughout penthouse piping</b>				
Floor <b>3</b>	Room ID	Room Alias Name <b>Corridor near Room 300</b>		
System <b>C-INTERIORS</b>	Subsystem - Assembly <b>Ceiling</b>	Component <b>Acoustic Tile</b>	Type <b>Suspended</b>	Deficiency/Need <b>Loose/Damage/Delaminated Surface</b>
Correction/Enhancement <b>4-Replace/Install New</b>	Reason to Correct	Priority/Urgency <b>C-Years 2 to 5</b>	Photo(s)	
Quantity <b>0</b>	Unit of Measure <b>SQFT</b>	Unit Cost <b>\$3.73</b>		
Total Cost <b>\$0</b>				
Comments: <b>Quantity to be determined.</b>				



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## Facility Condition Assessment Data Report


Assessment Date: **05 Aug 2015**

Campus/School: **Mario Umana Middle School Academy**

Address: **312 Border Street**

Building Name: **Mario Umana Middle School Academy**

City/Town: **East Boston, MA 02128**

Floor <b>2</b>	Room ID <b>Room 229</b>	Room Alias Name		
System <b>C-INTERIORS</b>	Subsystem - Assembly <b>Ceiling</b>	Component <b>Acoustic Tile</b>	Type <b>Suspended</b>	Deficiency/Need <b>Loose/Damage/Delaminated Surface</b>
Correction/Enhancement <b>4-Replace/Install New</b>	Reason to Correct <b>3-Wear/Damage/Asset Preservation</b>	Priority/Urgency <b>C-Years 2 to 5</b>	Photo(s) 	<b>13 more photos available</b> 
Quantity <b>0</b>	Unit of Measure <b>SQFT</b>	Unit Cost <b>\$3.73</b>		
Total Cost <b>\$0</b>				
Comments: <b>Quantity to be determined.</b>				

### Equipment Inventory

**Not in scope - Not Performed for this Assessment**

### Energy & Climate

**Not in scope - Not Performed for this Assessment**



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## Facility Condition Assessment Data Report

Assessment Date: **05 Aug 2015**Campus/School: **Mario Umana Middle School Academy**Address: **312 Border Street**Building Name: **Mario Umana Middle School Academy**City/Town: **East Boston, MA 02128**

### Exit Interview

#### Staff Debriefed

Title Name  
Principal Claudia Gutierrez

#### Top Five Major Findings/Staff Priorities

Building Discipline/Technical Discipline **Structural/Civil**

##### Comments

**Sitework:** The site around the School had a lot of trip hazards and localized sink areas. There were major cracks in the parking area and could cause further issues if not addressed sooner than later. Also the Principal mentioned the field in the back of the School not being usable because the land keeps sinking.

Building Discipline/Technical Discipline **Electrical**

##### Comments

**Services - Electrical:** The power in the building is out of date in certain locations and doesn't provide enough power for the main building. Also there weren't many emergency exit signs in the building.

Building Discipline/Technical Discipline **Mechanical**

##### Comments

**Services - Mechanical:** The team decided this was a major finding. The HVAC system was not providing proper ventilation from the pool area which then causes major damage to one of the rooms in that building. There was also an issue with the plumbing and flooding out which causes floor damage in the same room. The pool can't be used because of plumbing and HVAC issues. The temperature throughout the buildings is also inadequate.

Building Discipline/Technical Discipline

##### Comments

Building Discipline/Technical Discipline

##### Comments

### Physical Conditions - Overall Systems Ratings

A-Foundations	A-Substructure	B-Shell-Exterior	B-Shell-Roof
<b>NA-Not Applicable/Not Assessed</b>	<b>2-Good/Fair</b>	<b>3-Fair</b>	<b>1-Excellent/Good</b>
B-Shell-Superstructure	C-Interiors	C-Interiors-Speciality	D-Services-Conveying
<b>2-Good/Fair</b>	<b>3-Fair</b>	<b>NA-Not Applicable/Not Assessed</b>	<b>3-Fair</b>
D-Services-Mechanical	D-Services-Electrical	E-Equipment	G-SiteWork
<b>4-Fair/Poor</b>	<b>4-Fair/Poor</b>	<b>NA-Not Applicable/Not Assessed</b>	<b>4-Fair/Poor</b>
F-Special Construction (e.g. Modularity, Pools, etc.)		<b>Overall Facility - System Averaged, Overall Facility-Judgement Excluding Special Construction</b>	
<b>3-Fair</b>		<b>2.96</b>	<b>3-Fair</b>
Comments:			



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## Facility Condition Assessment Data Report

Assessment Date **05 Aug 2015**

Campus/School: **Mario Umana Middle School Academy**

Address: **312 Border Street**

Building Name: **Mario Umana Middle School Academy**

City/Town: **East Boston, MA 02128**

### Cost Information Summary

Asset Replacement Value (ARV)	Equipment Replacement Value	Tax Assessed Value
<b>\$47,189,088</b>	<b>Not Inventoried</b>	<b>Not Assessed</b>
Facility Deficiencies	Facility Enhancement (Energy & Climate)	Equipment Replacement Cost - Fail or Poor Only
<b>\$2,313,505.11</b>	<b>Not Assessed</b>	<b>Not Assessed</b>
Total Capital Project and Repair Cost	Facility Condition Index (FCI)	
<b>\$2,313,505.11</b>	<b>0.049</b>	
Comments:		
<b>These values are from a pilot assessment, and therefore preliminary.</b>		



**Boston Public Schools**

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## *Appendix*

- 1 1993 Wallace Floyd Report
- 2 Pilot Study Facility Assessment Agenda
- 3 Pilot Study Facility Educational Assessment Agenda



# 1993 Wallace Floyd Report

## FACILITY PROFILE

Year Built: 1975  
 Number of Stories: 3  
 Estimated Gross Area: 163,891 s.f.

Zone: North  
 Neighborhood: East Boston  
 Facility Type: Middle School

UMANA / BARNES MIDDLE SCHOOL  
 312 Border Street  
 East Boston, MA 02128

Enrollment as of 12/92: 0 pupils  
 S.F. per Enrolled Pupil: N/A

### Interior Space Summary

Room Type	# of Spaces	Approx. Area (s.f.)
Administration Office	10	2,444
Art 1 (General)	1	1,462
Art 2 (Specialized: Photography, etc.)	1	213
Auditorium	1	3,420
Business 1 (Classroom)	0	0
Business 2 (Lab: Computer, Typing, Cafeteria)	1	919
Classroom 1 (Small Group Seminar)	1	3,444
Classroom 2 (Regular: 20-30 pupils)	7	3,319
Classroom 3 (Large Groups: 80-125)	37	23,556
Computer Room	0	0
Faculty Room	4	1,820
Gardance Office	3	1,364
Gymnasium	2	354
Hallway/Stairway/Vestibule	7	32,557
Homemaking 1 (Food Preparation)	6	40,451
Homemaking 2 (General Instruction)	1	3,334
Homemaking 3 (Sewing)	0	0
Kitchen	1	824
Library/Media Center	2	1,567
Locker Room	1	3,144
Mechanical	8	6,533
Multi-Purpose Room	13	3,766
Music 1 (Rehearsal: Band, Chorus, Music 2 (Instruction))	0	0
Music 3 (Practice Room)	0	0
Music 4 (Ensemble Room)	0	0
Not Used	0	0
Nurse/Health Suite	2	275
Other Office	4	514
Science (General Instruction)	21	2,625
Science Laboratory	3	1,716
Service/Other Support	1	43
Shop 1 (Wood, Metal, Electric, etc.)	4	621
Shop 2 (Drafting)	0	0
Special Education and Collaborative Storage	1	1,349
Toilet	18	8,991
	70	9,848
Approximate Total Gross Area:	28	3,418
		163,891

### Exterior Space Summary

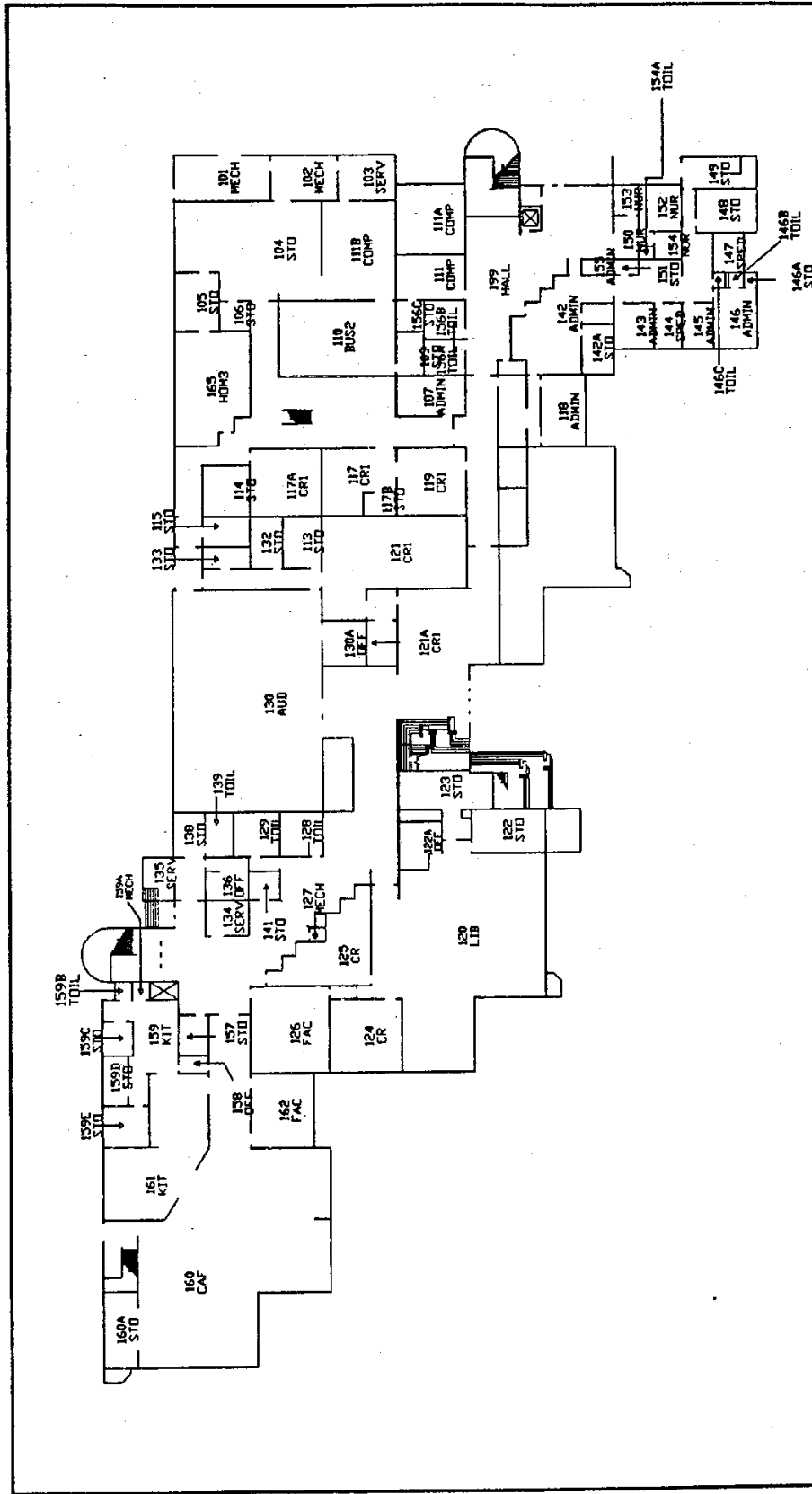
Use	Approx. Area
Parking Spaces	60 spaces
Paved Area	207,881 s.f.
Landscaped Area	17,069 s.f.
Building Footprint	68,773 s.f.
Approximate Total Site Area:	293,722 s.f.

### Regularly Used Other BPS Facilities

Facility	Purpose	Schedule
none	.	.

### Regularly Used Non-BPS Facilities

Facility	Purpose	Schedule
none	.	.



MASTER PLAN FOR THE BOSTON PUBLIC SCHOOL FACILITIES

MARIO UMATA HARBOR SCHOOL

City of Boston  
Mayor Raymond L. Flynn  
Public Facilities Department  
Marv Nee

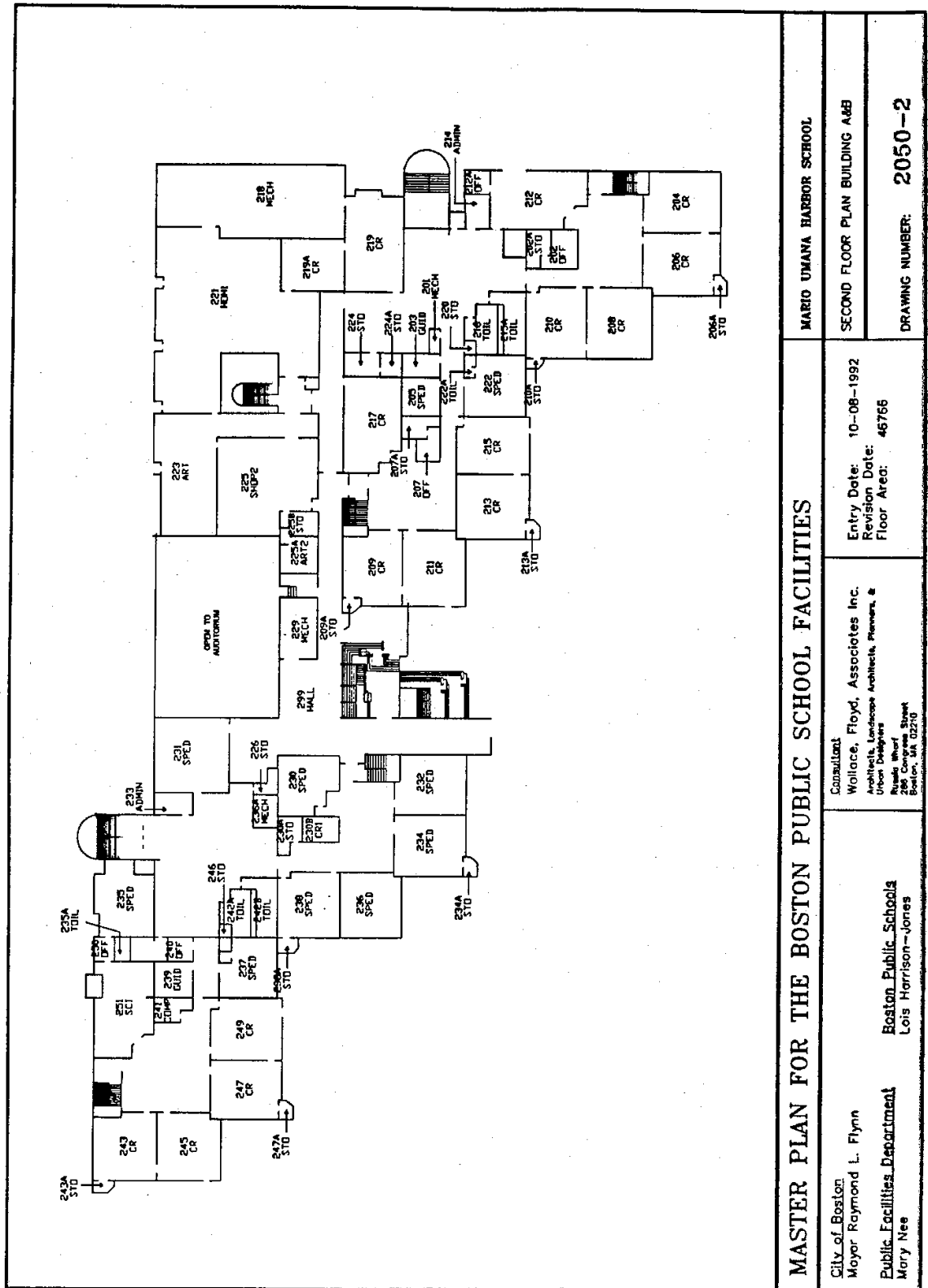
Boston Public Schools  
Lois Harrison-Jones

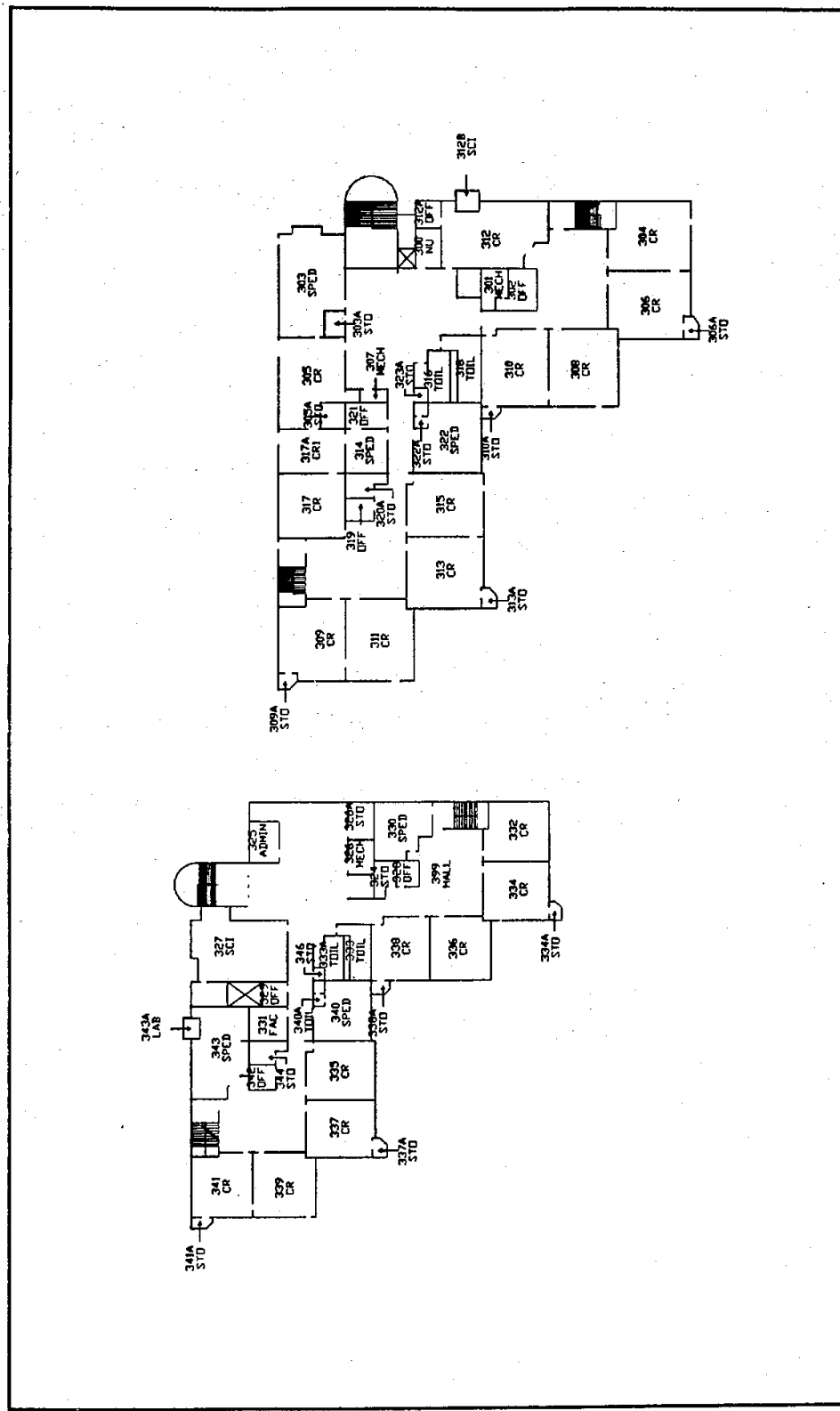
Consultant  
Wolcott, Floyd, Associates, Inc.  
Architects, Landscape Architects, Planners, &  
Urban Designers  
100 State Street  
Boston, MA 02109

Entry Date: 10-08-1992  
Revision Date: 44151  
Floor Area:

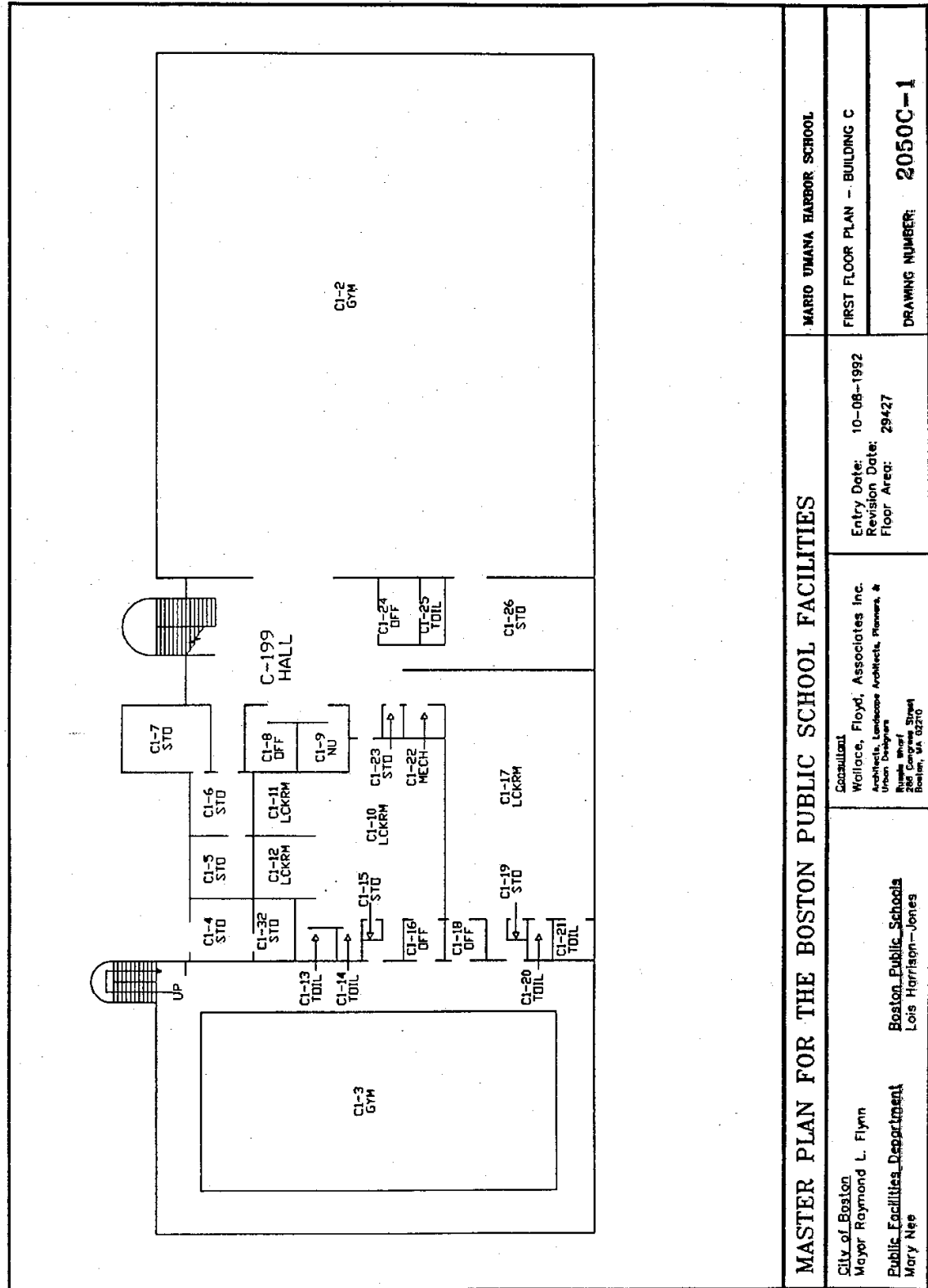
FIRST FLOOR PLAN - PART A AND B

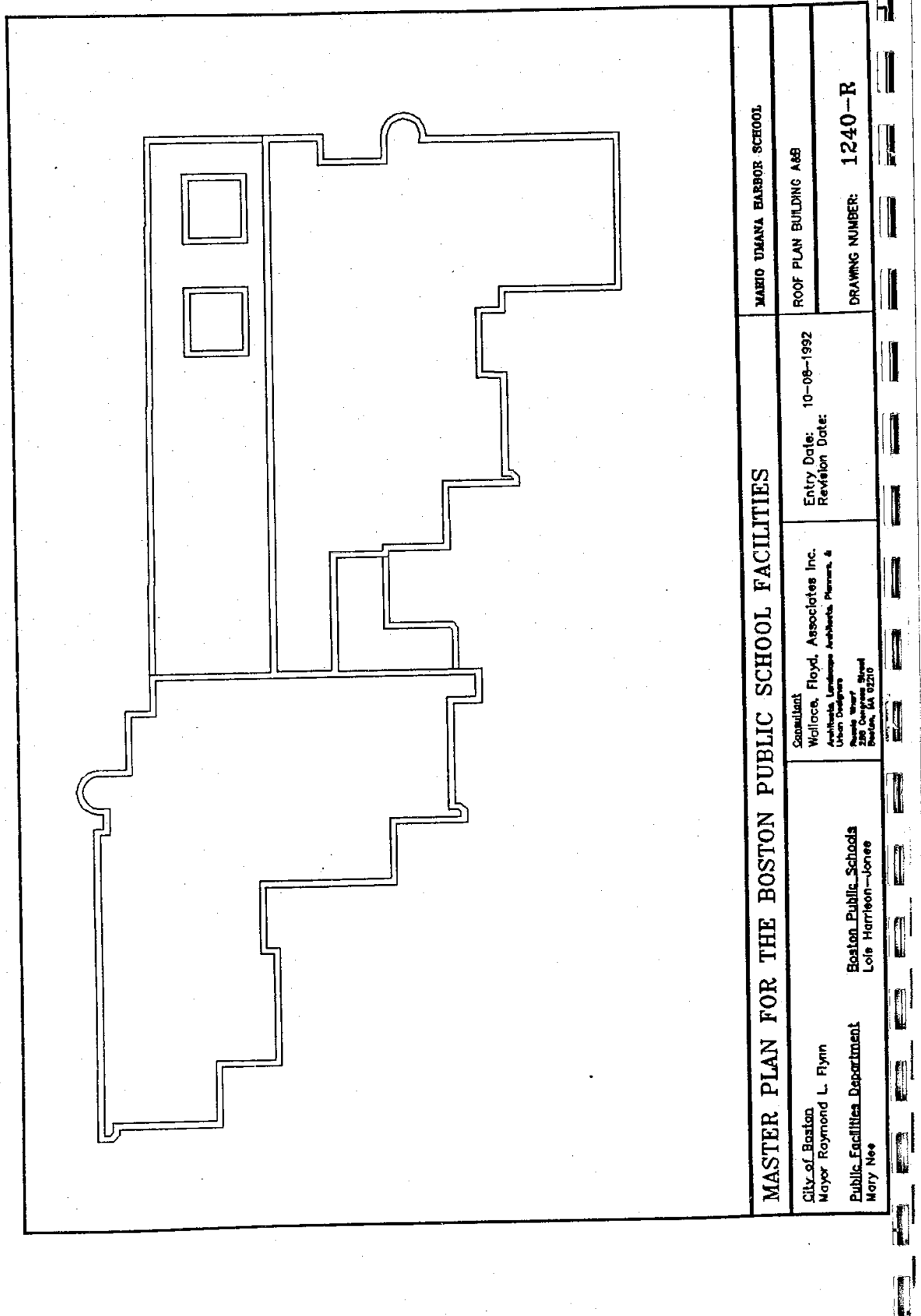
DRAWING NUMBER: 2050-1





MASTER PLAN FOR THE BOSTON PUBLIC SCHOOL FACILITIES			
City of Boston Mayor Raymond L. Flynn Public Facilities Department Mary Nee	Consultant Wallace, Floyd, Associates Inc. Architects, Landscape Architects, Planners, & Urban Designers 200 C Street Boston, MA 02210	MARIO UMANA HARBOR SCHOOL	
		THIRD FLOOR PLAN - PART A AND B	
		Entry Date: 10-08-1992 Revision Date: 28862 Floor Area: DRAWING NUMBER: 2050-3	





# Pilot Study Facility Assessment Agenda

Symmes Maini & McKee  
Associates

**SMMA**

Project:	<b>Boston Public Schools 10 Year Master Plan</b>	Project No.: P3484
Re:	Pilot Study Facility Assessment Kick-off Meeting	Date: Aug 3, 2015
Prepared by:	ACP	
Distribution:	(MF)	

## Agenda

*Monday 3 August – Pilot Study Facility Assessment meeting 9:00 am – 12:00 pm*

### 1. Team Introductions

Parson Brinkerhoff, SMMA

### 2. Review of Pilot Study Schedule

#### ▪ Pilot Study – Facility Assessment

- Meeting w/ Khadijah Brown, BPS & PCMD to review materials
  - Aug 3 - 9:00 pm – 12:00 pm
  - Aug 3 – 1:30 pm – 5:00 pm Site visits (exteriors only)
- Building Walk-throughs
  - Aug 4 (8 am – 4 pm) - Henderson - Grades U-4
  - Aug 5 (8 am – 4 pm) - Umana - Grades K - 8
  - Aug 6 (8 am – 4 pm) - Burke - Grades 9 – 12
  - Aug 7 (8 am – 11 am) - Burke - Grades 9 – 12 (if Necessary)
  - Aug 7 (1 pm – 4 pm) – Data assessment and content review (internal SMMA team)
  - Aug X – Facility Assessment follow-up with BPS and PCMD
  - Aug Y – Facilities Assessment Sub-Committee first meeting

### 3. Overall Project Schedule

#### Phase 1 Educational Requirements / Enrollment Projections

- Leadership Educational Program / Facility Visioning – August 5, 2015
- Demographics / Enrollment Projections – starts September, 2015
- Educational Planning – starts October 12, 2015

#### Phase 2 – Facility Condition Assessments

- Facility Condition Assessment (walk-throughs) – July ~ August 2016
- Cost Estimates – August 2016
- Facility Condition Report – September 2016

#### Phase 3 – Master Planning

- Financial Planning – starts August 2016
- Master Plan Options Development – starts March 2016
- Draft Master Plan – November 2016
- Final Master Plan – December 2016

1000 Massachusetts Avenue  
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[www.smma.com](http://www.smma.com)

Project: Boston Public Schools 10 Year Master Plan  
Re: Pilot Study Facility Assessment Kick-off Meeting  
Date: 3 August 2015  
Page: 2

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*Monday 3 August – Pilot Study Facility Assessment meeting 9:00 am – 12:00 pm*

**Objectives**

- Review of available information and past studies completed by BPS
- Identify key BPS personnel at each school to assist with walk-through
  - Henderson : \_\_\_\_\_
  - Umana : \_\_\_\_\_
  - Burke : \_\_\_\_\_
- Confirm schedule of visits
- Review facility assessment database structure
- Set agenda for Facility Assessment follow-up meeting

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# Pilot Study Facility Educational Assessment Agenda

Symmes Maini & McKee  
Associates

**SMMA**

Project: **Boston Public Schools 10 Year Master Plan** Project No.: P3484  
 Re: Pilot Study Facility Educational Assessment  
 Kick-off Meeting Date: Aug 3, 2015  
 Prepared by: ACP  
 Distribution: (MF)

## Agenda

*Monday 3 August – Pilot Study Facility Assessment meeting 9:00 am – 12:00 pm*

### 1. Team Introductions

SMMA, MGT, New Vista, MassInsight

### 2. Review of Pilot Study Schedule

#### ▪ Pilot Study – Facility Educational Assessment

- Meeting w/ Khadijah Brown, BPS & PCMD to review materials
  - Aug 4 - 1:00 pm – 3:00 pm (Meet at Henderson Lower)
- Building Walk-throughs Preliminary meeting with school principals at each building – assume 45 minutes.
  - Aug 4 (3 pm – 5 pm) - Henderson - Grades U-4
  - Aug 5 Leadership team educational visioning workshops all day
  - Aug 6 (8:30 am – 12 pm) - Umana - Grades K-8
  - Aug 6 (1:30 pm – 4 pm) - Burke - Grades 9 – 12
  - Aug 7 (9 am – 12 pm) – Data assessment and content review (internal SMMA team)
  - Aug X – Facility Assessment follow-up with BPS and PCMD (TBD)
  - Aug Y – Facilities Assessment Sub-Committee first meeting (TBD)
  - Aug Z – Educational Planning Sub – Committee meeting (TBD)

### 3. Overall Project Schedule

#### Phase 1 Educational Requirements / Enrollment Projections

- Leadership Educational Program / Facility Visioning – August 5, 2015
- Demographics / Enrollment Projections – starts September, 2015
- Educational Planning – starts October 12, 2015

#### Phase 2 – Facility Condition Assessments

- Facility Condition Assessment (walk-throughs) – July ~ August 2016
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Page: 2

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*Monday 3 August – Pilot Study Facility Educational Assessment meeting 9:00 am – 12:00 pm*

**Objectives**

- Review of available information and past studies completed by BPS
- Identify key BPS personnel at each school to assist with walk-through
  - Henderson : \_\_\_\_\_
  - Umana : \_\_\_\_\_
  - Burke : \_\_\_\_\_
- Confirm schedule of visits
- Review facility assessment database structure (BASYS)
- Set agenda for Facility Educational Assessment follow-up meeting(s) with Sub committees

Project: Boston Public Schools 10 Year Master Plan  
 Re: Pilot Study Facility Educational Assessment Kick-off Meeting  
 Date: 3 August 2015  
 Page: 3

Date	Time	Meeting	Location
<b>Pilot Study – Educational Planning:</b>			
Aug 3	12:00 – 3:00	Team Meeting - Educational Program / Facility Visioning – in-house SMMA & consultants	SMMA
Aug 4	1:00 – 3:00	Facility Assessment Briefing with BPS/PCMD	BPS offices (TBD)
	3:00 – 5:00	Educational Assessment Walk-through / Meeting w Principal	Henderson
Aug 5	9:00 – 5:00 pm	Educational Program / Facility Visioning w/ BPS	BPS offices (Bolling)
Aug 6	9:00 – 12:00	Educational Assessment Walk-through / Meeting w Principal	Umana
	1:00 – 5:00	Educational Assessment Walk-through / Meeting w Principal	Burke
Aug 7	9:00 – 12:00	Team Meeting - Educational Program / Facility Visioning summation – in-house SMMA & consultants	SMMA

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An aerial photograph of Cambridge, Massachusetts, showing the city's layout, including the Charles River, the harbor, and various urban areas. The image is overlaid with a dark blue tint.

SMMA

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