Hamilton Disston Elementary School

6801 Cottage Street,
Philadelphia, PA 19135

Major Renovation & Addition
Scope of Work

Rev. July 24, 2020

School District of Philadelphia
Office of Capital Programs
440 North Broad Street
Philadelphia, PA 19130

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Contents

Overview

The Hamilton Disston Elementary School is a K-8 school that serves 842 students constructed in 1924. As of 2019 this school has been identified by the City of Philadelphia as a Community School by the Mayor's Office of Education.

The school is located at 6801 Cottage Street. The main entrance faces Cottage Street and is bounded by Knorr Street on the North, Gillespie Street on the West and a rear playground that abuts residential homes on the South. The entrance is classical style with a limestone colonnade and cornice that is typical of the Colonial Revival era. The building was added to the National Historical Registry in 1988.

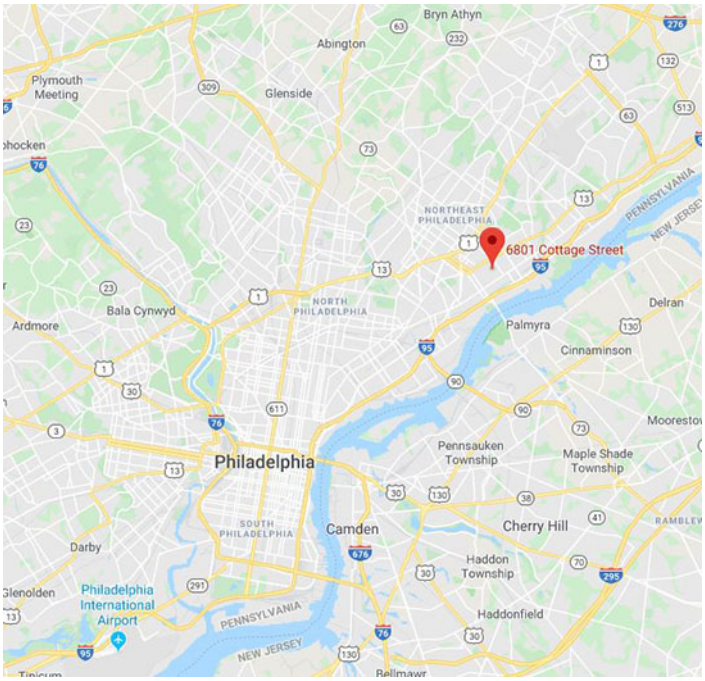
The building has approximately 67,842 square feet area. It is a three-story masonry building with a basement level and a one-story IMC Library off the center lobby on the first floor. The school structure is of reinforced concrete framing with exterior masonry walls and a low slope roof. The facades were constructed of red brick masonry with decorative limestone elements.

The building site is approximately 1.5 acres most of which is impervious. Small lawn areas exist along Cottage St. and Gillespie St. and a 50-foot-wide lawn fronts Knorr St. There is a rear play yard with a concrete surface that is elevated above sidewalk level and has a mobile classroom trailer, an area with playground equipment, and a small turf football field. There are underground coal storage and heating fuel tanks that sit under the rear courtyard area of the building.

1.0 Building Data:

Gross Area (SF):	Main Building: 67,842 (3 story+ basement) Trailer: 660 (1 story)
Site:	1.5 acres
Building footprint (SF):	Approximately 21,500
Year Built:	Main Building: 1924
Grades:	K-8
Enrollment Capacity:	636
2019 Enrollment:	842
Utilization:	132%

1.1 Location



- The project site is located in the Tacony neighborhood of the Northeast region of Philadelphia.

- Disston Elementary School is bordered by residential properties, and St. Petri- Hope Lutheran Church.

2.0 Scope of Work

A detailed review of the Hamilton Disston school building and educational program was conducted with several members of the Capital Programs team. The assessment of the facility was to determine current conditions and requirements for extending the useful life of the existing building by 25 years.

- As part of the renovation, space will be re- allocated within the building, and new space will be added in the form of a building addition to relieve the overcrowding conditions and meet the projected growth for this school.
- All known environmental issues that are identified will be scheduled to be remediated.
- The building renovations shall result in a healthy school building that meets or exceeds requirements for ventilation, comfort, and a sustainable learning environment.
- ADA Accessibility upgrades are to be applied as appropriate providing for an Accessible entry, an accessible route, and meeting all current code requirements.
- The overall building is to be renovated to the furthest extent feasible such that all building elements and systems exceed 10 years of expected useful life at the completion of the project, and that the building will meet the needs of a modern educational facility.

2.1 Space Analysis and Educational Program Review

Building surveys and meetings with the School Principal were conducted to understand how space is currently being used at Disston. This meeting uncovered a list of typical school spaces that the building does not have. A visual survey was conducted of a number of spaces to observe pressing issues.

Enrollment and Projections

The building capacity is 636 students. The current enrollment is 842 students, putting the school Utilization at 132% today. Some of this is a result of taking in overflow from Forrest Elementary. The school is finding increases in demographic diversity creating a need for more English for Speakers of Other Languages program support. The five-year projection for this facility indicates that enrollment will increase at a steady rate.
The 2025 Enrollment Projection is 963 students. To plan for an 85% occupancy at completion this Major Renovation and addition project should plan for a future capacity enrollment of 1150 students. Thus, the resulting addition will need to expand the building capacity by approximately 500 additional students.

Disston Elementary Five Year Enrollment Projection Table

PrgmID	Prgm Name	Year Start	Year Finish	Grades	K	1	2	3	4	5	6	7	8	Total
8240	Disston, Hamilton	2009	2010	K-8	72	88	91	87	83	92	109	98	121	841
8240	Disston, Hamilton	2010	2011	K-8	92	86	90	89	80	89	100	105	98	829
8240	Disston, Hamilton	2011	2012	K-8	90	87	88	82	87	82	85	118	104	823
8240	Disston, Hamilton	2012	2013	K-8	101	109	101	86	94	88	88	92	120	879
8240	Disston, Hamilton	2013	2014	K-8	92	114	111	94	73	90	89	103	94	860
8240	Disston, Hamilton	2014	2015	K-8	90	100	97	110	92	82	102	90	93	856
8240	Disston, Hamilton	2015	2016	K-8	97	101	101	94	103	102	92	93	90	873
8240	Disston, Hamilton	2016	2017	K-8	90	101	89	96	100	105	100	100	86	867
8240	Disston, Hamilton	2017	2018	K-8	91	105	98	102	95	89	104	112	106	902
8240	Disston, Hamilton	2018	2019	K-8	90	102	100	92	115	81	102	114	105	901
8240	Disston, Hamilton	2019	2020	K-8	80	81	92	90	82	115	92	102	108	842
8240	Disston, Hamilton	2020	2021	K-8	95	100	85	87	95	81	125	96	101	865
8240	Disston, Hamilton	2022	2022	K-8	100	105	105	83	97	93	92	128	95	898
8240	Disston, Hamilton	2023	2023	K-8	107	111	108	93	90	83	100	95	127	914
8240	Disston, Hamilton	2024	2024	K-8	114	119	115	94	101	85	92	103	94	917
8240	Disston, Hamilton	2025	2025	K-8	121	126	123	103	102	97	94	95	102	963

Review of Existing Area and Use

The building is three floors plus a basement level. All floors have teaching classrooms. There are two main stairways and two emergency egress stairways at each floor. Early grade students arrive in the morning and line at the concrete play yard to gain entrance through the basement doors. Upper grade students wait for entrance along Gillespie St. A large portion of the basement level is dedicated to the building's original, inefficient, and sometimes abandoned mechanical, electrical, and plumbing design. A large subsurface area exists to store the building's fuel supply, though much of the area today is used for miscellaneous storage.

A visit to the building revealed that the building is currently overextended in trying to accommodate the continuously growing need within the catchment area. The building is deficient in accommodating contemporary educational space needs. All classrooms are undersized by current educational standards, especially those rooms that serve Kindergarten and 6-8th grade students. Rooms have been equipped with instructional computers and smart boards. Most rooms include an

operable partition that is solely used in the divided position that limits functional wall space. Most classrooms have a separate “coat room” that further limits the teaching area and mostly becomes a home for items awaiting disposal.

Staff support spaces are inadequate. Over time Faculty rooms have become undersized office spaces for the Climate Manager and Assistant Principals. Former curriculum storage rooms now house offices for Security, Counselors, and Assistant Principals.

Assembly spaces meet the projected need of the building. The gymnasium is shared between boys and girls. There is an auditorium with fixed seating for approximately 385 students that gets used for teaching overflow classes. The auditorium requires some restoration and modernization. There is an unstaffed IMC space that is being used for small group instruction.

Typical building support and accessory spaces are limited. Bathrooms throughout the building have been added or repurposed over time and do not adequately meet the demand of the building.

2.1.1 Existing and Proposed Use Tables and Existing Building Use Plan Diagrams

Use Table

Existing Space Use	Proposed Change
Core Educational Spaces	
(3) Kindergarten classrooms, (105, 107, 108)	3 Kindergarten to basement +1 room from former cafeteria
(3) First Grade classrooms (101, 102, 103)	4 Existing rooms on first floor
(4) Second Grade classrooms, (301, 302, 104,106)	4 Existing rooms 1st floor
(3) Third Grade classrooms (321, 322, 324)	4 New rooms in addition 2nd fl
(3) Fourth Grade classrooms (325, 326, 327)	4 Existing rooms 2nd fl
(4) Fifth Grade classrooms (303, 304, 305, 323)	4 Existing rooms 2nd fl
(3) Sixth Grade classrooms (old lunchroom, old wood shop, former industrial arts room)	4 Existing rooms 3rd fl
(4) Seventh Grade classrooms, (201, 202, 203, 204) (1 used for science)	4 Existing rooms 3rd fl
(4) Eighth Grade classrooms (205, 206, 207, 208) (1 room used for science)	4 Existing rooms 3rd fl
(1) Special Ed- Emotional Support Class (328)	1 new room in addition 3rd fl 2 New Sci Labs addition 3rd fl
(32) Classrooms total	(39) Classrooms total
Support Spaces	
New Program	
Art	1 existing room 3rd fl

Basement

Food Storage Space (former sewing room)	1 new room in addition 1st fl
Food Service Manager (storage closet)	1 new room in addition 1st fl
Cafeteria (former domestic science and dining and bedroom space)	New space in addition 1st fl

1FL

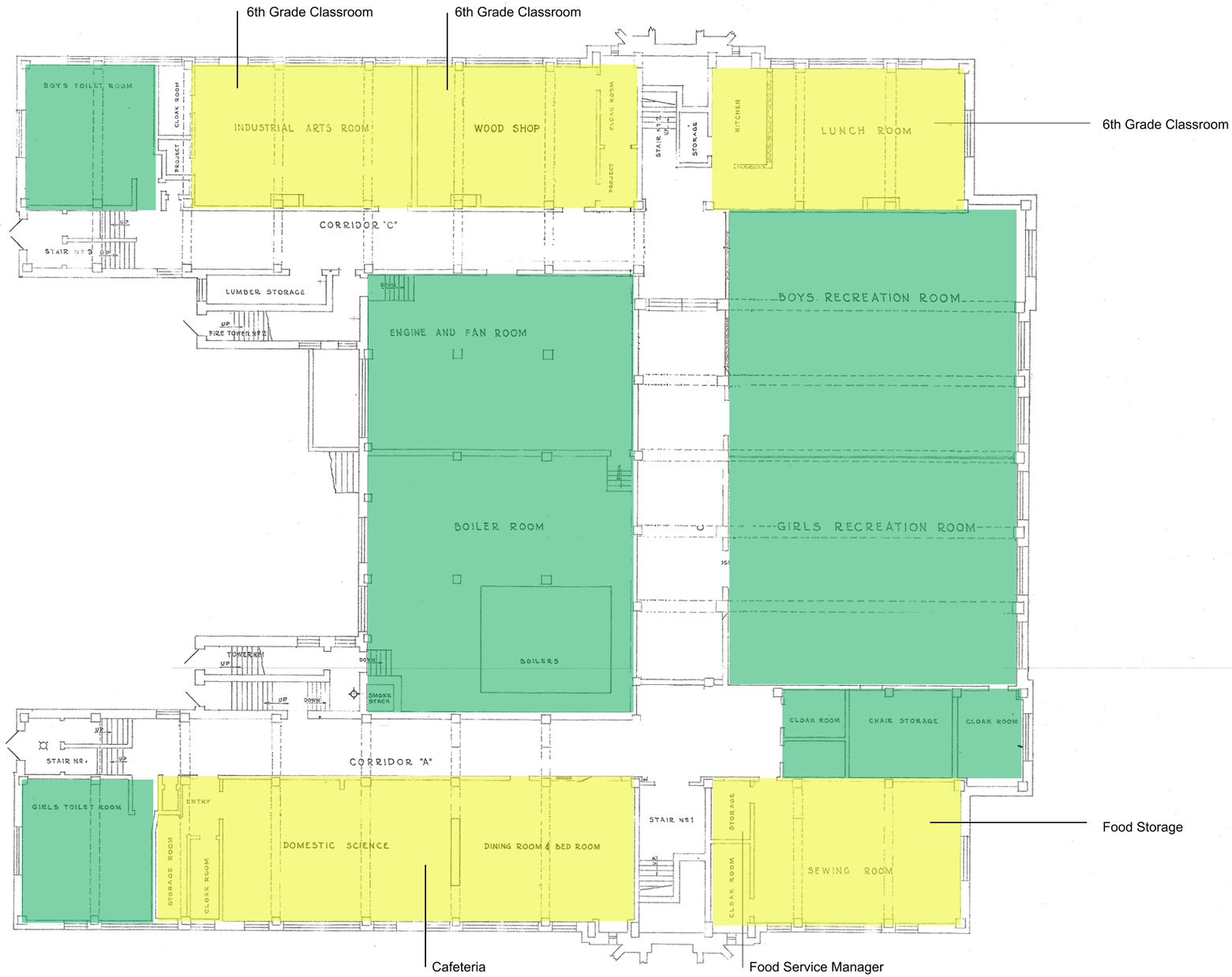
Speech Pathologist- (Stage dressing room)	
School Psychologist- (Stage Dressing room)	
(1) Special Ed Group Instruction, 5 & 6 grade (Chair Storage)	
School Police/Security Office (lantern room)	
Instrumental Music (auditorium)	Remain in auditorium
Vocal Music Class (auditorium)	1 new room in addition 3rd fl
Special Ed Small Group (IMC)	1 existing (kitchen) in basement
(2) Computer Teachers (IMC)	1 new room in addition 1st fl.
English Language (IMC)	2 new rooms in addition 2nd fl. 1 new room in addition 3rd fl.
Principal's Office (IMC)	1 existing room in 1st fl
Assistant Principal's Office (IMC)	1 new room in addition 3rd fl
Literacy Lead Teacher (former Principal's Office)	1 existing admin 2nd fl
School Based Teacher Leader (former Principal's Office)	1 existing admin 2nd fl

2FL

Counselor, 3 ESL, Community Schools Coord (Book Storage Room)	3 ESL to new rooms (above) Counselor, Community Schools Coord- to remain in place
Climate Manager, Dean of Students, Small Counselling Groups (former Faculty Dining Room)	Shared Admin space 2nd fl

3FL

(2) Small group instruction 3 & 4 grade (former storage room)	1 new room 3-5 in addition 2nd fl 1 new room 6-8 in addition 3rd fl
Assistant Principal's Office (former faculty room)	1 existing to remain 3rd fl 1 existing to remain 1st fl office



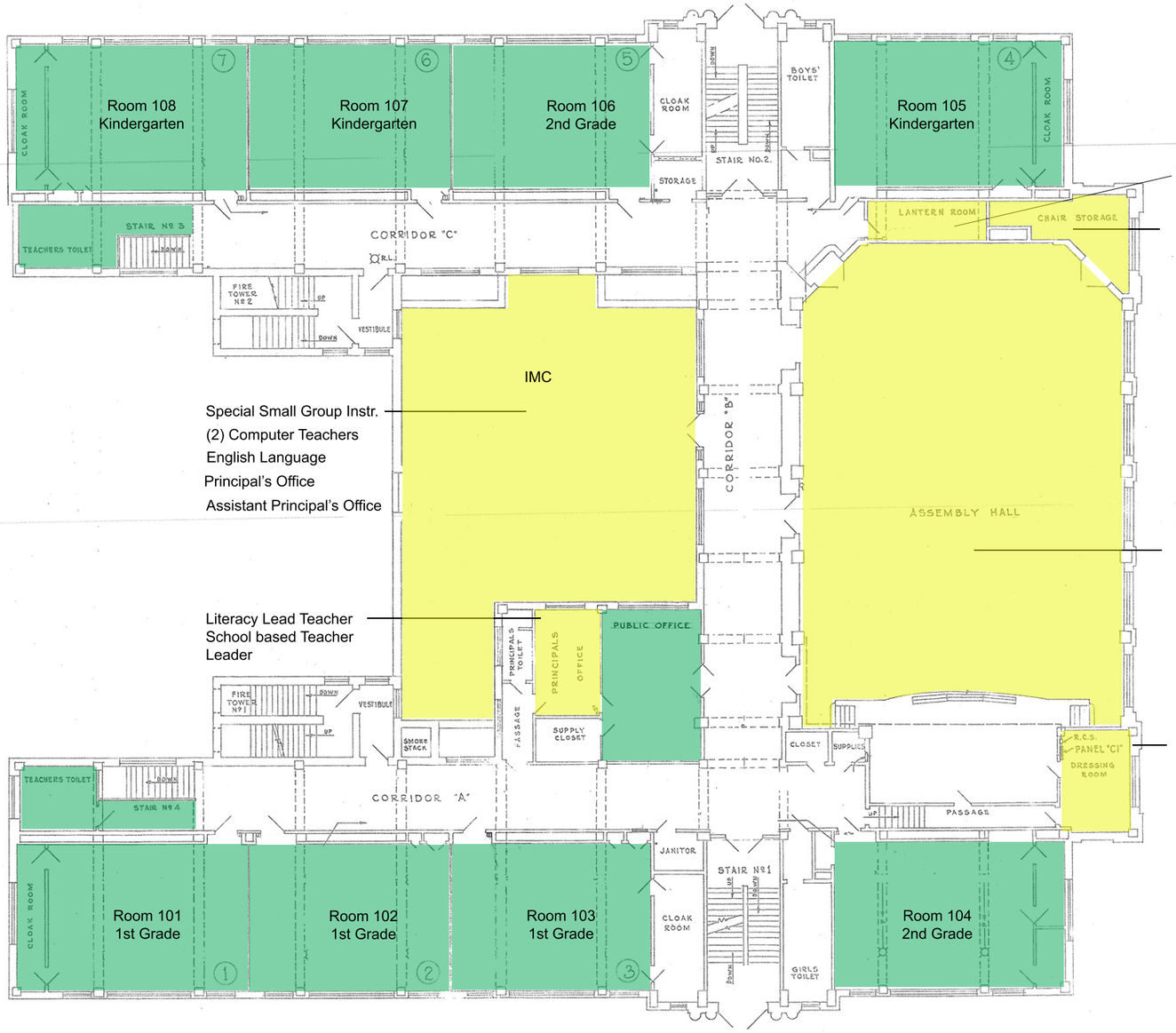
HAMILTON DISSTON PUBLIC SCHOOL

Basement Floor Plan

Existing Building Use Diagram

Key

Current use does not match space design	
Current use is consistent with space design	



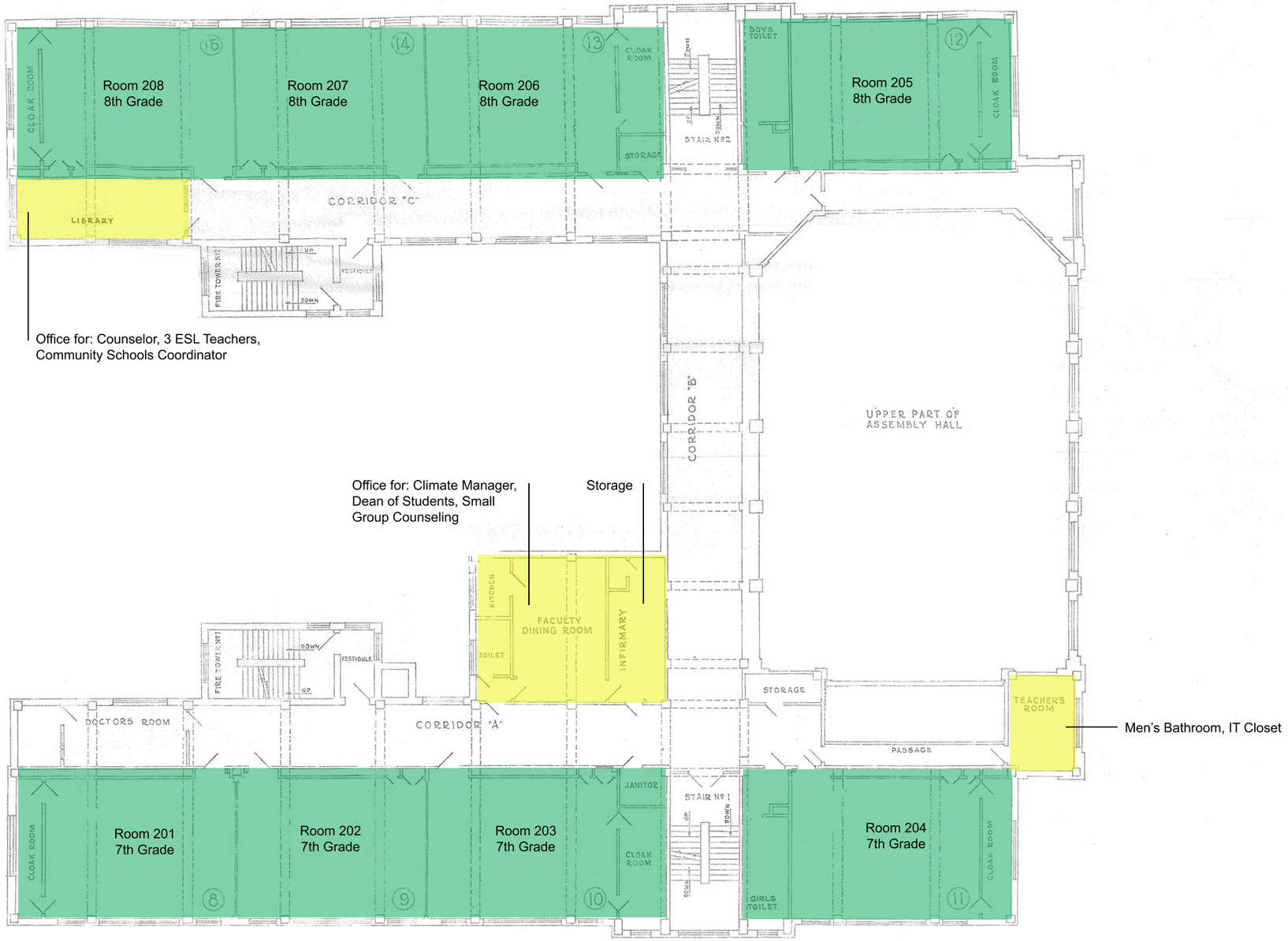
HAMILTON DISSTON PUBLIC SCHOOL

First Floor Plan

Existing Building Use Diagram

Key

- Current use does not match space design
- Current use is consistent with space design



HAMILTON DISSTON PUBLIC SCHOOL

Second Floor Plan

Existing Building Use Diagram

Key

Current use does not match space design

Current use is consistent with space design

Special Ed Emotional Support

Office for (2) Special Ed teachers, small group instruction

Assistant Principal's Office

HAMILTON DISSTON PUBLIC SCHOOL

Third Floor Plan

Existing Building Use Diagram

Key

Current use does not match space design

Current use is consistent with space design

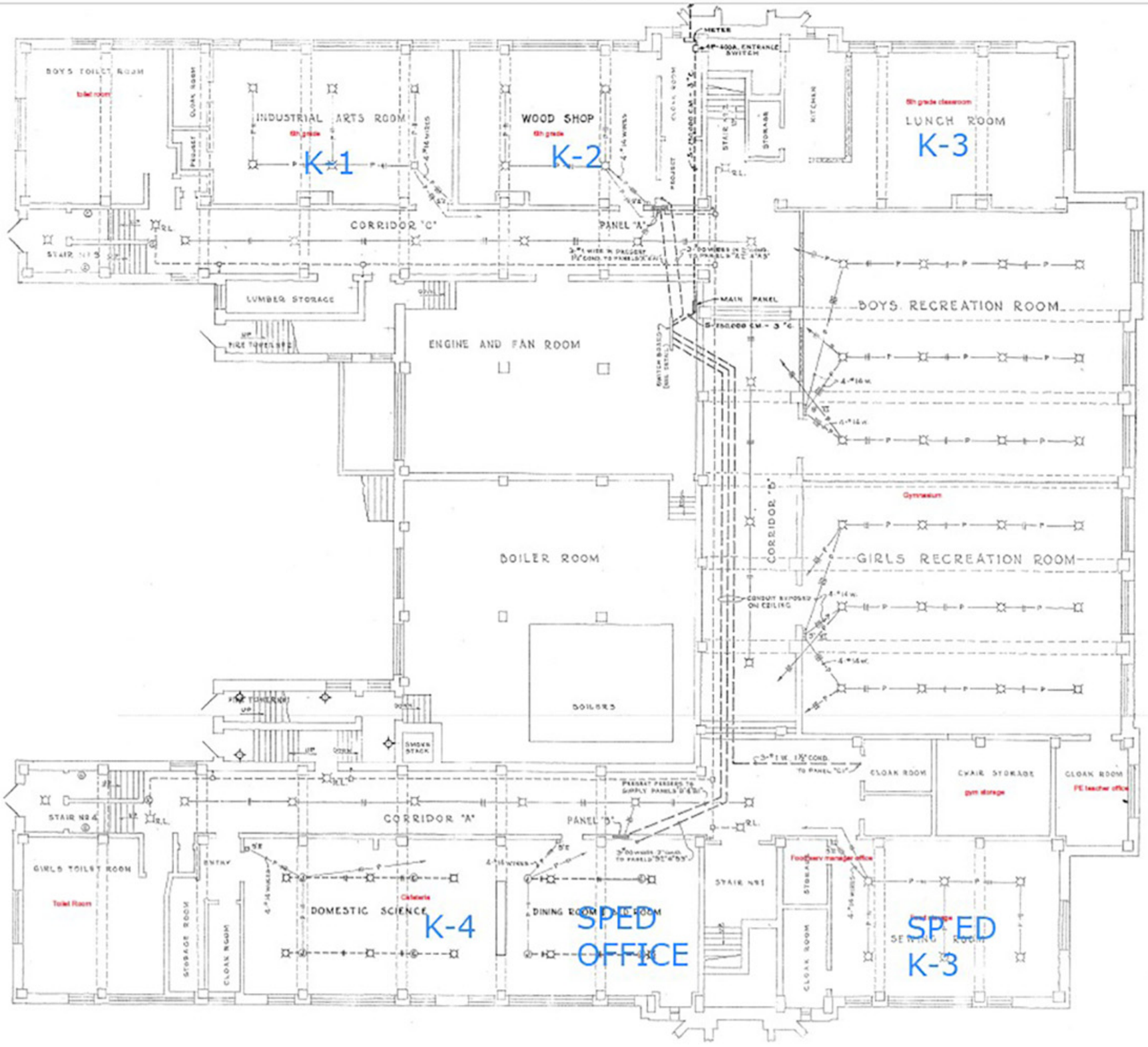
2.1.2 Recommended New Addition Area Table and Proposed Floor Plans

The renovated building will be designed to accommodate a projected enrollment of 1150 students and corresponding staff. Additional area is required for: (4) more standard classrooms, (2) Science Classrooms, (2) special purpose rooms (technology, vocal music) (2) Special Education, (1) Emotional Support, and (1) ESOL room. The addition should include student toilets, connecting corridors to the existing building, storage and cleaning, an IT Technology closet, an electrical closet, and an elevator (providing Accessibility to the existing building as well). Design must be in compliance with all applicable Building Codes and School District of Philadelphia design standards.

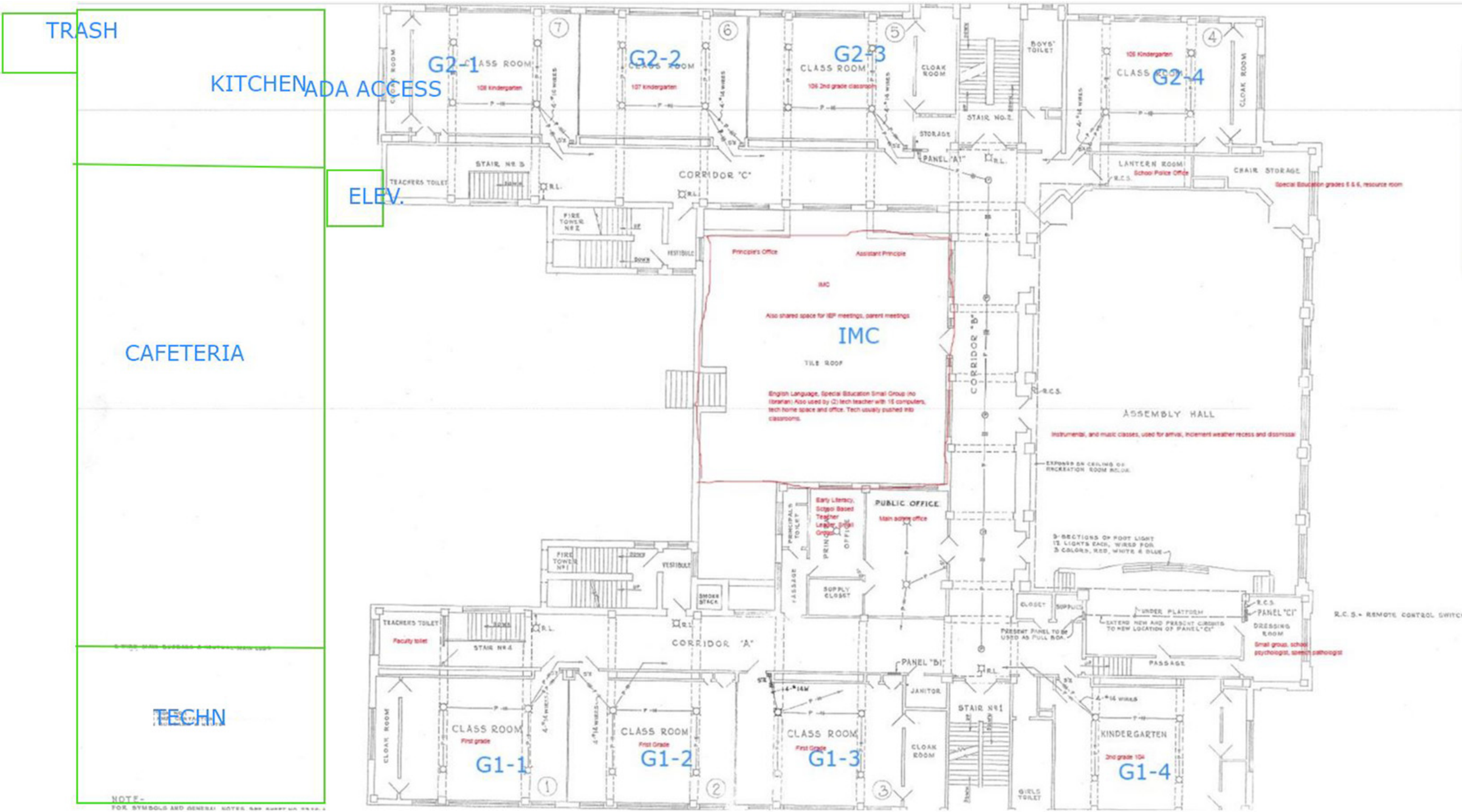
Refer to the New Addition Table below, and the Proposed Floor Plans

New Addition Table

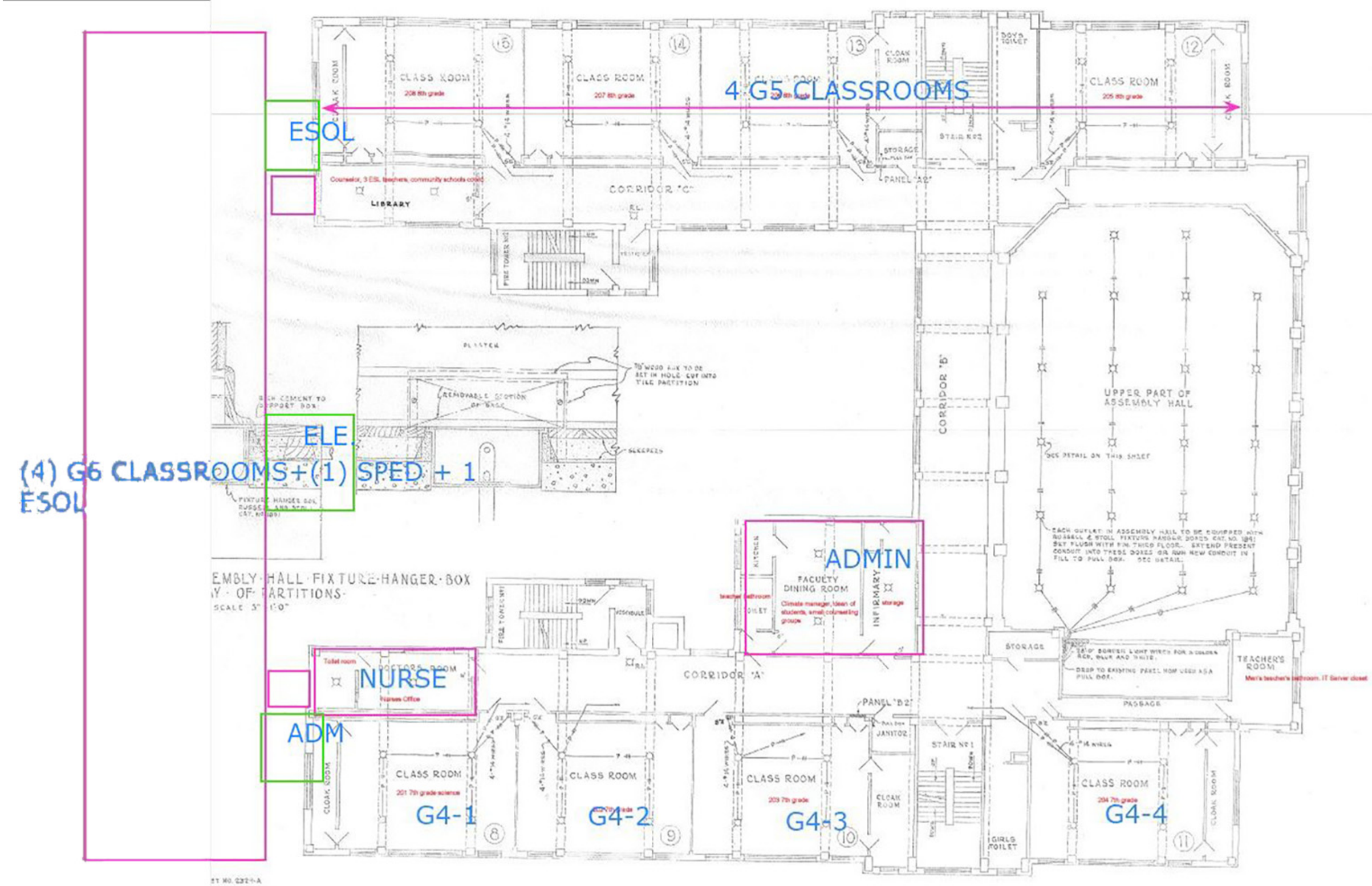
New Addition Program	Requirement	Program Area	Total Area
Education			
3rd grade classrooms	4	850	3,400
Science Classrooms	2	1200	2,400
Vocal Music Classroom	1	1200	1,200
Technology/ Makerspace	1	1200	1,200
Special Education- Emotional Support	1	850	850
Small Group Instruction (K-2, 3-5, 6-8)	2	660	1,320
ESOL (K-2, 3-5, 6-8)	1	660	660
Subtotal	12		**11,030**
Food Services			
Full-Service Kitchen	1	2500	2500
Cafeteria	1	5000	5000
Subtotal			**7,500**
Support for addition			
Student Restrooms	4 (2 boys, 2 girls)	200	800
Staff Restrooms	2	125	250
Electrical Room	1	100	100
Technology Closet	1	50	50
Elevator	1	200	200
Subtotal			**1400**
Circulation			
Overall Subtotal			19,930
Circulation Factor	40%		7,972
Total Additional Area			**27,902**



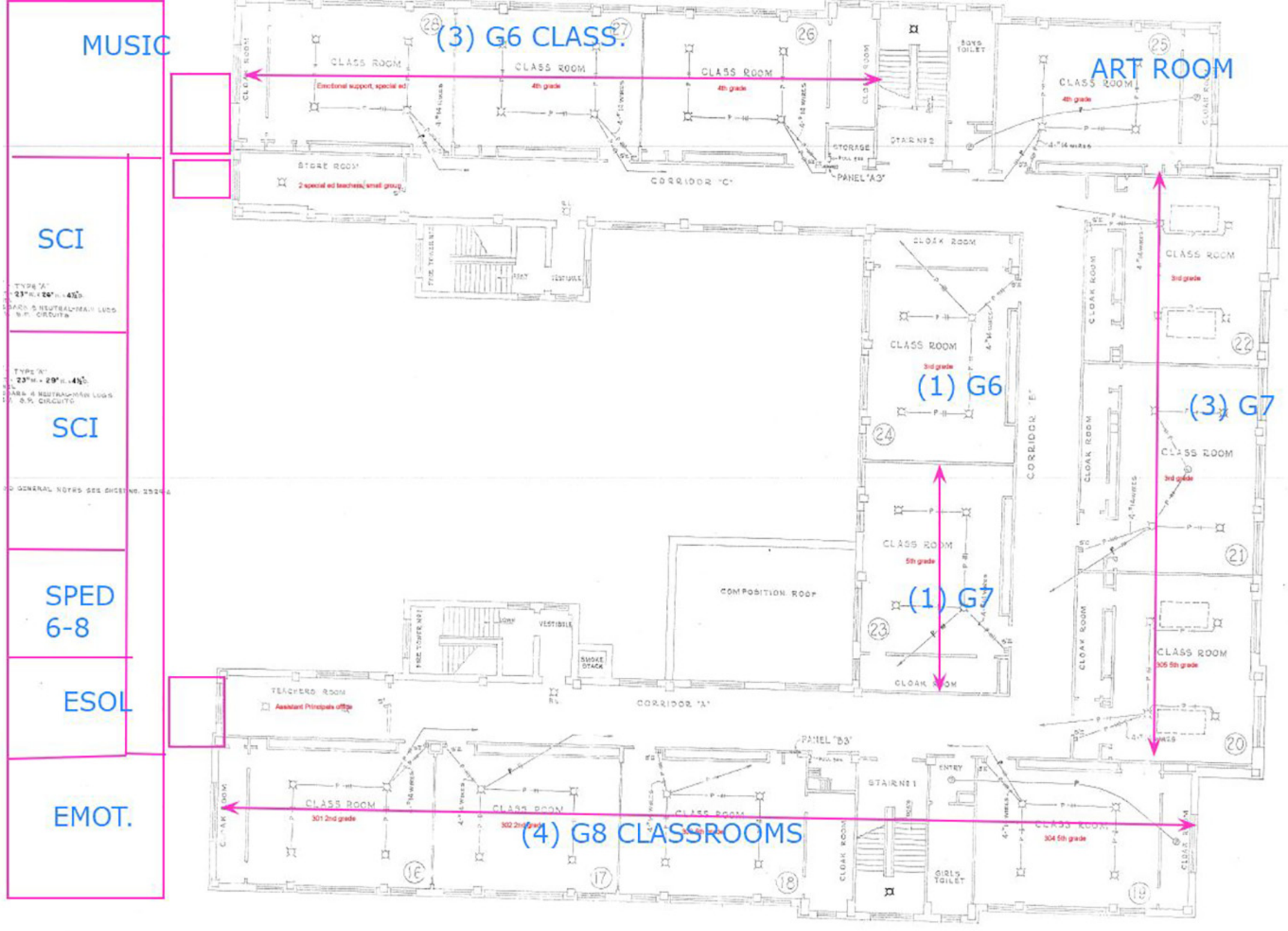
Basement Floor Proposed Plan



1st Floor Proposed Plan



2nd Floor Proposed Plan



3rd Floor Proposed Plan

2.2 Existing Building Requirements

2.2.1 Site Scope

Storm water controls

Condition: The site has storm drain surface inlets within the concrete play surface. At least one of the inlets had ponding condition at the time of survey. These inlets connect to the sewer that is a combined storm/ sanitary sewer in this region of the City.
Recommendation: All inlets scheduled to remain should be cleaned out as part of this project. Inlets must be protected from sediment and debris during construction.

Concrete play surface

Retaining walls and fences

Condition: Retaining walls border the property on three sides at varying heights. A few of the masonry piers at the corners of the fence line are cracked. The wall retains the residential neighboring property in the NE corner of the site and shows some deflection. Most of the sidewalk side of the brick retaining walls have been recently painted and appear in good condition. At the top of the retaining walls is an existing iron fence that has surface deterioration and corrosion along the entire run. The fencing bordering the residential properties is low and does not provide good security for the site. The fence continues at grade around the side of the building fronting Knorr St.

Recommendation: The short run of retaining wall noted as deflecting should be reviewed and repaired. Fencing that immediately borders residential properties should be replaced with a higher, safer fence type. The remaining iron fence shall be restored and refinished.

Iron fencing

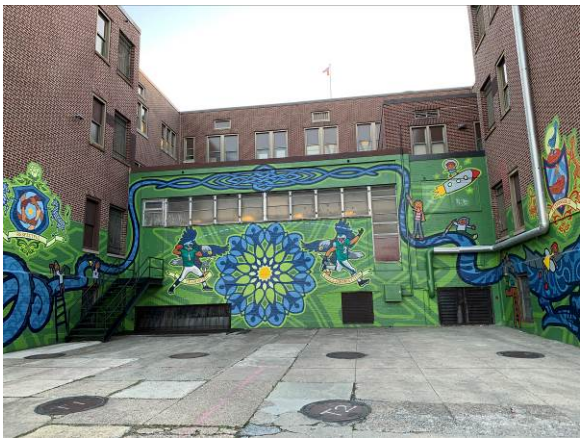
Residential side retaining wall

Concrete Play Area Paving

Condition: The existing play area surface and building yard of approximately 32,566 square feet is made up of concrete squares, some of which have completely cracked and pose a tripping hazard. It appears that individual replacements of damaged squares has taken place over time. Currently there is not a separation between the yard area that has access to manholes, the access drive, and the designated play area. The rear yard area is also where early grade children line up to enter the building every morning. The current facilities maintenance Work Request Report lists open maintenance items of surface damage and tripping hazards across the existing surface.

Recommendation: Replace sections of concrete that are beyond repair. A renovated yard and play area should be planned to incorporate a building addition and provide separation of a lineup/ play area from all building infrastructure access and trash and waste storage. The new design should consider how surface areas can better meet the sidewalk grade and eliminate or minimize the need for stairs and ramps.

Concrete surface



Courtyard with manhole access

Sidewalks, curbing, stairs

Condition: There are concrete stairways to enter the yard, and the building at all sides. The stairways providing primary site access along Cottage Street are failing at some locations: stair treads are pulling away from the risers, or are sloping and cause for concern. The existing pipe handrails are in fair condition, and at a minimum should be refinished. The existing sidewalks show period replacement of different areas with varying current conditions. There are missing and decaying street trees at some locations. The sidewalk along the primary entry path, down Cottage Street, shows damage and wear at joints and through sections.

Recommendation: The damaged stairways should be replaced with new concrete stairs where needed by the new overall site design. Accessibility and safety should be considered in how to transition from the sidewalk elevation to that of the building or yard. Handrails that do not meet all local building code requirements should be replaced.

Concrete Stair Riser

Sidewalk Along Cottage St.

Parking

Condition: This site does not have a designated parking area. There is a reinforced drive surface for access to the rear of the building from the lot.

Recommendation: The existing driveway surface should be restored, and some rear access maintained while planning for building and site alterations. All parking shall remain in the street

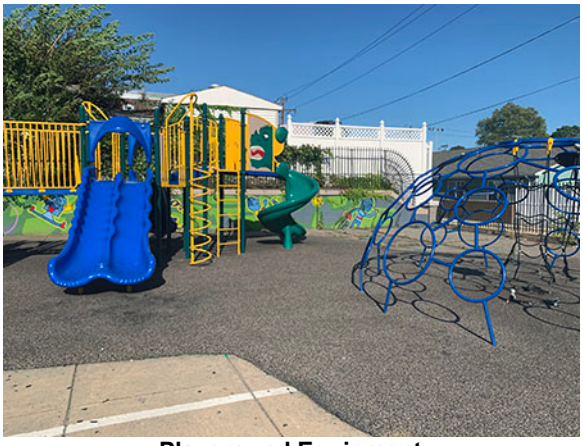
Play Area

Condition: There is existing play equipment that is relatively new and in good condition. However the safety surface has significant holes. There are new metal benches and a few aged, damaged, concrete tables. The entire play area is open to community access and use at all times.

Recommendation: Play area surface should be replaced, and the equipment re- installed at completion. The bench locations should be reconsidered as part of the building

alteration and addition planning. The building currently makes the play area available to the public, and that condition is expected to be maintained.

Failing Safety Surface



Playground Equipment

2.2.2 Architectural Scope

Classroom Modernization

There are 32 existing classrooms in the main building. Some of these rooms were not constructed for the purpose they currently serve. The School District has a program to modernize existing classrooms to meet current educational requirements that includes electrical, technology, storage, and finish upgrades. Disston Elementary will also require a programming effort as the current and future needs exceed the existing building capacity.

Floors

Condition: Most classrooms on building levels 1-3 have solid wood floors that are worn. Some early grade rooms have area rugs. Rooms on the basement level are 12x12 VCT or concrete. Some rooms throughout are recorded to have 9x9 VAT floor tile. Floors in the storage closets are often tile.

Recommendation: All wood floors should be sanded, any repairs made, and refinished. VCT floors should be replaced, and all VAT floors shall be abated and replaced with VCT or similar resilient flooring.

Ceilings

Condition: Most classroom ceilings are suspended 2x4 ACT hung between the concrete structural beams. Some are aged, others are in fair condition. In many rooms the ceilings have been hung below the existing window openings. Lighting in some rooms are 2x4 troffers, others 1x4 surface mounted. The condition above the suspended ceiling could not be observed. Not every classroom was surveyed. Rooms without suspended ceilings are constructed of plaster and assumed to require minor patching or repair.

Recommendation: Replace the existing suspended ceiling system. Install new suspended ceiling system in all classrooms, offices, hallways, IMC space and the computer lab.

Walls

Condition: Interior partitions throughout the upper three floors are plaster on lath or are terracotta. There is some surface cracking and damage of the walls at traffic areas near doorways and corners. The areas behind existing blackboards, whiteboards, projections screens, and other surface mounted furnishings should be assumed to be aged, and in need of plaster repair and refinishing. Some walls in the basement level are brick masonry. Wall base, window sills and frames, and ceiling trim are all stained wood. Dividers exist between groups of rooms that are wood panels.

Recommendation: Plaster walls should be reinforced/ protected at high traffic areas. Remove all miscellaneous fasteners and obsolete equipment. Plaster or gypsum walls should have the surface repaired and be repainted. The wood panel systems dividing rooms should be eliminated to either increase the size of existing classrooms or be replaced with a fixed stud- wall partition. Terracotta walls should be repaired or repointed where necessary.

Wood Panel Divider

Typical Classroom

Window treatments

Condition: Some rooms have pull- down shades that are torn, or do not function. Most windows do not have treatments and staff provided curtains and coverings have been attached.

Recommendation: Provide new roller shades at all windows.

Typical Classroom Windows

Storage

Condition: Most classrooms have adjacent coat and personal item storage “cloak rooms.” Many of these rooms have damaged or missing coat hooks, or shelving with storage of items meant for disposal. For Kindergarten rooms and other lower grade classrooms there are supplemental storage cabinetry. In the corridor outside of the classroom there are additional wood storage closets that do not appear to be utilized.

Recommendation: All millwork should be demolished and replaced including hooks that shall be in compliance with School District of Philadelphia standards. Existing storage “cloak rooms” should be repurposed into either usable classroom space or modified for current educational storage needs. Outdated and legacy items in storage should be disposed.

Accessories

Condition: There are existing clocks, speakers, whiteboards, display boards. There are interactive boards in most rooms. There currently are not specific special classrooms, and the undersized kindergarten and early grade classrooms do not have the teaching areas and manipulatives typical to the District’s educational program.

Recommendation: Classrooms should receive new clocks and display accessories, see also the electrical section of this document. Technology infrastructure shall be updated to current standards in all rooms. New interactive Panel boards, and new furnishings and appropriate equipment should be provided for all rooms. New art, music, and science classrooms will be appropriately appointed with District learning standards.

Interior Conditions

Stairways

Condition: Interior storefronts at the primary stairwells have wire glazing and hardware that does not appear to meet current building code. Existing stairways are concrete with steel treads. There is some cracking in the concrete and some treads have come loose. Concrete floors at intermittent landings or near doorways are surface worn. There are

wooden handrails that have open metal infill without guards. Rails on the outside wall are pipe. There are two open egress stair towers built to the courtyard side of the building that lead to grade. They are constructed of masonry and concrete. There is some cracking of the brick and some exposed steel in the concrete. All surfaces are painted but worn. Window openings are supported by concrete lintels that are in poor condition and show signs of movement.

Recommendation: Storefront doorways that do not meet current egress code should be replaced. Concrete cracking should be reviewed and repaired. Steel treads should be reattached or replaced where necessary. Concrete floors at interior stairways require surface restoration. All handrails should be replaced with code compliant railing and guards. The open egress stair towers should be reviewed for code compliance and enclosed if determined to be required. Locations of exposed steel should be treated and sealed. Any dislodged lintels should be reset into their correct position and repointed.

Cracking in Exterior Stairwell

Primary Stairway

Corridors

Condition: The floors in the corridors are stamped concrete that are aged but most show only minor surface wear. The walls are plaster with concrete bases that have dark wood trim and tack areas. All wall components are in good condition. Doorways to most rooms are wood doors and trim where most are damaged beyond just finish. Some door hardware has been replaced over time but is mostly aged brass. The ceilings in the corridors are acoustical ceiling tiles with troffer lighting. These ceilings are aged and yellowed, and are suspended below the window heads. Existing exit signs are hung from the ceiling and only some still illuminate. There is missing or worn lettering stenciled to designate rooms. There is signage designating the building as a “Fallout shelter.” The fire alarm is of antiquated design. Some halls have storage cabinets constructed within that are underutilized. On the basement level finishes are in good condition, however there is large scale ventilation ductwork that is not currently utilized by the building and dominates the overhead space.

Recommendation: Refinish all concrete floors, patch and repair walls. All interior doors and hardware should be replaced as part of making accessibility and egress upgrades to the building. All suspended ceilings in the corridors should be either exposed and repaired or replaced with new cloud acoustical ceiling treatment. All halls should receive new code compliant exit signage and fire alarm devices. New ADA compliant room signage should be posted at each doorway, and fallout shelter signage removed. Damaged pipe insulation should be replaced as part of the mechanical scope. Storage constructed in the hallways should be removed. Fire extinguishers should be set in proper cases. Display space and tack areas should be coordinated to create designated locations for each room. In the basement the main issue to address is the ceiling. If possible a new building ventilation system should either eliminate or downscale the existing ductwork as part making the entire basement level finished, usable space.

Typical Corridor

Typical Interior Doors

Assembly Room

Condition: The first floor assembly room is a dramatic two- story space of approximately 3400 S.F. At one end there is a raised stage that can be accessed from a stair within the room or by an entrance at the rear of the stage. There is ventilation and lighting within the base of the stage. The stage and the room has wood floors and plaster walls. The floors are surface worn and the plaster has minor damage at some locations. The ceiling is also plaster and shows some evidence of localized surface damage. There are about 385 fixed wooden chairs that are in good condition. There are large, bordered artwork panels adjacent to the stage and on the interior walls. The large, arched top windows have stained glass sections that should be maintained. There are storage cabinets along the outside wall that require minor repair. All exit doors show signs of recent work, however the rear exit does not have proper signage or hardware. Overhead lighting works to varying degree, and it was not apparent during the building visit the functionality of the wall sconces or the stage lighting. There are large window curtains and a stage curtain that appear aged.

Recommendation: This space should be restored, and updated with specific code compliance items and assembly functional needs. The wood floors should be sanded and refinished. Any damage to the plaster walls or ceiling should be patched and repaired. The rear exist that lead to a stairs should get a new code compliant handrail

and door hardware. The stained glass windows should be addressed separately from the rest of the building for repair and upgrading energy efficiency. HVAC work should include a new ventilation system. Lighting should be upgraded to improve control and efficiency. Stage lighting should also be added and replaced. The stairs leading from the stage to the audience area should be modified to have code compliant risers and handrails.

Auditorium

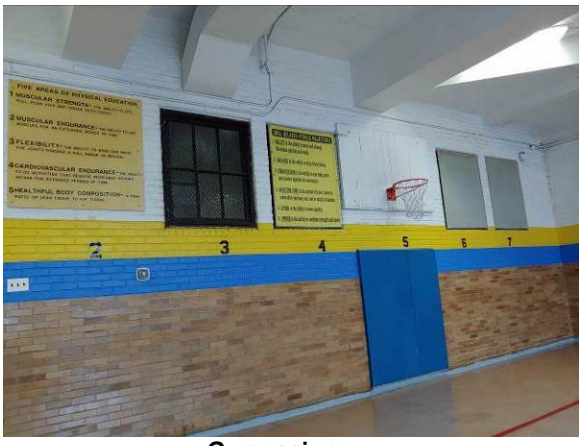
Auditorium

Gymnasium

Condition: The gymnasium is approximately 4,000 S.F., dividable, and located on the basement level. The floor is surfaced with VAT floor tile. The walls are painted and glazed brick that is in good condition. There are double hung- type windows with the lower half covered by safety matts that provide daylight. Room height is limited by overhead structure and steam radiators and associated piping. Signs and banners line the upper wall and often conceal windows that lead into the corridor. There are pull up bars and basketball backboards with hoops affixed to the walls for physical education. There is some padding mounted to the lower walls by the basketball hoops.

Recommendation: Abate all VAT floors and install new athletic surface striped per the district standards. The dividing partition should be demolished if it is not needed or doesn't work. The room should be provided with proper ventilation. The overhead piping and radiators should be replaced with a heating and cooling system that can fit tighter between the building structure. As part of the window replacement the gym windows should be replaced with units that have safety provision on the interior. Windows leading to the corridor should get proper safety attention so that the visible connection can be restored.

Gymnasium



Gymnasium

Cafeteria

Condition: The existing cafeteria is about 1700 S.F. on the basement level. Food storage takes place down the hall in a former classroom, and the kitchen is sized just to heat and hand out food (250 S.F.) The walls are plaster over glazed brick, as is consistent in most rooms on the basement level. There are windows on the outside wall and the lower panels are infilled with spandrel panel. There is an acoustical ceiling between the concrete structural beams. Fluorescent lighting is suspended in the space. The floor is VCT that appears recent and in good condition. There are heating radiators on the outside wall as well as tubular ductwork below the ceiling. The original purpose of this space was two technology classrooms.

Recommendation: The existing cafeteria is undersized and does not have adequate food preparation space. After repurposing the space the ceilings should be replaced and new lighting installed. Any piping or ductwork that is not part of a new HVAC system going forward should be eliminated.

Heating/ Serving Window

Cafeteria

Restrooms

Condition: There are student boys and girls restrooms located on each floor near the primary stairs. Staff restrooms are limited, and some have been buried or repurposed within the building. There are also storage spaces and offices that have been converted to restroom areas. The number of fixtures existing do not match the current building use. Compliance with ADA requirements varies, but most restrooms are not fully compliant. The floors are generally ceramic tile, and most are in good condition.

Recommendation: Toilets and lavatories should be evaluated overall in the building and as part of the building addition to meet Philadelphia Plumbing code requirements for quantities and designation of fixtures. Restrooms should be modified for ADA compliance throughout.

Building Shell

Roof

Condition: The existing roof construction over the main building is a built- up, low slope roof of rolled asphalt with ceramic impregnated granules on a reinforced concrete deck. The roof is broken into five different levels: a primary 3rd floor roof; two exterior stair tower roofs; a low roof over an extended 1st floor area, and a partial extended 2nd floor area. The larger areas do *not* positively pitch to the existing roof drains due to the compacted and failing insulation material, though no leaks are in the current maintenance records. There are overflow pipes that sit approximately 8” above the roof surface and drain to the exterior side of the building onto the ground or adjacent roofs below. There is new metal capping, and flashing along the perimeter parapet.
On the main roof there are a number of curbs that are no longer in use and have been capped and flashed over. There is an access penthouse with some step cracking in the masonry evident. There are also exhaust fans, bathroom vents, a small antenna, and a flag pole on the main roof.

Recommendation: There should be a complete replacement of roofing material. All limestone coping should be repointed and repaired. Repoint and make repairs to the existing parapet. New energy code compliant insulation and 2 ply modified bitumen roof assembly should be installed. Refinish all ferrous material on the roof, this includes vents, ladders, etc.
The penthouse stair tower requires re- pointing and replacement of the exterior door and steel lintel. Provide OSHA compliant exterior stair access to roof. Roof drains shall be replaced to interior connecting point. They shall also be scoped and cleared or repaired as determined.

Multi- Level Roofing

Typical Roof Condition

Windows

Condition: The existing windows are not original to the building but show failures and problems with the glazing. They are recorded as being replaced in the early 1990's. They are single pane, contain plexi-glass and are not energy efficient. There are windows at all three levels, as well as full height at the basement. There are some windows within the existing auditorium that contain stained glass infills.

Recommendation: All windows should be replaced with new, thermally broken metal units with low E double pane glazing. New units should have appropriate daylight control to take advantage of passive solar heating and maximizing electrical lighting efficiency. New units will require integrated security grills for grade level, and tilt-in operable sections at some percentage of all the openings in compliance with all applicable codes. The window replacement work will include repair to the existing openings, and cleaning of the concrete sills. Exposed lintels should be cleaned and painted with a carrion inhibiting finish.
No historical restoration work is anticipated to be required. Stained glass windows should be evaluated and repaired/ resealed as necessary. The building's AHERA report notes the existing window sealant as "assumed" to be positive for asbestos and should be expected to be part of the Environmental remediation scope.

Northwest Upper Façade

Northwest Windows at Grade

Exterior Doors

Condition: The current doorway used as the primary entry is along Cottage Street and is elevated by a stairway. It is composed of a pair of half- vision wood doors and an arched transom. It has a small sign indicating “visitor entrance.” One leaf is managed by a remote release controlled by the administration office. There is a similar doorway on Gillespie St. that is the secondary entry. At both paint is peeling, and door hardware is of varying age.
All other door exterior doorways are painted steel, primarily used for either emergency egress or access to and from the rear play yard. Most steel doors are in poor or worn condition.

Recommendation: The primary entry should be accessible, and entry and circulation could be reconsidered when a building addition is constructed. The existing wood doorways should be restored, and hardware should be replaced. The School District’s new Access Control program should be implemented. New signage should be included clearly designating the visitor and accessible building entry. All steel doors, frames, and hardware should be replaced to meet current code and School District standards.

Northeast Entry

Primary Entry

2.2.3 Structural Scope

Masonry Façade

Condition: The existing façade is of masonry design with brick patterns that are separated by limestone bands. Some brick and limestone is dislodged or cracked. Brick at the roof penthouse shows some step cracking. Most limestone is blackened from weathering and is missing mortar at the aligning joints. The exterior brick at the basement level is painted in some areas and other areas require attention to the finish. Some steel lintels on the rear side of the building have been exposed and show evidence of corrosion. There is a large lintel over the fresh air intake grille at the rear of the building that is bowing. Within the egress stair tower to the Gillespie St. side of the rear courtyard there is cracking that extends from the window up the brick wall.

Recommendation: Repoint and make localized repairs on the building as needed to maintain a weather tight, structurally sound exterior. Limestone at the roof line should be exposed and repointed during re- roofing activities. The Limestone banding on the building exterior should cleaned and all joints should be properly grouted. The large rear lintel should be repaired/ replaced.

Rear Ventilation Opening and Lintel

Concrete Framing

Condition: The building has a system of concrete beams & columns supporting the three story and basement structure. Most observable beams are painted and in good condition. The concrete columns are generally concealed within the walls. In the mechanical room there is an exposed column that has cracking and a section that has broken away and is exposing the reinforcing steel. In the fuel storage area, under the rear concrete yard, there is evidence of damage at the beams and slab.

Recommendation: The damaged column in the mechanical room should be stabilized, further evaluated for underlying causes, and repaired. Beams under the fuel storage area should be repaired.

Fuel Storage Room

Mechanical Room

Concrete Slabs

Condition: Floor slabs for the first, second, third floors and roof deck are supported by the concrete column and beam structure. Most slabs are covered by ceilings, and there are no surface failures apparent. Floor slabs for the landings in the exterior stair towers show spalling and have left steel reinforcement exposed.

Recommendation: Repairs are necessary in the stair towers. Exposed steel should be treated, and the slabs should be reconstructed to meet the appropriate bearing requirements.

Exterior Egress Stairway

Exterior Egress Stairway

2.2.4 Mechanical/ Plumbing Scope

General

All work shall be designed and installed in compliance with current, applicable codes at the time of construction. Due to the extent of work, much of the work will be done during the school year. The project must budget for shift work, phasing of installation throughout the existing building and isolation barriers and clean up during the construction.

Plumbing Fixtures

Condition:

1. The building is equipped with wall hung urinals (flush valve type), a combination of floor mount and wall hung water closets (flush valve type), and wall hung lavatories with single wheel handle faucets. Some of the original plumbing fixtures remain in service, however, these fixtures have reached the end of their service life and should be replaced. There are new urinals and water closets which have been installed which are equipped with button style flushometers.

2. Wall mounted drinking fountains are typically located in the hallways at intervals and are not located at the bathroom groups.
3. The bathrooms are also equipped with floor drains. Floor basin mop/service sinks do not appear to be original, however they appear to have been heavily used and should be replaced. Service sinks are available throughout the building for use by the janitorial staff and are typically located in the vicinity of the bathroom groups. The food prep/warming kitchen is equipped with one hand sink that is operated by a lever handle.

Recommendation:

1. Replace all lavatories in the building with low flow fixtures. Replace water closets and urinals as needed to supplement recent work so that all are new, low flow fixtures.
2. Replace the wall hung drinking fountains and integral refrigerated coolers in the corridors and at the restrooms with hydration stations.
3. Replace service sinks (janitor sinks) in the building.

Typical Water Closet

Typical Drinking Fountain

Domestic Water Distribution

Condition:

1. It appears that the 4” domestic water service piping is mostly soldered copper. Water service enters the building in the basement, with double check backflow preventer (RPZA – reduced pressure zone assembly) and a 4” water meter on the main line upon entering the building. The water meter appears to be new.
2. There are two instantaneous natural gas fired tank-less water heaters, Paloma Model PH24-M-DN, at this facility which are located in the boiler mechanical room. Each heater is rated for a maximum gas input of 178,500 btu/h, minimum 37,700 btu/h. The hot water system is equipped with a recirculation pump as well.
3. A water softener was located in the boiler room for treating the boiler make up water system.

Recommendation:

1. The distribution piping appears to be original and is at the end of its service life and is recommended to be inspected and repaired as needed. Confirm water pressure at building service entrance. Add booster pump for domestic water if required.
2. Replace two instantaneous natural gas fired tank-less water heaters with gas fired high efficiency condensing hot water heaters with direct ventilation.

Water System

Hot water system

Sanitary Waste

Condition: The sanitary waste piping system in the original building is extra heavy cast iron with lead and oakum seals and appears to be the original piping installed in the building. The sanitary system leaves the building by gravity flow.

Recommendation: Hire a qualified contractor to perform a detailed examination of the sanitary waste piping using visual inspection and video cameras to locate and replace any damaged piping and to further quantify the extent of potential failures. Budgeting for anticipated repair of components of the sanitary system must be considered.

Rain Water Drainage

Condition: The rain water drains from the roof are routed through mechanical chases in the building and connect to the underground site drainage system. There are overflow scupper pipes for the building that appear to have been recently installed in the parapets.

Recommendation: Drain lines should be scoped and inspected for failures as part of the project design phase. Blockage relief or repairs should be made as determined.

Energy Supply

Condition: Duplex fuel oil supply pumps provide the required fuel to the boilers. There are (2) 10,000 gallon fuel storage tank is located underground below the paved surface of the building courtyard area adjacent to the paved school play yard area. The fuel pumps and controls are original vintage, are beyond their serviceable life. Natural gas

enters the building in the basement. The natural gas main is welded, black steel piping while the branches are threaded, black steel.

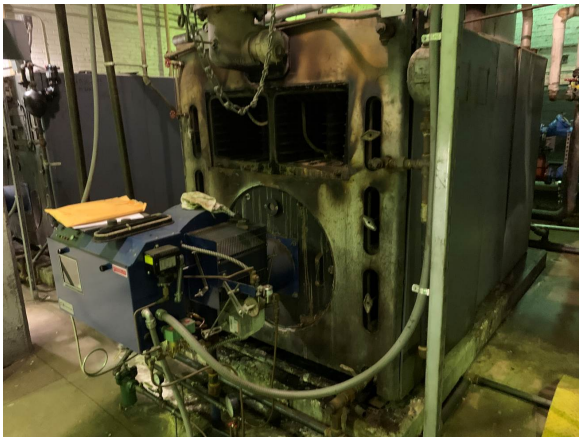
Recommendation: Remove the two, 10,000 gallon underground storage tank (UST) located underground beneath the paved schoolyard and associated delivery system and infrastructure. Confirm gas service can handle additional heating capacity required for new addition and kitchen. If not request utility service upgrade as required.

Fuel Delivery System

Heat Generating Systems

Condition: Low pressure steam is generated at 15 lbs./ sq. in. or less by two 4,061 MBH Weil McLain 94 series steam boilers with oil burners. All boilers are equipped with Power Flame number 2 fuel oil burners, model CR4-OB and are new. The boilers appear to have been install in the early 1970's and are at the end of their service life and should be replaced. There is draft control on both boiler flues. Combustion air louvers serve the boiler room to provide combustion air for the boiler operation. Burner controls provide full modulation with electronic ignition, digital flame sensing and pressure atomization for the oil. Burner oil pumps are driven by independent motors. The oil supply to the burner is equipped with dual solenoid valves and strainer/disposable media filter.

Recommendation: Remove the two 4,061 MBH Weil McLain 94 series steam boilers estimated to have been in service since the 1970s. Remove existing steam boilers and steam distribution system. Install natural gas powered, high efficiency, condensing hot water boilers sized for existing and new building.



Steam Boiler

Legacy Equipment

Distribution Systems

Condition:

1. The building steam distribution piping is black steel with welded fittings. The condensate piping is Schedule 80 black steel with threaded fittings. The piping has been in use beyond its service life and will require more frequent attention from the maintenance staff to address pipe/valve failures as time passes.
2. There are two condensate return receivers which return condensate directly back to the boiler. There is no boiler feed water system. One condensate return system (duplex pumps) is located in the main boiler mechanical room while the other (single pump) is located in the old coal and ash storage area. The condensate return piping is black steel with threaded joints. The building engineer stated that the steam traps are in good condition throughout the building.
3. Ventilation and additional heating for the building was provided by a house fan in the basement which is operational but is not used. The air was pushed into the various rooms of the building through ducts built into the walls. The air was exhausted from other ducts built into the walls, up through the attic space, and out through roof mounted vents. Additional fresh air is admitted into the building through the unit ventilators and by opening windows. Ventilation air is induced into the spaces through the outside air intake grilles located in the building exterior wall which are ducted to the unit ventilators.
4. The building is heated by cast iron, manifold, steam radiators in the classrooms and in the hallways, and currently is the sole source of heat for these areas. During our survey it was observed that most of the steam radiators had cabinetry to eliminate the ability of students to come into contact the hot surface of the manifold, however there were radiators in service without guards or enclosures.
5. The gymnasium is served by horizontally suspended steam manifold radiators. The radiators are suspended from the ceiling near the exterior windows. Ventilation is accomplished by operable windows. The steam radiators are part of the original building equipment, have exceeded their life expectancy and should be replaced. It is recommended to replace these systems with a roof top mounted unit with an overhead supply air distribution system and return air ductwork and low return intake grilles which would be protected from damage.
6. The cafeteria is served by vertical cast iron manifold steam radiators. The steam radiators are part of the original building equipment, have exceeded their life expectancy and should be replaced. A roof top mounted unit could be provided

with heating and cooling coils as well as ventilation to meet the outside air ventilation requirements for the cafeteria seating area.

7. The library is served by a four ton, packaged roof top unit with DX cooling (air cooled condenser) and electric heat. The refrigerant is R22. The unit serves the library through a ducted supply and return system.
8. The auditorium is served by an eight and one half ton (8-1/2), packaged roof top unit with DX cooling (air cooled condenser) and electric heat. The unit was manufactured by Carrier, Model 50PG-C09HARSNA-C048JK, with R410A as the refrigerant. The unit serves the auditorium through a ducted supply and return system.

Recommendations:

1. Install dual temperature water distribution piping and pumps located in a mechanical room on the basement level to supply more reliable heating and air conditioning for the building with a much longer service life. Remove existing steam and condensate piping in phases. Install new hot and chilled water (dual temperature) piping. The new pipe shall be flexible type PEX-A or PEX-B. Installation shall occur in phases.
2. Install new dedicated outside air systems (DOAS) with integral heat recovery wheels. The unit shall require return air from the relief air duct system for heat exchange and outside air intake sufficient to ventilate the existing building. Relief air for each classroom required as per IMC section 6 shall be accomplished by using the return duct (low) in each classroom to the basement. New ductwork in the basement shall connect to the DOAS system. Connect existing classroom relief air system in attic to new duct down to basement and the location of the DOAS. Allow air relief from DOAS to outside more than ten feet from outdoor air intake for DOAS. Provide ventilation for the corridors at two basement and two first floor entryways (4 locations total) by installing fan coil air handling units hung from the structure with outdoor air ducted to the unit from louvers in the window openings
3. Replace the stand alone steam original radiant heating (manifold) terminals with finned tube elements and controls for hot water heating only operation on the dual temperature system loop. Furnish and install finned tube cover as approved by architect. Replace the existing steam radiators throughout the classrooms with new case mounted fan coil units. The new units shall be equipped with dual temp coils and condensate pans. Condensate shall drain outside through new penetrations. These will require a new electrical circuit in each classroom. These will not have ventilation, which will be supplied by a separate DOAS system designed to provide adequate ventilation per ASHRAE Std 62 and IMC sections 4 and 6.
4. Provide ventilation, heating and cooling for the lower level gymnasium by installing a multiple fan coil units each supplied with ventilation from new exterior wall louver. Install exhaust fans in the gymnasium windows to be used during periods of high activity.

5. All system associated with the existing kitchen shall be removed for the purpose of renovating and repurposing the space. Provide ventilation, heating and cooling for the Kitchen/Food Prep Area by removing the existing steam radiators and installing fan coil units with heating and cooling with a dedicated outside air ventilation system. Install new kitchen hood exhaust (CLASS I) and make up air systems. This is required for a full kitchen as requested. A new dishwasher exhaust hood of stainless steel (CLASS II) shall be furnished. The new kitchen hood shall have a fire suppression system integral with the hood.
6. The library packaged roof top shall be replaced with a similar sized system connected to the building's proposed new controls.
7. The DX unit over the auditorium should be serviced, and any necessary repairs made.

Classroom Heating

Building House Fan

Food Preparation and Storage

Condition: The kitchen/food warming area is provided with vertical cast iron manifold steam radiators. Ventilation is provided by operable windows.

Recommendation: All HVAC and plumbing systems associated with the existing warming kitchen shall be demolished. The new kitchen located in the building addition shall be located set up for full cooking with a gas stove which will require a CLASS I exhaust hood (black iron, min 16 ga, welded construction.) It will also need new exhaust fans and dishwasher CLASS II type stainless hood and a new 100% outdoor air make up air unit with gas heat sized for 80% of exhaust fan flow. The kitchen hood shall have a fire suppression system integral with the hood. Condenser coils for walk in coolers shall be located outdoors. The new kitchen shall require all plumbing including food prep sinks, dish-washing sinks, hands sinks, floor sinks and floor drains. The kitchen shall have a dedicated domestic hot water heater to produce 140 degree water. The sanitary will require an appropriately sized grease interceptor. All food prep must meet Department of Health requirements and applicable plumbing and HVAC codes.

Cooling Plant

Condition: The building does not have a system to provide centralized cooling throughout.

Recommendation: Install a 300 ton air-cooled chiller on the roof of the new building or on the ground. It shall be sized of sufficient capacity for the existing building and new addition. The chiller will incorporate multiple compressors and electrical circuits as redundant features.

Terminal & Package Units

Condition: There are a few which have window air conditioning units but predominantly the building does not have cooling systems, with the exception of the auditorium and library. There are roof mounted exhaust fans which serve the restrooms.

Recommendation: Remove the window air conditioning units. The existing power outlet will remain.

Controls & Instrumentation

Condition: The original pneumatic systems still provide basic control functions. Wall mounted, pneumatic room thermostats, manufactured by Robert Shaw, drive the control valves open and close on the steam radiators. There is one air compressors which generate control air for the temperature control system which are located in the boiler room. A refrigerated air dryer serves the compressor. The building engineer reports temperature control and pneumatic thermostats are generally problematic throughout the facility. Potential problems with oil, moisture or dirt in the pneumatic copper tubing can be one source of problems. The small rubber gaskets and tubing connections at control devices can become brittle over time and fail to compound control problems. The pneumatic systems are beyond their service life and require too much attention from the maintenance staff.

Recommendation: The original control valves, dampers and pneumatic actuators are over 65 years old and should be replaced. Replace the pneumatic controls for the HVAC systems with modern DDC modules, valves and actuators to improve reliability and energy efficiency. New packaged equipment such as unit vents, chiller, boilers, and chiller shall have factory installed integral controllers. Stand- alone equipment such as pumps, fans, and dampers shall require new programmable controllers. The chilled water/hot water system shall be manually changed over. Provide a new building automation system (BAS) with communication interface to the preferred BACnet system in use throughout the District.

HVAC Controls

2.2.5 Electrical/ IT Scope

Power Distribution System

Condition:

1. The existing building electrical service is a 1200A, 208V/120V, 3 Phase and 4 Wire system.
2. There are a few window air conditioners in the building.
3. This school has antiquated power and lighting distribution panels on each floor. There are a few new power panels that may be reused. Design consultant shall engage a licensed electrician to survey the existing panel condition, spare capacity and branch circuit conditions.
4. The existing classrooms do not have sufficient power receptacles per School District of Philadelphia classroom standard receptacle layout.

Recommendation:

1. Provide a new 3000A electrical service for all new loads and existing loads.
2. The existing main building 1200A electrical service equipment is in good condition and should be reconnected to the new 3000A electrical service.
3. Replace the antiquated panels on each floor. If the existing panel is flush mounted in the masonry wall then retrofit by reusing the existing panel boxes. If the existing panel is surface mounted then replace entire panel.
4. Provide more power receptacles in classrooms to meet the minimum classroom power receptacle layout.
5. Demolish window ACs after new chiller is operational and accepted by SDP.

6. Install new power feeds for proposed mechanical equipment. This would include all fan coil or ventilator units, new DOAS equipment, new chiller, and any other new exhaust or air handling units.

Electrical Service

Local Panel

Lighting System

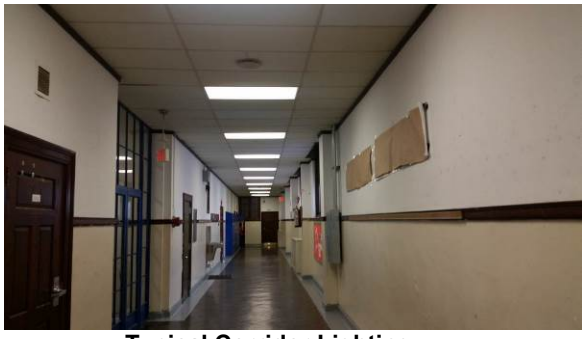
Condition:

1. The existing interior lighting system in the school is mostly fluorescent lighting fixtures with T8 and T12 lamps.
2. The exterior lights appear to be originally high intensity discharge type.
3. The interior lighting is controlled by toggle switches in each space.
4. The interior hallway lighting is control by circuit breakers in hallway lighting branch panels.

Recommendation:

1. Replace existing interior and exterior lighting with LED lighting system.
2. Provide new lighting branch circuits if existing cannot be reused and reuse the existing conduits in good condition to the greatest extent possible.
3. Provide lighting control complying with the adopted Philadelphia energy code.
4. Provide occupancy sensors in each space and hallway for full coverage detection.
5. Exterior lights shall be factory equipped with photocells.
6. Replace exit signs with white thermoplastic LED type exit signs.
7. Connect emergency lights to the existing generator source.
8. Provide additional exterior wall mounted LED lights.
9. Design consultant shall provide floor plans, luminaire schedule and specifications.

Typical Classroom Lighting



Typical Corridor Lighting

Fire Alarm System

Condition:

1. The existing fire alarm system is a coded bell system.

Recommendation:

1. Provide a new fire alarm system per School District of Philadelphia fire alarm standard.
2. Design consultant shall provide floor plans, riser diagram and specifications.
3. Demolish the existing coded fire alarm system after acceptance of new fire alarm system.

Typical Fire Alarm Device

Fire Alarm Panel

Security System

Condition:

1. There are about 16 analog cameras at this school.

Recommendation:

1. Provide a new IP surveillance system with security rack including rack mounted UPS and Network Video Recorder. Contractor shall engage a surveillance system integrator to provide a complete and functional system.
2. The existing surveillance system needs to remain operational until the new surveillance system is accepted.
3. Design consultant shall provide floor plans, riser diagram and specifications.

Telecommunication System

Condition:

1. The existing classroom quantity of telecommunication receptacles do not meet the School District of Philadelphia minimum classroom requirement.

Recommendation:

1. Provide telecommunication upgrades including more CAT 6 telecommunication receptacles in the existing classrooms based on school district classroom standard layout excluding operational phones and wireless access points.
2. Construction documents and specifications shall adhere to school IT design guidelines and specifications.
3. The contractor shall be responsible for installation of conduits, cables, patch panels, racks, and cabinets including all terminations and labeling.
4. Provide wireless access points per SDP IT department's design standard.
5. Retain classroom phones that are functional.

Synchronized Clock System

Condition:

1. Most of the clocks in the school do not work, or no longer synchronize.

Recommendation:

1. Provide wireless clocks in classrooms, cafeteria, main office, common offices, gym, and auditorium. Provide wire guards where necessary.
2. The design consultant shall provide floor plans and specifications.
3. Remove the old clock system that is no longer functional.

Classroom Clock and PA

Public Announcement and Bell System

Condition:

1. The existing public announcement and bell system is operational.

Recommendation:

1. Remove the old public announcement system that is no longer functional.

Generator System

Conditions:

1. There is an indoor 30kW diesel generator and a customized 3 way switching emergency panel that may be reused.

Miscellaneous

Recommendation:

1. Test Auditorium sound system. If inoperative then provide a basic sound system.
2. Provide stage theatrical lighting suitable for school plays.
3. Remove decommissioned TV and mounting brackets.
4. Remove decommissioned Phone and PA speakers.

3.0 Appendixes

3.1 Existing Building Record Drawings

- **Existing site plan**
- **Existing Basement, First Floor, Second Floor, Third Floor Electrical Floor Plans.**
- **Existing Knorr Street, Gillespie St, and Cottage Street, and Rear Elevations.**

3.2 Site plan with Addition Footprint