LONGFELLOW BUILDING

359 Broadway
Cambridge, MA 02139

Facilities Condition Assessment : October 19, 2022

Capacity Analysis
Master Plan

Facilities Condition Assessment, Capacity Analysis and Master Plan for CPS

CAMBRIDGE PUBLIC SCHOOLS

CITY OF CAMBRIDGE
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7.8 | LONGFELLOW BUILDING BUILDING APPENDIX

Historical Summary

The Longfellow Building is located at 359 Broadway in Cambridge, MA and is located within the Neighborhood Conservation District. It was originally built in 1930, in brick masonry which is traditional to the area. The space was renovated around 1983. There are multiple components throughout the school that were found or assumed to contain asbestos in a 2019 AHERA Report. These components are: sink coating, caulking on interior windows, countertops, glue for ACT, vinyl floor tile, and vinyl floor tile mastic.

The Longfellow Building serves as a swing space for Cambridge Public Schools, and currently houses two schools. The first, Tobin Montessori, is a Montessori elementary school that serves children ages 3-11 in multi-age classrooms. The school started as the Tobin School in 1972, named after educator and school superintendent John Tobin. The original school housed several specialty programs, from “enriched” head start programs for low income students to technology integration, that eventually became unified. The Montessori program was then introduced in 2007, and by 2013 was the sole educational philosophy at Tobin.

The building also currently houses the High School Extension Program, serving students in grades 9 through 12. HSEP is a non-traditional program that focuses on skill building, critical thinking, and project-based education.

Henry Wadsworth Longfellow School (Cambridge, MA)

FCA FORMS - SCORING BREAKDOWN

The Facilities Condition Assessment was performed by the architectural team and consultants to assess the current physical conditions of the building and the building systems. Each assessor utilized checklists and the assessment criteria and rating scale below to maintain consistency across all fields.The Conditions criteria grades the overall quality of the building and systems, and the *Priority* criteria sets the time frame for addressing the issues noted. The two numbers were used together to rate the different areas of the facilities. To complete the analysis, each school was given an overall condition and priority score. These were calculated by combining and weighing all individual assessments based on the District's priorities. Detailed reports for this school individually can be seen in the following pages.

ASSESSMENT CRITERIA					
CONDITION			*PRIORITY*		
Excellent	**A**	No visible defects, new or near new condition, may still be under warranty if applicable	Currently Critical (Immediate	**1**	Requiring immediate action including a cited safety hazard and ares of accelerated deteriorating, returning a building component to normal operation.
Good	**B**	Good condition, but no longer new, may be slightly defective or deteriorated, but is overall functional	Potentially Critical	**2**	Requiring action in the next year including components experiencing intermittent operations, potential life safety issues, and rapid deterioration, returning a building component to normal operation.
Adequate	**C**	Moderately deteriorated or defective, but has not exceeded useful life	Necessary - Not Yet Critical	**3**	Requiring appropriate attention to preclude predictable deterioration, potentional downtime, additional damage, and higher cost to remediation if deferred further
Marginal	**D**	Defective or deteriorated in need of replacement; exceeded useful life	Recommended	**4**	Representing a sensible improvement to the existing conditions (not required for the most basic function of the facility; however, will improve overall usability and/or reduce long-term maintenance costs).
Poor	**E**	Critically damaged or in need of immediate repair; well part useful life	Does Not Meet Current Code but "Grandfathered"	**5**	No action required at this time, but should substantial work be undertaken correction would be required

2.1 FCA SCORE SUMMARY

ARCHITECTURAL - EXTERIOR	**CONDITION**	**PRIORITY**
° In conjunction with window replacement recommended below, the existing steel lintels could be replaced with new galvanized lintels to reduce potential for future rusting and rust jacking damage to the brick and mortar. A short-term repair could include scraping and painting of the existing steel lintels, and introduction of soft joints where the mortar is cracking and becoming displaced due to the rust jacking lintels. ° A scope of masonry cleaning and repointing should be undertaken in areas of deteriorated mortar near building entrances to extend the service life of the masonry and to reduce potential for interior water leakage. ° Repair of cracked limestone and the foundation wall is also recommended. Further investigation is needed to determine the source(s) of leakage into the lower level below the East entrance on the South Elevation, although there is potential that is related to deficiencies in the masonry façade outside of this area. ° The existing windows be replaced with new aluminum windows with thermally broken frames and insulated glazing with Low-E coatings. ° Some of the surface rusting observed at the hollow metal doors and frames may be due to use of deicing salts during the winter months. Reduction in use of these materials against these metal assemblies should reduce potential for further damage. The replacement of doors and frame is recommended. ° Replacement of all façade sealants is recommended, including at perimeter of doors and windows ° Replacement of the existing roofing system is recommended. The roof has exceeded its expected service life and should be replaced with a new roofing system with Code compliant insulation. ° Replace exsting cast stone caps	D	3
ARCHITECTURAL - INTERIOR	**CONDITION**	**PRIORITY**
° ACT typical in teaching spaces with gypsum in some smaller rooms. ° Most walls gypsum with tectum above. Tectum is very worn and dirty. ° Floor varies. Many rooms have 9x9 tile which is very worn and should be replaced. ° HM doors in selected locations. ° Classrook sinks and toilet fixtures were well worn.	C	3
STRUCTURAL SYSTEM	**CONDITION**	**PRIORITY**
° Exterior Walls: Repoint brick masonry, repair steel lintels		4
° General Construction (Roof, Floor, Foundations) ° Lateral Force Resisting System - General	C	5
° Investigate structural integrity of interior stairs ° Investigate structural integrity of exterior wall at Stair 1		2
° Repair/replace exterior stairs and site walls	D	3

LONGFELLOW BUILDING

FOOD SERVICE	CONDITION	PRIORITY
° Replace kitchen floor ° Replace exahust system and fire supporession system ° Provide new serving line equipment	D	3
CONVEYING SYSTEM	**CONDITION**	**PRIORITY**
° Replace hydraulic valve. ° Emergency phone is inoperable. ° Replace light bulbs in COP floor buttons. ° Conduct a full hoistway cleandown of all hoistway equipment.	D	1
BUILDING SYSTEMS	**CONDITION**	**PRIORITY**
° Replace plumbing fixtures and fittings, replace storm water system piping, replace sump pumps, replace H&V unit, replace unit ventilators, replace terminal heating units and cast iron radiators, replace building automation system, upgrade lighting controls with energy code compliant system	C-D	3-4
° Water service entrance very corroded – replace. Waste and vent piping – sections are failing, replace electrical service and distribution – 60+ years old	E	1-2
° Fire Protection systems – none exist.	N/A	5
	D	2+

Note: "5" not counted in priority average.

PORTFOLIO-LEVEL FINDINGS AND DEFICIENCIES

Site

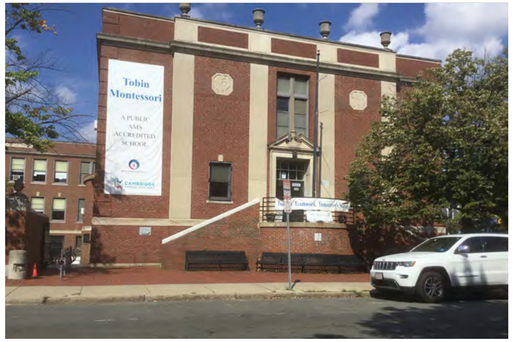
Existing Condition

The Longfellow Building is located off a main street, Broadway, and the site borders both residential and mixed-used spaces. The front of the school is located on the south side of the site, bordering Broadway, with the main entrance to the building located on the corner of Broadway and Antrim Street. The entrance is elevated half a floor from grade, with a dual staircase leading to the main door. The same entry strategy is mirrored on the corner of Broadway and Fayette Street. Both entrances are missing an accessible ramp but are in good condition. Located between the two entrances is a large sunken basketball court, in fair condition with large cracks in the poured floor. Down a couple steps is an additional exterior space with picnic tables for gathering and direct access to the school. There is a ramp on one side of this area, the only accessible access to the court is then through the school and then up this ramp. The paving of this area is in poor condition, with large cracks/raised areas and some water collection concerns. The CitySprouts program shed and compost area is located in this area as well.

The west side of the site, bordering Fayette Street, has a fenced in play area the length of the school. The play area is paved with rubber and contains two play structures in good condition. This side also has a side egress door on grade as well as an additional egress door that leads to the basement.

A driveway runs the length of the north side of the building, with back entrances into the basement. One of the entrances leads to a ramp and is the only accessible entrance to the building. An area for trash can be found on this back alleyway on the side closer to Antrim Street.

The east side of the site, bordering Antrim Street, mirrors the west side of the site, with a rubber paved fenced in play area, this side has play structures tailored to younger children/toddlers, as well as an entry to the High School Extension Program up half a floor from grade. This side of the site is in good condition. There is no designated parking or student drop off area on the site.



South site - Front Entrance

LONGFELLOW BUILDING

Architectural - Exterior

Existing Condition

The building exterior of the Longfellow Building, which houses the John M. Tobin Elementary School, comprises multi-wythe brick masonry with limestone accents, aluminum replacement windows and a ballasted EPDM roof. The masonry façade is in good condition overall with isolated areas in need of repair. The replacement windows are in fair condition and the roof is in poor condition. The building was reportedly constructed in 1931 and most recently renovated in 1983.

Masonry:
The masonry façade is largely in good condition and there is evidence of repointing in some areas. Tie backs with steel plates were observed at the West wing of the building, potentially as previous structural repair work, or for securement of gym equipment on the interior. (Ref: Photo AE-8) Deteriorated mortar joints and efflorescence were observed along the South façade near building entrances, along with deteriorated mortar at the adjacent granite steps. (Ref: Photo AE-10)

There are isolated locations of cracked and displaced brick and mortar as a result of rust jacking of steel lintels at the head of window openings on the East and North Elevations and at infilled window openings on the North Elevation. (Ref: Photos AE-11-12) Some peeling paint and rusting of the steel lintels was also observed. (Ref: Photos AE-22, AE-B)

Cracking of the limestone is evident at various locations throughout the façade, including at the horizontal accent bands and at decorative stonework surrounding building entrances. (Ref: Photos AE-13-17)

Cast stone caps installed at exterior walls surrounding the building's entrances are cracking and spalling, with displacement of the caps observed at the West entrance. (Ref: Photos AE-18-19) Minor cracking of the foundation was observed on the West Elevation. (Ref: Photo AE-20)

Windows and Doors:
The windows are aluminum double hung replacement assemblies with single pane glass and non-thermally broken frames. The windows are in fair condition overall. Security grilles are installed on the exterior at the lower floors, and some windows have been retrofitted to accommodate air conditioners. Exterior perimeter sealants have failed at most windows observed. (Ref: Photo AE-22)

AE-A: Representative façade within Courtyard

AE-B: Representative rusting steel lintel at window head

Architectural - Exterior

Existing Condition

There are some operability issues reported with the windows, including some which do not easily open and close. There is at least one window where spray foam insulation was applied around the sash to improve weathertightness, and another where the sash cord was exposed on the exterior. (Ref: Photos AE-21-24, 36) The exterior doors are hollow-metal framed with surface rusting and peeling paint on the base of these frames at most locations.

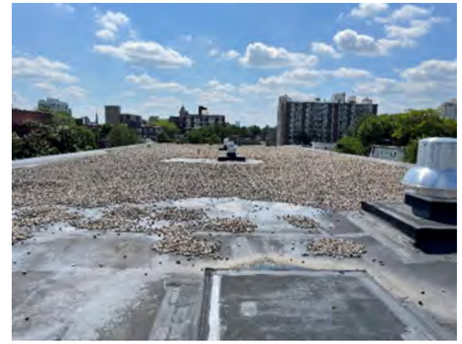
Roofing:
The roofing assembly is surfaced with a ballasted EPDM on a concrete waffle slab deck, with access via a roof hatch. The EPDM roof is in poor condition overall and the ballast is not uniformly distributed throughout the roof. (Ref: Photos AE-C-D) Drainage occurs through internal roof drains and no secondary means of drainage was observed.

The extent of insulation (if any) or other existing roofing systems below the EPDM is unknown. The EPDM is loose laid below the stone ballast and appears tented along much of the perimeter, with various patches in these areas. (Ref: Photos AE 27-30)

Prefabricated flashing boots and miscellaneous EPDM field repair patches were observed at various locations throughout the roof, with some failing lap sealants and associated flashings becoming unadhered. (Ref: Photos AE-31-32)

Reported Envelope Issues:
While on site, discussions were held with facilities personnel to identify any building exterior-related issues that may exist. Those present were shown interior locations of recurring water leakage at Room 109 and the adjacent Hallway. (Ref: Photos AE-33-35).

There is efflorescence on the interior brick wall and rusting on the adjacent interior hollow metal door assembly located on the lower level below the East entrance at the South Elevation. (Ref: Photo AE-26)



AE-C: Representative view of roof. Note ballast is not evenly distributed, leaving areas of exposed / unsecured EPDM.

AE-D: Representative roof edge condition at EPDM roof. Note multiple patches due to damage over time.

LONGFELLOW BUILDING

Architectural - Exterior

Recommendations

Masonry:
In conjunction with window replacement recommended below, the existing steel lintels could be replaced with new galvanized lintels to reduce potential for future rusting and rust jacking damage to the brick and mortar. A short-term repair could include scraping and painting of the existing steel lintels, and introduction of soft joints where the mortar is cracking and becoming displaced due to the rust jacking lintels.

A scope of masonry cleaning and repointing should be undertaken in areas of deteriorated mortar near building entrances to extend the service life of the masonry and to reduce potential for interior water leakage.

Repair of cracked limestone and the foundation wall is also recommended. Further investigation is needed to determine the source(s) of leakage into the lower level below the East entrance on the South Elevation, although there is potential that is related to deficiencies in the masonry façade outside of this area.

Windows and Doors:
The existing windows be replaced with new aluminum windows with thermally broken frames and insulated glazing with Low-E coatings.

Some of the surface rusting observed at the hollow metal doors and frames may be due to use of deicing salts during the winter months. Reduction in use of these materials against these metal assemblies should reduce potential for further damage. The replacement of doors and frame is recommended.

Roofing:
Replacement of the existing roofing system is recommended. The roof has exceeded its expected service life and should be replaced with a new roofing system with Code compliant insulation.

Architectural - Interior

Existing Condition

The interior condition of the Longfellow Building is characterized in zones: the main circulation areas are of durable materials and walls and floors have worn well; the majority of the basement and first floor levels have had some finish upgrades and are adequate while the majority of the second-floor classrooms have finishes past the end of their useful life or that contain hazardous materials, or both.

The shared use space such as gym, library and cafeteria have had limited upgrades with some finish materials appear to be original. These spaces have a higher priority for attention to keep them in useful condition. The toilet rooms, which are predominantly multi-user, have had ADA upgrades but the finishes, especially the floors, are in poor condition.

Ceilings:
The majority of the ceilings are acoustical tile ceilings (ACT). These are in moderate condition with overall deteriorated surfaces and some significant staining. Some selected spaces such as a handful of classrooms and some administrative areas have had ACT replaced recently. The corridor ceiling appears to be either very 'open' ACT or tectum panels; these are well worn and dirty. The first floor has several rooms with exposed, painted structure; these are in good condition typically with a few locations where paint is peeling. The gym ceiling is tectum which has passed its useful life.

Walls:
Typical classroom walls throughout are gypsum to the door heads and tectum above. The gypsum shows some wear but many rooms have been painted relatively recently however, the tectum above is dirty and stained consistently in all rooms and appears to have only original finish. Some spaces, such as office spaces, appear to have been reconfigured recently and those gypsum walls are in good to adequate condition. The corridors and some stairs are brick and have worn well; they are in good condition. Two stairs have an open-cell concrete which has been painted. It is in fair condition. The gym also has brick walls; these show somewhat more damage/ dirt than the corridors. The condition of ceramic tile in the restrooms varies with some that appears new and some that is broken and falling off the walls.

Floors:
Approximately one quarter of the rooms have VAT 9x9 floor tile. It is of varying condition but should be prioritized if possible and continue to be monitored (under the current protocols) until it can be replaced. About a dozen rooms have new linoleum and the rest are predominantly VCT. Restrooms have terrazzo or ceramic tile; it is in marginal condition and has a lot of visible damage and crude repairs where reconfiguration has occurred. The carpet in the library and the wood

Typical Restroom

Typical Corridor

floor at the stage are both in adequate condition. The gym floor appears to be a rubber or linoleum sheet floor; it is well past its useful life.

Windows:
This section addresses the conditions of the exterior windows from the interior view. All windows at the Longfellow Building were aluminum clad wood windows and appear in good condition from the inside. No evidence of leaks was apparent. There is a limited number of interior windows which are typically hollow metal frames. They are in good condition.

Doors:
Typical doors are wood doors in hollow metal frames. They are in adequate condition with some wear on veneer surface. Selected doors were hollow metal and are also in adequate condition.

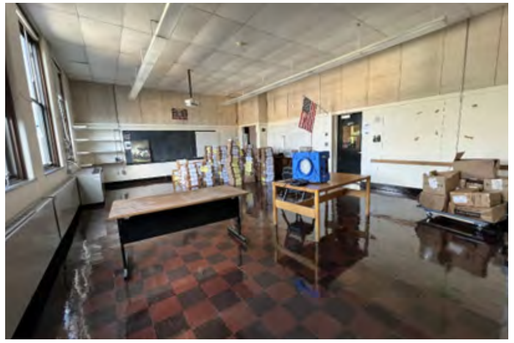
FFE:
The furniture, fixtures and equipment vary in age throughout the school with the majority of it being in the adequate condition. Some furniture appears to be new, while some is quite worn.

Millwork:
The condition of the millwork, while limited in quantity, was fairly consistent throughout the building. If any millwork was present, there was a small amount of open shelving which appeared to be original and was on the low end of adequate condition. Most rooms have storage closets which may have had doors at one point but generally do not now. These closets have a hodge-podge of shelving or racks and rods and are in marginal condition.

Recommendations

Limited repairs such as grout point up and wall prep/ painting would extend the life of the gypsum wall surfaces and wainscot tile. VCT replacement to address gapped joints would require flooring replacement and could be undertaken as systems replacement (possibly summer) project. Millwork repairs could likely be done in-place with new laminates and upgraded edge-banding or wood edging. It may require replacement of all doors and hardware however, back boxes could generally remain. Again, this could be done as an isolated scope. None of these repairs are critical so they are listed as a Priority 4, which would happen later n the overall maintenance program.

Gym and Stage



Typical Classroom – Second Floor

Theater

Existing Condition

The theatrical equipment systems at the Longfellow Building are minimal but in fair condition.

The stage rigging consists of fixed pipe battens and drapery tracks connected to directly structure. Support is by chain.

Most drapery has been removed; only the main curtain, track, and hardware remains and are showing signs of wear.

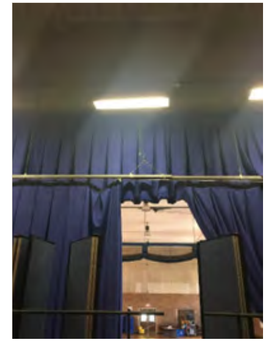
There is theatrical lighting system present

Recommendations

Theatrical Rigging:
Fixed batten and track connections to structure should be inspected by a ETCP Certified rigging professional. Components should be repaired or replaced.
Components not rated for overhead suspension or not appropriate for this application should be replaced. Some components may be reused.
Industry standard, motorized package hoists should be provided for lighting linesets.

Stage Drapery:
The main curtain should be replaced with a new, inherently flame-retardant drapes.
Other new stage drapes should be provided.
Existing drapery tracks and hardware should be inspected and replaced or maintained as needed.

Theatrical Lighting:
A new, LED-based, theatrical lighting system with positions above and in front of the stage should be installed. Power and control infrastructure must be added to support that system.



Main Curtain and Track

Structural System

Existing Condition

General
The Longfellow Elementary School was constructed in 1930. Structural drawings of the original building were not available to the design team at the time of our visit to the school. Renovations and alterations were made to the building in 1982, which included new entry stairs, a new playground area and minor renovations to the interior spaces. The three-story building structure consists of unreinforced masonry (brick) bearing walls and concrete waffle-slab floor construction. Although the building is showing its age, it generally appears to be in satisfactory condition.

Existing Structural Systems and Observations
Foundation construction is believed to consist of concrete foundation walls with continuous footings and concrete slabs on grade. Foundations appear to be performing adequately. Cracking in the exposed foundation walls was observed at various locations but appears to be a result of thermal expansion/contraction events and are not a major structural concern. There are no apparent signs of significant total or differential settlements.
Floor Construction consists of concrete waffle slabs supported by concrete encased steel beams and/or unreinforced masonry bearing walls. Floor construction appears to be performing satisfactorily; there is no evidence of structural distress that would indicate significantly overstressed, deteriorated, or failed structural members.

Roof Construction consists of concrete waffle slabs supported by concrete encased steel beams and/or unreinforced masonry bearing walls. Loading information was not noted on the available original Structural Drawings; however, the original building and subsequent addition may have been designed to comply with the requirements of Boston Building Code which would have required a minimum design roof load of 40 psf. Roof construction appears to be performing satisfactorily; there is no evidence of structural distress that would indicate significantly overstressed, deteriorated, or failed structural members.

Wall Construction consists of brick masonry bearing walls and (presumably) unreinforced cinder blocks. The exterior, exposed brick generally appears to be in good condition but may benefit from some level of repointing and steel lintel replacement.

There is no clearly defined lateral force resisting system for the building. By default, the lateral forces are likely being resisted by the perimeter and interior, unreinforced masonry walls. Due to the lack of a formal lateral force resisting system, the structure does not meet current design code wind and seismic load requirements. Lateral force resistance and seismic hazards, including unreinforced masonry wall issues, would need to be addressed in conjunction with a future major renovation of the building.

Photo ST-1: Loose Wall Cap at Site Stair

Photo ST-2: Open Joints in Granite

Structural System

Recommendations

Structural conditions at the school were reviewed at the site (to the extent possible) on August 29, 2022. The building structure was observed to generally be in satisfactory condition. Specific structural/structurally related conditions that require further investigation and/or remediation in the future are listed below.

Exterior stairs and site walls at the main entry to the building are in need of repair/patching. Loose walls caps, open joints in granite treads and other signs of deterioration were observed. Refer to Photos ST-1 and ST-2.

Repointing of brick joints and the replacement/repair of sagging steel lintels will likely be required in the future. Refer to Photos ST-3 and ST-4.

Corrosion and deterioration of treads and risers of interior stairs were observed in various locations. This type of corrosion typically occurs at ground floor stairs with access to the exterior where exposure to de-icing salts is common. Further evaluation and inspection of all interior stairs is recommended. Refer to Photo ST-5.

Vertical cracks in the block wall construction and horizontal displacement of masonry units were observed in Stair 1. This condition appears to be structurally related; further investigation is warranted. Additionally, the exterior wall finishes on the southwest elevation of the south wing of the building appeared to bulge outwards below the roof. Further investigation of the exterior wall along this elevation is recommended to confirm structural integrity and stability have not been compromised. Refer to Photos ST-6, ST-7 and ST-8.

Photo ST-3: Sagging Lintel (Rust-Jacking)

Photo ST-4: Brick Joints in Need of Repointing

Structural System

Recommendations

General Comments on Renovations, Alterations, Repairs, and Additions
Renovations, alterations, repairs, and additions to existing buildings in Massachusetts are governed by the provisions of the Massachusetts State Building Code (MSBC – 9th Edition) and the Massachusetts Existing Building Code (MEBC), which defines three compliance methods for the repair, alteration, change of occupancy, addition, or relocation of an existing building. The method of compliance is chosen by the Design Team (based on the project scope and cost considerations) and cannot be combined with other methods. The Work Area Compliance Method (IEBC Chapters 4 through 12) is the most common compliance method chosen.

The design and construction of any proposed addition(s) to the existing building would be conducted in accordance with the Code for new construction. Generally speaking, additions should be structurally separated from the existing, adjacent construction by an expansion (seismic) joint to avoid an increase in gravity loads or lateral loads to existing structural elements.

Where proposed alterations to existing structural elements carrying gravity loads result in a stress increase of over 5%, the affected element will need to be reinforced or replaced to comply with the Code for new construction. Alterations to existing structural elements resisting lateral loads (i.e., masonry walls) which result in an increase in the demand - capacity ratio of over 10% should be avoided; otherwise, a seismic evaluation and potential upgrade will be required. Essentially, this means that removal of, or major alterations to the existing lateral force resisting elements (i.e., masonry walls) should be avoided if possible. Structurally attached additions (horizontal or vertical) which result in an increase in the demand - capacity ratio of over 10% would also trigger a seismic evaluation and potential seismic evaluation.

Photo ST-5: Corrosion of Stair Tread/Riser

Photo ST-6: Cracking and Displacement of Masonry Units - Stair No. 1

Structural System

Existing Condition

Photo ST-7: Gap Between Perpendicular Walls

Photo ST-8: Bowing/Bulging Exterior Facade

Mechanical System

Executive Summary

Fire Protection Systems
The existing building is not provided with an automatic sprinkler system or a manual-wet standpipe system in the egress stairwells.

Mechanical Systems
The existing building is heated and ventilated only, and window air conditioning units are installed for cooling specific spaces. Two gas-fired condensing boilers produce hot water which is distributed to unit ventilators, terminal heating units, and an air handling unit serving the Gymnasium. Outside air for ventilation is introduced through the unit ventilators and air handling unit. Exhaust fans located on the roof pull relief air from the classrooms and support spaces and exhaust air from the toilet rooms. The building automation system is mainly pneumatic with minimal DDC controls. In general, the HVAC systems are well beyond expected service life and should be considered for replacement in the near term. The exception is heating plant equipment which is in good condition with some service life remaining.

Plumbing Systems
The existing building is provided with conventional plumbing systems which include a domestic water distribution system, sanitary waste and vent system, storm water system and a natural gas system.

The plumbing piping systems have an expected service life of 50-100 years. The existing plumbing systems were renovated in 1982 with a significant amount of pipe original to the building construction still in use. The plumbing systems are generally in poor condition and should be replaced in their entirety.

Electrical Systems
The existing electrical distribution, lighting, fire alarm, and IT systems are partially original to the 1982 building renovation and new construction project, approximately 40 years old, and have had only minor modifications to support program changes or energy saving initiatives.

Approximately half of the electrical distribution system was not upgraded in the 1982 renovation. This includes a main distribution panel board, feeders, panel boards, branch circuits, and devices. These electrical distribution components appear to be circa 1969 or 53 years old.

This equipment is past its useful life.

Mechanical System

Heating System

Existing Condition
The heating source for the building consists of two Aerco Benchmark Model 2000 gas-fired condensing boilers located in the ground floor mechanical room. Hot water is distributed throughout the building using two Taco Model FI base-mounted pumps. The boilers and hot water pumps were installed in 2010 and are in good condition. The boilers and pumps have an expected service life of 20-years (8-years remaining). Hot water piping appears in good condition with insulation mostly intact.

Recommendations
Heating system equipment is in good condition with 8-year lifespan remaining. Consider wholesale replacement options, along with ventilation and air conditioning upgrades, including the use of heat pumps with either low temperature hot water or refrigerant based distribution.

M-1: Condensing Boilers

Cooling System

Existing Condition
There is no permanent cooling system in the building. Cooling is provided for select spaces using window air conditioning units.

Recommendations
Consider adding a central cooling system, along with ventilation and air conditioning upgrades, including the use of heat pumps with either low temperature hot water or refrigerant based distribution.

M-2: Hot Water Pumps

LONGFELLOW BUILDING

Mechanical System

Ventilating and Air Conditioning System

Existing Condition
The building is served by an indoor air handling unit and multiple unit ventilators with hot water coils. The air handling unit serves the Gymnasium and is located within a mechanical room at the second floor. Unit ventilators serve Classrooms and support spaces. Outside air ventilation is introduced through wall louvers dedicated to each unit. The ventilation air damper on at least one of the units was not functional. General relief air for the classrooms is ducted up through the building to roof mounted exhaust fans. Similarly, toilet exhaust is ducted up through the building to dedicated roof mounted exhaust fans. Fin tube radiation is provided in select areas and unit heaters and cast-iron radiators serve stairwells and building entry points. Most of the equipment is original to a building renovation in 1983 (39-years in service). Equipment appears in poor condition except for the roof mounted exhaust fans which are new. Life expectancy is 20-years for indoor air handling unit and unit ventilators. Ductwork appears in marginal condition with a life expectancy of 30-years from installation. Hot water piping appears in good condition with insulation mostly intact.

Recommendations
Most of the heating and ventilation equipment is beyond expected service life and should be considered for replacement in the next 2-5 years. More intense maintenance may be required for equipment during this timeframe. Consider high efficiency system replacement options including the use of heat pumps with either low temperature hot water or refrigerant based distribution. Include exhaust energy recovery and variable frequency drives or EC motors for airflow modulation.

Ductwork systems are approaching the end of expected service life and should be considered for replacement along with equipment upgrades. Hot water piping system should also be considered for replacement along with equipment upgrades as service life is variable and dependent on system tightness, isolation of dissimilar metals, and water treatment program. At a minimum, piping systems should be inspected if intended to be re-used as part of equipment upgrades. A change-out of system type using heat pumps will require upgrade of the ductwork and piping systems.

M-3: Air Handler Condition

M-4: Fan Coil Unit Condition

Mechanical System

Building Automation System

Existing Condition
The building automation system is predominantly the original pneumatic system installed in 1983 (39-years in service). The head-end has been upgraded over the years to a newer Tridium Vykon network controller with Niagara framework. Control air is provided by an air compressor with duplex compressors. Life expectancy is 20-years for pneumatic systems and 15-years for electric/electronic systems.

Recommendations
Most of the building automation system is beyond expected service life and should be replaced concurrent with equipment replacements. Replacement systems should include a complete system of DDC controllers, sensors, actuators, and head-end graphics.

M-6: Original Pneumatic Control Panel

M-7: Upgraded Network Controller

Electrical System

Power Distribution

Existing Condition
The Longfellow School building is currently served by a pad mount utility-owned transformer, located at the northern exterior area of the building.

The electrical service is an 1200A, 208/120VAC, 3-phase, 4-wire, underground service, located in the electrical room at the northern lower level of the school. The Crouse & Hinds Switchboard main service is floor mounted; this panel is from the 1982 upgrade.

This panel provides power to two (2) distribution panels. The first was upgraded in 1982 and provides feeder circuits to 7 panels which were also upgraded in the 1982 renovation. This represents (37%) of the existing electrical distribution system, being 40 years old and past its useful life.

The second distribution panel was not upgraded in the 1982 renovation and consists of 11 feeder circuits to 11 distribution panels. This represents (63%) of electrical distribution that was not upgraded and includes: 1) Main Distribution Panel, 2) Feeders (11), 3) Distribution panels (11), 4) Branch circuits, 5) Electrical devices. This portion of the electrical distribution is circa 1962 and is 60 years old and well past it useful life.

Numerous electrical equipment (panels) were observed during a walk-through of the building. It has been observed that the locations of panel boards are poorly designed, as they are situated in corridors and general areas where students frequent.
Panel boards are in fair/poor condition given their age, and there were no signs of maintenance being performed on them since 1982.

<u>Emergency Electrical Distribution</u>
A generator was not noted at this school. Emergency egress lighting is provided by Emergency Battery Units (EBU) along the emergency egress path. The light level at the stairwells in subject should be reviewed. Emergency exit signs were provided and appeared to be properly located for emergency access.

Recommendations
It is generally accepted that the life of an electrical system is thirty (30) years. Beyond that point, it becomes increasingly difficult to cost effectively maintain the system. Wire insulation and equipment failure becomes more common as the system ages, with an increase in outage longevity due to the design of the system and the availability of replacement parts. Often new systems need to be installed to bypass the old system without the benefit of a comprehensive plan designed for the needs of the building. With the aged electrical devices, the devices may not operate under faulty conditions.

E-1: Main Electrical Service (Entrance)

E-2: Existing ~1962 (Not replaced in 1982 Renovation)

Electrical System

The main electrical distribution provides 346KW with an area of 75,523 square feet or 4.6W/SF. New highly efficient mechanical designs generally require 19- 24W/SF. The main service would be required to be upgraded complete for a large-scale mechanical upgrade.

The electrical code now requires Arc Fault Protection labeling for the safety of the electrical staff. It is recommended that an Arc Fault/Coordination study be performed, and associated labeling be provided to meet today's electrical code. Arc fault reduction is now a code requirement for electrical services 800A and larger to reduce the available Arc Fault, this is not available on the existing equipment.

Due to the age of the existing electrical distribution system (40-60yrs), it is recommended that the existing systems be provided with a full range of electrical preventive maintenance, to include:

Panelboards and switchgear:
- Inspection and cleaning
- Ground resistance test
- Thermal imaging
- Insulation resistance testing

Cables:
- Inspection
- Verify tightness of bolted connections
- Insulation resistance testing
- Circuit Breakers
- Inspection and cleaning
- Measure contact resistance
- Thermographic Survey
- Operate circuit breaker to verify smooth operation
- Verify tightness of bolted connections
- Verify trip operation of circuit breaker by primary current injection
- Verify setting required by coordination study
- Verify operation of any auxiliary function (i.e. remote trip and close)

Due to the age of the existing electrical distribution system, it is recommended that the existing systems be scanned with an infrared camera to identify any loose or weak electrical connections. The generator should be tested, and a testing regime should be established.

The electrical system should be replaced completely with the next renovation or large-scale mechanical upgrade.

LONGFELLOW BUILDING

Electrical System

Lighting & Devices

Existing Condition
The majority of the lighting installed in the 1982 building renovation was fluorescent lighting. The gymnasium down light fixtures have been upgraded with LED light fixtures. Lighting control is accomplished with manual switches in most spaces.

Recently, most of the fluorescent lighting in the corridors, common spaces, office, and classrooms were replaced with LED fixture upgrades. The LED upgrade, which is the first phase of two phases, is currently underway. Upon completion of phase two, the entire building will be upgraded with LED fixtures.

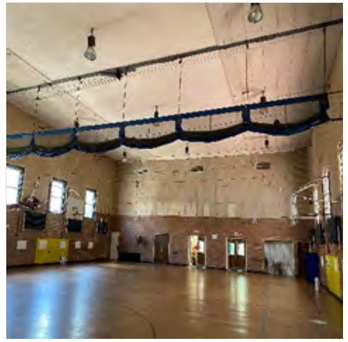
A spot check of wiring devices indicated varying conditions. Light switches and receptacles were generally in poor to fair condition, while many were older and showing wear. Lack of a sufficient quantity of receptacles was noted. In the cafeteria, ground fault circuit breakers were not provided as required by the latest electrical code. Tamper resistance receptacles are also required in Preschools and elementary education facilities.

Recommendations
If a major renovation is undertaken, RFS recommends that the lighting fixtures are removed, and new fixtures be provided that meet current energy efficiency standards and are available for possible utility rebate programs. Lighting in all spaces should be reviewed to ensure adequate levels are provided.

The lighting design should incorporate modern lighting techniques and controls, such as zoned indirect lighting, dimming capabilities for audio-visual presentations, as well as low-level direct lighting. Additionally, high-efficiency light fixtures with daylight harvesting controls should be used; although not required by code, it may offer additional energy savings.

Occupancy sensors should also be provided to comply with current energy conservation requirements. Provide a full test of the emergency lighting, verify that light levels meet existing code required levels and ensure compliance with 527 CMR, NFPA 70 and NFPA 101.

Emergency lighting should be upgraded by providing additional fixtures in areas that lack sufficient levels of emergency lighting (stairways). Exit lighting should be upgraded to cover all means of egress corridors and exit doors, where required. It is recommended that all devices be replaced with the next major renovation, as ceilings will need to be removed for MEP work.



E-3: HID Lighting

E-4: Egress Lighting

Electrical System

Fire Alarm

Existing Condition
The existing Silent Knight Fire Alarm System (Horn/Strobe) has been upgraded since the 1982 renovation and appears in fair to good condition. The system is in good operating condition. There is an additional annunciator at the main entrance. Also at the main entrance is a Knox Box and Beacon.

The International Building Code (IBC) requires that a speaker type system be provided in an education occupancy (K-12). This system is a horn-type system and does not meet today's code requirements.

Smoke detectors are present in most emergency egress paths. Heat detectors were also noted in utility closets, kitchens, and mechanical spaces. The devices appear to be in fair working order.

Pull stations were observed at most exits and at entrance points to level change. CO detection was not noted in classrooms or areas adjacent to carbon monoxide producing equipment.

Horns/lights are installed in corridors and some common spaces to provide alarm notification to occupants. The devices appear in fair/poor working order with white strobe lenses in several areas, and not clear as required by code.

Recommendations
The existing fire alarm control panel is not code complaint - non-compliant ADA type indicating devices are installed. A new addressable voice system should be installed due to occupancy requirements within the building to replace the existing system. Additional speaker strobe coverage and proper relocation of pull stations should be conducted to meet code.

It is recommended that a speaker type-system be provided for transmitting voice notifications in the event of a fire alarm and/or mass notification.

Install carbon monoxide devices in alarms devices in every classroom where carbon emitting devices are located. Verify all devices are provided as required by 527 CMR, NFPA 72, 780 CMR, and the Mass Fire Alarm code (Missing pull stations, smoke detection not code compliant etc.)

E-5: Existing Fire Alarm Device

Plumbing System

Domestic Water System

Existing Condition

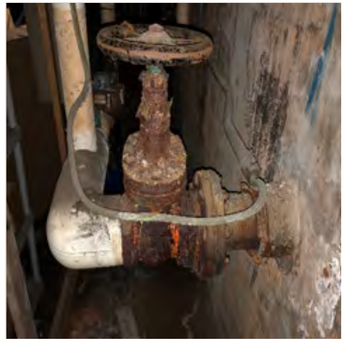
Water Service Entrance: A 4" domestic service enters the basement level water service room. The domestic water service is provided with two 2-inch water meters with remote read piped in parallel. The existing domestic water service is heavily corroded. Include the use of copper press fittings. The piping system appears to be in fair condition. The expected service life for copper pipe is 80 years.

Domestic Water Quality: Cambridge water supply has been known to contain hard water containing minerals below the Maximum Contaminant Level by the Cambridge Water Department. It is suspected that faster than normal corrosion of domestic systems is caused by scale build of from the water being supplied to the building.

Domestic Water Heater: Domestic hot water is generated from a simplex electric water heater with 119 gallons of integral storage. The heater was manufactured by RUUD and was installed on 5-7-2019 and is in good condition. The hot water system is fully circulated back to the heaters with the use of a Taco Model 010-BF3 cartridge circulator. The system includes a Watts expansion tank. The expected service life for the water heaters is 20 years. The domestic hot water system is not provided with a thermostatic mixing valve.

POU electric water heater: Domestic hot water is provided to the Second floor Staff Break room from an electric point of use 2.5 gallon water heater installed in the cabinet below the sink. The heater was manufactured by Eemax Model EMT2.5 and was installed in 2019 and is in fair condition. There are visible signs or leakage coming from the heater.

System Piping: The piping serving the domestic water system includes soldered copper with brass ball valves. New plumbing repairs and equipment updates include the use of copper press fittings. The piping system appears to be in fair condition. The expected service life for copper pipe is 80 years.



PL-1: Corroded Water Service Valve

PL-2: Corrosion on Point of use Water Heater

Plumbing System

Domestic Water System

Recommendations

Replace corroded pipe, valves, and fittings as required.

Provide a water quality report for the building to determine the characteristics of the domestic water. Provide water softening equipment on domestic water supply to the building to slow the degradation of existing domestic systems if required.

All science classroom lab sinks shall be provided with a protected water system. Hot and cold water supplies shall be protected with the use of reduced pressure backflow preventers. A dedicated water heater with circulator shall be provided if it is determined hot water is required in the labs.

Check all piping insulation for asbestos containing materials. All existing domestic water piping should be provided with fiberglass insulation.

Remove and replace all existing domestic water pipe which contains lead-solder.

Extend new drainage piping from point of use T&P valve that is leaking and connect into the waste piping of the sink that the heater serves.

LONGFELLOW BUILDING

Plumbing System

Domestic Plumbing Fixtures

Existing Condition
The domestic plumbing fixtures located within the building include wall mounted and floor mounted water closets with manual flush valves. Some water closets were older 3.5 gpf fixtures while some have been updated to 1.28 gpf. The building also includes wall mounted urinals with manual flush valves, counter mount china lavatories with push button manual metering faucets, stainless-steel wall mount handwashing sinks with push button manual metering faucets, and stainless-steel wall mount drinking fountains. Some fixtures do appear to be ADA compliant.

Science classrooms are provided with lab sinks which include epoxy basins and faucets with integral vacuum breakers and emergency shower and eyewashes with integral mixing valves.

Handwash sinks at buildings entrance appear to be fed from cold water only and no hot water connection was apparent.

Many of the domestic plumbing fixtures appear to be in poor condition except for some fixtures that have been recently replaced. The domestic plumbing fixtures have an expected service life of 30-40 years.

PL-3: Outdated Lavatory

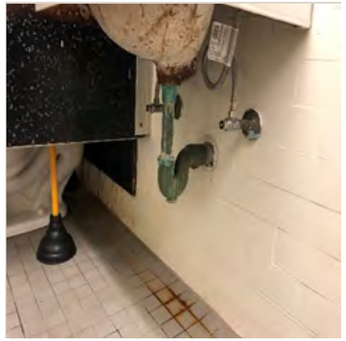
Recommendations
Public lavatories shall be provided with thermostatic mixing valves to limit the outlet temperature to a maximum of 110-degrees. Insulation kits shall be provided at all ADA lavatories at the supplies, stops, p-trap and tailpiece.

Replace plumbing fixtures and floor drains which are heavily corroded and exceeded their useful service life.

Replace plumbing fixtures throughout the building with water conserving low-flow fixtures.

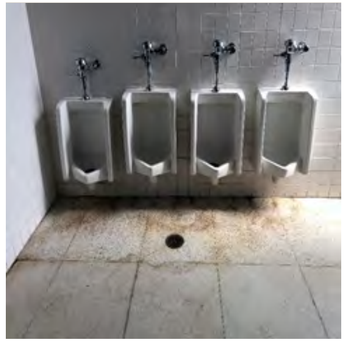
Investigate domestic water piping serving handwash sinks at building main entrance. Provide hot water to sinks as required by 248 CMR.

Urinals shall be side shielded for privacy as required by the Massachusetts Plumbing Code, 248 CMR.



PL-4: Corroded Lavatory

Plumbing System



PL-5: Privacy Shields Should Be Provided

FACILITIES CONDITION ASSESSMENT, CAPACITY ANALYSIS, AND PLANNING RECOMMENDATIONS FOR CAMBRIDGE PUBLIC SCHOOLS
APPENDIX A - [PLANS REDACTED] | DLR GROUP

LONGFELLOW BUILDING

Plumbing System

Sanitary Waste and Vent System

Existing Condition
The building is provided with a sanitary waste and vent system which collects sanitary sewage from the domestic plumbing fixtures located throughout the building.

The pot sink in the kitchen is provided with a floor-mounted 50 GPM grease interceptor. The outlet of the interceptor is piped to the sanitary waste piping. The waste stream from the science classrooms sinks are piped to individual chip tanks located below each sink. The outlet of the chip tanks is piped to the sanitary sewer.

The sanitary waste and vent system 4" and larger consists of cast iron pipe. The expected service life for cast iron pipe is 80-100 years. There were visible signs of cracks and corrosion on most of the visible piping.

Recommendations
Replace existing corroded and failed piping and fittings as required.
Perform all required service on the pH neutralization chip tanks to assure system is discharging a neutral waste stream.

Coordinate the need to provide an exterior grease interceptor with the Cambridge Sewer Department. Assure interior grease interceptor is properly maintained.

PL-6: Cracked P-Trap

PL-7: Heavily Corroded Cast Iron Pipe

Plumbing System

Storm System

Existing Condition
The building is provided with a storm system which collects rainwater from the roof drains located on all flat sections of roof. The piping is installed down through the building and discharges to the municipal storm sewer by gravity.

The storm system consists of cast iron pipe. The expected service life for cast iron pipe is 80-100 years.

The sub-basement mechanical room is provided with a duplex sump pump. The pumps appear corroded and inoperable when tested. The pumps and discharge piping are in poor condition.

Recommendations
Replace existing corroded and failed piping and fittings as required.

Replace the existing sump pumps and controller. Provide cover over existing sump basin.

PL-8: Heavily Corroded Sump Pump Discharge Piping

Natural Gas System

Existing Condition
The building is provided with a natural gas system. The service entrance is on the north side of the building. Natural gas serves the mechanical boilers, science classrooms and kitchen equipment. The natural gas piping is black steel and appears to be in fair condition.

The expected service life of black steel pipe is 75 years.

Recommendations
The existing gas isolation valves located in each of the science classrooms are in a surface mounted cabinet with a hinged door. The Massachusetts Plumbing Code requires the gas valves to be readily accessible which would prevent the use of the cabinet door.

PL-9: Existing Gas Valve Cabinet

Fire/Life Safety

Sprinkler System

Existing Condition
The existing building is not provided with an automatic sprinkler system.

Recommendations
Provide an automatic sprinkler system when required based on proposed building renovations.

Standpipe System

Existing Condition
The existing building is not provided with a manual-wet standpipe system.

Recommendations
Provide a manual-wet standpipe system when required based on proposed building renovations.

Code

Existing Condition

The Longfellow Building is an existing 75,523 ft2 two to three-story Cambridge public school currently occupied temporarily by the Tobin Montessori School.

Occupancy Classification
- Use Group E (School)

Construction Type
Based on the field observations the building appears to be a fire-rated concrete structure, classified as Type I or II construction. All new construction must be non-combustible except where permitted by IBC Section 603: Combustible Material in Types I and II Construction.

Vertical Openings
All existing vertical openings in the work area connecting two or more floors must be enclosed with 1 hour rated construction and approved opening protectives unless the openings meet one of the exceptions in IEBC 803.2.1.

The building has five primary egress stairs that are generally enclosed with masonry walls and wired glass doors and sidelights. In some locations the doors are held open with wooden floor wedges that must be removed however. At the Basement Level the center posts for each door enclosing the center stair have also been removed so that the doors no longer latch and the remaining brackets on the floor create a tripping hazard along this egress path.

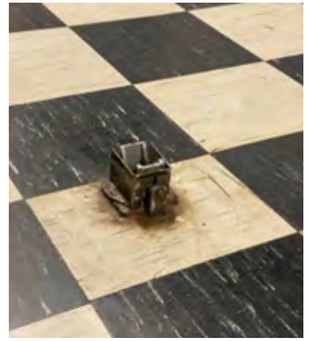
Interior Finishes
The existing interior finish of walls and ceilings in the work area and in all exits and corridors serving the work area must comply with the code requirements for new construction (IEBC 803.4).

Walls & Ceilings (IBC Table 803.11)

Use Group:	E (Sprinklered)	E (Non-Sprinklered)
Exit Enclosures	Class B	Class A
Exit Access Corridors	Class C	Class B
Rooms & Enclosed Spaces	Class C	Class C

Existing interior finishes in both buildings typically consist of painted gypsum wallboard, tile, or masonry which meets these requirements.

Center Stair Doors at Basement Level



Center Stair Doors at Basement Level

LONGFELLOW BUILDING

Code

Existing Condition

Means of Egress
Means of egress conforming to the requirements of the building code under which the building was constructed are considered compliant means of egress if, in the opinion of the code official, they do not constitute a distinct hazard to life (IEBC 805.1). This section allows the existing means of egress stairs, doors, etc. to remain unless they are considered hazardous.

There are five primary egress stairs that connect all levels. No significant hazardous egress conditions were noted during the site visit, although wooden floor wedges holding stair doors open must be removed and the ability for the center stair doors in the Basement to latch must be restores as noted in the floor opening section of this report.

There are existing illuminated exit signs and emergency lighting throughout the building.

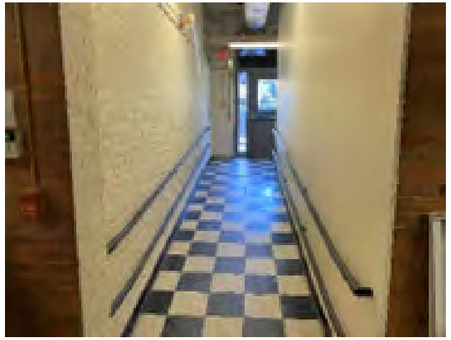
Fire Protection Systems
The building does not have sprinkler protection, but does have an existing modern fire alarm and detection system, as well as fire extinguishers. The following fire protection systems are required in the areas noted if the building is renovated:

- Automatic sprinkler protection is required throughout the work area if the work area includes exits or corridors serving an occupant load greater than 30 and the work area exceeds 50% of an individual floor area (IEBC 804.2.2). Since the gross area of the building is more than 7,500 ft2, if it undergoes a major renovation Massachusetts General Law Chapter 148 Section 26G would require sprinkler protection throughout the building.

- Existing previously approved fire alarm systems are permitted to remain if the building undergoes a Level 1 or Level 2 alteration (IEBC 804.4.1). A Level 3 alteration would require the fire alarm system to comply with the code requirements for new construction, which would require a voice-alarm system (IEBC 904.2).

- Fire extinguishers (527 CMR 1 Section 13.6 & IBC 906.1). Fire extinguishers must be maintained and located throughout the building so that the maximum travel distance to an extinguisher is less than 75 feet.

Typical Egress Stair



Entrance

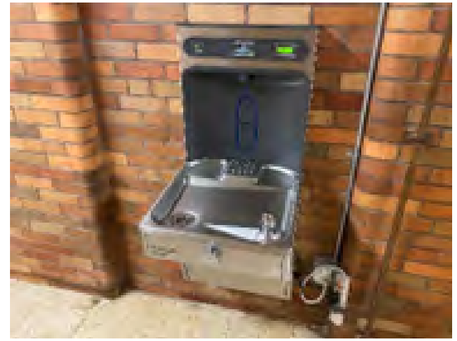
Code

Existing Condition

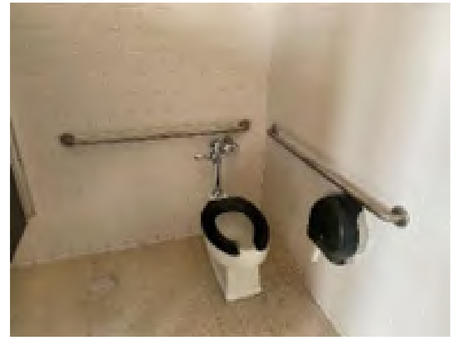
Accessibility for Persons with Disabilities
The building has an accessible entrance, drinking fountain, and toilet rooms. Therefore, if the cost of future renovations exceeds $100,000, additional work should not be required in order to comply with 521 CMR.

The Cambridge Assessor's on-line database indicates the Longfellow Building has an assessed value of $18,619,500 and the Massachusetts Department of Revenue's website indicates the assessment ratio for Cambridge is 0.92. Therefore, the 100% equalized assessed value is $20,238,586 and 30% of this value is $6,071,576. Full compliance with 521 CMR would be required if the aggregate cost of renovations in any three-year period exceed this amount.

Significant alterations would be required to achieve full compliance (i.e. the main entrance is not accessible, the elevator size is sufficient for an existing building (> 4' x 4') but the controls are not compliant (no Braille), compliant stair handrails inside and outside of the building, compliant room signage, wheelchair access to the stage, etc. (note this is not a comprehensive list).



Drinking Fountain



Toilet Room

Code

Existing Condition

Main Entrance

Existing Stage

Door Hardware

Existing Condition

Site survey showed the majority of doors in adequate condition. Some classroom doors are in marginal to poor shape and will need replacement. All exterior and corridor doors look to meet egress requirements.

LONGFELLOW BUILDING

Conveying System

Existing Condition

The Longfellow School is serviced by one (1) direct (in-ground) hydraulic passenger elevator. The elevator has a rated capacity of 2,000 lbs. and travels at a rated speed of 100 fpm. The entrances are 3'-0" wide by 7'-0" high, front opening. The elevator services 3 landings - B, *1, and 2.

The elevator appears to have been installed in the early 1980's; however, no original prints, drawings, or wiring diagrams are available for the controls. The controls and hydraulic equipment were manufactured by US Elevator. US Elevator was sold in 1993 to Thyssen Elevator and the brand and product lines were completely discontinued by 1999. All controller components are current obsolete; in the event of any future failure in the primary motherboard for the controls, the only option would be sending the board and relays to a third party electronics supplier in hopes of the board being repairable. There are no more direct replacement components for this equipment. In the event the board cannot be repaired, the school may likely be without an elevator until the controls can be replaced.

The in-ground hydraulic jack does not appear to be original. Based on the vintage, it is also safe to assume that the jack was installed with a PVC containment liner and may be retained for future use.

The existing signal fixtures and car operating panel are not compliant with current 521 CMR / ADA requirements pertaining to button height.

The elevator does not have Firefighter Services operation in the event of a building fire, or emergency lowering in the event of a building power failure.

Maintenance Deficiencies:

- Replace hydraulic valve.
- Emergency phone is inoperable.
- Replace light bulbs in COP floor buttons.
- Conduct a full hoistway cleandown of all hoistway equipment.

Conveying System

Recommendations

We recommend budgeting for a modernization of the elevator immediately. As part of the modernization, we recommend the scope include replacement of the controls, power unit, signal fixtures, machine room and hoistway wiring, car and hoistway door equipment, including door panels, and car enclosure and finishes.

We also recommend adding air conditioning or an oil cooler unit to the machine room. The machine room was observed to be substantially warm. Temperature fluctuations in either direction, heat or cold, have implications on the oil viscosity in the elevator system. As an elevator is used, the friction created by the flow of oil greatly increases the temperature, changing the viscosity. This change in oil viscosity can negatively impact the ride quality and movement of the elevator.

Budget: $130,000 - $160,000 (Budget estimates are based on commencement of work in 2023)

LONGFELLOW BUILDING

Food Service

Executive Summary

The Tobin Montessori School is an average sized kitchen serving a medium sized population of students from preschool through 5th grade levels. The finishes and kitchen equipment in many circumstances are original to the building. The kitchen equipment for this facility has had minor updates to some prep and cooking equipment over the course of the years, but the serving and prep equipment is outdated and in need of updates. The programming for this school would benefit greatly from modern foodservice equipment which would allow the operation some flexibility to adapt and more efficiently serve the district's needs.

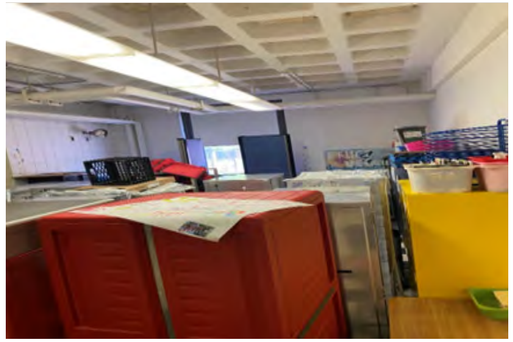
Improving cooking and serving equipment will also modernize the program allowing it to more easily meet the demands of health code regulations as well as improve the appeal of the food offerings. Modernizing workstations, preparation and cooking equipment will allow the kitchen staff to focus on food production resulting in a more efficient operation. Overall, the program is well run and the staff are highly trained and dedicated. However, they lack the full complement of equipment and tools needed to truly operate at a higher level of service.

Kitchen and Servery

General Overview

The Tobin Montessori School Foodservice program currently serves a population of approximately 300 students from Pre-K through the fifth grade. The original kitchen is mostly in tact with some minor equipment upgrades performed over the years. Major infrastructure items such as the exhaust hood, preparation equipment and serving lines have not been updated in a significant amount of time. Overall, the kitchen staff does a good job of maintaining the existing equipment and kitchen in a clean manner. However, due to the date of the equipment and finishes there's significant signs of wear and tear.

The kitchen walls and storage areas are finished in a durable painted CMU block and have held up pretty well over the years. Due to the solid nature of the walls, there's instances where utilities are exposed and not contained within the wall which presents cleanability issues if not maintained properly. There is no finished ceiling in this kitchen which is in violation of health code. Ceilings are required to have a smooth washable surface. Since there's no drop style ceiling, all utilities and ductwork are exposed making everything in this kitchen impossible to properly clean. The flooring material is a VCT tile that is no longer acceptable kitchen applications. This material is slippery when wet and does not have the availability to be coved where the floor meets the walls and that condition is present in this kitchen.



FS-1: There is no finished ceiling in this space which is required by health code in commercial kitchens. Due to the lack of a finished dropped ceiling, all utilities and mechanical equipment is exposed and this prevents proper cleanability of the kitchen space.

Food Service

The food preparation process for this school could use significant updates and help extend programming. Refrigerated and dry storage capacities for the school kitchen are very limited. The operations team does not have sufficient space to properly store and hold food product at food safe temperatures. While there's several stainless work tables in the kitchen, there is a limited amount of food preparation areas with dedicated sinks to properly separate and wash food product prior to the cooking process. The reach-in 3 door freezer is currently running at 68° and has a history of service records. This piece of equipment requires service or replacement.

The exhaust hood is also original to the building and is not completely closed off above the hood to the finished ceiling. This presents a cleanability issue as the angled portions of the hood collect dust, debris and dirt. In new construction, stainless steel enclosure panels are used vertically from the top of the hood to the ceiling which prevents a build of debris and is easier to clean. The Blodgett Convection oven has a history of service records with the oven not heating or circulating air properly. This piece of equipment requires replacement of the capacitor and blower motor. With only two pieces of cooking equipment, this significantly impacts the school's production capabilities with this unit having to be frequently serviced.

The serving line for this kitchen is limited to a couple of mobile serving counters. Operationally this proves very challenging to kitchen staff to serve students and keep a proper operational flow in a timely manner. The mobile counters being used to not provided tray slides and are at a higher level than what's recommended for students at this age group. Sneeze guards on these mobile counters are outdated and no longer in compliance with current NSF regulations.

The following specific issues will reference codes and standards. For the purposes of this report when the health code is referenced, we are citing requirements of the Federal Food Code, 2017 addition, published by the FDA as well as the Merged Massachusetts Food Code 2013 addition.

We will also reference the National Sanitation Foundation (NSF). This is an independent governing body that develops standards for foodservice equipment and facility design. All equipment, in commercial kitchens must be built in accordance to NSF standards as a requirement of the food codes.

FS-2: The exhaust hood in this kitchen is extremely old and not properly closed off to the ceiling above. The angled surfaces are an area that collect dirt, debris and dust and cannot be properly cleaned. Modern code requires vertical closure panels from the top of the hood to the finished ceiling.

LONGFELLOW BUILDING

FCA FORMS - AMIGOS

Longfellow Building		Architectural					
EXTERIOR							
Room # on Site:							
Area	**Part**	**Type**	**Quantity to be Replaced**	**Condition (A-E)**	**Priority (1-5)**	**Photos**	**Notes**
Exterior	Façade	Brick Masonry		B, C, D	4, 3, 2	AE-7-12, 20, 26	
Exterior	Façade	Limestone Sills, façade accents		B, C	2, 3	AE-13-17	
Exterior	Façade	Windows		C	3	AE-21-24, 36	
Exterior	Façade	Hollow Metal Doors, Entrances		D	2	AE-25	
Exterior	Façade	Sealants		C	3	AE-22	
Exterior	Roofing	EPDM Roofing		E	2	AE-27-32	
Exterior	Landscape	Cast stone caps and masonry walls at entrances		E	1	AE-18-19	

Longfellow Building		Architectural					
INTERIOR							
Room # on Site:							
Area	**Part**	**Type**	**Quantity to be Replaced**	**Condition (A-E)**	**Priority (1-5)**	**Photos**	**Notes**
Interior	Ceiling	ACT		C	3		ACT typical in teaching spaces with gypsum in some smaller rooms.
Interior	Wall	Gypsum/ Tectum		C	3		Most walls gypsum with tectum above. Tectum is very worn and dirty.
Interior	Floor	VAT/ VCT/ Linoleum		C	2		Varies. Many rooms have 9x9 tile which is very worn and should be replaced.
Interior	Window	Aluminum Clad Wood		B	4		
Interior	Doors	Wood		B	3		HM doors in selected locations.
Interior	FFE	Loose Furniture		C	4		
Interior	Millwork	PLAM		C	3		
Interior	Plumbing			C	3		Classrook sinks and toilet fixtures were well worn.
				C	**3**		

LONGFELLOW BUILDING

LONGFELLOW BUILDING

RM NAME	RM #	AREA	CEILING MATERIAL	CEILING CONDITION	CEILING PRIORITY	WALL MATERIAL	WALL CONDITION	WALL PRIORITY	FLOOR MATERIAL	FLOOR CONDITION	FLOOR PRIORITY	WINDOWS MATERIAL	WINDOWS CONDITION	WINDOWS PRIORITY	DOORS MATERIAL	DOORS CONDITION	DOORS PRIORITY	FFE CONDITION	FFE PRIORITY	MILLWORK CONDITION	MILLWORK PRIORITY	PLUMBING CONDITION	PLUMBING PRIORITY
BASEMENT																							
STAIR		1 253 SF	EXP	C	3	CMU	C	3	VCT	C	3	N/A	N/A	N/A	AL	C	3	N/A	N/A	N/A	N/A	N/A	N/A
CORRIDOR		2 440 SF	EXP	C	3	BRICK	C	3	VCT	C	3	N/A	N/A	N/A	AL	C	3	N/A	N/A	N/A	N/A	N/A	N/A
BATHROOM	003A	20 SF	GYP	C	3	TILE	C	3	TILE	C	3	N/A	N/A	N/A	WD	C	3	N/A	N/A	N/A	N/A	C	3
BATHROOM	003B	18 SF	GYP	C	3	TILE	C	3	TILE	C	3	N/A	N/A	N/A	WD	C	3	N/A	N/A	N/A	N/A	C	3
VESTIBULE	003C	34 SF	EXP	C	3	GYP	C	3	VCT	C	3	AL/WD	B	4	WD	C	3	N/A	N/A	N/A	N/A	N/A	N/A
BATHROOM	004A	28 SF	GYP	C	3	TILE	C	3	TILE	C	3	-	-	-	WD	C	3	C	3	N/A	N/A	C	3
VESTIBULE		6 77 SF	EXP	C	3	GYP	C	3	VCT	C	3	AL/WD	C	3	WD/AL	C	3	N/A	N/A	N/A	N/A	N/A	N/A
BATHROOM	008A	31 SF	GYP	C	3	TILE	C	3	TILE	C	3	-	-	-	WD	C	3	C	3	N/A	N/A	C	3
STAIR		9 280 SF	EXP	C	3	BRICK	C	3	TILE	C	3	N/A	N/A	N/A	AL	C	3	N/A	N/A	N/A	N/A	N/A	N/A
CORRIDOR		10 2240 SF	EXP	C	3	BRICK	C	3	VCT	C	3	N/A	N/A	N/A	AL	C	3	N/A	N/A	N/A	N/A	N/A	N/A
RAMP		11 154 SF	EXP	C	3	GYP/BRICK	C	3	VCT	C	3	N/A	N/A	N/A	HM	C	3	N/A	N/A	N/A	N/A	N/A	N/A
GIRLS BATHROOM		14 133 SF	EXP	C	3	CMU/TILE	C	4	TILE	C	3	AL	B	4	N/A	N/A	C	C	3	N/A	N/A	N/A	N/A
STAIR		17 197 SF	EXP	C	3	GYP	C	3	VCT	C	3	N/A	N/A	N/A	AL	C	3	N/A	N/A	N/A	N/A	C	3
CUSTODIAN OFFICE		21 250 SF	EXP	C	3	GYP	C	3	VCT	C	3	N/A	N/A	N/A	WD	C	3	C	3	N/A	N/A	N/A	N/A
BATHROOM	021B	64 SF	EXP	C	3	GYP/CMU	C	3	VCT	C	3	AL/WD	B	4	WD	C	3	C	3	N/A	N/A	C	3
STAFF BATHROOM		22 57 SF	GYP	C	3	CT FULL HEIGHT	C	3	CONC	C	3	N/A	N/A	N/A	WD	C	3	N/A	N/A	N/A	N/A	C	3
BOYS BATHROOM		24 283 SF	EXP	C	3	CMU/TILE	B	4	TILE	C	3	AL	B	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	C	3
STAFF BATHROOM	024A	54 SF	GYP	C	3-4	CT FULL HEIGHT	C	3	TILE	C	3	N/A	N/A	N/A	WD	C	3	N/A	N/A	N/A	N/A	C	3
ASD		25 703 SF	EXP	C	3	GYP	C	3	LIN	A	4	AL	B	4	WD	C	3	C	3	N/A	N/A	N/A	N/A
ASD OFFICE	025A	232 SF	EXP	C	3	GYP	C	3	LIN	A	4	AL	B	4	WD	C	3	C	3	N/A	N/A	N/A	N/A
ASD	025B	271 SF	EXP	C	3	GYP	C	3	LIN	A	4	AL	B	4	WD	C	3	C	3	N/A	N/A	N/A	N/A
ASD	025C	373 SF	EXP	C	3	GYP	C	3	LIN	A	4	AL	B	4	WD	C	3	C	3	N/A	N/A	N/A	N/A
CORRIDOR		26 1110 SF	EXP	C	3	BRICK	C	3	VCT	C	3	N/A	N/A	N/A	AL	C	3	N/A	N/A	N/A	N/A	N/A	N/A
STAIR		27 309 SF	EXP	C	3	BRICK	C	3	VCT	C	3	N/A	N/A	N/A	AL	C	3	N/A	N/A	N/A	N/A	N/A	N/A
BATHROOM	028A	35 SF	EXP	C	3-4	CT FULL HEIGHT	C	3	CT	C	3	N/A	N/A	N/A	WD	C	3	C	3	N/A	N/A	C	3
KITCHEN		30 456 SF	EXP	C	3	BRICK/CMU	B	4	VCT	C	3	N/A	N/A	N/A	WD	C	3	C	3	N/A	N/A	N/A	N/A
CLASSROOM	031A	387 SF	ACT	C	3	GYP	C	3	VCT	C	3	AL	B	4	WD	C	3	C	3-4	N/A	N/A	N/A	N/A
STAIR	031B	132 SF	EXP	C	3	GYP	C	3	VCT	C	3	N/A	N/A	N/A	HM	C	3	N/A	N/A	N/A	N/A	N/A	N/A
VESTIBULE	031C	43 SF	EXP	C	3	GYP	C	3	VCT	C	3	AL	B	4	HM	C	3	N/A	N/A	N/A	N/A	N/A	N/A
VESTIBULE		33 50 SF	EXP	C	3	GYP	C	3	VCT	C	3	AL	B	4	HM	C	3	N/A	N/A	N/A	N/A	N/A	N/A
CLASSROOM		33 658 SF	EXP	C	3	BRICK	B	4	VCT	C	3	AL/WD	B	4	WD	C	3	C	3-4	N/A	N/A	N/A	N/A
STORAGE?	033A	108 SF	EXP	C	3	GYP	C	3-2	CONC	C	3	AL	B	4	WD	C	3	C	3-4	N/A	N/A	N/A	N/A
OT/PT	033A	398 SF	EXP	C	3	BRICK	B	4	VCT	C	3	AL/WD	B	4	WD	C	3	C	3-4	N/A	N/A	N/A	N/A
STORAGE	033B	108 SF	EXP	C	3	GYP	C	3-2	CONC	C	3	AL	B	4	WD	C	3	C	4	N/A	N/A	N/A	N/A
LOUNGE	033C	438 SF	EXP	C	3	GYP	C	3	VCT	C	3	AL	B	4	WD	C	3	C	3-4	C	3	C	3
PRE-SCHOOL OFFICE	035A	120 SF	EXP	C	3	GYP/TILE	C	3	VCT	C	3	AL	B	4	WD	C	3	C	4	N/A	N/A	C	3
BATHROOM	035B	60 SF	GYP	C	4	GYP	C	4	TILE	C	3	N/A	N/A	N/A	N/A	N/A	N/A	C	4	N/A	N/A	C	4
CORRIDOR		37 1862 SF	EXP	C	3	BRICK/CMU	C	3	VCT	C	3	N/A	N/A	N/A	AL	C	3	N/A	N/A	N/A	N/A	N/A	N/A
ELEC		825 172 SF	EXP	C	3	BRICK	B	4	VCT	C	3	N/A	N/A	N/A	HM	C	3	C	3-4	C	3		
CLASSROOM	L003	980 SF	EXP	C	3	GYP	C	3	VCT	C	3	AL/WD	B	4	WD	C	3	C	3	C	3-4	C	3
CLASSROOM	L004B	1035 SF	EXP	C	3	GYP	C	3	VCT	C	3	AL/WD	B	4	WD	C	3	C	3	C	3-4	C	3
CLASSROOM	L005	866 SF	EXP	C	3	GYP/CMU	C	3	VCT	C	3	AL/WD	B	4	WD	C	3	C	3	C	3-4	C	3
CLASSROOM	L006	1041 SF	EXP	C	3	GYP	C	3	VCT	C	3	AL/WD	B	4	WD	C	3	C	3	C	3-4	C	3
CLASSROOM	L007	918 SF	EXP	C	3	GYP	C	3	VCT	C	3	AL/WD	B	4	WD	C	3	C	3	C	3-4	N/A	N/A
CLASSROOM	L011	982 SF	EXP	C	3	GYP/BRICK	C	3	VCT	C	3	AL/WD	B	4	WD	C	3	C	3	C	3-4	N/A	N/A
ASD OFFICE	L011A	107 SF	ACT	C	3	GYP	C	3	VCT	C	3	N/A	N/A	N/A	WD	C	3	C	3	N/A	N/A	N/A	N/A
OFFICE	L011B	92 SF	ACT	C	3	GYP	C	3	VCT	C	3	N/A	N/A	N/A	WD	C	3	C	3	N/A	N/A	N/A	N/A
ELEV MECH	L012	64 SF	EXP	C	3	BRICK/TILE	B	4	CONC?	C	3	N/A	N/A	N/A	HM	C	3	N/A	N/A	N/A	N/A	N/A	N/A
CUSTODIAL STORAGE	L015	601 SF	EXP	C	3	BRICK	B	4	CONC?	C	3	N/A	N/A	N/A	WD	C	3	N/A	N/A	N/A	N/A	N/A	N/A
CLASSROOM	L018	715 SF	EXP	C	3	LIN	A	4	AL	B	4	WD	C	3	WD	C	3	C	3	N/A	N/A	N/A	N/A
BOILER ROOM	L019	1106 SF	EXP	C	3	BRICK/CMU	B	4	CONC?	C	3	AL/WD	B	4	HM	C	3	N/A	N/A	N/A	N/A	C	3
CLASSROOM	L020	720 SF	EXP	C	3	GYP	C	3	LIN	A	4	AL	B	4	WD	C	3	C	3	C-D	3-4	N/A	N/A
HALLWAY	L025	58 SF	EXP	C	3	GYP	C	3	LIN	A	4	N/A	N/A	N/A	WD	C	3	C	3	N/A	N/A	N/A	N/A
KITCHEN STORAGE	L028	281 SF	EXP	C	3	BRICK	B	4	VCT	D	3	N/A	N/A	N/A	WD	C	3	C	3	N/A	N/A	N/A	N/A
SERVING AREA?	L029	588 SF	EXP	C	3	BRICK	B	4	VCT	C	3	AL	B	4	WD	C	3	C	3	C	3	C	3
AFTER SCHOOL	L031	733 SF	EXP	C	3	GYP	C	3	VCT	D	3	AL	B	4	WD	D	3	C	3-4	C	3	C	3
STORAGE	L034	100 SF	EXP	C	3	GYP	C	3	VCT	C	3	N/A	N/A	N/A	AL	C	3	C	3	N/A	N/A	N/A	N/A
CLASSROOM	L035	1065 SF	EXP	C	3	BRICK	B	4	VCT	C	3	AL/WD	B	4	WD	C	3	C	3	C	2	N/A	N/A
GIRLS BATHROOM	L036	117 SF	GYP	C	3	GYP/TILE	C	3	VCT	C	3	N/A	N/A	N/A	WD	C	3	N/A	N/A	N/A	N/A	C	3
FIRST FLOOR																							
STAIR - KING 02		100 248 SF	GYP	B	4	CONC	B	4	TERRZ	B	4	AL/WD	B	4	HM	C	4	N/A	N/A	N/A	N/A	N/A	N/A
BATHROOM	103A	38 SF	GYP	B	4	CT FULL HEIGHT	C	4	TILE	C	4	N/A	N/A	N/A	WD	C	4	C	4	N/A	N/A	B	4
ASSISTANT PRINCIPAL	103B	129 SF	ACT	B	4	GYP	B	4	VCT	C	4	AL/WD	B	4	WD	C	4	N/A	N/A	N/A	N/A	N/A	N/A
PARENTAL LIASON	103D	149 SF	ACT	C	3	GYP	B	4	VCT	C	3	N/A	N/A	N/A	WD	C	4	C	4	N/A	N/A	N/A	N/A
CORRIDOR	110B	1399 SF	ACT	D	3	BRICK	B	4	VCT	D	4	N/A	N/A	N/A	HM	C	4	N/A	N/A	N/A	N/A	N/A	N/A
CORRIDOR	110C	619 SF	ACT	D	3	BRICK	B	4	VCT	D	4	N/A	N/A	N/A	HM	C	4	N/A	N/A	N/A	N/A	N/A	N/A
STAIR	111	320 SF	EXP	B	4	BRICK	B	4	VAT 9X9	D	2	AL/WD	B	4	HM	C	4	N/A	N/A	N/A	N/A	N/A	N/A
CLASSROOM	112	714 SF	ACT	A	3	GYP	C	4	LIN	A	4	AL/WD	B	4	WD	C	4	C	4	B	4	B	4
GIRLS BATHROOM	116	336 SF	EXP	C	4	CMU/TILE	C	3	TERRZ-TILE	C	3	AL/WD	B	4	N/A	N/A	C	C	4	C	3-4	C	3
BATHROOM	119A	39 SF	GYP	C	4	TILE	C	4	TILE	C	4	N/A	N/A	N/A	WD	C	4	C	4	N/A	N/A	C	3
ESL	119C	209 SF	ACT	C	4	GYP	C	3	VCT	C	3	AL/WD	B	4	WD	C	4	C	4	N/A	N/A	N/A	N/A
NURSE	119C	158 SF	ACT	C	4	GYP	C	3	VCT	B	4	AL/WD	B	4	WD	C	4	D	3	N/A	N/A	C	3
STAIR - KING 04		122 271 SF	EXP	C	3-4	GYP	C	3	VAT 9X9	D	2	AL/WD	B	4	HM	C	4	N/A	N/A	N/A	N/A	N/A	N/A
BOYS BATHROOM		126 249 SF	EXP	C	3	CMU/TILE	C	3	TERRZ-TILE	C	3	-	-	-	N/A	N/A	N/A	C	4	C	3-4	C	3
STORAGE	126A	55 SF	GYP	C	3	GYP	C	3	VCT	C	3	N/A	N/A	N/A	WD	C	4	C	4	N/A	N/A	N/A	N/A
STAIR - KING 09		127 410 SF	EXP	C	4	BRICK	B	4	VCT	B	4	AL/WD	B	4	HM	C	4	N/A	N/A	N/A	N/A	N/A	N/A
STAGE OFFICE	128A	147 SF	EXP	C	4	GYP	C	3	WD	C	3	AL/WD	B	4	WD	C	4	C	4	N/A	N/A	N/A	N/A
IT CLOSET	128B	55 SF	EXP	C	4	GYP	C	3	WD	C	3	N/A	N/A	N/A	WD	C	4	C	3-4	N/A	N/A	N/A	N/A
STAGE STORAGE	129A	58 SF	EXP	C	4	GYP	C	3	VCT	C	3	AL/WD	B	4	WD	C	4	C	4	N/A	N/A	N/A	N/A
GYM STORAGE	129C	126 SF	GYP	C	4	GYP	C	3	VAT 9X9	D	2	N/A	N/A	N/A	WD	C	4	C	4	N/A	N/A	N/A	N/A
COMMUNITY SCHOOL		130 227 SF	GYP	C	4	GYP	C	3	TERRZ	C	4	AL/WD	B	4	WD	C	4	C	4	N/A	N/A	N/A	N/A
LOBBY		131 355 SF	GYP	C	4	GYP	C	3	TERRZ	C	4	N/A	N/A	N/A	N/A	WD	C	4	C	4	N/A	N/A	N/A	N/A
STAIR		132 181 SF	GYP	C	3-4	GYP	C	3	VAT 9X9	D	2	AL/WD	B	4	HM	C	4	N/A	N/A	N/A	N/A	N/A	N/A
WAITING	L101	318 SF	ACT/EXP	B	4	GYP	C	3	VCT	C	3	AL/WD	B	4	WD	C	4	C	4	N/A	N/A	N/A	N/A
TEACHERS ROOM	L102	169 SF	ACT	C	4	GYP	C	3	VCT	C	3	N/A	N/A	N/A	WD	C	4	C	4	N/A	N/A	N/A	N/A
CORRIDOR	L103	118 SF	ACT	C	3	GYP	B	4	VCT	C	3	N/A	N/A	N/A	WD	C	4	B	4	N/A	N/A	N/A	N/A
PRINCIPAL	L103C	200 SF	ACT	C	3	GYP	B	4	VCT	C	3	AL/WD	B	4	WD	C	4	B	4	N/A	N/A	N/A	N/A
LIBRARY	L104	1349 SF	ACT/EXP	C	4	GYP	C	3	CPT	C	3	AL/WD	B	4	WD	C	4	C	4	B	4	N/A	N/A
MEDIA OFFICE	L104A	517 SF	ACT	C	4	GYP	C	3	VCT	C	3	AL/WD	B	4	WD	C	4	C	4	C	3-4	N/A	N/A
IT OFFICE	L104B	175 SF	ACT	B	4	GYP	C	3	VCT	B	4	AL/WD	B	4	WD	C	4	C	4	N/A	N/A	N/A	N/A
CONFERENCE	L105	423 SF	ACT	B	4	GYP	B	4	VCT	C	4	AL/WD	B	4	WD	C	4	N/A	N/A	N/A	N/A	N/A	N/A
CLASSROOM	L107	797 SF	ACT	B	4	GYP/TECTUM	B	4	VCT	B	4	AL/WD	B	4	WD	C	4	C	4	C	3	B	4
SCHOOL PSYCHOLOGIST	L108	121 SF	ACT	C	4	CMU	C	3	VCT	C	1	N/A	N/A	N/A	WD	C	4	C	4	N/A	N/A	N/A	N/A
CLASSROOM	L109	732 SF	ACT	C	3	GYP/TECTUM	B	4	LIN	B	4	AL/WD	B	4	WD	C	4	C	4	C	3	B	4
TOILET	L112	47 SF	EXP	C	3	CMU/TILE	C	3	TERRZ-TILE	C	3	N/A	N/A	N/A	WD	C	4	C	4	N/A	N/A	C	3
IT	L114	54 SF	EXP	C	4	CMU	B	4	VCT	C	3	N/A	N/A	N/A	WD	C	4	C	4	N/A	N/A	N/A	N/A
CLASSROOM	L115	704 SF	ACT	A	3	GYP/TECTUM	B	4	LIN	B	4	AL/WD	B	4	WD	C	4	C	4	B	4	B	4
CLASSROOM	L117	714 SF	ACT	A	3	GYP/TECTUM	B	4	LIN	B	4	AL/WD	B	4	WD	C	4	C	4	C	4	B	4
CLASSROOM	L118	715 SF	ACT	C	4	GYP	C	3	VCT	C	3	AL/WD	B	4	WD	C	4	C	4	C	3-4	C	3
WAITING	L119	198 SF	ACT	C	4	GYP	B	4	VCT	B	4	N/A	N/A	N/A	WD	C	4	C	4	N/A	N/A	N/A	N/A
CLASSROOM	L121	732 SF	ACT	A	3	GYP/TECTUM	B	4	LIN	B	4	AL/WD	B	4	WD	C	4	C	4	C	4	B	4
CLASSROOM	L123	718 SF	ACT	A	3	GYP/TECTUM	B	4	LIN	B	4	AL/WD	B	4	WD	C	4	C	4	C	4	B	4
CLASSROOM	L124	713 SF	ACT	C	4	GYP	C	3	VCT	C	3	AL/WD	B	4	WD	C	4	C	4	C	4	C	3
CLASSROOM	L125	702 SF	ACT	B	4	GYP/TECTUM	C	3	LIN	C	3	AL/WD	B	4	WD	C	4	C	4	C	3-4	C	3
STAGE	L128	654 SF	EXP	C	4	GYP	C	3	WD	C	3	N/A	N/A	N/A	WD	C	4	C	4	C	3-4	N/A	N/A
GYMNASIUM	L129	5597 SF	TECTUM/GYP	C	4	GYP/TECTUM/C	C	3	LIN-OR-RBR	D	3	AL/WD	B	4	WD	C	4	C	4	C	3-4	N/A	N/A
SECOND FLOOR																							
STAIR		200 256 SF	GYP	C	3	GYP	C	3	VCT	C	3	AL/WD	B	4	HM	C	4	N/A	N/A	N/A	N/A	N/A	N/A
SPED	202A	123 SF	ACT	C	3	GYP/TECTUM	C	3	VAT 9X9	D	2	N/A	N/A	N/A	WD	C	4	C	4	N/A	N/A	N/A	N/A
OT	202B	250 SF	ACT	C	3	GYP/TECTUM	C	3	VAT 9X9	D	2	AL/WD	B	4	WD	C	4	C	4	N/A	N/A	N/A	N/A
PSYCHOLOGIST	206	159 SF	ACT	C	3	GYP/TECTUM	C	3	VAT 9X9	D	2	AL/WD	B	4	WD	C	4	C	4	N/A	N/A	N/A	N/A
TESTING	204A	181 SF	ACT	C	3	GYP/TECTUM	C	3	VAT 9X9	D	2	AL/WD	B	4	WD	C	4	C	4	N/A	N/A	N/A	N/A
SPEECH	204B	239 SF	ACT	C	3	GYP/TECTUM	C	3	VAT 9X9	D	2	AL/WD	B	4	WD	C	4	C	4	N/A	N/A	N/A	N/A
HALLWAY	204C	128 SF	ACT	C	3	GYP/TECTUM	C	3	VAT 9X9	D	2	N/A	N/A	N/A	WD	C	4	C	4	N/A	N/A	N/A	N/A
CONFERENCE ROOM	206B	223 SF	ACT	C	3	GYP/TECTUM	C	3	VAT 9X9	D	2	AL/WD	B	4	WD	C	4	C	4	N/A	N/A	N/A	N/A
STORAGE	208	109 SF	ACT	C	3	GYP	C	3	CONC?	C	1	N/A	N/A	N/A	WD	C	4	C	4	N/A	N/A	N/A	N/A
STAIR	209	315 SF	EXP	B	4	BRICK	B	4	VAT 9X9	D	2	AL/WD	B	4	HM	C	4	N/A	N/A	N/A	N/A	N/A	N/A
CORRIDOR	210B	1805 SF	ACT	C	4	BRICK	B	4	VCT	C	4	AL/WD	B	4	WD	C	4	N/A	N/A	N/A	N/A	N/A	N/A
CUSTODIAN	212	50 SF	GYP	C	3	GYP	C	3	CONC?	C	1	N/A	N/A	N/A	WD	C	4	C	4	N/A	N/A	N/A	N/A
STORAGE	214	54 SF	EXP	C	3	CMU	B	4	CONC	C	4	N/A	N/A	N/A	WD	C	4	C	4	N/A	N/A	N/A	N/A
VESTIBULE	215	97 SF	ACT	C	3	GYP/TECTUM	C	3	VAT 9X9	D	2	N/A	N/A	N/A	WD	C	4	C	4	N/A	N/A	N/A	N/A
CLASSROOM	215A	472 SF	ACT	C	3	GYP/TECTUM	C	3	VAT 9X9	D	2	AL/WD	B	4	WD	C	4	C	4	C	3-4	N/A	N/A
OFFICE	215B	150 SF	ACT	C	3	GYP/TECTUM	C	3	VAT 9X9	D	2	AL/WD	B	4	WD	C	4	C	4	N/A	N/A	N/A	N/A
GIRLS BATHROOM	216	137 SF	GYP	C	3	GYP/TILE	C	3	VCT	C	3	AL/WD	B	4	N/A	N/A	C	C	3-4	C	3		
HSAP CLERICAL	217	239 SF	ACT	B	4	GYP	B	4	VCT	B	4	AL/WD	B	4	WD	C	4	C	4	N/A	N/A	N/A	N/A
CONFERENCE	217A	193 SF	ACT	C	3	GYP	C	3	VCT	C	3	N/A	N/A	N/A	WD	C	4	C	4	N/A	N/A	N/A	N/A
PRINCIPAL	217B	129 SF	ACT	C	3	GYP	C	3	VCT	C	3	AL/WD	B	4	WD	C	4	C	4	N/A	N/A	N/A	N/A
STAIR	220	270 SF	EXP	C	3-4	GYP	C	3	VAT 9X9	D	2	AL/WD	B	4	WD	C	4	N/A	N/A	N/A	N/A	N/A	N/A
SOCIAL WORKER	221A	97 SF	ACT	C	3	GYP/TECTUM	C	3	VCT	C	3	AL/WD	B	4	WD	C	4	C	4	N/A	N/A	N/A	N/A
SOCIAL WORKER INTERN	221B	71 SF	ACT	C	3	GYP/TECTUM	C	3	VCT	C	3	AL/WD	B	4	WD	C	4	C	4	N/A	N/A	N/A	N/A
STORAGE	223A	96 SF	ACT	C	3	GYP	C	3	VCT	C	3	N/A	N/A	N/A	WD	C	4	C	4	N/A	N/A	N/A	N/A
BOYS BATHROOM	224	463 SF	GYP	C	3	GYP/TILE	C	3	VCT	C	1	AL/WD	B	4	N/A	N/A	C	C	3-4	C	3		
STAIR	225	410 SF	GYP	C	3	GYP	C	3	VCT	C	3	AL/WD	B	4	HM	C	4	N/A	N/A	N/A	N/A	N/A	N/A
STAFF BATHROOM	226	47 SF	GYP	C	3	CT FULL HEIGHT	C	3	VCT	C	3	N/A	N/A	N/A	WD	C	4	C	4	N/A	N/A	N/A	N/A
STORAGE	227	167 SF	EXP	C	3	GYP	C	3	VCT	C	3	AL/WD	B	4	HM/WD	C	4	C	4	N/A	N/A	N/A	N/A
STORAGE	227A	104 SF	EXP	C	3	CONC	B	4	CONC?	C	3	AL/WD	B	4	WD	C	4	C	4	N/A	N/A	N/A	N/A
STORAGE	228	1018 SF	EXP	-	-	GYP	-	-	LIN	-	-	AL/WD	-	-	-	-	-	-	-	-	-	-	-
STAIR	229	163 SF	GYP	C	3-4	GYP	C	3	VAT 9X9	D	2	AL/WD	B	4	HM	C	4	N/A	N/A	N/A	N/A	N/A	N/A
SPECIALIST	L201	465 SF	ACT	C	3	GYP	C	3	VAT 9X9	D	2	AL/WD	B	4	WD	C	4	C	4	C	4	C	3
ESL OFFICE	L201A	159 SF	ACT	C	3	GYP	C	3	VAT 9X9	D	2	AL/WD	B	4	WD	C	4	C	4	B	4	N/A	N/A
OFFICE	L201B	213 SF	ACT	C	3	GYP/TECTUM	C	3	VAT 9X9	D	2	N/A	N/A	N/A	WD	C	4	C	4	N/A	N/A	N/A	N/A
OT/PT	L202A	319 SF	ACT	C	3	GYP/TECTUM	C	3	VAT 9X9	D	2	AL/WD	B	4	WD	C	4	C	4	N/A	N/A	N/A	N/A
CLASSROOM	L203	732 SF	ACT	C	3	GYP	C	3	VAT 9X9	D	2	AL/WD	B	4	WD	C	4	C	4	B	4	N/A	N/A
CLASSROOM	L205	743 SF	ACT	C	3	GYP	C	3	VAT 9X9	D	2	AL/WD	B	4	WD	C	4	C	4	B	4	N/A	N/A
OFFICE	L206	157 SF	ACT	C	3	GYP/TECTUM	C	3	VAT 9X9	D	2	AL/WD	B	4	WD	C	4	C	4	N/A	N/A	N/A	N/A
OFFICE	L206A	193 SF	ACT	C	3	GYP/TECTUM	C	3	VAT 9X9	D	2	N/A	N/A	N/A	WD	C	4	C	4	N/A	N/A	N/A	N/A
OFFICE	L206B	153 SF	ACT	C	3	GYP/TECTUM	C	3	VAT 9X9	D	2	AL/WD	B	4	WD	C	4	C	4	N/A	N/A	N/A	N/A
CLASSROOM	L207	515 SF	ACT	C	3	GYP	C	3	VAT 9X9	D	2	AL/WD	B	4	HM	C	4	C	4	C	3-4	N/A	N/A
OFFICE	L207A	128 SF	ACT	C	3	GYP	C	3	VAT 9X9	D	2	AL/WD	B	4	HM	C	4	C	4	N/A	N/A	N/A	N/A
CLASSROOM	L211	702 SF	ACT	C	3	GYP/TECTUM	C	3	VAT 9X9	D	2	AL/WD	B	4	HM	C	4	C	4	C	4	N/A	N/A
CLASSROOM	L213	739 SF	ACT	C	3	GYP/TECTUM	C	3	VAT 9X9	D	2	AL/WD	B	4	WD	C	4	C	4	C	4	N/A	N/A
HSEP CLASSROOM	L218	719 SF	ACT	C	3	GYP/TECTUM	C	3	VAT 9X9	D	2	AL/WD	B	4	WD	C	4	C	4	C	4	N/A	N/A
CLASSROOM	L219	721 SF	ACT	C	3	GYP/TECTUM	C	3	VAT 9X9	D	2	AL/WD	B	4	WD	C	4	C	4	C	3-4	N/A	N/A
WAITING	L221	247 SF	ACT	C	3	GYP/TECTUM	C	3	VCT	C	3	N/A	N/A	N/A	WD	C	4	C	4	N/A	N/A	N/A	N/A
HSEP CLASSROOM	L222	707 SF	ACT	C	3	GYP/TECTUM	C	3	VAT 9X9	D	2	AL/WD	B	4	WD	C	4	C	4	C	4	N/A	N/A
CLASSROOM	L223	959 SF	ACT	C	3	GYP	C	3	VCT	C	3	AL/WD	B	4	HM	C	4	C	4	C	3-4	C	3

not four. Condensate line coming through above.

Longfellow Elementary School	Structural			
Structural or Structurally-Related Item	**Condition (A-E)**	**Priority (1-5)**	**Photos**	**Notes**
Roof Construction - General	C	5		Limited work.
Floor Construction - General	C	5		Limited work.
Foundations - General	C	5		Limited work.
Lateral Force Resisting System - General	C	5		Building does not meet current seismic code. Unreinforced masonry walls; future modification of existing walls may require seismic upgrades to the building.
Exterior Walls - General	C	4	ST-3, ST-4	Repointing of brick masonry and repair/replacement of steel lintels recommended
Interior Stairs	D	2	ST-5	Evidence of rust/corrosion of steel risers, treads and connection angles; structural integrity of all stairs should be investigated.
Exterior Stairs and Site Walls	D	3	ST-1, ST-2	Concrete wall caps detached from masonry walls, open joints in granite pavers; repair/replacement of site elements recommended.
Exterior Wall - Stair 1	D	2	ST-6, ST-7, ST-8	Vertical cracks and horizontal displacement of masonry units observed; structural integrity and stability of the wall should be investigated.

Tobin School		Foodservice					
Kitchen							
Room # on Plan:		Room Use on Plan:					
Room # on Site:		Room Use on Site:					
Area	**Part**	**Type**	**Quantity to be Replaced**	**Condition (A-E)**	**Priority (1-5)**	**Photos**	**Notes**
Kitchen	Finishes	Ceilings, Walls & Floors		E	3		
Kitchen	Refrigerated Storage	Walk-ins and Reach-ins		D	4		
Kitchen	Food Preparation Equipment	Work Tables, Prep Tables, Prep Equipment		D	3		
Kitchen	Cooking Equipment	Hoods, Ovens, Ranges, Kettles, Braising Pans, Steamers, etc.		D	3		
Kitchen	Serving Equipment	Serving Counters, Heated and Refrigerated Holding & Support		D	3		
			Overall	D	3		Comments: Replace kitchen floor Replace exahust system and fire supporession system Provide new serving line equipment

Longfellow Building	Plumbing						
Domestic Water System							
System	**Location**	**Item Code**	**Quantity to be Replaced**	**Condition (A-E)**	**Priority (1-5)**	**Photos**	**Notes**
Water Service	O19	P1.01		D	2	PL-1	The exisiting water service entrance is very corroded and in poor condition.
Water Heater	O19	P1.02		B	4		
Domestic Water Piping	Building Wide	P1.03		C	3		Domestic water pipe fittings throughout the bulding indicate general corrosion at various pipe fittings at fixtures and equipment due to the municipal water. Fittings should be replaced as required.
POU Water Heater	217	P1.04		B	4	PL-2	
Domestic Plumbing Fixtures							
System	**Location**	**Item Code**	**Quantity to be Replaced**	**Condition (A-E)**	**Priority (1-5)**	**Photos**	**Notes**
Water Closets	Building Wide	P2.01		C	4		
Lavatories	Building Wide	P2.02		D	2	PL-3, PL-6	
Urinals	Building Wide	P2.03		B	2	PL-5	Provide side shielding for privacy as required by the Massachusetts Plumbing Code, 248 CMR
Service Sinks	Building Wide	P2.04		D	3		
Classroom Sinks	Building Wide	P2.05		D	3		
Kitchenettes	Building Wide	P2.06		D	3		
Floor Drains	Building Wide	P2.07		D	3		
Drinking Fountains	Building Wide	P2.08		C	3		

Sanitary Waste and Vent System							
System	**Location**	**Item Code**	**Quantity to be Replaced**	**Condition (A-E)**	**Priority (1-5)**	**Photos**	**Notes**
Piping - Above Grade	Building Wide	P3.01		E	1	PL-6, PL-7	Failed sections of pipe shall be removed and replaced in kind.
Piping - Below Grade	Building Wide	P3.02		E	1		
Storm Water System							
System	**Location**	**Item Code**	**Quantity to be Replaced**	**Condition (A-E)**	**Priority (1-5)**	**Photos**	**Notes**
Piping - Above Grade	Building Wide	P4.01		D	3		
Piping - Below Grade	Building Wide	P4.02		D	3		
Roof Drains	Roof	P4.03		C	4		
Sump pump	O14	P4.04		D	2	PL-8	The existing sump pumps are in poor condition and in need of replacement.
Natural Gas							
System	**Location**	**Item Code**	**Quantity to be Replaced**	**Condition (A-E)**	**Priority (1-5)**	**Photos**	**Notes**
Gas Service	Site	P5.01		B	4		
Gas Piping	Building Wide	P5.02		B	4		

Longfellow Building		Fire Protection					
Sprinkler System							
System	**Location**	**Item Code**	**Quantity to be Replaced**	**Condition (A-E)**	**Priority (1-5)**	**Photos**	**Notes**
Fire Service	N/A	N/A	N/A	N/A	N/A		
Piping	N/A	N/A	N/A	N/A	N/A		
Sprinkler Heads	N/A	N/A	N/A	N/A	N/A		
Standpipe System							
System	**Location**	**Item Code**	**Quantity to be Replaced**	**Condition (A-E)**	**Priority (1-5)**	**Photos**	**Notes**
Hose Valves	N/A	N/A	N/A	N/A	N/A		
Piping	N/A	N/A	N/A	N/A	N/A		

Longfellow Building		Mechanical					
Heating							
System	**Location**	**Item Code**	**Quantity to be Replaced**	**Condition (A-E)**	**Priority (1-5)**	**Photos**	**Notes**
Boilers	Ground Floor Boiler Room	M1.01	2	B	4		Boilers were installed in 2010.
Hot Water Pumps	Ground Floor Boiler Room	M1.02	2	B	4		Pumps were installed in 2010.
Hot Water Piping	Building Wide	M1.03		C	4		No reported issues although distribution has been in service for 39-years.
Cooling							
System	**Location**	**Item Code**	**Quantity to be Replaced**	**Condition (A-E)**	**Priority (1-5)**	**Photos**	**Notes**
Window AC Units	Building Wide	M2.01					Window AC units in select rooms, no permanent AC systems.
Ventilation							
System	**Location**	**Item Code**	**Quantity to be Replaced**	**Condition (A-E)**	**Priority (1-5)**	**Photos**	**Notes**
Heating and Ventilating Unit	Second Floor Mech Room	M3.01	1	D	3		Original unit from 1983 located in old balcony and serves the Gymnasium.
Unit Ventilators	Building Wide	M3.02	37	D	1		Original units from 1983. Dampers at least on one unit appear to be inoperable.
Roof Exhaust Fans	Roof	M3.03	12	A	4		All roof exhaust fans are new.
Terminal Heating Units	Building Wide	M3.04		D	3		Original units from 1983. Some older cast iron radiators.

LONGFELLOW BUILDING

Building Automation System							
System	**Location**	**Item Code**	**Quantity to be Replaced**	**Condition (A-E)**	**Priority (1-5)**	**Photos**	**Notes**
Heating System	Ground Floor Boiler Room	M4.01	1	D	1		
Heating and Ventilating Units	Second Floor Mech Room	M4.02	1	D	1		
Unit Ventilators	Building Wide	M4.03	37	D	1		
Roof Exhaust Fans	Roof	M4.04	12	D	1		
Terminal Heating Units	Building Wide	M4.05		D	1		

Longfellow School		Electrical					
Power Distribution Systems							
System	**Location**	**Item Code**	**Quantity to be Replaced**	**Condition (A-E)**	**Priority (1-5)**	**Photos**	**Notes**
Main Electric Service	Lower level	E1.01	Main Electric Room	E	2	See Report	Service equipment is ~ 60 years old and well past its useful life.
Main and General Distribution	All Electrical Distribution	E1.02	Electrical Distribution	E	2	See Report	Distribution/Feeders & branch circuits range in age for 40-60 years and are well past their useful life.
Coordination/Arc Fault Study	All Electrical Distribution	E1.03	Electrical Distribution	C+	5	See Report	Provide Arc Fault labels
Electrical Distribution	All Electrical Distribution	E1.04	Electrical Distribution	C+	1	See Report	Provide electrical maintenance on all equipment.
Lighting Systems							
Room # on Site:			Room Use on Site:				
System	**Location**	**Item Code**	**Quantity to**	**Condition**	**Priority**	**Photos**	**Notes**
Lighting Controls	Building Wide	E1.06	Building Wide	D	3 & 5	_	Provide energy code compliant lighting controls.
Fire Alarm							
Room # on Site:			Room Use on Site:				
System	**Location**	**Item Code**	**Quantity to**	**Condition**	**Priority**	**Photos**	**Notes**
CO Detection	Classrooms	E1.08	Building Wide	B	5		CO detection is required for Group E Class Rooms.
XXXXX							
System	**Location**	**Item Code**	**Quantity to be Replaced**	**Condition (A-E)**	**Priority (1-5)**	**Photos**	**Notes**
AHU Controls	Roof	M4.01					

LONGFELLOW BUILDING

Longfellow Building Assesment			Doors				
Entire School Door Assesment							
Room # on Plan:		N/A	Room Use on Plan:		All of Longfellow Building		
Room # on Site:			Room Use on Site:				
Area	**Part**	**Type**	**Quantity to be Replaced**	**Condition (A-E)**	**Priority (1-5)**	**Photos**	**Notes:**
Interior	Doors	Bathroom	Survey only for site typcals, quanitities and locations not recorded	C	3	See Links	Bathroom 1 Bathroom 2
Interior	Doors	Classroom	Survey only for site typcals, quanitities and locations not recorded	C/D	2/3	See Links	Classroom 1 Classroom 2 Classroom 3
Interior	Doors	Corridor 1	Survey only for site typcals, quanitities and locations not recorded	B	4	See Links	Corridor 1
Interior	Doors	Corridor 2	Survey only for site typcals, quanitities and locations not recorded	C	3	See Links	Corridor 2
Interior	Doors	Corridor 3	Survey only for site typcals, quanitities and locations not recorded	C	3	See Links	Corridor 3
Interior	Doors	Corridor 4	Survey only for site typcals, quanitities and locations not recorded	C	3	See Links	Corridor 4
Interior	Doors	Exterior Exit 1	Survey only for site typcals, quanitities and locations not recorded	C	3	See Links	Exterior Exit 1
Interior	Doors	Exterior Exit 2	Survey only for site typcals, quanitities and locations not recorded	C	3	See Links	Exterior Exit 2

Longfellow Building Assesment			Doors				
Entire School Door Assesment							
Room # on Plan:		N/A	Room Use on Plan:		All of Longfellow Building		
Room # on Site:			Room Use on Site:				
Interior	Doors	Exterior Exit 3	Survey only for site typcals, quanitities and locations not recorded	B	4	See Links	Exterior Exit 3
Interior	Doors	Exterior Exit 4	Survey only for site typcals, quanitities and locations not recorded	C	3	See Links	Exterior Exit 4
Interior	Doors	Gym	Survey only for site typcals, quanitities and locations not recorded	C	3	See Links	Gym
Interior	Doors	Janitor	Survey only for site typcals, quanitities and locations not recorded	C	3	See Links	Janitor
Interior	Doors	Main Entry	Survey only for site typcals, quanitities and locations not recorded	C	3	See Links	Main enntry
Interior	Doors	Music	Survey only for site typcals, quanitities and locations not recorded	C	3	See Links	Music space
Interior	Doors	Office	Survey only for site typcals, quanitities and locations not recorded	A	4	See Links	Office 1 Office 2
Interior	Doors	Passage style	Survey only for site typcals, quanitities and locations not recorded	C	3	See Links	Passage

LONGFELLOW BUILDING

EAQ FORMS - SCORING BREAKDOWN

The Educational Adequacy Assessment looked at how existing spaces in each school support specific educational criteria and needs as identifies by our research. Each assessor utilized checklists and the assessment criteria and rating scale below to maintain consistency across all fields. All line items were then averaged for the Educational Adequacy Quotient. Detailed reports for this school individually can be seen in the following pages.

ASSESSMENT CRITERIA	
4	Functions excellently
3	Functions well/good enough condition to support educational needs
2	Exists; baseline functionality; doesn't support educational needs
1	Exists; does not function/needs to be replaced
0	Does not exist, but is needed
N/A	Not Applicable; not required

Metric	Description	Score	Comments
SITE - Size, Location, Access, Cultural Context			Consider overall school for this category
Site Size	Site is 10-15 acres in size; Adequate space for playgrounds & fields	1.5	Larger playground area as compared to Baldwin
Location	Distance to students, near pollution/noise, appropriate to community	4	Good central location for swing space
Access	Parent/Bus drop-off & pick-up; space for queing, separation of cars, bus & peds, ADA; access for community to recreation & events	2	No drop-off or parking, but community can enter gymatorium & cafeteria separately
Identity & Cultural Context	The campus has a positive identity & represents the mission/values of the school community & surrounding community.	3	Outside spaces are not in good shape; Hard to know where to enter
SECURITY - Site & Building:			Consider overall school for this category
Building Entry and Sequence	Are there appropriate sightlines from the building entry to parking? Can you get from parking/bus to the door protected from elements?	1	Admin can't really see front door; no canopy at all
Building Security	Secure Vestibule for building entry; internal zones of security.	1	None
Site Security	Safe or Secure Perimeter; Minimal entry points with good visability & lighting.	4	
Wayfinding	Building organization is easily understood; students, parents & visitors can find their way	2	Layout is simple, but HS portion does not have clarity on how to enter or where main office is
Community Connections	Campus provides for community use & interaction; Campus supports after hours use in a secure way.	3	Not sure that doors lock in a secure way to separate gym/cafeteria wing from academic; no way for HS students to get to those areas w/o entering ES corridors
LEARNING AREAS			Consider overall school for this category
Differentiated Learning	Overall compliment of classrooms provide areas for different learning modalities	3	Classrooms are rectangular & mostly repetative by floor, bus some larger in basement for younger children, some smaller; many have sinks; HS portion has science
Inquiry Based Learning	Learning area has access to space for project based learning	3	Sinks allow for project based learning; no maker space; HS has science & recording. No dedicated maker space w/equipment
Large Group Instruction	Area(s) exist for combined classes to gather collectively	2	Only in public spaces like library or cafeteria; no combined classrooms
Distance Learning	Space dedicated for distance learning for individuals or small groups of student(; learning labs for distance interventions (infrastructure with computers/technology/display	3	
Independent Study	Areas available for students to study independently	1	no alcoves or classrooms or in corridors for break-out
Small Group Instruction	"Pull-out" spaces available for individual instruction for special needs students	3	Not as robust as Baldwin, but there seems to be a reasonable amount
Self-Contained Classrooms	Space exists for special needs students within an independent classroom	2.5	
All School Gathering Area	Spaces exist for campus wide meeting/activities	3	space in library & gymatorium; but gym may be shared, which could make scheduling a challenge.
Break-Out Areas	Common spaces for students to collaborate and work in small group of 10 or less. Should be assessed on passive supervision, display infrastructure, and spatial acoustics	1	
Presentation Areas	Space exists for student, teacher & guest presentations for various size groups	2.5	stage in gym; could use library
Outdoor Learning Environments	Space exists for learning and instruction in appropriate outdoor environments. Should be assessed on presentation/display infrastructure, and spatial acoustics	2	Multi-story building with no acces except at basement. They do have picknick tables

Metric	Description	Score	Comments
EDUCATIONAL (EC)			Consider overall school for this category
Student Centered Sustainable Design™			
Stimulating Architecture	The school environment is welcoming and inspiring. The occupants are engaged.	1	While the exterior has some decent scale and detailing; the interior does not have any public space or presence - no true lobby area for either school. No real identity or personalization even for the HS.
Safe & Healthy	The school has good sight lines and connections between spaces & to places of vulnerability (stairs/restrooms) to support sense of community & create a safe environment	1.5	Simple plan and clear sightlines to 2 of the 4 stairs, but no connections to the classrooms - teachers cover the glass in the door.
Views & Connections	Views provided from classrooms/core learning spaces to outdoors, corridors, or other learning spaces.	2	good views to outside except some windows in basement are a little bit high for small kids; no views between classrooms & corridors
Daylighting	Windows/Skylights: daylighting provided with solar shades or overhangs where appropriate	3	Too much window area in some; Glare is a problem unless blinds are drawn
Lighting	Sufficiency (quantity/quality) & differentiation (provides choice/change)	2	lights should be replaced
Acoustics	Space should have appropriate sound absorption materials to allow for conversations to be heard. Walls designed to minimize sound transfer	3	old ACT for ceilings, except some rooms in basement only in structural coffers. Many rooms have tectum on walls as well which helps a lot; Wall panels and ceilings are mostly dirty, so while acoustics are ok in these rooms, they should be replaced
Thermal Comfort/Air Quality	Spaces are not too hot or too cold; not too much heat gain from sun. The air is "fresh" w/o noticeable odors/staleness/mustiness (Ventilation)	2	Damp in basement classrooms
Universal Design	Are spaces designed to meet the needs of all people, including those with physical or SEB challenges or cultural differences.	3	Some doors have clearance issues
Display of Work	Is there adequate areas for student work to be displayed both inside and outside learning spaces	3	2D; not 3D like G&P
Movement & Exploration	Does the space allow for the different learning modalities to happen dynamically	2	Many rooms are too small so movement and reconfiguration will not be optimal.
Adaptability & Flexible Space	How much can the space (walls) change shape or allow change in use by opening or combine with other spaces.	0	No adaptable spaces
Furniture			
Design	Ergonomic needs of students are met; furniture is appropriately sized for age group, per DLR Furniture sizing guide	3	Furniture is consistent with Montesorri standards; However, the seating is not flexible or ergonomic
Flexibility	Furniture easily moved to allow for classroom reconfiguration	3.5	Furniture is moveable, but many rooms are too small to allow for greatest flexibility
Variety of Seating Types	Combination of formal and soft seating available within the space. Is their choice in seating.	2.5	There is choice in the learning stations, but limited choice of seating in most rooms
Movement	Furniture design allows for individual student movement which increases attention	2	some rooms have chairs that wobble, but most are hard wooden chairs.

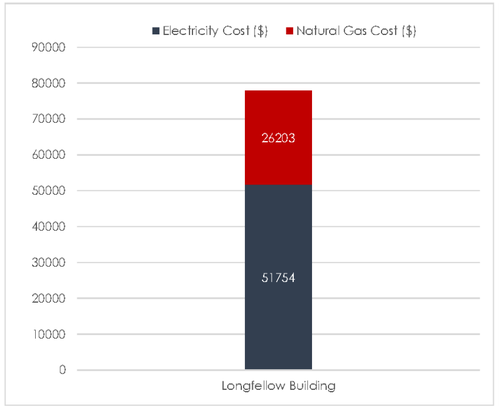
Metric	Description	Score	Comments
INSTRUCTIONAL SPACES			
Classrooms- regular instructional spaces (average for all spaces)			
Size	Physical square footage of rooms as compared to standards	2	Rooms on 1st floor are too small; HS may be ok with smaller class sizes
Appropriate Support Spaces	Resources Classrooms; Small Group Rooms, etc. nearby	2	They are nearby, but likely not of sufficient quantity
Storage for Materials	Space for student material storage including books, work projects, backpacks, coats. Storage for teacher personal materials, classroom supplies	2.5	Lockers for HS; not much storage in some rooms; Montesorri has there items in furniture
Technology, power & data	Access to technology in the classroom; sufficient access to power & data to support flexible, student centered learning	2.5	Good tech, but limited power on CMU walls
Sink &/or equipment	Provided in-rooms, if needed	3	Have sinks, but not HC accessible
Writeable Surfaces & Tack Surfaces	Availability and quantity sufficient to use	3	
Accessibility & Location	Degree to which classrooms are accessible (ADA) & appropriately located in relation to each other & other functions	3	Most rooms accessible once you find your way into the building; some challenges w/ clearance issues in basement
Classrooms - Specialty spaces: SPED			
Size	Physical square footage of rooms as compared to standards	2.5	
Appropriate Support Spaces	Testing & Conf. Rooms; Life-Skills; Sensory or Decompression Rooms, etc. as required	2	
Storage for Materials	Space for student material storage including books, work projects, backpacks, coats. Storage for teacher personal materials, classroom supplies	2	
Technology, power & data	Access to technology in the classroom; sufficient access to power & data to support flexible, student centered learning	2.5	
Sink &/or equipment	Provided in-rooms, if needed	0	
Writeable Surfaces & Tack Surfaces	Availability and quantity sufficient to use	3	
Accessibility & Location	Degree to which classrooms are accessible (ADA) & appropriately located in relation to each other & other functions	3	

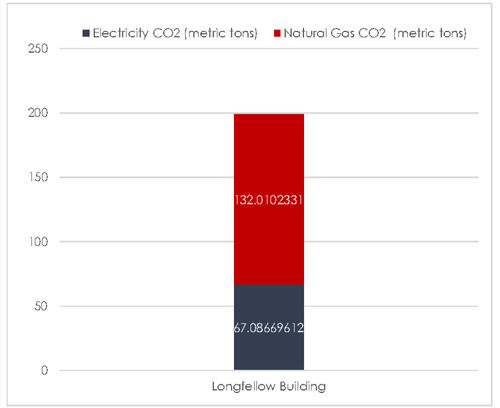
Metric	Description	Score	Comments
Classrooms - Specialty spaces: Science, Applied Learning (Maker Spaces), CTE			
Size	Physical square footage of rooms as compared to standards	3	Depends on how many student are in class - if limited, may be ok
Appropriate Support Spaces	Prep Rooms, Chemical Storage; Equipment Storage; Recording, etc. Public Entrance or Waiting as appropriate to program	2	Could not enter storage room next to science to see if it was a prep room
Storage for Materials	Space for student material storage including books, work projects, backpacks, coats. Storage for teacher personal materials, classroom supplies	2.5	Plenty of casework in room
Technology, power & data	Access to technology in the classroom; sufficient access to power & data to support flexible, student centered learning	4	Good tech, power conduit above counters
Sink &/or equipment	Provided in-rooms, if needed	3	Sinks are not HC accessible
Writeable Surfaces & Tack Surfaces	Availability and quantity sufficient to use	2	Windows & casework takes up most of space; could use portables or writable surface on cabs/tables
Accessibility & Location	Degree to which classrooms are accessible (ADA) & appropriately located in relation to each other & other functions	3	Located on 2nd floor in stair enclosure - accessible except for sinks
Classrooms - Specialty spaces: Visual & Performing Arts & Fitness/Health			
Size	Physical square footage of rooms as compared to standards	0	
Appropriate Support Spaces	Kiln Room; Practice Rooms; Instrument &/or Music Storage; Equipment Storage	N/A	
Storage for Materials	Space for student material storage including books, work projects, backpacks. Storage for teacher personal materials, classroom supplies	N/A	
Technology, power & data	Access to technology in the classroom; sufficient access to power & data to support flexible, student centered learning	N/A	
Sink &/or equipment	Provided in-rooms, if needed	N/A	
Writeable Surfaces & Tack Surfaces	Availability and quantity sufficient to use	N/A	
Accessibility & Location	Degree to which classrooms are accessible (ADA) & appropriately located in relation to each other & other functions	N/A	

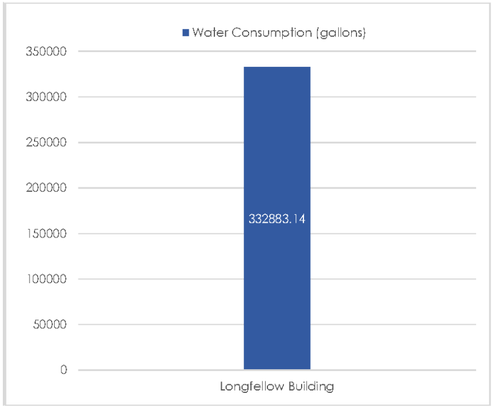
Metric	Description	Score	Comments
PUBLIC & SUPPORT SPACES			
Public Spaces: Media Center, Cafeteria, Gymnasium, Auditorium & Stage			
Accessibility & Location	Degree to which spaces are accessible (ADA) & appropriately located in relation to each other & other functions	3	
IEQ - average for all	Daylight, Views, Thermal Comfort, Air Quality (Ventilation)	2.5	Great views & daylight, but glare is a problem; blinds are drawn
Lighting - average for all	Sufficiency (quantity/quality) & differentiation (provides choice/change) for intended uses	2	Lights should be replaced
Acoustics & Privacy - average for all	Do spaces have proper acoustics for intended use & afford ability to achieve visual & auditory privacy when needed.	3	old ACT for ceilings, except some part of library only in structural coffers; tectum on wall in gym; Wall panels and ceilings are mostly dirty, so while acoustics are ok in these rooms, they should be replaced
Technology, power & data - average for all	Sufficient technology, power & data for intended uses (i.e. public address system in gym; adequate audio-visual for presentations & performances, etc.)	2	
Display of Student Work, Awards, Notices, etc.	Is there adequate areas for display and communication (cases, screens, interactive dashboards, etc.) in appropriate places to be seen.	2	Not enough at entry & public spaces; plenty in academic corridors; no 3D
Storage for equipment - average for all	Space for the storage of specialized equipment to meet student needs	2	
Media Center	Exists/Adequacy: size & configuration	2.5	No small group or maker areas - does have a window seat
Cafeteria	Exists/Adequacy: size & configuration; Adequate kitchen & Servery	0	
Gymnasium	Exists/Adequacy: size & configuration	3	
Auditorium &/or Stage	Exists/Adequacy: size & configuration	3	
Administrative & Health Offices			
Accessibility & Location	Degree to which spaces are accessible (ADA) & appropriately located in relation to each other & other functions	2.5	
IEQ - average for all	Daylight, Views, Thermal Comfort, Air Quality (Ventilation)	3	
Lighting - average for all	Sufficiency (quantity/quality) & differentiation (provides choice/change)	2	Lights should be replaced
Acoustics & Privacy - average for all	Do spaces have proper acoustics for conversations & afford ability to achieve visual & auditory privacy when needed.	4	
Mail, Copy & Storage	Appropriate for number of staff; record storage & supply storage	1	very small for ES; in main office open area for HS
Reception & Welcome Area	Appropriate for the space & size of school; welcoming; appropriate furniture; appropriate acoustics	1.5	Better than Cport; but not adequate for either school
Admin Offices	Number appropriate for the number of students and configuration the school; indicate how many exist	1.5	2 offices for ES + conf rm; 1 office for HS at main offices.
Health Office	Size & configuration appropriate for the number of students and configuration the school: secure meds; privacy & acoustics (HIPPA), etc.	1.5	There is a separate waiting area, but cots are still in same room w/nurse
Conference Room (s)	Number appropriate for the number of students and configuration the school; indicate how many exist	1	1 conference room next to main office; not sure about HS uses

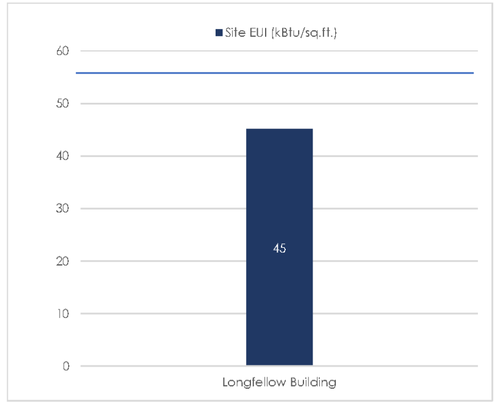
Metric	Description	Score	Comments
Student & Staff Support			
Accessibility & Location	Degree to which spaces are accessible (ADA) & appropriately located in relation to each other & other functions	2.5	Nurse office only at 1st floor; serves both schools
IEQ - average for all	Daylight, Views, Thermal Comfort, Air Quality (Ventilation)	2	Some rooms internal; some w/out views or light
Lighting - average for all	Sufficiency (quantity/quality) & differentiation (provides choice/change)	2	Lights should be replaced. Dimming/choice? Color?
Acoustics & Privacy - average for all	Do spaces have proper acoustics for conversations & afford ability to achieve visual & auditory privacy when needed.	3	
Storage for equipment - average for all	Space for the storage of specialized equipment to meet student needs	1.5	
Counseling, Guidance Offices &/or Career Ctr	Exists/Adequacy: size & configuration	2.5	Many rooms are narrow & some are smal
OT/PT & Speech	Exists/Adequacy: size, configuration (sink, swing, mats, equipment, storage)	3	
Conference Rooms	Exists/Adequacy: size & configuration	0	One at admin; need plans to confirm
Toilet Rooms	Availability throughout school	2	
Storage	Book Storage; General Storage; Supply Storage	2	
Teacher Lounge; Health & Lactation Rooms	Exists/Adequacy: size & configuration; with kitchenette	1.5	One teacher lounge space in basement with connecting copy/binding room
Teacher Workrooms & Planning	Exists/Adequacy: size & configuration; Copy & print locations; collaboration & focus	2	One copy/binding room in basement, one copy room in second floor

LONGFELLOW BUILDING









SURVEY RESPONSE DATA - LFB

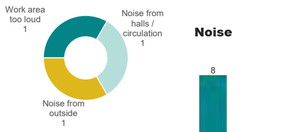
CAMBRIDGE PUBLIC SCHOOLS

DLRGROUP

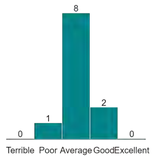
LONGFELLOW BUILDING

CAMBRIDGE PUBLIC SCHOOLS

DLRGROUP

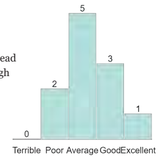


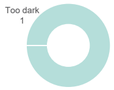
Noise



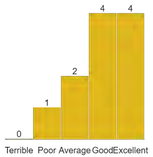
Light fixtures

Too much neon overhead lighting and not enough outlets for lamps.



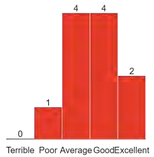


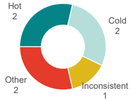
Daylight



Views to outdoors

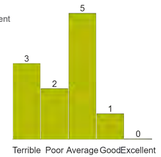
5/10 windows are operable.

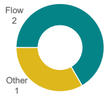




Temperature

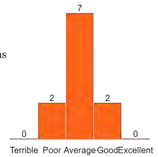
We have those large heaters where you can actually change the thermostat so it s too hort. No heating pipes, no AC.





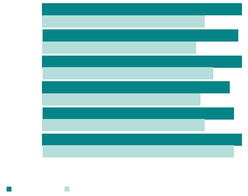
Air quality

Our hood system never seems to be working.



CAMBRIDGE PUBLIC SCHOOLS

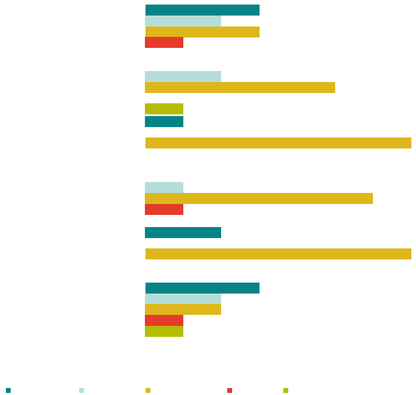
DLRGROUP



LONGFELLOW BUILDING

CAMBRIDGE PUBLIC SCHOOLS

DLRGROUP



3.2 PLAN DIAGRAMS

Building plans redacted at the request of Cambridge Public Schools.

LONGFELLOW BUILDING

Building plans redacted at the request of Cambridge Public Schools.

Building plans redacted at the request of Cambridge Public Schools.

LONGFELLOW BUILDING

3.3 SCHOOL IMAGES

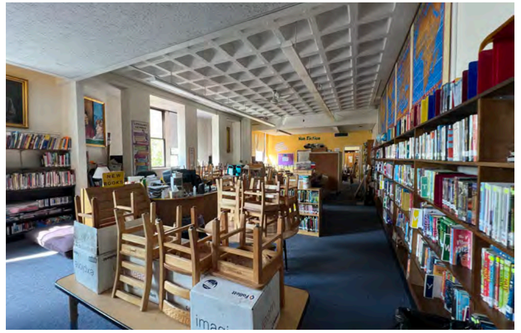
Interior

Science Classroom

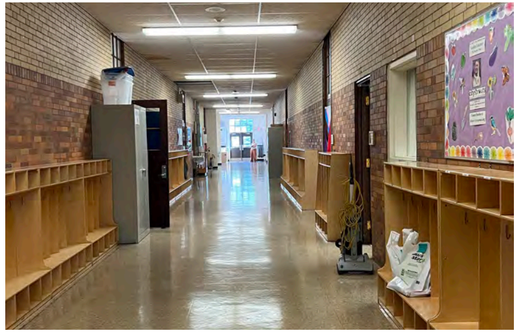
Gym

Basement classroom

Damaged millwork



Library



Hallway

Classroom used as storage

Floor damage

FACILITIES CONDITION ASSESSMENT, CAPACITY ANALYSIS, AND PLANNING RECOMMENDATIONS FOR CAMBRIDGE PUBLIC SCHOOLS
APPENDIX A - [PLANS REDACTED] | DLR GROUP

LONGFELLOW BUILDING

Exterior

AE-1: South Elevation, West Wing

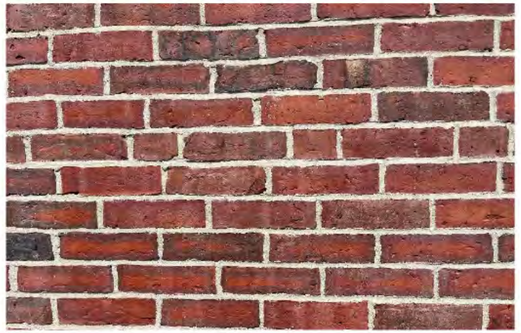
AE-2: South Elevation, East Wing

AE-3: South and East Elevations within Courtyard

AE-4: West Elevation

AE-5: East Elevation

AE-6: North Elevation



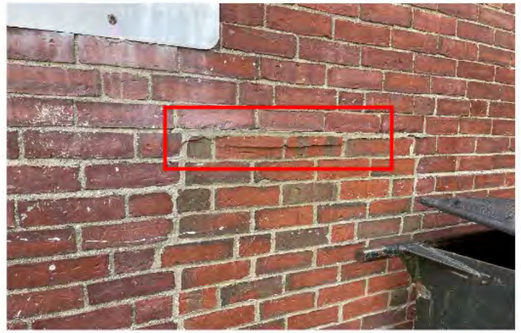
AE-7: Representative brick masonry facade

AE-8: Representative façade with tie backs

AE-9: Representative precast concrete coping cap at West Wing. Note failed sealants between caps.

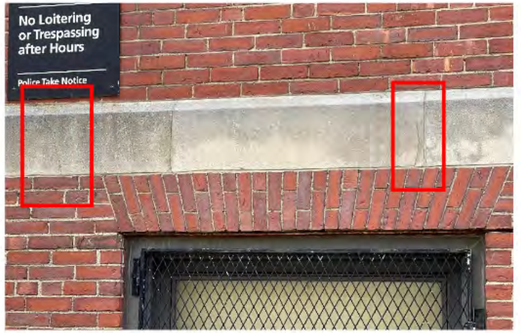
AE-10: Representative brick masonry with deteriorated mortar, typical near stairs at building entrances

AE-11: Representative rust jacking of steel lintels, resulting in cracked brick and mortar



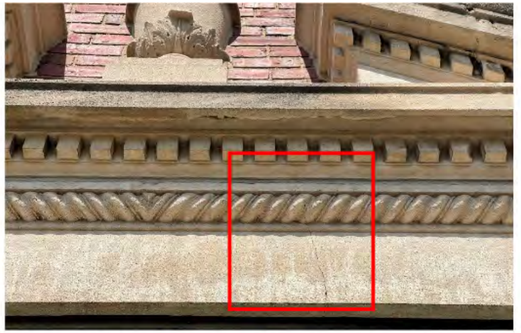
AE-12: Representative cracked brick and mortar at rust jacked lintel at infilled opening within façade

AE-13: Representative cracked limestone band



AE-14: Representative cracked limestone band

AE-15: Representative spalled limestone near building entrance, cracked limestone band



AE-16: Representative cracked limestone at building entrance

FACILITIES CONDITION ASSESSMENT, CAPACITY ANALYSIS, AND PLANNING RECOMMENDATIONS FOR CAMBRIDGE PUBLIC SCHOOLS
APPENDIX A - [PLANS REDACTED] | DLR GROUP

LONGFELLOW BUILDING

AE-17: Representative cracked limestone at building entrance

AE-18: Typical spalled cast stone cap at exterior stair to building entrance

AE-19: Typical spalled and displaced cast stone cap at building entrance

AE-20: Typical cracked and spalled foundation wall

AE-21: Representative aluminum window. Note most lower level windows have security grilles.

AE-22: Representative aluminum window: Typical rusted lintel with peeling paint, typical failed window perimeter sealant

AE-23: Window at lower level where perimeter of upper sash is filled with spray foam insulation

AE-24: Representative aluminum window where sash cord is not fully engaged within window frame, is exposed on exterior

AE-25: Interior of typical exterior door: Note rusting of door frame

AE-26: Efflorescence on brick and rusting of door frame on interior of building at lower level below Main entrance at East Wing

AE-27: Representative view of roof: Roof is ballasted EPDM

AE-28: Typical patches in EPDM along perimeter of roof

AE-29: Typical patch in EPDM roofing lacking termination lap sealant at perimeter

AE-30: Typical patches in EPDM at perimeter of roof. Note, EPDM is loose laid on this roof, is tented along perimeter in most conditions.

AE-31: Typical vent pipe penetration through roof, failing lap sealant at perimeter of flashing boot

AE-32: Typical EPDM patch applied to MEP curb that is lacking adhesion, lap sealant has failed

LONGFELLOW BUILDING

AE-33: Interior leak within Room 109 and adjacent hallway. Leak is within interior of building, not near roof edge

AE-34: Interior leak within hallway adjacent to Room 109. Leak is within interior of building, not near roof edge

AE-35: Interior leak within Room 7, located below Room 109 above

AE-36: Interior of representative window where upper sash is difficult to remain closed

OPINION OF PROBABLE REPAIR COST

Rough Order of Magnitude Estimates

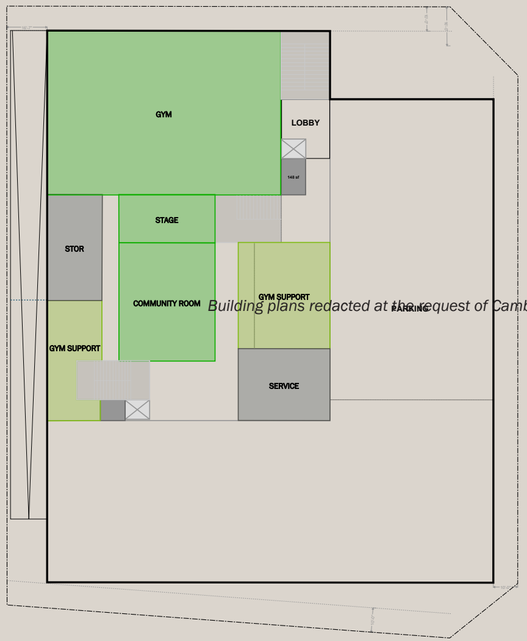
The rough order of magnitude cost estimation included in this phase is based on aspects of the building in need of repair or at the end of useful life to meet code, it does not necessarily include any intervention with the purpose of improving education or carbon/sustainability goals. This is used to identify from a cost perspective which location has the highest facility improvement need and then be used to compare to a replacement/new build cost.

	Longfellow			
Gross Floor Area:	75,523			
No. of Students:	300			
Assessed Value:	$18,619,500			
	Total Project Cost ($)	Total Construction Cost ($)	Total Project Cost ($/GSF)	Total Project Cost ($/Student)
ARCHITECTURAL - EXTERIOR (EXTERIOR WALLS)	$ 6,492,773	$ 4,918,768	$ 86	$ 21,643
ARCHITECTURAL - EXTERIOR (ROOFING)	$ 3,466,832	$ 2,626,388	$ 46	$ 11,556
ARCHITECTURAL - INTERIOR	$ 3,561,039	$ 2,697,757	$ 47	$ 11,870
ARCHITECTURAL - DOOR HARDWARE	$ 181,129	$ 137,219	$ 2	$ 604
ARCHITECTURAL - EQUIPMENT & FURNISHINGS	$ 879,269	$ 666,113	$ 12	$ 2,931
STRUCTURAL SYSTEM	$ 4,594,180	$ 3,480,440	$ 61	$ 15,314
FOOD SERVICE	$ 220,822	$ 167,289	$ 3	$ 736
CONVEYING SYSTEM	$ 150,732	$ 114,191	$ 2	$ 502
BUILDING SYSTEMS - PLUMBING	$ 1,695,733	$ 1,284,646	$ 22	$ 5,652
BUILDING SYSTEMS - HVAC	$ 3,579,881	$ 2,712,031	$ 47	$ 11,933
BUILDING SYSTEMS - FIRE PROTECTION	$ -	$ -	$ -	$ -
BUILDING SYSTEMS - ELECTRICAL	$ 4,239,333	$ 3,211,616	$ 56	$ 14,131
DEMOLITION & SPECIAL CONSTRUCTION	$ 3,542,047	$ 2,683,369	$ 47	$ 11,807
SITEWORK	$ 9,108,121	$ 6,900,092	$ 121	$ 30,360
TOTAL	**$ 41,711,892**	**$ 31,599,918**	**$ 552**	**$ 139,040**

LONGFELLOW BUILDING

SITE/BUILDING INTERVENTION EXPLORATIONS

LONGFELLOW BUILDING - MAXIMUM INTERVENTION



Building plans redacted at the request of Cambridge Public Schools.

LONGFELLOW BUILDING - MAXIMUM INTERVENTION

Building plans redacted at the request of Cambridge Public Schools.

LONGFELLOW BUILDING

LONGFELLOW BUILDING - MAXIMUM INTERVENTION

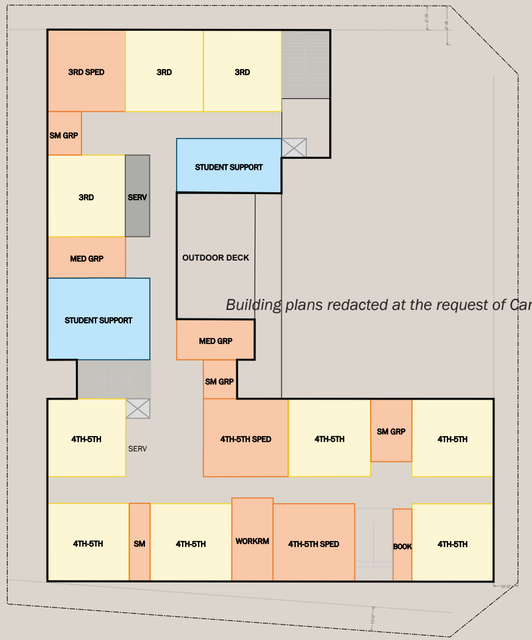
- Preschool and after school space located on its own wing to allow for separate operations.
- JK-Kindergarten classroom clusters with necessary support spaces and breakout areas.

LONGFELLOW BUILDING

LONGFELLOW BUILDING - MAXIMUM INTERVENTION

Building plans redacted at the request of Cambridge Public Schools.

LONGFELLOW BUILDING - MAXIMUM INTERVENTION



Building plans redacted at the request of Cambridge Public Schools.

necessary support spaces and breakout areas.
- Student support spaces centrally located.
- Outdoor deck for upper grades to facilitate additional learning spaces and opportunities.

LONGFELLOW BUILDING - RECOMMENDED INTERVENTION

Building plans redacted at the request of Cambridge Public Schools.

LONGFELLOW BUILDING

LONGFELLOW BUILDING - RECOMMENDED INTERVENTION

- Add a ramp for accessible entry as well as a secure vestibule with visual connection and direct entry to main reception area
- Create visual connection between gym lobby and community school space for safe entry to community events
- Expand nurse's suite and create private exam room/resting area
- ALTERNATE: Remove middle staircase and replace with ESL pullout space/breakout area

FIRST FLOOR

MAIN ENTRANCE

LONGFELLOW BUILDING - RECOMMENDED INTERVENTION

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LONGFELLOW BUILDING

LONGFELLOW BUILDING - DISCARDED OPTIONS

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LONGFELLOW BUILDING - DISCARDED OPTIONS

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LONGFELLOW BUILDING