

**WILLIAMSBURG PUBLIC SCHOOLS
ELEMENTARY SCHOOL FEASIBILITY STUDY
ANNE T. DUNPHY SCHOOL and HELEN E. JAMES SCHOOL**

7. FACILITIES ASSESSMENTS

SUMMARY

The intent of the *Facilities Assessments* section is to document the existing conditions, deficiencies, and recommendations for both the Anne T. Dunphy School and the Helen E. James School.

Our Architects and Engineers completed an extensive walkthrough of both buildings and their sites during the month of October and November of 2002. The categories studied include Site, Building Interior, Building Exterior, Structural, Fire Protection, Plumbing, HVAC, and Electrical.

The descriptions outlined in this section are further detailed and separated into specific items relative to each category. For example, the Architectural category describes each of the two buildings. These buildings are then separated first by floor and then by similar program spaces, i.e. typical classrooms, toilets, corridors offices. Then each group is described and outlined into eight typical subjects. The subjects are: Floors, Ceilings, Walls, Windows, Doors and Hardware, ADA/MAAB Code Compliance, Specialties (Chalk/Marker/Tack Boards), and Millwork & Shelving. Each of these individual sections have comments for existing conditions, deficiencies, and recommendations with corresponding detailed estimates in section eight (8) of this feasibility study.

The *Facilities Assessments* section addresses the existing condition of the facilities and recommendations to improve the physical condition of the space only. These descriptions are required by SBAB and must describe the physical condition and future need of the current school facilities.

7. FACILITIES ASSESSMENTS

SUMMARY

ANNE T. DUNPHY SCHOOL

The original building was constructed in the early 1950's and currently houses grades 4-6. The construction of the building consists of a brick and block composite exterior wall with a steel frame superstructure. The building has been well maintained over the 49 plus years but many of the materials throughout the building have exceeded their typical life expectancy. There was a considerable amount of renovations during the mid to late 1980's. This included the addition of wood trusses, new insulation, and a new roof over the double loaded classroom wing. Also included in this renovation were new non-insulated wood windows, a front entrance canopy, and minor interior improvements.

Over time, many of the original spaces have been converted into specialized teaching spaces, special education, and additional administration areas. The most noteworthy is the renovation of the original locker facilities into a special education room and art room. The physical condition of both spaces is less than desirable and should be addressed. Other minor renovations and alterations to the original building include a newer h/c toilet facility adjacent to the main lobby and a chair lift at the existing stage.

The core facilities of the building include the Kitchen, Cafeteria, Stage, and Gymnasium. All of these areas are used daily by both the community and the school department. The physical condition of the core facilities needs improvement, not only for the physical condition of the materials, but for a properly rated area of assembly. Many of the original storage areas associated with the core facilities have been converted into other various uses (Office, Special Education, Conference). The general lack of program storage is apparent throughout the building and magnified in the core area. Examples range from: gym, band, and equipment storage consuming approximately 40% of the stage, chair storage beside gymnasium vestibule creating a potentially dangerous condition to the students, and a physical education office/desk located in the exit corridor from the gymnasium.

Overall the building is in fair condition but is in need of substantial upgrades throughout the facility in order to meet current codes, improve safety, and alleviate the inadequacies of space that currently exist.

A. ANNE T. DUNPHY SCHOOL

SITE -7.48 acres

a. EXISTING CONDITIONS

i. Location

The Anne T. Dunphy School is located at 1 Petticoat Hill Road in the town of Williamsburg, Massachusetts. The School has an approximate daily population of 100 students. Town owned land, commercial property, and residential property situated along Main Street (Rte 9) bound the site to the east. The site is bound to the north by Petticoat Hill Road. To the west and south is Scott Hill. The school site is accessed by a 20 ft. wide bituminous drive from Main Street, and a bituminous access drive off Petticoat Hill Road. The main entrance to the school is protected by a canopy on the north side of the building.

ii. Site Features

Cars enter and exit the main entrance parking lot via a 20 ft. wide bituminous access drive from Main Street. A gravel parking lot is also entered and exited from Petticoat Hill Road. Buses enter the main parking lot off Petticoat Hill Road, and exit using the Main Street drive. They then continue to the James School. There are approximately 16 faculty and staff members that drive automobiles to the school. There are approximately 50 parking spaces on the school site; though, there are only eight that are delineated by pavement markings.

East of the school along the Main Street are the old town hall, the Williamsburg Grange, a general store, and a few residential houses. A restaurant is located to the northeast of the school site at the corners of Main, Petticoat Hill Road, and Williams Street (Rte. 9). Between the old town hall and the school is a small garage used to house maintenance equipment for the school.

North of the school is a bituminous parking lot on school property, a grassed area and a gravel parking lot utilized by the restaurant, and accessed north of the school via Petticoat Hill Road.

West of the school is Scott Hill. The toe of the slope begins at the western edge of the play area located west of the building. This slope is mostly wooded although some residential housing is also adjacent to the school site, situated along Petticoat Hill Road and Petticoat Hill Lane.

South of the school are grass play areas utilized by the school. South of the grass play areas is a grass drainage swale constructed to collect stormwater runoff from an adjacent hillside. The swale runs from the toe of Scott Hill on the west side of the site, east for approximately 175 feet to a 12-inch diameter culvert that discharges to a stream. The hillside is mostly grassed up to a small less sloped area to a treeline located along the southern property line. There is a bituminous area located adjacent to the building on the south and east sides. Playground equipment is located southwest and southeast of the building. An eight-foot wide bituminous sidewalk extends from the main entrance parking lot, to the south where it crosses over a 36 inch diameter culvert, then turns east and continues to South Street. A stream originates at the southeast corner of the site, continues to the culvert at the eight foot bituminous walk, where it flows under the walk,

turns east, and flows parallel to the walk, to a two 2 ft. by 2 ft. box culvert which conveys water under South Street towards the southern perimeter of the Helen E. James School site.

iii. Soils

Existing soils, as mapped by the Natural Resources Conservation Service (NRCS) U. S. Department of Agriculture, are predominantly classified as Sudbury and some Hinckley in the slightly sloping areas of the site and Merrimac series soils along the slope, south and west of the school. The most frequently occurring soil on site, Sudbury, consists of deep, moderately well drained soil. Soil in this series is recognized as having a gravelly nature, as follows:

At depths 0 to 16 inches: fine sandy loam;

At depths of 16 to 36 inches: gravelly loamy sand to very gravelly loamy sand;

From 36 inches to depths of 60 inches: gravelly sand. Gravel in the 36 to 60 inch strata can consist of up to 25 percent gravel, and up to 10 percent cobbles.

Hinckley soils consist of deep, excessively drained soils. Soil in this series is similar to Merrimac soils, except that they contain less silt. Hinckley soils are described as follows:

At depths of 0 to 13 inches: loamy sand; At depths of 13 to 60 inches: gravelly sand to stratified sand, coarse sand, and gravelly sand with up to 70 percent gravel in individual strata.; Merrimac soils occur on the slopes adjacent to the grassed play areas. These soils are excessively drained. Merrimac soils are described as follows:

At depths of 0 to 16 inches: sandy loam. At depths of 16 to 60 inches: sandy loam, stratified sand and gravelly sand, with up to 40 percent gravel;

Seasonal high water levels are listed at greater than 6 feet below grade for both Hinckley and Merrimac soils. Seasonal high water levels for Sudbury soils are listed at 1.5 to 3 feet below grade.

iv. Utilities

Utilities on site include: a sanitary sewer, water, an above grade propane tank, electric and telephone. Domestic water is provided via the municipal water system. Surface storm water generated on-site generally flows in an easterly direction. Catch basins are strategically located in the school parking lot to collect surface storm water flow. Two swales are also located on site to collect surface storm water flow. The first is located west of the school. This swale collects flow that originates from the direction of Petticoat Hill Lane, and directs flow into a catch basin located at its terminus. This catch basin is connected to an underground storm water collection system that discharges to the stream located at the southeast corner of the site. The second swale is located south of the school at the toe of the grassed slope. This swale collects surface water flow from the grassed swale and directs it east, through a 12 inch diameter culvert, and into the same stream.

Sanitary waste is discharged to the existing sanitary sewer system for treatment off-site.

Electrical supply is via an underground connection emanating at a utility pole at the school maintenance garage.

An above grade propane tank is located outside the building at the art room.

Telephone service is provided via an aboveground connection at the utility pole near the school maintenance garage.

v. Access Provisions

Handicap access is provided via at-grade sidewalks located at the main entrance and the gymnasium entrance. At grade sidewalks are also located at the southern and western exits of the classroom wing.

vi. Traffic

Existing site signage is minimal and consists primarily of pavement markings, striping, and sight signs.

vii. Landscape Features

Existing landscaping consists of trees and shrubs around and adjacent to the school building. The shrubs are mostly coniferous and the trees are mostly deciduous. Mulched areas at the main entrance are furnished with an array of plants and shrubs. Lawn areas are located adjacent to the parking lot. Grassed play areas are located south of the school. Mulched areas with playground equipment are located within the grassed play areas.

2. DEFICIENCIES

- i.** The existing main parking lot pavement and curbing are in poor condition. Weather and vehicular traffic have caused cracking and settling.
- ii.** The existing bituminous sidewalk at the main entrance is in poor condition.
- iii.** Existing site fencing is deteriorated and damaged.
- iv.** No provisions for dumpsters, i.e. concrete pads and enclosures, are present on site.
- v.** Fire truck access to the rear portion of the site is limited by the lack of an access drive.
- vi.** The existing bituminous areas surrounding the school as well as the bituminous sidewalk from the parking lot to South Street are in poor condition.
- vii.** The existing wood guard rail at the stream crossing is deteriorated and is in poor condition.
- viii.** The existing pavement markings are in poor condition.
- ix.** There is no separate area delineated as an area for parent drop-off of students.
- x.** Soil around existing drainage structures has eroded into the drainage system resulting in the creation of hazardous voids in their immediate proximity.
- xi.** No provisions for emergency power generation are present on site.
- xii.** No bollards are present at the existing propane tank.

xiii. Building entrances with 6-inch steps are not ADA accessible.

xiv. The existing softball field and backstop are in poor condition.

3. RECOMMENDATIONS

i. The existing main parking lot pavement should be reconstructed. New curbing should be installed.

ii. The existing bituminous sidewalk at the main entrance should be reconstructed.

iii. Existing site fencing should be replaced.

iv. A concrete dumpsters pad and enclosure should be constructed.

v. A Fire truck access drive should be constructed around the entire building to provide total access to the building.

vi. The existing bituminous areas surrounding the school as well as the bituminous sidewalk from the parking lot to South Street should be reconstructed.

vii. The existing wood guide rail at the stream crossing should be removed and replaced with a new steel beam guide rail.

viii. The existing pavement markings should be replaced as part of the parking lot reconstruction.

ix. A separate area delineated area for parent drop-off of students should be constructed.

x. Existing drainage structures should be replaced with standard Mass Highway drainage structures.

xi. An emergency power generator should be provided on site.

xii. Bollards should be provided at the existing propane tank.

xiii. Building entrances with 6-inch steps should be made ADA accessible.

xiv. A new softball field and backstop should be installed.

2. ARCHITECTURAL – INTERIOR

ADMINISTRATION

a. EXISTING CONDITIONS

i. **Floors**

The entire administration area contains a 9x9 vat tile flooring system that is original to the building.

ii. **Ceilings**

The ceiling is consists of a glued on 12x12 acoustic tile that is in relatively poor condition. Some tile located in the Principal's office has water stains and appears to have pulled away from the plaster ceiling above.

ii. **Walls**

Many of the walls in the administration area are constructed of a wood paneling system with glazing at the intermediate and upper level. The finish of the wood itself is in poor condition. The wall surrounding the vault and the exterior wall are constructed of a concrete block with a gypsum/plaster veneer.

iii. **Windows**

All windows are wood frame construction with a single pane of glass. Each window has a set of metal-framed storm windows that have been fastened to the exterior wood frame.

iv. **Doors & Hardware**

There is a single wood door with a borrowed light (clear pane of glass) in a metal frame that separates the corridor from the classroom. Also in this room is another wood door in metal frame that is a solid panel door.

v. **Code Compliance**

There are code compliant issues in this room, see *Deficiencies Section* below for further description.

vi. **Specialties (Chalk/Marker/Tack Boards)**

There are both marker boards and tack boards in this classroom that are in good condition.

vii. **Millwork & Shelving**

There is few pieces of fixed or permanent millwork or casework in this classroom. There are however loose bookshelves and storage cabinets. The only fixed piece of millwork is located around the in-classroom sink. This also offers some fixed storage.

b. DEFICIENCIES

i. **Floors**

The floor tile itself is in poor condition with many visible signs of deterioration at the area of heaviest travel. The transition from the computer lab to the corridor is in disrepair and further investigation of the floor slab should be completed

ii. **Ceilings**

This type of ceiling is 12''x12'' acoustic tile panels glued to either a gypsum board or plaster substrate. There is a potential that these tiles are fastened with asbestos containing glue daubs. The ceiling throughout this area are stained and in need of replacement.

iii. **Walls**

The veneer and exterior walls are in relatively good condition but are in need of minor patching and cosmetic improvement.

iv. **Windows**

The existing windows consist of a single pane of glass set in a wood frame. In this style of window, both the frame and glazing type, have little or no insulation value. Although there are storm window assemblies screwed into the wood frames these also offer little thermal value.

v. **Doors & Hardware**

The doors and hardware sets are in fair condition.

vi. **Code Compliance**

The knob style door hardware is not code compliant. The corridor door also does not meet push/pull code compliance.

vii. **Specialties (Chalk/Marker/Tack Boards)**

The few miscellaneous tack boards located in this area are in relatively poor condition but should be replaced as a part of a complete renovation.

viii. **Millwork & Shelving**

The small bookcase and shelves are in poor condition do to age and use.

c. **RECOMMENDATIONS**

i. **Floors**

The entire floor in this area should be removed, leveled, and a new flooring system should be installed. Typically Administration areas would have a carpeting throughout the office area and vct at the high traffic areas.

ii. **Ceilings**

The entire ceiling system should be removed and a new lat ceiling system should be installed in coordination with any new mechanical systems and the head of the existing window.

iii. **Walls**

The veneer walls should be patched, repaired, and repainted. The wood paneling and related framing should be repaired and refinished. Note: In the event of a total renovation the wood paneling and associated framing construction should be identified in the building type classification.

iv. **Windows**

Although the windows are in relatively good condition, with exception to many of the wood sills, they should be replaced with a thermally broken window system to maximize energy efficiency.

v. **Doors & Hardware**

Both wood doors in this classroom should be refinished, and repainted. These doors should also be fitted with new hardware that meets current code compliance. *(See Code Compliance Section below for further detail)*

vi. **Code Compliance**

The door entering into the existing computer lab does not meet the current minimum approach standards. To address this issue either the door and frame could be relocated within a new opening in an attempt to gain the necessary approach space or the door opening can be removed.

vii. **Specialties (Chalk/Marker/Tack Boards)**

All of the tack boards should be removed and new tack boards should be installed.

viii. **Millwork & Shelving**

There is minimal shelving in this area. A new front desk and additional file storage should be installed during the renovation.

CLASSROOMS 1-6

a. EXISTING CONDITIONS

- i. Floors**
The existing floors consist of a 9x9 vat tile. There are also miscellaneous carpets throughout each of the classrooms.
- ii. Ceilings**
The ceilings consist of a 2x2 lat that is slightly sloped from a high point on the corridor side down to the low point on the exterior wall. The ceilings are in good condition throughout these classrooms.
- iii. Walls**
The corridor wall and the exterior wall consist of a veneer over a concrete block. The partition walls between the classrooms are concrete masonry units.
- iv. Windows**
Same throughout
- v. Doors & Hardware**
The doors from the corridor into the classrooms are wood with original Non-ADA hardware. The doors to the exterior are metal with Non-ADA hardware.
- vi. Code Compliance**
There are code compliant issues in this room, see *Deficiencies Section* below for further description.
- vii. Specialties (Chalk/Marker/Tack Boards)**
Typically, in each of the classrooms there are chalkboards and tack boards located on walls that divide the classrooms. They are typically 4' high and 12-14' long (2 each wall).
- viii. Millwork & Shelving**
Throughout the classrooms there is a wide variety of movable and built in millwork. All of the classrooms have a sink with associated millwork. All of the classrooms have built in millwork and shelving on the corridor side of their respective classroom. In some instances the millwork has been removed in the recesses and coat racks and miscellaneous storage has been installed.

b. DEFICIENCIES

- i. Floors**
All of the floors throughout the classrooms have a 9x9 tile that may have asbestos containing materials. The flooring throughout this area is in fair condition but is beginning to show signs of age and deterioration. The carpeted areas are worn throughout and have miscellaneous staining.
- ii. Ceilings**
The ceilings throughout this area are in relatively good condition and show no signs of damage.
- iii. Walls**
The corridor and exterior walls have miscellaneous damage and are in need of minor repairs. The walls that divide the classrooms are in good condition with exception to a few minor hairline cracks that should be addressed.
- iv. Windows**
Same throughout
- v. Doors & Hardware**
The doors throughout the classroom wing are in poor condition and are in need of repair or replacement. The hardware itself is in poor condition and does not meet

- current code compliance.
- vi. **Code Compliance**
All of the doors from the corridor into the classrooms have Non-ADA hardware and do not meet the floor clearance for approach on the pull side of the door. The doors to the exterior (Classroom 1&2) do not have the proper hardware for code compliance.
 - vii. **Specialties (Chalk/Marker/Tack Boards)**
Both the chalk boards and the tack boards are in relatively poor condition and are in need of replacement.
 - viii. **Millwork & Shelving**
Generally, the millwork in all of the classrooms is in very poor condition. The deficiencies range from de-laminating particle board creating splinters to broken hinges and coat hooks that become a hazard to some of the users.

a. RECOMMENDATIONS

- i. **Floors**
Our recommendation is to replace, level and install a new flooring system throughout the entire classroom wing. The existing tile should be tested for asbestos and removed accordingly. The carpeted areas in the classroom should also be removed and new carpeting should be installed (installation of a new vapor barrier should be investigated during this installation to protect these areas from the present high water table).
- ii. **Ceilings**
The ceilings are in good condition and should be salvaged as a part of any renovation.
- iii. **Walls**
Both the corridor walls and the exterior walls should be patched, repaired and painted. Any additional chases and/or conduit should be run on the corridor wall to minimize the cost of alterations. The walls dividing the classrooms are in good condition but need minor repair and painting throughout.
- iv. **Windows**
Same throughout
- v. **Doors & Hardware**
All of the doors into the classrooms from the corridor should be replaced along with new code compliant hardware. Also, the door location should be shifted, in plan, to allow the proper push/pull clearances. The two doors to the exterior, in classrooms 1&2, should be replaced with new insulated metal doors and code compliant hardware.
- vi. **Code Compliance**
Many of the ADA/MAAB code compliance issues are resolved with the replacement of the doors and hardware as delineated above. In addition, the sinks and drinking fountains in each of the classrooms should be set at the proper height and allow for the required clear floor areas when any replacement of these items takes place.
- vii. **Specialties (Chalk/Marker/Tack Boards)**
We recommend a complete replacement of both the chalk and tack boards with new marker boards and tack boards. The total square footage appears to be adequate but should be studied as a part of a total renovation.
- viii. **Millwork & Shelving**

All of the existing millwork, shelving, coat hook, and window sills should be replaced. The built in book shelves and storage bins should be designed in order to maximize use of the existing recessed areas.

GYMNASIUM / STAGE / STORAGE

a. EXISTING CONDITIONS

- i. Floors**
The Gymnasium has a wood flooring system with striping for basketball and volleyball. The stage is constructed of wood framing with a wood floor located approximately 36" above the finished floor.
- ii. Ceilings**
The ceiling in the gymnasium and storage area contains 12x12 acoustic tile glued onto the roofing system. The stage contains an exposed wood decking system.
- iii. Walls**
The walls of all of these areas are painted concrete masonry with a wainscoting of glazed tile in the gymnasium. The wainscoting is approximately 6 feet above the finished floor and runs along the entire perimeter of the gymnasium space.
- iv. Windows**
Same throughout - with exception to a wire mesh guard on all of the windows in the gymnasium area.
- v. Doors & Hardware**
The doors from the corridor entering into the gymnasium are wood with a 14"x14" glazed opening on the upper portion of the door. The doors to the vestibule are similar to the corridor doors. The exterior doors from the vestibule are metal with a large glazed opening on the upper portion of the door.
- vi. Code Compliance**
Please see the deficiencies section
- vii. Specialties (Chalk/Marker/Tack Boards)**
There are none for this area.
- viii. Millwork & Shelving**
There are none for this area.

b. DEFICIENCIES

- i. Floors**
The wood flooring system of the gymnasium is in relatively good condition but is beginning to show sign of wear in the heaviest traveled sections of the floor. The stage floor has multiple areas of deterioration from termites. The source of the problem has been corrected but the original wood flooring is still in place. The edge of the stage itself is loose and needs to be addressed.
- ii. Ceilings**
The 12x12 tile in the gymnasium area is in need of repair and/or replacement. There are also visual signs of water damage along the perimeter of the gymnasium as well as the miscellaneous penetrations through the roof. The wood decking of the stage itself is in good condition but should be evaluated during a renovation for code compliance.
- iii. Walls**
The walls of the gymnasium are in fair condition but are in need of some repairs. The ceramic tile wainscoting is in good condition but there are a few areas that are in need of repair along the base course of the tile. The stage walls are in good

- condition but need to be painted.
- iv. **Windows**
Same throughout - with exception to the wire guards. Some of the guards should be investigated for their integrity.
 - v. **Doors & Hardware**
The existing wood doors are in poor condition and do not carry the proper fire rating for this particular assembly area. The doors to the exterior provide little or no insulation value and are in poor condition.
 - vi. **Code Compliance**
The door hardware from the vestibule to the exterior does not meet current code. There is a handicap chair lift located on the north side of the stage with access from a small vestibule adjacent to the gymnasium.
 - vii. **Specialties (Chalk/Marker/Tack Boards)**
There are none for this area.
 - viii. **Millwork & Shelving**
There is a noted storage deficiency for gymnasium equipment, chairs, and miscellaneous items.

c. RECOMMENDATIONS

- i. **Floors**
The existing gymnasium wood floor should be sanded down, re-stripped, and refinished. The construction of the stage floor should be investigated further for the extent of the termite damage. The stage flooring itself should be rebuilt from the edge of the stage back approximately eight feet and finished to match the original wood floor.
- ii. **Ceilings**
The 12x12 tiles should be removed and repaint the existing ceiling. The addition of acoustical panels is also suggested if the improvement delineated above is constructed. The ceiling of the stage should contain the proper fire rating and/or meet the current code if a complete renovation occurs. The 12x12 tile in the adjacent storage rooms should also be removed and a new lat ceiling system installed.
- iii. **Walls**
All of the block walls should be repaired, patched, and repainted throughout the gymnasium, stage, and storage facility
- iv. **Windows**
Same throughout
- v. **Doors & Hardware**
The doors from the corridor into the gymnasium should be removed and replaced with a new properly rated door and code compliant hardware. The door from the vestibule to the exterior should also be removed and replaced with a new insulated metal door and code compliant hardware.
- vi. **Code Compliance**
The ADA door hardware compliance was addressed in the door and hardware section. During a complete renovation further investigation is needed to determine the proper fire rating of the stage and gymnasium.
- vii. **Specialties (Chalk/Marker/Tack Boards)**
There are none for this area.

viii. Millwork & Shelving

There should be a dedicated storage area for gymnasium equipment and general storage.

SPECIAL EDUCATION & ART ROOM

a. EXISTING CONDITIONS

i. Floors

The floors in the Special Education room are carpeted over an existing tile floor that remains from the original use as a locker room. The Art Room has a fairly new vct flooring system believed to be over the original tile floor.

ii. Ceilings

The ceilings throughout this area are plaster with exposed piping and ductwork fastened to the ceiling.

iii. Walls

The walls in this area are painted concrete masonry with a glazed tile wainscoting up to approximately 4'-6" above the finished floor.

iv. Windows

Same throughout

v. Doors & Hardware

In the Special Education Room there is a wood door from the corridor entering into the room and another wood door that connects to the Art room. There is also a metal door directly to the exterior with a large glazed opening on the upper portion of the door. The Art room has the wood adjoining door described above as well as a wood door to an exit corridor

vi. Code Compliance

Please see the deficiencies section

vii. Specialties (Chalk/Marker/Tack Boards)

There is a minimal amount of tack boards both of the spaces, and many of the walls are covered by numerous bookshelves and crate storage.

viii. Millwork & Shelving

There are miscellaneous bookshelves throughout this room, none of which are fixed. In the Special Education room there is also a counter with bookshelves below that divides the room into two distinct spaces. The Art room has a small sink, laminated countertop, and storage below.

b. DEFICIENCIES

i. Floors

The carpeting in the Special Education room is in poor condition and has some signs of wear. The vct in the Art room is in fair condition but the original floor is beginning to telegraph through to the surface.

ii. Ceilings

The ceilings are in good condition throughout this area.

iii. Walls

The walls have some minor cracking and the paint is in poor condition

iv. Windows

Same throughout

v. Doors & Hardware

None of the doors or the hardware are in good condition.

- vi. **Code Compliance**
None of the hardware devices on the doors meet current codes.
- vii. **Specialties (Chalk/Marker/Tack Boards)**
There is a minimal amount of tack boards in this space, and expansion of a chalk or tack board should be given consideration.
- viii. **Millwork & Shelving**
Most of the millwork in the space is in poor condition. Also, the lack of a dedicated storage area appears to be an issue considering the variety and amount of boxes, plastic bins, and file cabinets. There is one sink located adjacent to the entry of the room that has remained from the original locker room use and appears to be in fair condition but should be addressed with any code compliant renovations.

c. RECOMMENDATIONS

- i. **Floors**
The existing carpeting in the Special Education Room should be removed, the floors levels, and a new flooring system should be installed that is adequate for the function of the space. The combination of carpeting and vct flooring is recommended for this space. The Art room floor should be removed down to the slab and reinstalled with a new flooring system.
- ii. **Ceilings**
The ceilings are in good condition but to conceal existing HVAC units and miscellaneous piping a new lat ceiling system is recommended.
- iii. **Walls**
The minor cracks and holes on the walls should be repaired, patched, and all of the walls should be primed and repainted.
- iv. **Windows**
Same throughout
- v. **Doors & Hardware**
All of the wood doors should be replaced with new wood doors and code compliant hardware. The exterior door should be replaced with a new insulated metal door and code compliant hardware.
- vi. **Code Compliance**
The door hardware should be addressed to meet current codes. Both of the sink units should also be replaced to meet current codes.
- vii. **Specialties (Chalk/Marker/Tack Boards)**
The minimal amount of tack board should be replaced new tack board. Additional tack board areas are recommended with a complete renovation.
- viii. **Millwork & Shelving**
The existing collection of miscellaneous millwork should be replaced with new fixed millwork and shelving units. It is recommended that the entire perimeter of the classroom have a variety of secured and open shelving along with a central shelving/desk area at the center of the room (as it exists for the Special Education room). An additional secure art storage room is recommended for proper program storage.

KITCHEN

a. EXISTING CONDITIONS

i. **Floors**

The floors are a 9x9 vit tile that may have asbestos containing materials and further testing should be completed.

ii. **Ceilings**

The ceilings throughout this area are 12x12 acoustic tile glued onto the existing roof structure. The glue daubs may have asbestos containing materials, testing should be completed.

iii. **Walls**

The perimeter walls in this area are painted concrete masonry with a glazed tile wainscoting to approximately 5'4" above the finished floor. The wall dividing the kitchen from the cafeteria is a framed wall with a gypsum/plaster veneer.

iv. **Windows**

Same throughout

v. **Doors & Hardware**

All of the doors in this area are wood with the original hardware. The exterior door is metal with a large glazed opening in the upper portion of the door.

vi. **Code Compliance**

Please see the deficiencies section

vii. **Specialties (Chalk/Marker/Tack Boards)**

None in this area.

viii. **Millwork & Shelving**

The prep tables and the serving line in the kitchen are wood. The existing condition consists of: refrigerator, mixer, tray rack, double oven, pot sink (single compartment), two stoves, pan rack, double sink and a microwave. There is also a residential grade sink and countertop with cabinets above located on the exterior wall.

b. DEFICIENCIES

i. **Floors**

The floors are in poor condition throughout the kitchen, office, and dry storage area. There are no existing floor drains in the kitchen area.

ii. **Ceilings**

The ceilings throughout this area in poor condition with some water stains.

iii. **Walls**

The walls in this area are in good condition but are in need of minor repairs to both the concrete block wall and the glazed tile wainscoting.

iv. **Windows**

Same throughout

v. **Doors & Hardware**

The doors are in poor condition and do not have the proper code compliant hardware. The entry door does not have the pull floor clearance required by the current code.

vi. **Code Compliance**

There are numerous ADA/MAAB code compliant issues in this area. All of the hardware must be addressed as well as many of the floor clearances required by the current code. Other deficient areas include the wood preparation tables, floor drains, and lack of separate compartments for the pot sink.

vii. Specialties (Chalk/Marker/Tack Boards)

There are none in this area.

viii. Millwork & Shelving

The existing built in sink and related cabinetry is in poor condition and is showing signs of deterioration. Most of the kitchen equipment is working but is original to the building and is not energy efficient.

c. RECOMMENDATIONS

i. Floors

The floors in this area should be removed. The slab will have to be cut as required to install proper floor drains and related piping and a new durable tile or epoxy floor should be installed.

ii. Ceilings

The ceilings in this area should be removed and abated as required. Installation of a new vinyl lat ceiling system is recommended for ease of maintenance and durability.

iii. Walls

The walls in this area should be repaired, patched, and repainted throughout.

iv. Windows

Same throughout

v. Doors & Hardware

All of the existing doors and related hardware should be removed and new doors and code compliant hardware should be installed.

vi. Code Compliance

New doors and hardware should be located properly as to provide the proper floor clearances. A new pot sink, floor drains, and prep tables should be installed to meet current code.

vii. Specialties (Chalk/Marker/Tack Boards)

None for this area.

viii. Millwork & Shelving

The existing kitchen equipment should be removed and new kitchen equipment should be installed with the related piping and drainage. The fixed sink and associated cabinetry should be removed and a new sink and storage cabinets should be installed at the proper working height.

CAFETERIA

a. EXISTING CONDITIONS

i. Floors

The floors are a vct tile that may have asbestos containing materials underneath the newer flooring, further testing should be completed.

ii. Ceilings

The ceilings throughout this area are 12x12 acoustic tile glued onto the existing roof structure. The glue daubs may have asbestos containing materials, testing should be completed. The steel beam are exposed and painted to match the tile

iii. Walls

The perimeter walls in this area are painted concrete masonry with a glazed tile wainscoting to approximately 5'4" above the finished floor. The wall dividing the kitchen from the cafeteria is a framed wall with a gypsum/plaster veneer. There is also a manually operated folding partition with a fabric finish.

- iv. **Windows**
Same throughout
- v. **Doors & Hardware**
All of the doors in this area are wood with the original hardware. The exterior door is metal with a large glazed opening in the upper portion of the door.
- vi. **Code Compliance**
Please see the deficiencies section
- vii. **Specialties (Chalk/Marker/Tack Boards)**
There are two 4'x14' long chalk boards located on the wall dividing the kitchen and the cafeteria.
- viii. **Millwork & Shelving**
The existing cafeteria furniture consist of wood seating, metal rails, and a laminate table top.

b. DEFICIENCIES

- i. **Floors**
The floor is in fair condition and is showing some signs of wear. The floor should be inspected to determine if the original vat still exists.
- ii. **Ceilings**
The ceilings are in poor condition with some of the 12x12 tile pulling away from the ceiling structure. There are also some signs of water damage.
- iii. **Walls**
All the masonry walls are in relatively good condition but there are some minor cracks and damage around the perimeter window wall.
- iv. **Windows**
Same throughout
- v. **Doors & Hardware**
The doors are in poor condition and are showing signs of age. The hardware on all of the doors does not meet current code and is in poor working condition.
- vi. **Code Compliance**
The hardware throughout this area does not meet current code.
- vii. **Specialties (Chalk/Marker/Tack Boards)**
The existing chalkboards are in decent condition.
- viii. **Millwork & Shelving**
The existing cafeteria furniture is in poor condition and is showing signs of its age and years of use.

c. RECOMMENDATIONS

- i. **Floors**
The existing floor should be investigated for any remaining asbestos tile. The floor should be removed and replaced with a new vct flooring system.
- ii. **Ceilings**
The 12x12 ceiling tile should be removed and a new lat ceiling system should be installed.
- iii. **Walls**
All of the walls should be patched, repaired, and painted.
- iv. **Windows**
Same throughout

- v. **Doors & Hardware**
The existing set of wood doors from the corridor to the cafeteria should be removed and a new set of wood entrance doors and code compliant hardware installed. The existing metal exterior door should be removed and a new insulated metal door installed with proper code complaint hardware.
- vi. **Code Compliance**
All of the existing door hardware should replaced if new doors are not installed.
- vii. **Specialties (Chalk/Marker/Tack Boards)**
The existing chalkboards could remain if required.
- viii. **Millwork & Shelving**
The existing furniture in the cafeteria should be removed and new furniture should be provided.

NURSE'S OFFICE

a. EXISTING CONDITIONS

- i. **Floors**
The existing floor is 9x9 tile and may contain asbestos containing materials.
- ii. **Ceilings**
The ceilings throughout this area are 12x12 acoustic tile glued onto the existing roof structure. The glue daubs may have asbestos containing materials, testing should be completed.
- iii. **Walls**
All of the walls in this area are gypsum/plaster veneer believed to be over a wood framed wall.
- iv. **Windows**
Same throughout
- v. **Doors & Hardware**
There is a wood door from the corridor entering into the room. There are also two small storage rooms one with a set of double wood doors and the other a single wood door.
- vi. **Code Compliance**
Please see the deficiencies section
- vii. **Specialties (Chalk/Marker/Tack Boards)**
There are two existing tack boards approximately 4'x8'
- viii. **Millwork & Shelving**
There is a minimal amount of millwork and shelving in this room. There is a porcelain sink unit with no related millwork. The two storage rooms contain wood shelving.

b. DEFICIENCIES

- i. **Floors**
The existing flooring is in poor condition and may contain asbestos.
- ii. **Ceilings**
the 12x12 tiles are in poor condition with some of the individual tile pulling away from the ceiling structure.
- iii. **Walls**
the walls are in good condition with some minor repairs needed to the exterior wall.

- iv. **Windows**
Same throughout
- v. **Doors & Hardware**
All of the wood doors and hardware are in fair condition.
- vi. **Code Compliance**
The door hardware does not meet current code. The entrance door does not have the proper floor clearance on the push side of the door.
- vii. **Specialties (Chalk/Marker/Tack Boards)**
the two existing tack boards are in fair condition but there is a desire to increase their capacity.
- viii. **Millwork & Shelving**
The minimal amount of wood shelving in the storage closets is in poor condition and appears to be a temporary solution.

c. RECOMMENDATIONS

- i. **Floors**
The existing floors should be removed, the floor leveled, and new vct flooring installed.
- ii. **Ceilings**
The existing ceiling system should be removed and replaced with a new lat ceiling system
- iii. **Walls**
All of the walls should have minor repairs and then be primed and painted.
- iv. **Windows**
Same throughout
- v. **Doors & Hardware**
All of the wood doors and hardware should be replaced with new wood doors and code compliant hardware. The entry door from the corridor should be repositioned in plan to allow for the proper push/pull clearances required.
- vi. **Code Compliance**
All of the hardware must be replaced with new code compliant hardware if the entire door and hardware is not replaced.
- vii. **Specialties (Chalk/Marker/Tack Boards)**
Remove and install two new 4'x8' tack boards.
- viii. **Millwork & Shelving**
The existing millwork in the two storage rooms should be removed and new shelving installed. Also, the existing sink should be removed and replaced with a new sink and cabinet to meet current code requirements and provide additional storage capacity.

CONFERENCE ROOM

a. EXISTING CONDITIONS

- i. **Floors**
The existing floor is 9x9 tile and may contain asbestos containing materials.
- ii. **Ceilings**
The ceilings throughout this area are 12x12 acoustic tile glued onto the existing roof structure. The glue daubs may have asbestos containing materials, testing should be completed.

- iii. **Walls**
The perimeter walls in this area are gypsum/plaster veneer believed to be over a wood framed wall. The exterior wall is a gypsum/plaster veneer over brick/block construction.
- iv. **Windows**
Same throughout
- v. **Doors & Hardware**
There is a wood door from the corridor entering into the room. There is also a connecting door from this room to the adjacent classroom.
- vi. **Code Compliance**
Please see the deficiencies section
- vii. **Specialties (Chalk/Marker/Tack Boards)**
There is one existing 4'x8' chalkboard.
- viii. **Millwork & Shelving**
There is no fixed millwork or shelving in this room, but there is a dedicated storage room with wood shelving.

b. DEFICIENCIES

- i. **Floors**
The existing floors are in poor condition and may contain asbestos
- ii. **Ceilings**
The ceilings are in poor condition with some water staining around the perimeter of the room.
- iii. **Walls**
The gypsum/plaster perimeter walls are in good condition with minor repairs needed. The exterior wall has some spalling beneath the window sill.
- iv. **Windows**
Same throughout
- v. **Doors & Hardware**
The wood doors and hardware are in fair condition but do not meet current code.
- vi. **Code Compliance**
All of the existing hardware does not meet current code. Also, the entry door from the corridor does not have the proper pull clearance required.
- vii. **Specialties (Chalk/Marker/Tack Boards)**
the existing chalkboard is in fair condition but the wood trim and sill is in poor condition.
- viii. **Millwork & Shelving**
The minimal amount of shelving in the dedicated storage room is in poor condition.

c. RECOMMENDATIONS

- i. **Floors**
The existing floors should be removed, the floor leveled, and a new vct flooring system installed.
- ii. **Ceilings**
All of the existing 12x12 ceiling tiles should be removed and a new lat ceiling system installed.

- iii. **Walls**
the gypsum/plaster veneer perimeter walls should be repainted. The exterior wall should be patched, repaired, and repainted.
- iv. **Windows**
Same throughout
- v. **Doors & Hardware**
All of the existing wood doors and non code compliant hardware should be replaced with new wood doors and code compliant hardware. The repositioning of the entry door to gain the proper push/pull floor clearances is recommended if a complete renovation occurs.
- vi. **Code Compliance**
All of the existing hardware should be replaced with new code compliant hardware if the new door system is not installed.
- vii. **Specialties (Chalk/Marker/Tack Boards)**
The existing chalkboard should be removed and replaced with a new chalk board or maker board.
- viii. **Millwork & Shelving**
The exiting storage room shelving should be removed and replaced with new adjustable wood shelving.

CORRIDORS / LOBBY

a. EXISTING CONDITIONS

- i. **Floors**
The existing floor is a 9x9 tile that may have asbestos containing materials.
- ii. **Ceilings**
The corridor ceilings are all painted plaster/gypsum construction.
- iii. **Walls**
The walls throughout are painted concrete block with a glazed tile wainscoting approximately 5'4" above the finished floor.
- iv. **Windows**
Same throughout
- v. **Doors & Hardware**
The double doors in the corridor are wood and have wire glass lites.
- vi. **Code Compliance**
Please see the deficiencies section
- vii. **Specialties (Chalk/Marker/Tack Boards)**
Along the classroom corridor there is a tack strip just above the top course of the wainscoting. Also, at the end of the corridor are metal lockers covering both sides of the corridor for approximately 10'-12'. The main lobby corridor has tack strips at the same level but also contains a 4'x10' wood display case with tack boards flanking each side.
- viii. **Millwork & Shelving**
There is a 4'x10' wood display case with glazed doors as described above.

b. DEFICIENCIES

- i. **Floors**
The existing floor tile is in very poor condition at the main lobby area. This area, in the past, had carpeted mats over the floor tile but the mats became soaked with moisture and therefore damaged many of the floor tiles as well. The moisture in

- this area should be investigated before any new flooring system is installed.
- ii. **Ceilings**
The corridor ceilings are in good condition with minor repairs needed
 - iii. **Walls**
The walls are in good condition with few repairs needed to the glazed tile base.
 - iv. **Windows**
Same throughout
 - v. **Doors & Hardware**
The double doors in the corridor are wood and have wire glass lites. The double doors to the exterior are in poor condition and do not have the proper code compliant hardware.
 - vi. **Code Compliance**
The doors to the exterior do not meet current code.
 - vii. **Specialties (Chalk/Marker/Tack Boards)**
The tack-strips are in fair condition throughout all of the corridors. The tack boards beside the display case are in poor condition and are in need of replacement.
 - viii. **Millwork & Shelving**
The wood display case is also in fair condition but does not have enough light to properly display the work in the case.

c. RECOMMENDATIONS

- i. **Floors**
All of the existing flooring should be removed, level the floor slab, and install new vct flooring throughout.
- ii. **Ceilings**
The corridor is in good condition and should be repainted as a part of a total renovation. Please note, if a major mechanical renovation occurs, the existing plaster ceiling could be removed and a new lat ceiling system installed below the new piping.
- iii. **Walls**
The glazed tile wainscoting and painted concrete block above should be repaired, patched, and repainted throughout.
- iv. **Windows**
Same throughout
- v. **Doors & Hardware**
All of in the interior wood doors should be replaced with new wood doors and code compliant hardware. The exterior doors should be removed and new insulated metal doors should be installed.
- vi. **Code Compliance**
The existing exterior door hardware should be removed and install new code compliant hardware.
- vii. **Specialties (Chalk/Marker/Tack Boards)**
The existing tack strips can remain. The existing tack boards should be removed and new tack board surface installed.
- viii. **Millwork & Shelving**
The existing display case should be refinished and modified with new lighting.

GIRLS & BOYS TOILETS, MEN'S & WOMEN'S ROOM, H/C TOILET

a. EXISTING CONDITIONS

- i. Floors**
The floors in the Boys and Girls room are ceramic throughout. The Men's and Women's room are 9x9 tile that may have asbestos containing material. The H/C toilet is a newer 12x12 vct tile. The floor drains in the boys and girls room do not drain properly.
- ii. Ceilings**
The Boys, girls, Men's and Women's ceiling are all 12x12 acoustic tile glued to the ceiling structure. The glue daubs may have asbestos containing material. The H/C toilet has a newer plaster ceiling.
- iii. Walls**
The Boys and Girls room has a glazed tile surface, the Men's and Women's room both have a glazed tile wainscoting to approximately 5'4" above the finished floor and the a painted concrete block above. The H/C toilet has a painted concrete block wall.
- iv. Windows**
Same throughout
- v. Doors & Hardware**
All of the doors to these facilities are wood. Most of the doors have the original hardware with exception of the new code compliant hardware at the H/C toilet.
- vi. Code Compliance**
The existing exterior door hardware does not meet current code with exception to the newer H/C toilet.
- vii. Specialties (Chalk/Marker/Tack Boards)**
All of the toilet partitions throughout the facilities are metal.
- viii. Millwork & Shelving**
None in this area.

b. DEFICIENCIES

- i. Floors**
The floors in the Boys and Girls room are in fair condition and are in need of minor repairs, with exception to the non-functioning floor drain. The Men's and Women's room are in fair condition throughout. The newer H/C toilet vct tile floor is in good condition.
- ii. Ceilings**
The Boys, Girls, Men's and Women's ceiling are in poor condition with some tiles pulling away from the ceiling structure. The H/C toilet has a newer plaster ceiling and is good condition.
- iii. Walls**
The Boys, Girls, Men's and Women's rooms are all in fair condition and in need of minor repairs. The H/C toilet concrete block wall is in good condition.
- iv. Windows**
Same throughout
- v. Doors & Hardware**
All of the doors and hardware are in poor condition.
- vi. Code Compliance**
All of the existing hardware does not meet the current code.

vii. Specialties (Chalk/Marker/Tack Boards)

All of the metal toilet partitions are in poor condition with some deterioration and rusting.

viii. Millwork & Shelving

None for this area.

b. RECOMMENDATIONS

i. Floors

The floors in the Boys and Girls room are in need of repair and cleaning. The floor drain also needs to be addressed in order to function. The Men's and Women's existing floors should be removed, the floor leveled, and a new vct flooring installed throughout. The newer H/C toilet area should remain.

ii. Ceilings

The Boys, Girls, Men's and Women's ceilings should be removed and replaced with a new vlat ceiling system. The H/C toilet has a newer plaster ceiling and is good condition with no modifications needed unless a mechanical renovation occurs.

iii. Walls

The Boys, Girls, Men's and Women's rooms are all should be repaired, primed, and painted.

iv. Windows

Same throughout

v. Doors & Hardware

All of the existing doors and hardware should be removed and new wood doors, closers, and code compliant hardware installed.

vi. Code Compliance

All of the existing hardware should be removed and replaced with code compliant hardware.

vii. Specialties (Chalk/Marker/Tack Boards)

The existing metal toilet partitions should be removed and new plastic toilet partitions installed at the proper dimensions.

viii. Millwork & Shelving

No recommendations for this area.

3. ARCHITECTURAL – EXTERIOR

a. EXISTING CONDITIONS

i. Walls

ii. Doors

iii. Windows

iv. Roof

b. DEFICIENCIES

i. Walls

ii. Doors

iii. Windows

iv. Roof

c. RECOMMENDATIONS

- i. Walls**
- ii. Doors**
- iii. Windows**
- iv. Roof**

4. STRUCTURAL

a. EXISTING CONDITIONS

The existing school building is a single story masonry structure. The foundation of the building is cast in place concrete. Although the majority of the foundation is concealed below grade, portions of the foundation are visible within the boiler room. Based upon the condition of the foundation as observed from within the boiler room it is believed the foundation as a whole is in very good condition. The ground floor of the structure is cast in place concrete and is in very good condition. The exterior walls of the structure are cement masonry units with red face brick on the exterior. The interior walls of the structure are cement masonry unit walls. The interior columns are typically 4" diameter steel pipe columns. The steel beams supporting the roof are wide flange structural beams. The steel columns and beams supporting the roof are all in very good condition. The roof framing is wood trusses supporting plywood sheathing. The roof weatherproofing membrane is asphalt shingles.

b. DEFICIENCIES

The majority of the masonry walls are in very good condition with the following exceptions. A large crack was found in the exterior red brick masonry at the southwest corner of the gymnasium. A stair step crack was found on the interior corner of the cement masonry units in this same location.

There is a nearly vertical crack in the cement masonry unit wall at the rear of the stage. This crack is visible from the stage floor extending upward to the roofline.

There is an existing crack in the cement masonry unit north wall of the boiler room. This crack is stair step in nature and follows the mortar joints of the wall.

There are numerous location around the perimeter of the building where the mortar joints of the red brick masonry exterior is deteriorated. This is most noticeable beneath the unit ventilator exhaust vents.

A corner of the red brick masonry on the east side of the classroom wing is cracked. This damaged masonry is located on the south side of the doorway of the classroom wing.

c. RECOMMENDATIONS

The exterior damaged red brick masonry on the southwest corner of the gymnasium should be removed and replaced to match the existing red brick masonry.

The cracks in the interior cement masonry unit wall should be saw cut and repair with repair mortar. Where the cracks are within the masonry joints the mortar should be cutback and repointed with repair mortar. The repaired masonry should be painted to match the existing finish of the walls.

All damaged exterior red brick masonry should be removed and replaced. Where mortar joints are

deteriorated the mortar should be cutback and the masonry repointed with repair mortar.

FIRE PROTECTION

a. EXISTING CONDITIONS

The building currently has no automatic fire suppression system.

a. DEFICIENCIES

A major renovation would require the installation of sprinklers throughout the building, including combustible concealed spaces such as attics and crawl spaces.

c. RECOMMENDATIONS

A flow test should be completed to determine available water flow and pressure in the street and to complete hydraulic calculations for design of the system. The school should be broken up into fire protection zones utilizing a wet pipe type sprinkler system. Dry systems and/or anti-freeze systems would only be used in unheated areas such as under canopies, in attics or other unheated areas.

Hose cabinets should be provided at the stage in the gymnasium. A fire suppression system should be provided for the new kitchen exhaust hood which should be located above the range.

6. PLUMBING

a. EXISTING CONDITIONS

i. Fixtures

The existing buildings plumbing systems appear marginally adequate in quantity for the current occupancy use however, all surveyed, with the exception of a single stall bathroom near the main entrance, did not comply with ADA or MA accessibility codes.

In the kitchen there is a Hobart slide through dishwasher, one (1) 2-bowl type sink and one (1) 1-bowl prep/hand sink. One bowl of the two-bowl sink has a garbage disposer with P-trap waster. The remaining bowl as well as the other single bowl sink waster without traps to a grease interceptor located in the crawl space below the kitchen area. Apparently maintenance is routinely performed on faucets, toilet fill valves, etc. as needed.

ii. Cold Water Service

According to facility personnel, the domestic water service for the building enters under the kitchen, however we were unable to view it during our inspection. Repair of water department records and existing drawings, if available, could better define the existing configuration in relation to its ability to support additional water demands.

iii. Domestic Hot Water Service

The domestic hot water needs of the building are primarily supported by a Boch oil-fired water heater, which appears to be in good condition. the heater has a maximum input capacity of 175,000 BTUH and is supplied with #2 fuel oil via the (4) 330-gallon fuel oil tanks located in the boiler room.

In addition, to the main heater we also noticed a small electric water heater at the Janitors closet which apparently supports the hot water demands of the Janitors sink. This water heater may boost the system water temperature up for sanitation purposes at this fixture.

There is also an electric booster heater at the dishwasher for 180° F sanitizing.

iv. Drainage Systems

The roof is drained to the perimeter and for the most part drips to grade. There are gutters in limited sections of the roof, which attach to downspouts discharging to grade.

Most of the sanitary drainage piping is concealed from view, however what we were able to see was primarily of the cast iron hub and spigot type. The sanitary sewer lines run within the crawl spaces and exit the building to a municipal sewer system.

We noticed no outward signs of failure in either the sanitary sewer system or the storm drainage system during our site inspection.

v. Natural Gas Service

There is no natural gas or LP gas on the premises. The heating fuel is #2 fuel oil and the kitchen equipment is electric. Natural gas may not be available in this area but could be reviewed with the local gas municipality if applicable.

b. DEFICIENCIES

i. Fixtures

Existing water closets are floor mount flush valve type, none of which were water conserving 1.6 gallon per flush type, except for the single ADA bathroom fixture. The lavatory sinks were primarily wall-hung style, but did not meet accessibility requirements. Urinals were of the floor mount type and also did not meet current accessibility codes.

- ii.** In the kitchen, it appears that the prep sink is used as a hand sink. To satisfy Board of Health requirements, the hand sink should be separate from any food preparation processes. Also, typical Board of Health requirements mandate a 3-bowl scullery sink be provided for washing of dishes, of which the current installation has none.

It appears most of the fixtures are original vintage many of which are not of the water saving type.

ii. Cold Water Service

Due to the age of the water piping there is a high probability that the water service could have lead containing solder in the fittings or in old brass piping. Although not a large source of lead contamination it should be tested and monitored and if found to be a problem the piping should be replaced. Most of the water piping is original to the building and appears to have exceeded its expected useful service life.

iii. Domestic Hot Water Service

There are no mixing valve stations to temper the hot water for general building use. As such it appears that the system water temperature is kept low for occupant safety.

There are two major flaws with this type of hot water temperature control system. First, per code, hot water temperature to public lavatories must not exceed 110°F for safety reasons. However, relying on the tank aquastat to insure this temperature is not exceeded

is not recommended in that the tank aquastat does not regulate the temperature of the water leaving the tank. Tank water stratification can occur resulting in higher water temperatures than is allowed by code. Secondly, the tank temperature is kept well below 130°F, which can lead to bacteria growth in the tank.

There are no recirculation pumps on the main domestic hot water system, which would be required, since there appears to be fixtures which are located beyond 100 feet of the hot water source. The building code requires hot water to be available within 100 feet of any hot water consuming fixture.

iv. Drainage System

We noticed a sump pump pit in the boiler room, which apparently collects ground water from the crawl spaces. We were unable to determine where this pump discharged to, however, since there is no storm water system it may discharge to the sanitary sewer system and hence this installation may not be compliant with current codes. An ejector pumping ground water should be pumped to the storm water system.

v. Natural Gas Service

None.

c. RECOMMENDATIONS

i. Fixtures

For estimating purposes we have assumed that the bathrooms should be modified to incorporate some number of ADA compliant fixtures and all fixtures should be changed to the water conserving type. New ADA compliant water coolers should be installed and several kitchen sinks with grease traps should be provided.

ii. Cold Water Service

Our estimates were based on the recommendation to replace all the cold and hot water piping in the building and much of the above grade sanitary waste and horizontal storm water piping as required to accommodate new fixtures or as pipe condition requires. Vent stacks and underground waste piping, if found to be in good condition should remain and be reused.

iii. Domestic Hot Water Service

The existing hot water heater would be retained but multiple temperature loops with tempering valves and recirculation pumps would be used in the new design.

During any substantial renovation we would recommend that all the water piping be replaced in that most of it has exceeded its expected useful service life and also due to the potential for the presence of lead containing materials.

iv. Drainage System

The sump pump discharging to the municipal sewer line should be redirected to a separate storm water drainage system.

v. Natural Gas Service

None.

7. HEATING, VENTILATION and AIR CONDITIONING

a. RECOMMENDATION

i. Boilers

The buildings heating requirements are currently supported by one (1) oil fired boiler located in a boiler room which is in a depressed floor area of the building. The boiler is a Fitzgibbons cast iron low-pressure steam boiler with an unknown heating capacity. The boiler has a PowerFlame oil burner with a listed rating of between 12.5 GPH and 37.5 GPH of fuel oil equating to a BTUH input capacity of approximately 1,750,000 to 5,250,000. Although the burner references #4 fuel oil, according to the facility personnel and based on current conditions, it appears that the burner has been retrofitted to burn #2 fuel oil.

The boiler discharges into a masonry chimney. The internal condition of the chimney is unknown. # 2 fuel oil is supplied from four (4) 330-gallon steel fuel oil tanks located in the boiler room. These appear to be relatively new and replace an old underground fuel oil tank, which has since been removed.

Combustion air for the boiler room is supplied from ductwork connecting to a window louver. During a renovation, modifications would need to be made to the combustion air ductwork size and configuration to comply with current codes.

The steam condensate delivery to the boilers is controlled by what appears to be a boiler feed tank/pump unit with a vacuum pump. Since the unit is of original vintage and no information is available on it, it is difficult to determine how it is controlled, whether it be activated off of the boiler water feed control or an internal float switch.

Boiler controls appear fairly simple enabling and disabling the boiler via outdoor air temperature. There also appears to be a time clock, which sends the boiler into a setback mode during unoccupied periods. Integral controls regulate boiler system steam pressure.

ii. Piping Distribution

Heating from the boiler plant is distributed via a two-pipe steam distribution system serving steam fin-tube radiation, unit ventilators and steam coils located throughout the building. Most classrooms are heated via Nesbitt classroom unit ventilators with steam fin radiation. In the gymnasium two (2) ducted air-handling units with steam coils support the space heating requirements.

iii. Ventilation

Nesbitt classroom unit ventilators with fin-tube radiation are located throughout the building. These units are located along exterior walls and each has an outdoor air louver and associate control dampers to allow outdoor air to enter the classroom space through the unit ventilator. During occupied periods, the unit fans run continuous to provide space ventilation and pneumatic valves modulate steam flow through the units to maintain space temperature.

In the gymnasium area there are two ducted air-handling units with steam coils, which serve the gym through minimal ductwork connecting to wall registers. We were unable to determine how the fresh air ventilation is addressed with these units. We suspect it

comes in through a roof ventilator ducted to the units. There are also two (2) exhaust grilles located in the gym ceiling, which apparently connect to roof exhaust fans.

All bathrooms appear to have ducted exhaust systems although it was unknown if they are operational. The systems will need to be replaced during a renovation to support new ventilation requirements for toilet areas.

b. DEFICIENCIES

i. Boilers

The boiler is over 50 years of age and has well exceeded the length of its useful expected service life of 30-years as defined in the American Society of Heating Refrigeration and Air Conditioning Engineers (ASHRAE) Applications Handbook. As such, any renovation must consider replacement of this boiler plant and the heating system's possible conversion to hot water.

ii. Piping Distribution

Review of several of the steam traps found few signs of trap maintenance service or refurbishing. Proper trap maintenance in a steam system is important in that lack of trap maintenance especially on main line steam drips contributes to wasted energy due to blow-by of active steam into the condensate system.

The steam system's age and typical non-uniform heat distribution make the entire steam piping system and radiators prime candidates for replacement. The system, as configured, is inefficient and should be replaced during a significant HVAC renovation project.

iii. Ventilation and Miscellaneous HVAC

The Nesbitt units appear to have well exceeded their expected useful service life. Any renovation should consider replacement of these units.

Although steam is controlled in individual classrooms by local pneumatic thermostats (when steam is available), these zone valves are all that control groups of steam radiators making for potential overheating or under heating issues.

The fact that the units are still operational is a testament to good maintenance. However, as mentioned earlier, with the Nesbitt units being over 40-years in age, all have exceeded their expected service life as defined by ASHRAE. Any renovation should consider replacement of these units.

Classroom exhaust in the building is supported by what appears to be a common ducted system connecting to ceiling grilles in the respective classroom spaces. Although further investigation is required, it appears that this system connects to roof exhaust fan(s). Also, based on exhaust grille size, it appears that the system is undersized to adequately address the maximum exhaust airflow, which results when the unit ventilators operate in economizer (100% outdoor air) "free cooling" mode.

The ventilation rates appear to comply with outdated ventilation standards and

should be increased during a renovation project to support current standards. Current standards require at least 15 CFM of outdoor air per occupant in classroom areas and 20 CFM per person in office spaces and most other areas.

Most all the corridors and office spaces currently have no ventilation, which is now required by code, and will need to be brought up to current ventilation standards during a renovation project. Although some office areas have operable windows, which may satisfy the natural ventilation code intent, it is not reasonable to expect one to open their window in the cold of winter or heat of summer so as to obtain the proper amount of fresh air ventilation.

The kitchen range has no exhaust hood with fan and fire suppression system, which is required to comply with Massachusetts code and NFPA 96 standards. Otherwise smoke and heat vent directly into the kitchen. In addition the dishwasher has no local exhaust hood which allows steam and vapor to enter the kitchen directly as well. In fact, the only exhaust in the kitchen appears to be addressed via a single grille in the ceiling that apparently ties into a roof exhaust fan.

There is no make-up air for the kitchen exhaust systems other than that which is drawn-in from adjoining areas. Provisions for make-up air must be considered during any proposed renovation project, especially when proper exhaust systems are added.

HVAC controls are extremely limited. The system consists primarily of pneumatic controls, thermostats and operators to run the classroom unit ventilators and other building systems. In order to comply with new energy codes and ventilation standards and to optimize energy operating costs an upgrade to a new DDC system capable of controlling all building HVAC systems is highly recommended as part of a renovation project.

b. RECOMMENDATIONS

Due to the age of the boilers, piping and equipment we would highly recommend a complete replacement of all HVAC equipment and associated piping throughout the building with the exception of the fuel oil tanks, which could be reused. In addition, new energy and ventilation codes would mandate improved ventilation and energy saving controls. We highly recommend a hot water system be utilized in that it would eliminate the control problems and inefficiencies associated with steam. New hot water boilers would be more efficient than steam and would allow the system to reduce piping thermal losses by resetting water temperatures up and down to match outdoor ambient conditions.

The recommended approach would be to convert the current steam system to a hot water system, as follows:

i. Boilers

New modular style cast iron sectional hot water boilers should be provided. Boilers should utilize the existing fuel oil tanks and masonry chimney (so long as the chimney is still in good condition).

ii. Piping Distribution

A new hot water supply and return piping distribution system throughout the building. System would incorporate a primary/secondary configuration with variable speed drives to minimized pump energy costs.

iii. Ventilation and Miscellaneous HVAC

- (a) All existing unit ventilators should be replaced with new hot water type unit ventilators. New units should incorporate new direct digital controls (DDC) as part of a building wide energy management system (EMS) to accomplish intelligent ventilation and energy saving control. New units should deliver code required outdoor air as well as have the ability to provide 100% outdoor air for free cooling. Note: In most classroom areas the unit ventilators are integral to the shelving units or part of a built-up shelving system and as such these shelves should be replaced as part of the improvement project. We have included the cost of simple shelving in our cost estimate.
- (b) Provide new exhaust fans and ductwork for classrooms, bathrooms and all other areas as required to support the classroom ventilation as well as general exhaust ventilation requirements. New controls shall provide for proper building pressurization control interlocked with classroom ventilation.
- (c) New air handler(s) should be provided in the gymnasium with CO2 control for indoor air quality (IAQ) monitoring and ventilation control. This control would also lower energy costs by automatically reducing outdoor air quantities during low occupancy periods.
- (d) CO2 control for indoor air quality (IAQ) monitoring and ventilation control should be provided in the cafeteria.
- (e) A make-up air-handling unit with hot water coil and associated ductwork should be provided in the kitchen.
- (f) For office areas and associated corridors, split type DX cooling units with hot water heating coils and zone damper control should be provided. Fin-tube radiation may also be used in perimeter office areas. These systems would incorporate volume control dampers to respond to changing space loads as well as include CO2 control for indoor air quality (IAQ) monitoring and ventilation control.

All systems should incorporate new direct digital controls (DDC) as part of building wide energy management system (EMS) to accomplish intelligent ventilation and energy saving control. New systems should deliver code required outdoor air optimized with CO2 sensors as well as have the ability to provide 100% outdoor air for free cooling.

8. ELECTRICAL

a. EXISTING CONDITIONS

i. Electrical Service Entrance

The incoming primary service is rated at 13,800 volt Delta fed from exterior utility pole mounted transformers located on the exterior portion of the property. One set of 4

conductor #500 MCM copper conductors are fed underground to a 400 ampere, 120/208 volt, 3 phase, 4 wire, 60 hertz secondary WYE distribution service.

ii. **Lighting**

Classroom Area Lighting

Lighting consists of 2 x 4, recessed fluorescent fixtures with three F40T12 cool white lamps. Each area has local switching connected to area lighting panels. The fixtures appear to have been installed during a ceiling replacement and are in good operating condition.

Office Area Lighting

The majority of the fixtures are surface mounted industrial strip type fixtures with baffled louvers. The lamps are F40T12 Cool White non-energy efficient type. Most fixtures are original to the building and are showing signs of deterioration. Each office has a local switch control that are also showing signs of deterioration.

Corridor Lighting

The fixtures located throughout the intermediate corridors have surface mounted acrylic, two lamp fixtures with F40T12 Cool White non-energy efficient lamps. The fixtures appear to be in good operating condition, offer adequate light levels and are sufficient for the needs of the space.

Gymnasium Lighting

The fixtures have been recently upgraded. Lighting consists of 2x4, recessed fluorescent fixtures with three F40T12 cool white lamps. The lighting is controlled via switch controls located on the stage platform adjacent to the branch circuit panel. Although subject to damage from not being properly protected, and subject to frequent lamp failure the fixtures appear to be adequate for the needs of the space.

Exterior Lighting

The building has minimal exterior lighting. The front of the building has two quartz style flood fixtures to illuminate the side entrance to the gymnasium as well as a utility company leased flood light to illuminate the from parking lot. The entrance lights below each canopy are in poor shape.

Emergency Lighting

Emergency battery units have been installed throughout the building as well as several illuminated and non-illuminated exit signs. The emergency battery units are not tied into the local lighting circuit to ensure proper protection to each area. The exit signs do not have battery backup to stay illuminated in the event of a power failure.

iii. **General Power Outlets**

The majority of the duplex receptacles located throughout, appear original to the building. In most cases there are at most only one to two duplex receptacles installed in each classroom. Additional receptacles have been installed over the past several years to allow for new equipment

within the classrooms to be used. It is evident that new devices were connected onto existing circuits without researching whether or not the existing circuit could handle the additional load. The facility is constantly overloading circuits within the classrooms.

The receptacles are also used to support new computer systems.

iv. Fire Alarm System

The fire alarm system is original to the building. The system consists of two manual pull stations located in the main corridors with a bell mounted above each station. The third manual pull station and bell is located in the gymnasium. One bell is located on the exterior of the building. The equipment is rated for 120 volts. The system is local to the building and does not have the capability of connecting onto an outside monitoring system.

v. Security System

The facility currently does not have a security system in place.

vi. Clock System

The clocks are centrally controlled via a main controller which is manufactured by Standard Time Company. The clocks are original to the building

vii. Building Sound System

A local sound system has been installed in the gymnasium for local amplification only.

viii. Telephone System

The existing system is of a generic manufacturer. Further information is being sought to determine the type and condition of the existing system.

ix. Technology System

One category 5 data cable has been installed into each classroom. The systems terminate onto a patch panel located in the computer classroom.

b. DEFICIENCIES

i. Electrical Service Entrance

The branch circuit panels are in most cases original to the building and are full to capacity. Since the equipment installed throughout is mainly original to the building, the equipment is beginning to show signs of deterioration. It is evident that the equipment has not been maintained or tested over the years.

ii. Lighting

With the exception of the office areas, storage rooms, kitchen and cafeteria, the lighting throughout appears to have been replaced within the last ten years. The fixtures which have not been upgraded are showing signs of deterioration and should be replaced with a more efficient fixture that is suitable for the needs of each space.

The stage located within the gymnasium with the exception of several incandescent flood lights does not have any type of dimmable fixtures to allow for a school performance.

iii. General Power Outlets

There are too few power outlets in classrooms to support modern educational programs with numerous computers and visual aids currently in use. The corridors have minimal receptacles installed throughout.

iv. Fire Alarm System

The corridors do not have adequate code required protection utilizing smoke detectors installed every 30 feet on center and not more than 15 feet from opposing walls and egress doors

Horns are not ADA compliant and do not have visual strobes.

v. Security System

None in place.

vi. Clock System

The clocks are showing signs of deterioration and in several cases the clocks are inoperable.

vii. Building Sound System

None in place.

viii. Telephone System

Evaluation in progress.

ix. Technology System

There are insufficient numbers of data outlets in the classrooms to support a modern educational program.

c. RECOMMENDATIONS

i. Electrical Service Entrance

It is recommended that when equipment reaches a period of twenty to twenty-five years it should be tested to ensure that it is still capable of operating in the manner for which it was designed for. The main distribution board and related breakers should have an infrared scan performed to ensure that the components are not deteriorating and are still capable of operating in the manner for which they were designed. The breakers should be cleaned and load tested for failure analysis. The grounds should be tested as well as the branch circuit conductors reviewed to ensure that they are still structurally sound. All connections should be tightened in accordance with manufacturer's recommendations.

All branch circuit panels should have an infrared scan performed to ensure that the components are not showing signs of overloading as well as deterioration. Each panel should be properly balanced per phase.

If renovations and possibly building additions occur, the distribution equipment should be removed and replaced in its entirety along with all branch circuit feeders. A minimum of 600 to 800 ampere service should be introduced into the facility to ensure that all future power considerations have been accounted for.

ii. Lighting

A track lighting system should be installed within the stage area connected to dimming control switches.

The kitchen lamps should be provided with lamp sleeves to protect the lamp in the event

of it breaking.

All switch controls and associated wiring should be replaced throughout. To meet the energy code standards, occupancy sensors should be installed in each common area.

The exterior site lighting should be upgraded.

A comprehensive test should be performed on the emergency lighting system to ensure that the equipment will operate properly in the event of a power outage.

iii. General Power Outlets

The general receptacle power located throughout the facility should be upgraded as renovations occur along with all associated branch circuit wiring. Additional receptacles should be installed within each classroom and common area with separate circuits for computers and normal power. All components should be properly grounded in accordance with National Electric Code standards.

iv. Fire Alarm System

The existing fire alarm system should be removed in its entirety and replaced with a new ADA compliant system that meets NFPA standards, National Electric Code, Sixth Edition Massachusetts State Building Code and local fire department requirements.

v. Security System

vi. Clock System

Provisions should be made to install a new master clock system with system clocks installed into each classroom. The master clock should also be synchronized with the sound paging system to allow for bell tones to indicate class changes.

vii. Building Sound System

Provisions should be made to install a new sound amplification system to each of the classrooms, kitchen, cafeteria, gymnasium and a weatherproof exterior sound speaker to be connected onto a separate sound channel. This will allow for two way communications to each classroom.

viii. Telephone System

xi. Technology System

Additional data connections to each classroom should be installed along with media connections and video connections.

**WILLIAMSBURG PUBLIC SCHOOLS
ELEMENTARY SCHOOL FEASIBILITY STUDY
ANNE T. DUNPHY SCHOOL and HELEN E. JAMES SCHOOL**

HELEN E. JAMES SCHOOL

The Helen E. James School was built in 1914, from brick masonry wall construction and wood framework. This building, although well maintained, shows visible signs of its age and use. Originally built as a secondary school, today it currently is utilized as an elementary school housing Pre-school through Grade three. In 1986 an addition to this building added a handicap accessible entrance, stair tower and elevator. This building contains an extensive amount of ornate woodworking throughout, including chair rails, crown molding, elaborate wood doors and base trim.

The number of students this building currently houses ranges from 130-140 on a yearly basis. The room sizes currently provided, offer insufficient programmatic space for the grade levels that are housed within this building. There is inadequate storage space throughout, forcing the staff to utilize any abandoned or open space as storage areas to augment the program on each floor. The building also lacks the core program spaces needed to operate as an independent facility. There is no workable kitchen, only an area for serving meals created and brought in from the adjacent school. This building has no gymnasium, and library/media center spaces. Current counseling areas are required to share space with storage and equipment rooms. There are very few standard classrooms with more than one dedicated computer workstation. This facility, on a day-to-day basis, has a difficult time with providing students with the best possible education.

Although there is obvious historical significance and character to this building, it is currently inadequate to house its preschool through grade three populations. It is apparent that a major renovation and addition would be required to bring this building up to current life-safety and handicap accessible codes. An addition to this building would also allow for educational space reorganization, new core program space addition, as well as increasing the currently undersized classrooms. During any major renovation/addition all antiquated mechanical and electrical systems should also be addressed with a full-scale replacement of current mechanical systems, as well as an integration of a modern communication and technology systems. This type of major renovation/addition would allow for this building to operate as an independent facility that could offer students a state-of-the-art education.

**WILLIAMSBURG PUBLIC SCHOOLS
ELEMENTARY SCHOOL FEASIBILITY STUDY
ANNE T. DUNPHY SCHOOL and HELEN E. JAMES SCHOOL**

B. HELEN E. JAMES SCHOOL

1. SITE - ± 2.80 acres

a. EXISTING CONDITIONS

i. Location

The Helen E. James School is located at 16 Main Street in Williamsburg Massachusetts. The school has an approximate daily population of 130 students. Main Street and South Street bound the site on the east and the north. An unnamed brook, located at the toe of a hill, bounds the site to the west and south.

ii. Site Features

There are approximately 24 faculty and staff members that drive automobiles to the school. There are approximately 16 parking spaces on the school site. A bituminous parking lot is located west of the school building and is accessed by the concrete driveway. Additionally, cars park in the bus drop-off access drive.

To the east of the school building is a grassed play area located between the school and Main Street. A shrub row delineates the eastern boundary of the play area with Main Street.

North of the school is an existing concrete access drive. This drive curves from South Street to the front of the building and continues to Main Street. A concrete sidewalk extends from the midpoint of the access drive and extends northerly to the intersection of South and Main Streets. A large stone planter is located at the midpoint of this walk.

West of the school is a bituminous parking lot. This lot is accessed via the concrete access drive. West and south of the school and parking lot is a stream that flows south from a 2 ft by 2 ft box culvert at South Street, south, along the toe of a hill. The hill is wooded, with residential houses located at the top. This stream roughly parallels the southwestern property line of the site. Between the stream and the school are grassed play areas with playground equipment. A bituminous basketball court is located at the southern corner of the site.

iii. Soils

Existing soils as mapped by the Natural Resources Conservation Service (NRCS), U. S. Department of Agriculture are predominantly classified as Sudbury series.

Sudbury consists of deep, moderately well drained soil. Soil in this series is recognized as having a gravelly nature. At depths 0 to 16 inches: fine sandy loam. At depths of 16 to 36 inches: gravelly loamy sand to very gravelly loamy sand. From 36 to depths of 60 inches: gravelly sand. Gravel in the 36 to 60 inch strata can consist of up to 25 percent gravel, and up to 10 percent cobbles.

Seasonal high water levels for Sudbury soils are listed at 1.5 to 3 feet below grade.

iv. Utilities

Utilities on site include: sanitary sewer, water, electric and telephone.

Domestic water is provided via the municipal water system. Surface storm water generated on-site, generally, flows above ground in a southerly direction to the existing stream located south of the existing building.

Sanitary waste is discharged to the existing sanitary sewer system for treatment off-site.

Electrical supply is via an aboveground connection from Main Street.

Telephone service is provided via an aboveground connection emanating from Main Street.

v. Access Provisions

Handicap access is provided via at grade sidewalks located at the intersections of Main Street and South Street. An at grade access doorway is provided at the elevator building.

vi. Traffic

Through traffic volumes on route #9 in the mornings is high. Data obtained from Mass. Highway show 10,000 vehicles per day (UPD) in the vicinity of the School. Through traffic volume in the after noon, when school lets out is moderate. The directional distribution of traffic on route #9 is approximately 60% / 40% east / west in the morning. The directional distribution of traffic in the afternoon is approximately equal.

Sight distance on South Street in the vicinity of the school entrance drive is severely limited and the grade of South Street compounds this problem. These conditions combine to make traffic movements potentially hazardous.

Existing traffic flow patterns during the morning drop-off and afternoon pick-up times are extremely congested. The lack of a separate bus / parent drop-off area results in cars queuing in the bus drop-off area along with a number of cars parking on both sides of Main Street and South Street. School buses, as a result, are forced to queue in South Street until cars parked in the bus drop-off area leave. Existing site signage is minimal and consists primarily of pavement markings, striping and some signs.

vii. Landscape Features

Existing landscaping consists of trees and shrubs around and adjacent to the school building. The shrubs are mostly coniferous and the trees are mostly deciduous. Shrub rows are located parallel to South Street as well as Main Street. Mulched areas at the main entrance are furnished with an array of plants and shrubs. Lawn areas are located adjacent to the parking lot. Grassed play areas are located south of the school. Mulched areas with playground equipment are located within the grassed play areas.

b. DEFICIENCIES

- i. The existing main parking lot pavement is in poor condition. Weather and vehicular traffic have caused cracking and settling.
- ii. The existing concrete sidewalk and access drive at the main entrance are in poor

condition.

- ii. Existing site fencing is deteriorated and damaged.
- iv. No provisions for dumpsters, i.e. concrete pads and enclosures, are present on site.
- v. No Fire truck access to the rear portion of the site is present.
- vi. The existing bituminous areas surrounding the building are in poor condition.
- vii. The existing pavement markings are in poor condition.
- viii. There is no separate area delineated as an area for parent drop-off of students.
- ix. No provisions for emergency power generation are present on site.
- x. Building entrances with 6-inch steps are not ADA accessible.
- xi. There is no separate parent drop-off area.
- xii. Groundwater flows into an existing interior sump with pump located in the elevator machine room addition as shown on sheet A23 of plans prepared by Joseph P. Mattei & Associates, dated March 10, 1986. Groundwater is then pumped to the internal roof drain system of the building.

c. RECOMMENDATIONS

- i. The existing main parking lot pavement should be reconstructed. New curbing should be installed.
- ii. The existing concrete access drive at the main entrance should be reconstructed with bituminous concrete. The existing concrete sidewalk at the main entrance should be reconstructed with concrete.
- iii. Existing site fencing should be replaced.
- iv. A concrete dumpsters pad and enclosure should be constructed.
- v. A Fire truck access drive should be constructed around the entire building to provide total access to the building.
- vi. The existing bituminous areas surrounding the school should be reconstructed.
- vii. The existing pavement markings and signage should be replaced as part of the parking lot reconstruction.
- viii. A separate delineated area for parent drop-off of students should be constructed east of the existing school.

- ix. An emergency power generator should be provided on site.
- x. Building entrances with 6-inch steps should be made ADA accessible.
- xi. A separate parent drop-off area should be constructed.
- xii. The exiting groundwater sump with pump located in the elevator machine room addition should be abandoned. A new exterior groundwater pumping station should be constructed that discharges to the existing site stormwater collection system.

2. ARCHITECTURAL – INTERIOR

(1) LOWER LEVEL – 3RD GRADE CLASSROOM

a. EXISTING CONDITIONS

i. Floors

Vinyl Composition Flooring has recently been installed. This flooring is in good condition. A large portion of the rooms floor is covered by a throw rug. This rug is in fair condition with some visible staining.

ii. Ceilings

The ceiling is made up of 12"x12" glue adhered acoustic tiles. These tiles are in good condition with few in need of repair.

iii. Walls

All walls are painted brick with a 36" tall gypsum board wainscot. The wainscot has been applied because of moisture damage that has occurred on the lower portions of the wall.

iv. Windows

All windows are wood frame construction with a single pane of glass. Each window has a set of metal-framed storm windows that have been fastened to the exterior wood frame.

v. Doors & Hardware

There is a single wood door with a borrowed light (clear pane of glass) in a metal frame that separates the corridor from the classroom. Also in this room is a solid panel wood door in metal frame that serves as an interconnecting classroom door.

vi. Code Compliance

There are code compliant issues in this room, see *Deficiencies Section* below for further description.

vii. Specialties (Chalk/Marker/Tack Boards)

There are both marker boards and tack boards in this classroom that are in good condition.

viii. Millwork and Shelving

There are few pieces of fixed/permanent millwork or casework in this classroom. There are however loose bookshelves and storage cabinets. The only fixed piece of millwork is

located around the in-classroom sink. This also offers some fixed storage.

b. DEFICIENCIES

i. Floors

The concrete floor that is under the VCT and rug has noticeable high spots throughout the room. The existing VCT is in good condition, with some areas of separation.

ii. Ceilings

This type of ceiling is 12"x12" acoustic tile panels glue adhered to either a gypsum board or plaster substrate. There is a potential that these tiles are glue adhered with asbestos containing glue daubs. There are also some tiles that are damaged/discolored along the corridor wall.

iii. Walls

There is little deficiency to note in this classroom it appears that the brick wall was sealed before it was painted. The area of concern is the portion of the wall that is covered by a 36" gypsum board wainscot. This area appears to have been covered due to continual moisture problems. It is difficult to assess this area because it is completely covered.

iv. Windows

The existing windows consist of a single pane of glass set in a wood frame. In this style of window, both the frame and glazing type, have little or no insulation value. Although there are storm window assemblies screwed into the wood frames these also offer little thermal value.

v. Doors and Hardware

The doors and hardware sets are in fair condition.

vi. Code Compliance

The small sink located on the corridor wall does not meet front approach knee space code compliance. The knob style door hardware is not code compliant. The corridor door also does not meet push/pull code compliance.

vii. Specialties (Chalk/Marker/Tack Boards)

The only deficiency would possibly be in a lack of linear footage and arrangement.

viii. Millwork & Shelving

The small bookcase and shelves are in poor condition do to age and use.

c. RECOMMENDATIONS

i. Floors

The existing floor is in good condition; the area of the floor that is uneven should be removed, leveled and replaced with new tile to match.

ii. Ceilings

The damaged/discolored tiles along the corridor wall should be removed, replaced and repainted to match existing conditions. When this replacement takes place the glue daubs should be tested for asbestos. If in fact it is an asbestos containing glue the entire ceiling should be removed down to the gypsum or plaster substrate and a new spray applied ceiling should be put back in place to match the other areas of the school.

iii. Walls

A section of the lower gypsum board portion of the wall should be removed to evaluate wall moisture damage. This area of the wall should be patched, repaired, and repointed to alleviate any future moisture problems.

iv. Windows

The existing wood windows and exterior mounted storm windows should be removed and replaced with thermally efficient aluminum sash of the appropriate style, with

thermally broken frames and low-e insulated glass.

v. **Doors & Hardware**

Both wood doors in this classroom should be refinished, and repainted. These doors should also be fitted with new hardware that meets current code compliance. (*See Code Compliance Section below for further detail*)

vi. **Code Compliance**

The small classroom sink does not meet front approach knee space required by 521 CMR: Architectural Access Board. This unit should be removed and a new handicap accessible sink unit should be put in its place.

Regarding door location and hardware; once the proper accessible style door hardware is installed, to properly meet push/pull clearances as defined by the current code there are a few door modification options our office recommends. 1) The doors and frames could be relocated within the masonry opening in an attempt to reduce the existing door recess. 2) The masonry wall could be modified and additional shoring at the door header could be added for support, to allow for proper clear floor space. 3) The last option would be to apply for a variance as described in *The Massachusetts State Building Code, 780 CMR, Sixth Edition, Chapter 521 CMR, Architectural Access Board, Part A Administration, Section 4 Appeals and Variance*. Under this section the Board may find "that full compliance with 521 CMR is impracticable."

vii. **Specialties (Chalk/Marker/Tack Boards)**

The current marker/tack boards are in good shape our office would not recommend replacement unless room layout is change such that current locations would be problematic.

viii. **Millwork & Shelving**

The existing small bookcases/shelving should be replaced with new. It would be practical to identify some areas of the classroom for dedicated storage and put in larger, tall bookcase/shelving units. This is a quick way to increase the amount of general classroom storage. Students would still use the lower portions of the tall bookcase/shelving and the upper portions can be dedicated to classroom storage. There should also be a dedicated teacher's closet with keyed locks.

(2) **LOWER LEVEL - PRESCHOOL ROOM WITH DEDICATED BATHROOM AND OFFICE**

a. **EXISTING CONDITIONS**

i. **Floors**

The majority of the flooring is carpet, which is in fair condition with visible staining throughout. The area adjacent to the dedicated classroom bathroom has a linoleum floor finish, which is also in fair condition. The dedicated classroom bathroom has 2"x2" tile floors with tile cove base.

ii. **Ceilings**

The ceiling is a spray applied acoustic ceiling over gypsum board or plaster. The dedicated classroom bathroom has a Lay-In- Acoustic Tile ceiling assembly.

iii. **Walls**

All walls are exposed brick construction with no sealer or finish. Both the dedicated bathroom and office space are made out of painted gypsum wall construction.

iv. **Windows**

All windows are wood frame construction with a single pane of glass. Each window has

a set of metal-framed storm windows that have been fastened to the exterior wood frame.

v. Doors & Hardware

There are two wood doors with a borrowed lights (clear pane of glass) in a metal frames that separate the corridor from the classroom. Also in this room is a solid panel wood door in a metal frame that that serves as an interconnecting classroom door to the adjacent 3rd grade classroom. The office and dedicated bathroom doors are solid panel wood doors with metal frames as well.

vi. Code Compliance

There are code compliant issues in this room, see Deficiencies Section below for further description.

vii. Specialties (Chalk/Marker/Tack Boards)

There are both chalkboards and tack boards in this classroom that are in fair condition.

viii. Millwork & Shelving

There are few pieces of fixed or permanent millwork or casework in this classroom. There are however loose bookshelves and storage cabinets. There is one fixed set of kitchen style cabinets located along the corridor wall.

b. DEFICIENCIES

i. Floors

The existing carpet is in fair/poor condition with visible signs of wear in high traffic areas as well as spot stains throughout. The linoleum flooring located adjacent to the dedicated bathroom is in fair condition with no visible signs of damage. The tile floor in the existing dedicated bathroom is in fair condition.

ii. Ceilings

The Classroom's spray-applied acoustic ceiling system is in fair condition with visible signs of cracking. The LAT ceiling assembly in the Dedicated Bathroom is in good/fair condition with minimal discoloration in the tiles.

iii. Walls

The brick walls in this classroom are in poor condition with a tremendous amount of mortar deterioration. The mortar is damp to the touch on the lower portions of the wall with daily clean up required to maintain a debris free floor at the base of the wall.

iv. Windows

The existing windows consist of a single pane of glass set in a wood frame. In this style of window, both the frame and glazing type, have little or no insulation value. Although there are storm window assemblies screwed into the wood frames these also offer little thermal value.

v. Doors & Hardware

The doors and hardware sets are in fair condition.

vi. Code Compliance

The small sink located on the corridor wall does not meet front approach knee space code compliance. The knob style door hardware is not code compliant. The corridor, office and toilet room doors do not meet current push/pull code requirements.

vii. Specialties (Chalk/Marker/Tack Boards)

The chalkboard and tack boards are in fair condition.

viii. Millwork & Shelving

The small bookcase and shelves are in poor condition do to age and use.

c. **RECOMMENDATIONS**

i. **Floors**

The existing carpet and linoleum floors should be replaced with a new VCT resilient flooring system. The bathroom tiles should be patched, repaired and repointed with any grout repair to be done at this time.

ii. **Ceilings**

The damaged areas of the ceiling should be scraped cleaned and new spray-on acoustic ceiling assembly should be applied to match existing texture. The entire ceiling should be repainted. Replace all existing LAT tiles only.

iii. **Walls**

The brick walls need to be patched, repaired, and repointed throughout. Once the repointing has taken place the wall should be sealed and painted.

iv. **Windows**

The existing wood windows and exterior mounted storm windows should be removed and replaced with thermally efficient aluminum sash of the appropriate style, with thermally broken frames and low-e insulated glass.

v. **Doors & Hardware**

All wood doors in this classroom should be refinished, and repainted. These doors should also be fitted with new hardware that meets current code compliance. (See Code Compliance Section below for further detail)

vi. **Code Compliance**

The small classroom sink does not meet front approach knee space required by 521 CMR: Architectural Access Board. This unit should be removed and a new handicap accessible sink unit should be put in its place.

Regarding door location and hardware; once the proper accessible style door hardware is installed, to properly meet push/pull clearances as defined by the current code there are a few door modification options our office recommends. 1) The corridor doors and frames could be relocated within the masonry opening in an attempt to reduce the existing door recess. 2) The masonry wall could be modified and additional shoring at the door header could be added for support, to allow for proper clear floor space. 3) The last option would be to apply for a variance as described in *The Massachusetts State Building Code, 780 CMR, Sixth Edition, Chapter 521 CMR, Architectural Access Board, Part A Administration, Section 4 Appeals and Variance*. Under this section the Board may find "that full compliance with 521 CMR is impracticable."

The Office door, in its current location, does not allow for minimum pull side clearance (12 inches of clear floor space). This door should be relocated and the office interior should be reorganized to meet proper clearances.

The bathroom door, also does not allow for the minimum pull side clearance (18 inches of clear floor space). A smaller handicap accessible sink would need to be installed in place of the current sink.

vii. **Specialties (Chalk/Marker/Tack Boards)**

The current tack boards are in good shape our office would not recommend replacement unless room layout is change such that current locations would be problematic. The chalkboard should be removed and replaced with a white board.

viii. Millwork & Shelving

The existing small bookcases/shelving should be replaced with new. It would be practical to identify some areas of the classroom for dedicated storage and put in larger, tall bookcase/shelving units. This is a quick way to increase the amount of general classroom storage. Students would still use the lower portions of the tall bookcase/shelving and the upper portions can be dedicated to classroom storage. There should also be a dedicated teacher's closet with keyed locks.

(3) LOWER LEVEL - HEALTH OFFICE, COMPUTER LAB AND STORAGE/COUNSELOR

a. EXISTING CONDITIONS

i. Floors

Current floor conditions are exposed, painted concrete. The Health Office and the Storage/Counselors Office each have throw rugs over a good portion of the floor.

ii. Ceilings

All three rooms have a spray applied acoustic ceiling over either gypsum board or plaster.

iii. Walls

All brick walls are painted with a 36" tall gypsum board wainscot. The wainscot has been applied because of moisture damage that has occurred on the lower portions of the wall. The Health Office has two gypsum board walls that are also painted with a vinyl cove base.

iv. Windows

All windows are wood frame construction with a single pane of glass. Each window has a set of metal-framed storm windows that have been fastened to the exterior wood frame.

v. Doors & Hardware

The Computer Lab and Health Office each have metal doors set in metal frames that separate the corridor from the individual room. Each of these doors has borrowed lights. The Storage/Counselor room has a wood door and frame assembly located off of the secondary corridor.

vi. Code Compliance

There are code compliant issues in these rooms, see *Deficiencies Section* below for further description.

vii. Specialties (Chalk/Marker/Tack Boards)

The Storage/Counselor room has a chalkboard in fair condition.

viii. Millwork & Shelving

The Health Office has a small cabinet and sink set-up. The Computer Classroom has some pre-manufactured computer lab stations. And the Storage/Counselor room has no fixed millwork or shelving.

b. DEFICIENCIES

i. Floors

The existing concrete floors are on poor condition with visible signs of age and use. These floors need to be refinished.

ii. Ceilings

The spray-applied acoustic ceiling system is in fair/poor condition with visible signs of cracking.

iii. Walls

There is little deficiency to note in these rooms; it appears that the brick wall was sealed before it was painted. The area of concern is the portion of the wall that is covered by a 36" gypsum board wainscot. This area appears to have been covered due to continual moisture problems. It will be difficult to assess this area because it is completely covered. There are some noticeable screw holes that should be patched and repaired.

iv. Windows

The existing windows consist of a single pane of glass set in a wood frame. In this style of window, both the frame and glazing type, have little or no insulation value. Although there are storm window assemblies screwed into the wood frames these also offer little thermal value.

v. Doors & Hardware

The doors and hardware sets are in fair condition.

vi. Code Compliance

The small sink located in the Health office does not meet front approach knee space code compliance. The knob style door hardware is not code compliant. The Computer Lab and Storage/Counselor doors do not meet push/pull code compliance. There is no handicap accessible workstation in the Computer Lab.

vii. Specialties (Chalk/Marker/Tack Boards)

It appears as if the life expectancy of the chalkboard has been exceeded.

viii. Millwork & Shelving

There is no handicap accessible workstation in the Computer Lab.

c. RECOMMENDATIONS

i. Floors

The existing concrete floors once cleaned and sealed should be covered with a new VCT resilient flooring assembly. This will allow use of for normal furniture and an increased ease of maintenance.

ii. Ceilings

The damaged areas of the ceiling should be scraped cleaned and new spray-on acoustic ceiling assembly should be applied to match the existing texture. The entire ceiling should be repainted.

iii. Walls

A section of the lower gypsum board portion of the wall should be removed to evaluate wall moisture damage. This area of the wall should be patched, repaired, and repointed to alleviate any future moisture problems.

iv. Windows

The existing wood windows and exterior mounted storm windows should be removed and replaced with thermally efficient aluminum sash of the appropriate style, with thermally broken frames and low-e insulated glass.

v. Doors & Hardware

The wood door in Storage/Counselor room should be refinished, and repainted. All doors should also be fitted with new hardware that meets current code compliance. (See Code Compliance Section below for further detail)

vi. Code Compliance

The small sink in the Health Office does not meet front approach knee space required by 521 CMR: Architectural Access Board. This unit should be removed and a new handicap

accessible sink unit should be put in its place.

Regarding door location and hardware; once the proper accessible style door hardware is installed, to properly meet push/pull clearances as defined by the current code there are a few door modification options our office recommends, these apply to the Computer Lab and the Storage/Counselor room only. 1) The doors and frames could be relocated within the existing wall assembly to allow for the proper push/pull requirements. 2) The other option would be to apply for a variance as described in *The Massachusetts State Building Code, 780 CMR, Sixth Edition, Chapter 521 CMR, Architectural Access Board, Part A Administration, Section 4 Appeals and Variance*. Under this section the Board may find "that full compliance with 521 CMR is impracticable."

The Computer Lab also needs a handicap accessible workstation.

vii. Specialties (Chalk/Marker/Tack Boards)

The current chalkboard fair condition our office would recommend removal and replacement with a new white board. The Computer Lab also should have at least a small white board for teaching purposes.

viii. Millwork & Shelving

The Storage/Counselor Room should be clearly defined spatially. Currently this room doubles as a storage area and an Electric Room with the meter and panel box located in the corner of this room. Once that happens this room should have both dedicated storage closets as well as additional bookcase and shelving units. There should also be a dedicated teacher's closet with keyed locks.

The Computer Lab workstations are adequate with the exception of a handicap accessible workstation (see Code Compliance above). The Health Office needs a single tall bookcase/shelving unit.

(4) LOWER LEVEL - ADULT AND CHILDREN'S BATHROOMS

a. EXISTING CONDITIONS

i. Floors

These bathrooms have 2"x 2" tile floors with tile cove base.

ii. Ceilings

Both bathrooms have Lay-In-Acoustic Tile ceiling assemblies.

iii. Walls

All walls are painted gypsum board.

iv. Windows

None.

v. Doors & Hardware

Both have metal door and frame assemblies with knob style hardware.

vi. Code Compliance

There are code compliant issues in both bathrooms, see *Deficiencies Section* below for further description.

vii. Specialties (Chalk/Marker/Tack Boards)

None.

viii. Millwork & Shelving

None.

b. DEFICIENCIES

i. Floors

The existing tile floors are in fair condition with visible wear from age and use.

ii. Ceilings

The LAT ceiling assembly is in fair condition with little damage and only slight discoloration of tiles.

iii. Walls

The gypsum board walls are in fair condition with limited damage and some areas of worn or discolored paint.

iv. Windows

None.

v. Doors & Hardware

The doors and hardware sets are in fair condition, with some signs of paint chipping.

vi. Code Compliance

The knob style door hardware is not code compliant. The doors do not meet current push/pull code requirements. The bathroom designated for children does not meet current code requirements for the following; the toilet height, toilet paper dispenser height, and the grab bar height in the current bathrooms do not meet current code for children grades Kindergarten to third grade.

vii. Specialties (Chalk/Marker/Tack Boards)

None.

viii. Millwork & Shelving

None.

c. RECOMMENDATIONS

i. Floors

The bathroom tiles should be patched, repaired and repointed with any grout repair to be done at this time.

ii. Ceilings

Replace all existing LAT tiles only.

iii. Walls

Patch and repair any damaged areas of gypsum board and repaint entire rooms.

iv. Windows

None.

v. Doors & Hardware

Doors and frames in both bathrooms should be stripped and repainted. These doors should be fitted with new hardware that meets current code compliance. (See Code Compliance Section below for further detail.)

vi. Code Compliance

Regarding door location and hardware; once the proper accessible style door hardware is installed, to properly meet push/pull clearances as defined by the current we offer the following. Both bathroom sinks would need to be modified so that the proper pull clearance (18 inches of clear floor space on the pull side) can be provided a smaller handicap accessible sink would need to be installed in place of the current sink. In the bathroom designated for children; the existing toilet paper dispensers should be removed and relocated within the proper height requirement, the existing grab bars should be removed and relocated within the proper height requirements, and the toilet should be

- replaced for a toilet with the proper seat height.
- vii. **Specialties (Chalk/Marker/Tack Boards)**
None.
- viii. **Millwork & Shelving**
None.

(5) **LOWER LEVEL – WORKSHOP**

a. **EXISTING CONDITIONS**

- i. **Floors**
Current floor conditions are painted plywood sheathing over concrete.
- ii. **Ceilings**
This room has a spray applied acoustic ceiling over either gypsum board or plaster.
- iii. **Walls**
Three of the four walls that make up this space are painted brick, with the fourth wall being painted gypsum board.
- iv. **Windows**
All windows are wood frame construction with a single pane of glass. Each window has a set of metal-framed storm windows that have been fastened to the exterior wood frame.
- v. **Doors & Hardware**
The Workshop has two wood doors with metal frame assemblies.
- vi. **Code Compliance**
There are few code compliant issues in this room, see *Deficiencies Section* below for further description.
- vii. **Specialties (Chalk/Marker/Tack Boards)**
None.
- viii. **Millwork & Shelving**
The Workshop has a wooden workbench along the left sidewall that runs into a small cabinet with multiple drawers.

b. **DEFICIENCIES**

- i. **Floors**
The existing plywood surface is badly worn from use and the type of work that goes on in this area.
- ii. **Ceilings**
The spray-applied acoustic ceiling system is in fair/poor condition with visible signs of cracking.
- iii. **Walls**
There is little deficiency to note in these rooms; it appears that the brick wall was sealed before it was painted. The area of concern is the lower portion of the wall. This area appears to be peeling from continual moisture problems.
- iv. **Windows**
The existing windows consist of a single pane of glass set in a wood frame. In this style of window, both the frame and glazing type, have little or no insulation value. Although there are storm window assemblies screwed into the wood frames these also offer little thermal value.
- v. **Doors & Hardware**
The doors and hardware sets are in fair condition. The door connected to the boiler room

should be a fire rated door and frame assembly.

vi. Code Compliance

This room appears to be code compliant except for door hardware.

vii. Specialties (Chalk/Marker/Tack Boards)

None.

viii. Millwork & Shelving

The work surface is badly worn and the small cabinet is inefficient. There is a lack of tall, open shelving in this space.

c. RECOMMENDATIONS

i. Floors

The existing plywood floor should be removed. The exposed concrete should be cleaned, sealed and epoxy painted. This will allow for easy clean-up and continual maintenance.

ii. Ceilings

The damaged areas of the ceiling should be scraped cleaned and new spray-on acoustic ceiling assembly should be applied to match texture. The entire ceiling should be repainted.

iii. Walls

The lower portion of the brick wall should be patched, repaired, and repointed. To alleviate any future moisture problems it should be sealed and then epoxy painted.

iv. Windows

The existing wood windows and exterior mounted storm windows should be removed and replaced with thermally efficient aluminum sash of the appropriate style, with thermally broken frames and low-e insulated glass.

v. Doors & Hardware

The wood doors should be refinished, and repainted. All doors should also be fitted with new hardware that meets current code compliance. (See Code Compliance Section below for further detail.)

vi. Code Compliance

The Workshop needs to add handicap accessible door hardware to meet current code standards, as well as a rated door assembly between it and the Boiler Room.

vii. Specialties (Chalk/Marker/Tack Boards)

None.

viii. Millwork & Shelving

The badly worn work surface should be replaced on the workbench. The small inefficient wood cabinet should be replaced with a metal storage container that has multiple drawers with various sizes to accommodate the variety of tasks that get performed in this room. Tall open shelving should also be provided along one side of the space as well.

(6) LOWER LEVEL - BOILER ROOM

a. EXISTING CONDITIONS

i. Floors

Current floor conditions are bare concrete.

ii. Ceilings

This room has an unfinished gypsum ceiling.

iii. Walls

Three of the four walls that make up this space are painted brick, with the fourth wall

being painted gypsum board.

iv. Windows

All windows are wood frame construction with a single pane of glass. Each window has a set of metal-framed storm windows that have been fastened to the exterior wood frame.

v. Doors & Hardware

The Boiler Room has two wood doors within metal frame assemblies.

vi. Code Compliance

See Deficiencies Section below for description.

vii. Specialties (Chalk/Marker/Tack Boards)

None.

viii. Millwork & Shelving

None.

b. DEFICIENCIES

i. Floors

This concrete floor is bare, with no sealer, or paint.

ii. Ceilings

This ceiling lacks any finish.

iii. Walls

All of the brick in this room appears to have some degree of peeling due to constant moisture. Gypsum wall is unfinished in some areas.

iv. Windows

The existing windows consist of a single pane of glass set in a wood frame. In this style of window, both the frame and glazing type, have little or no insulation value. Although there are storm window assemblies screwed into the wood frames these also offer little thermal value.

v. Doors & Hardware

Both doors in the Boiler Room are not fire rated door and frame assemblies.

vi. Code Compliance

Doors do not meet code requirements.

vii. Specialties (Chalk/Marker/Tack Boards)

None.

viii. Millwork & Shelving

None.

c. RECOMMENDATIONS

i. Floors

The exposed concrete should be cleaned, sealed and epoxy painted. This will allow for easy clean-up and continual maintenance.

ii. Ceilings

All areas of the ceiling should be looked at for any holes or gaps. These areas should be patched, repaired and the ceiling made continuous.

iii. Walls

All areas of the brick wall should be patched, repaired, and repointed. To alleviate any future moisture problems it should be sealed and then epoxy painted. Gypsum wall should also be refinished.

- iv. **Windows**
The existing wood windows and exterior mounted storm windows should be removed and replaced with thermally efficient aluminum sash of the appropriate style, with thermally broken frames and low-e insulated glass.
- v. **Doors & Hardware**
The wood doors should be removed and replaced with fire rated metal door and frame assemblies. (See Code Compliance Section below for further detail.)
- vi. **Code Compliance**
Both doors in the Boiler Room should be replaced with fire rated door and frame assemblies to meet current code requirements.
- vii. **Specialties (Chalk/Marker/Tack Boards)**
None.
- viii. **Millwork & Shelving**
None.

(7) **LOWER LEVEL – STORAGE A&B**

a. **EXISTING CONDITIONS**

- i. **Floors**
The existing floor finish is 2"x 2" Ceramic Tile.
- ii. **Ceilings**
This room has a Lay-In-Acoustical tile ceiling assembly.
- iii. **Walls**
The walls are made up of 2"x 2" tile over a gypsum board substrate.
- iv. **Windows**
All windows are wood frame construction with a single pane of glass. Each window has a set of metal-framed storm windows that have been fastened to the exterior wood frame.
- v. **Doors & Hardware**
The two Storage areas have metal doors and frames with opaque borrowed lights.
- vi. **Code Compliance**
See Deficiencies Section below for description.
- vii. **Specialties (Chalk/Marker/Tack Boards)**
None.
- viii. **Millwork & Shelving**
None.

b. **DEFICIENCIES**

- i. **Floors**
If this space is going to remain a storage area then there are no deficiencies. If they are to be turned back into functioning bathrooms then the existing tile floors are in fair condition with visible wear from age and use.
- ii. **Ceilings**
If this space is going to remain a storage area then there are no deficiencies. If they are to be turned back into functioning bathrooms then the LAT ceiling assembly is in fair condition with little damage and only slight discoloration of tiles.
- iii. **Walls**
If this space is going to remain a storage area then there are no deficiencies. If they are to be turned back into functioning bathrooms then the tile and gypsum walls in fair

condition.

iv. Windows

The existing windows consist of a single pane of glass set in a wood frame. In this style of window, both the frame and glazing type, have little or no insulation value. Although there are storm window assemblies screwed into the wood frames these also offer little thermal value.

v. Doors & Hardware

Both doors are in fair condition.

vi. Code Compliance

There are abandoned plumbing fixtures that should be taken off line.

vii. Specialties (Chalk/Marker/Tack Boards)

None.

viii. Millwork & Shelving

None.

c. RECOMMENDATIONS

i. Floors

If this space is going to remain a storage area then there are no recommendations. If they are to be turned back into functioning bathrooms then the bathroom tiles should be patched, repaired and repointed with any grout repair to be done at this time.

ii. Ceilings

If this space is going to remain a storage area then there are no recommendations. If they are to be turned back into functioning bathrooms then replace all existing LAT tiles only.

iii. Walls

If this space is going to remain a storage area then there are no recommendations. If they are to be turned back into functioning bathrooms then the tile walls should be cleaned and any damaged tile should be repaired along with any required re-grouting. The gypsum board wall above the tile also should be patch, repaired as required and repainted.

iv. Windows

The existing wood windows and exterior mounted storm windows should be removed and replaced with thermally efficient aluminum sash of the appropriate style, with thermally broken frames and low-e insulated glass.

v. Doors & Hardware

The metal doors should be stripped and repainted.

vi. Code Compliance

If this space is going to remain a storage area then all plumbing fixtures should be abandoned, removed in their entirety and all existing plumbing lines should be capped. If they are to be turned back into functioning bathrooms then all plumbing fixtures need to meet the current code for handicap clear floor space accessibility, clear knee space as well as additional privacy screens in the boy's room.

vii. Specialties (Chalk/Marker/Tack Boards)

None.

viii. Millwork & Shelving

None.

(8) **MAIN LEVEL - CLASSROOMS 1, 2, 3, AND SPECIAL EDUCATION**

a. **EXISTING CONDITIONS**

i. **Floors**

The majority of the flooring in these classrooms is carpet, with small areas of linoleum around individual sink stations in each room.

ii. **Ceilings**

The ceiling is a spray applied acoustic ceiling over gypsum board or plaster.

iii. **Walls**

All walls are painted cement plaster over brick with the exception being in the Special Education classroom where there are two painted gypsum walls from the 1986 renovation. The concrete plaster walls have a wood base trim and the gypsum board walls have a vinyl cove base. There is a low chair rail that matches the existing wood base trim which lines the perimeter of each room.

iv. **Windows**

All windows are wood frame construction with a single pane of glass. Each window has a set of metal-framed storm windows that have been fastened to the exterior wood frame.

v. **Doors & Hardware**

The corridor doors are wood with borrowed lights (clear pane of glass) in a wood frames. Each door has knob style door hardware.

vi. **Code Compliance**

There are code compliant issues in this room, see *Deficiencies Section* below for further description.

vii. **Specialties (Chalk/Marker/Tack Boards)**

These spaces each contain tack boards and chalkboards, with the Special Education room being the exception.

viii. **Millwork & Shelving**

Classrooms 1, 2 and Special Education each have a small kitchen style, sink area, with the exception being Classroom 3. Classroom 1 has a built-in closet in the rear of their classrooms with shelving and areas for each student to hang their coats and student bags. Each classroom also utilizes loose bookshelves to define different spaces within the room.

b. **DEFICIENCIES**

i. **Floors**

The existing carpet is in fair/poor condition with visible signs of wear in high traffic areas as well as spot stains throughout. The linoleum flooring located around the small kitchen style sinks is in fair condition with no visible signs of damage.

ii. **Ceilings**

The spray-applied acoustic ceiling system is in fair condition with visible signs of cracking.

iii. **Walls**

The cement plaster walls in these classrooms are in fair/poor condition with a considerable amount of wear visible to the paint. The wood base trim along the concrete plaster walls has been marred and shows signs of age as well the low wood chair rail.

iv. **Windows**

The existing windows consist of a single pane of glass set in a wood frame. In this style of window, both the frame and glazing type, have little or no insulation value. Although

there are storm window assemblies screwed into the wood frames these also offer little thermal value.

v. **Doors & Hardware**

The doors and hardware sets are in fair condition.

vi. **Code Compliance**

The small sinks located in each classroom do not meet front approach, knee space, code compliance. The knob style door hardware is not code compliant.

vii. **Specialties (Chalk/Marker/Tack Boards)**

The chalkboard and tack boards are in fair condition.

viii. **Millwork & Shelving**

The small bookcase and shelves are in poor condition do to age and use.

c. **RECOMMENDATIONS**

i. **Floors**

The existing carpet and linoleum flooring should be replaced with a new VCT resilient flooring system.

ii. **Ceilings**

The damaged areas of the ceiling should be scraped cleaned and new spray-on acoustic ceiling assembly should be applied to match existing texture. The entire ceiling should be repainted.

iii. **Walls**

The cement plaster walls in these spaces are in fair condition with small areas in need of some patching and all walls are in need of new paint. The wood base trim and chair rail should be removed and replaced.

iv. **Windows**

The existing wood windows and exterior mounted storm windows should be removed and replaced with thermally efficient aluminum sash of the appropriate style, with thermally broken frames and low-e insulated glass.

v. **Doors & Hardware**

All wood doors in these classrooms should be refinished. These doors should also be fitted with new hardware that meets current code compliance. (See Code Compliance Section below for further detail.)

vi. **Code Compliance**

The small classroom sinks do not meet front approach knee space required by 521 CMR: Architectural Access Board. This unit should be removed and a new handicap accessible sink unit should be put in its place.

Regarding door location and hardware; all doors need to be outfitted with the proper accessible style door hardware. To properly meet push/pull clearances as defined by the current code there are a few door modification options our office recommends, these options need to be applied due to an excessive door recess. 1) The corridor doors and frames could be relocated within the wall opening in an attempt to reduce the existing door recess. 2) The masonry wall could be modified and additional shoring at the door header could be added for support, to allow for proper clear floor space. 3) The last option would be to apply for a variance as described in *The Massachusetts State Building Code, 780 CMR, Sixth Edition, Chapter 521 CMR, Architectural Access Board, Part A Administration, Section 4 Appeals and Variance*. Under this section the Board may find "that full compliance with 521 CMR is impracticable."

vii. Specialties (Chalk/Marker/Tack Boards)

The current tack boards are in good shape our office would not recommend replacement unless room layouts change such that current locations would be problematic. The chalkboards should be removed and replaced with a white boards.

viii. Millwork & Shelving

The existing small bookcases/shelving should be replaced with new. It would be practical to identify some areas of the classroom for dedicated storage and put in larger, tall bookcase/shelving units. This is a quick way to increase the amount of general classroom storage. Students would still use the lower portions of the tall bookcase/shelving and the upper portions can be dedicated to classroom storage. There should also be a dedicated teacher's closet with keyed locks.

(9) MAIN LEVEL – CAFETERIA/KITCHEN

a. EXISTING CONDITIONS

i. Floors

This combination Cafeteria and Kitchen Service room has 12" x 12" vinyl tile flooring.

ii. Ceilings

The ceiling is Lay-In-Tile acoustic ceiling assembly.

iii. Walls

The four walls that make up the Cafeteria/Kitchen space are painted cement plaster over brick. There also is a serving line wall that is finished with painted gypsum board. The concrete plaster walls have a wood base trim and the gypsum board walls have a vinyl cove base. There is a low chair rail that matches the existing wood base trim which lines the perimeter of this space.

iv. Windows

All windows are wood frame construction with a single pane of glass. Each window has a set of metal-framed storm windows that have been fastened to the exterior wood frame.

v. Doors & Hardware

The corridor doors are wood with borrowed lights in a wood frames. Each door has knob style door hardware.

vi. Code Compliance

There are code compliant issues in this room, see *Deficiencies Section* below for further description.

vii. Specialties (Chalk/Marker/Tack Boards)

None.

viii. Millwork & Shelving

There are upper and lower kitchen cabinets along the left sidewall and a small sink area and cabinets along the right sidewall.

b. DEFICIENCIES

i. Floors

The 12"x 12" vinyl tile floor is in poor condition, with noticeable separation gaps throughout. This tile may also contain asbestos.

ii. Ceilings

The LAT ceiling assembly is in fair condition with some discolored tiles.

iii. Walls

The cement plaster walls in this are in fair/poor condition with a considerable amount of wear visible to the paint. The wood base trim along the concrete plaster walls has been marred and shows signs of age as well the low wood chair rail.

iv. Windows

The existing windows consist of a single pane of glass set in a wood frame. In this style of window, both the frame and glazing type, have little or no insulation value. Although there are storm window assemblies screwed into the wood frames these also offer little thermal value.

v. Doors & Hardware

The doors and hardware sets are in fair condition.

vi. Code Compliance

The small sink located along the right sidewall does not meet front approach, knee space, code compliance. The knob style door hardware is not code compliant.

vii. Specialties (Chalk/Marker/Tack Boards)

None.

viii. Millwork & Shelving

The kitchen cabinets are in poor condition with visible signs of wear from age and use. The small sink along the right sidewall also is in similar condition.

c. RECOMMENDATIONS

i. Floors

The 12" x 12" vinyl tiles should be removed (this may require abatement) and replaced with new VCT.

ii. Ceilings

Only the existing ceiling tiles should be replaced with new. The existing ceiling grid system should be repainted.

iii. Walls

The cement plaster walls in these spaces are in fair condition with small areas in need of some patching and all walls are in need of new paint. The existing wood base trim and chair rail should be removed and replaced with new.

iv. Windows

The existing wood windows and exterior mounted storm windows should be removed and replaced with thermally efficient aluminum sash of the appropriate style, with thermally broken frames and low-e insulated glass.

v. Doors & Hardware

All wood doors in this room should be refinished. These doors should also be fitted with new hardware that meets current code compliance. (See Code Compliance Section below for further detail.)

vi. Code Compliance

The small sink along the right sidewall that does not meet front approach knee space required by 521 CMR: Architectural Access Board, should be removed and a new handicap accessible sink unit should be put in its place.

Regarding door location and hardware; all doors need to be outfitted with the proper accessible style door hardware. To properly meet push/pull clearances as defined by the current code there are a few door modification options our office recommends, these

options need to be applied due to an excessive door recess. 1) The corridor doors and frames could be relocated within the wall opening in an attempt to reduce the existing door recess. 2) The masonry wall could be modified and additional shoring at the door header could be added for support, to allow for proper clear floor space. 3) The last option would be to apply for a variance as described in *The Massachusetts State Building Code, 780 CMR, Sixth Edition, Chapter 521 CMR, Architectural Access Board, Part A Administration, Section 4 Appeals and Variance*. Under this section the Board may find "that full compliance with 521 CMR is impracticable."

vii. Specialties (Chalk/Marker/Tack Boards)

None.

viii. Millwork & Shelving

The existing kitchen cabinetry along the left sidewall should be removed in its entirety and replaced with new. See *Code Compliance Section* for further detail regarding the small sink.

(10) MAIN LEVEL – FORUM/STORAGE

a. EXISTING CONDITIONS

i. Floors

The flooring in this room is carpet from the corridor to the display case. The area behind the bookcase, which is used as a small storage area, has a painted plywood floor.

ii. Ceilings

The ceiling in this room is an acoustic tile ceiling.

iii. Walls

All walls are painted cement plaster over brick. The concrete plaster walls have a wood base trim.

iv. Windows

All windows are wood frame construction with a single pane of glass. Each window has a set of metal-framed storm windows that have been fastened to the exterior wood frame.

v. Doors & Hardware

All the doors in this space are wood with borrowed lights (clear pane of glass) in a wood frames. The amount of glass in each door in this space varies from the standard classroom door with the large single window; to the corridor doors with multiple smaller panes of glass. Each classroom door connected to this space has knob style door hardware, with the corridor doors having push plates and small pull handles.

vi. Code Compliance

There are code compliant issues in this room, see *Deficiencies Section* below for further description.

vii. Specialties (Chalk/Marker/Tack Boards)

None.

viii. Millwork & Shelving

The only permanent shelving is a sliding glass door display case, which contains a small pictorial history of past student, trophies and awards.

b. DEFICIENCIES

i. Floors

The existing carpet is in fair/poor condition with visible signs of wear in high traffic areas as well as spot stains throughout.

ii. Ceilings

This acoustic ceiling is in good condition with little notable deficiencies.

iii. Walls

The cement plaster walls in these classrooms are in fair/poor condition with visible wear to the paint. The wood base trim along the right concrete sidewall has been marred and shows signs of age; it also does not match the base trim along the left-side wall.

iv. Windows

The existing windows consist of a single pane of glass set in a wood frame. In this style of window, both the frame and glazing type, have little or no insulation value. Although there are storm window assemblies screwed into the wood frames these also offer little thermal value.

v. Doors & Hardware

The doors and hardware sets are in fair condition (see *Code Compliance* below for further information).

vi. Code Compliance

The classroom knob style door hardware does not meet current code requirements.

vii. Specialties (Chalk/Marker/Tack Boards)

None.

viii. Millwork & Shelving

The current display case is in relatively good condition, with only size possibly being an issue.

c. RECOMMENDATIONS

i. Floors

The existing carpet floor should be removed and replaced with a new VCT resilient flooring system. The plywood floor should also be prepared to accept the new VCT flooring system.

ii. Ceilings

Although this ceiling is in fairly good condition, it would be appropriate to match the adjacent corridor and replace this system with a new LAT ceiling assembly.

iii. Walls

The cement plaster walls in these spaces are in fair condition with small areas in need of some patching and all walls are in need of new paint. The wood base trim should be replaced and both the left and right side wall trim should be made to match.

iv. Windows

The existing wood windows and exterior mounted storm windows should be removed and replaced with thermally efficient aluminum sash of the appropriate style, with thermally broken frames and low-e insulated glass.

v. Doors & Hardware

All wood doors in these classrooms should be refinished. These doors should also be fitted with new hardware that meets current code compliance. (See *Code Compliance* Section below for further detail.)

vi. Code Compliance

Regarding door location and hardware, all doors need to be outfitted with the proper accessible style door hardware to properly meet push/pull clearances as defined by the current code. There are a few door modification options our office recommends, these

options need to be applied due to an excessive door recess. 1) The classroom doors and frames could be relocated within the wall opening in an attempt to reduce the existing door recess. 2) The other option would be to apply for a variance as described in *The Massachusetts State Building Code, 780 CMR, Sixth Edition, Chapter 521 CMR, Architectural Access Board, Part A Administration, Section 4 Appeals and Variance*. Under this section the Board may find "that full compliance with 521 CMR is impracticable."

vii. Specialties (Chalk/Marker/Tack Boards)

None.

viii. Millwork & Shelving

As previously stated under Deficiencies, physically the display case is in good condition. Our office would recommend replacement only if this rooms current use were to change.

(11) MAIN LEVEL – BOY’S AND GIRL’S BATHROOM

a. EXISTING CONDITIONS

i. Floors

The existing flooring is 2"x 2" ceramic tiles.

ii. Ceilings

This room has a lay-in-acoustical tile ceiling assembly.

iii. Walls

The walls are made up of 2"x 2" tile over a gypsum board substrate.

iv. Windows

All windows (only occur in the Boy's bathroom) are wood frame construction with a single pane of glass. Each window has a set of metal-framed storm windows that have been fastened to the exterior wood frame.

v. Doors & Hardware

The two Bathroom areas have metal doors and frames with opaque borrowed lights.

vi. Code Compliance

See Deficiencies Section below for description.

vii. Specialties (Chalk/Marker/Tack Boards)

None.

viii. Millwork & Shelving

None.

b. DEFICIENCIES

i. Floors

The existing tile floors are in fair condition with visible wear to both tile and grout from age and use.

ii. Ceilings

The LAT ceiling assembly is in fair condition with noticeably damaged areas of ceiling tiles in the Boy's bathroom. Consistent throughout both bathrooms is a slight discoloration of all tiles.

iii. Walls

Both the tile and gypsum walls show signs of age and use. The grout between tiles and the paint on the above gypsum walls has taken the majority of wear.

iv. Windows

The existing windows consist of a single pane of glass set in a wood frame. In this style

of window, both the frame and glazing type, have little or no insulation value. Although there are storm window assemblies screwed into the wood frames these also offer little thermal value.

v. Doors & Hardware

Both doors are in fair condition.

vi. Code Compliance

The toilet height, toilet paper dispenser height, and the grab bar height in the current bathrooms do not meet current code for children grades Kindergarten to third grade.

vii. Specialties (Chalk/Marker/Tack Boards)

None.

viii. Millwork & Shelving

None.

c. RECOMMENDATIONS

i. Floors

The bathroom tiles should be patched, repaired and repointed with all grout repairs to be done at this time.

ii. Ceilings

All existing LAT tiles only, should be replaced with new. The existing metal grid system should be sanded, cleaned and repainted.

iii. Walls

The tile walls should be cleaned and any damaged tile should be repaired along with all required re-grouting. The gypsum board wall above the tile also should be patch, repaired as required and repainted.

iv. Windows

The existing wood windows and exterior mounted storm windows should be removed and replaced with thermally efficient aluminum sash of the appropriate style, with thermally broken frames and low-e insulated glass.

v. Doors & Hardware

The metal doors should be stripped and repainted.

vi. Code Compliance

The existing toilets should be removed and replaced with properly sized toilets with the proper seat height. The existing toilet paper dispensers should be removed and relocated within the proper height requirement. And the existing grab bars should be removed and relocated within the proper height requirements.

vii. Specialties (Chalk/Marker/Tack Boards)

None.

viii. Millwork & Shelving

None.

(12) UPPER LEVEL – CLASSROOMS 1, 2, 3, 4, AND TEACHER'S WORK ROOM

a. EXISTING CONDITIONS

i. Floors

The majority of the flooring in these rooms is carpet, with small areas of linoleum around individual sink stations in each room.

ii. Ceilings

The ceiling is a spray applied acoustic ceiling over gypsum board or plaster.

iii. Walls

All walls are painted cement plaster over brick, with the exception being in Classroom 3 & 4, as well as the Teacher's Work Room, where there are four painted gypsum walls from the 1986 renovation. The concrete plaster walls have a wood base trim and the gypsum board walls have a vinyl cove base. There is a low chair rail that matches the existing wood base trim which lines the perimeter of each room.

iv. Windows

All windows are wood frame construction with a single pane of glass. Each window has a set of metal-framed storm windows that have been fastened to the exterior wood frame.

v. Doors & Hardware

The corridor doors are wood with borrowed lights (clear pane of glass) in a wood frames. The interconnecting doors between classrooms are solid wood doors in metal frames. Each door has knob style door hardware.

vi. Code Compliance

There are code compliant issues in these rooms, see Deficiencies Section below for further description.

vii. Specialties (Chalk/Marker/Tack Boards)

These spaces each contain tack boards and chalkboards with the exception being the Teacher's Work Room.

viii. Millwork & Shelving

Classrooms 1, 2 and the Teacher's Work Room each has a small kitchen style cabinet and sink area, with the exception being Classrooms 3 and 4. Classroom 1 also has a built-in closet in the rear of their classroom with shelving and an area for students to hang their coats and book bags. Each classroom utilizes small, loose bookshelves to define different spaces within the room.

b. DEFICIENCIES

i. Floors

The existing carpet is in fair/poor condition with visible signs of wear in high traffic areas as well as spot stains throughout. The linoleum flooring located around the small kitchen style cabinets and sinks is in fair condition with no visible signs of damage.

ii. Ceilings

The spray-applied acoustic ceiling system is in fair condition with visible signs of cracking, having some areas that are worse than others.

iii. Walls

The cement plaster walls in these classrooms are in fair/poor condition with a considerable amount of wear visible to the paint. The wood base trim along the concrete plaster walls has been marred and shows signs of age as well the low wood chair rail. The gypsum board wall and vinyl cove base also show signs of wear and use.

iv. Windows

The existing windows consist of a single pane of glass set in a wood frame. In this style of window, both the frame and glazing type, have little or no insulation value. Although there are storm window assemblies screwed into the wood frames these also offer little thermal value.

v. Doors & Hardware

The doors and hardware sets are in fair condition.

vi. Code Compliance

The small sinks located in the above mentioned rooms do not meet front approach, knee space, code compliance. The knob style door hardware also is not code compliant. Current room arrangements also hinder the push/pull clear floor space requirements.

vii. Specialties (Chalk/Marker/Tack Boards)

The chalkboard and tack boards are in fair condition.

viii. Millwork & Shelving

The small bookcase and shelves are in poor condition do to age and use.

c. RECOMMENDATIONS

i. Floors

The existing carpet and linoleum floors should be removed and replaced with a new VCT resilient flooring system.

ii. Ceilings

The damaged areas of the ceiling should be scraped cleaned and new spray-on acoustic ceiling assembly should be applied to match existing texture. All ceilings should be repainted.

iii. Walls

The cement plaster walls in these spaces are in fair condition with small areas in need of some patching and all walls are in need of new paint. The wood base trim and chair rail should be replaced. The gypsum walls should be patched as required and repainted; the vinyl base trim should be removed and replaced.

iv. Windows

The existing wood windows and exterior mounted storm windows should be removed and replaced with thermally efficient aluminum sash of the appropriate style, with thermally broken frames and low-e insulated glass.

v. Doors & Hardware

All wood doors in these classrooms should be refinished. These doors should also be fitted with new hardware that meets current code compliance. (See Code Compliance Section below for further detail.)

vi. Code Compliance

The small classroom sinks do not meet front approach knee space required by 521 CMR: Architectural Access Board. These units should be removed and new handicap accessible sink units should be put in their place.

Regarding door location and hardware; all doors need to be outfitted with the proper accessible style door hardware. To properly meet push/pull clearances as defined by the current code there are a few door modification options our office recommends, these options need to be applied due to an excessive door recess along corridor walls. 1) The corridor doors and frames could be relocated within the wall opening in an attempt to reduce the existing door recess. 2) The masonry wall could be modified and additional shoring at the door header could be added for support, to allow for proper clear floor space. 3) The last option would be to apply for a variance as described in *The Massachusetts State Building Code, 780 CMR, Sixth Edition, Chapter 521 CMR, Architectural Access Board, Part A Administration, Section 4 Appeals and Variance*. Under this section the Board may find "that full compliance with 521 CMR is impracticable."

vii. Specialties (Chalk/Marker/Tack Boards)

The current tack boards are in good shape our office would not recommend replacement unless room layouts change such that current locations would be problematic. The chalkboards should be removed and replaced with a white boards.

viii. Millwork & Shelving

The existing small bookcases/shelving should be replaced with new. It would be practical to identify some areas of the classroom for dedicated storage and put in larger, tall bookcase/shelving units. This is a quick way to increase the amount of general classroom storage. Students would still use the lower portions of the tall bookcase/shelving and the upper portions can be dedicated to teacher/classroom storage. There should also be a dedicated teacher's closet with keyed locks.

(13) UPPER LEVEL - ART ROOM AND DEDICATED CLASSROOM BATHROOM

a. EXISTING CONDITIONS

i. Floors

The majority of the flooring in this room is carpet, with a medium sized portion of linoleum covering an area from the front of the dedicated classroom bathroom wrapping around the corner to the interconnecting classroom door. The dedicated classroom bathroom has 2"x2" tile floors with tile cove base.

ii. Ceilings

The ceiling is a spray applied acoustic ceiling over gypsum board or plaster. The dedicated classroom bathroom has a Lay-In- Acoustic Tile ceiling assembly.

iii. Walls

The corridor and window walls are painted concrete plaster over brick. The left and right side walls are painted gypsum board that was put in place during the 1986 renovation. During that same renovation the dedicated bathroom was constructed out of painted gypsum wall.

iv. Windows

All windows are wood frame construction with a single pane of glass. Each window has a set of metal-framed storm windows that have been fastened to the exterior wood frame.

v. Doors & Hardware

The corridor doors are wood with borrowed lights (clear pane of glass) in a wood frames. The interconnecting doors between classrooms, as well as the dedicated bathroom, are solid wood doors in metal frames. Each door has knob style door hardware.

vi. Code Compliance

There are code compliant issues in these rooms, see *Deficiencies Section* below for further description.

vii. Specialties (Chalk/Marker/Tack Boards)

This space only contains a tack board.

viii. Millwork & Shelving

This classroom has an extensive kitchen style cabinet and sink area, with some shelving along the window wall.

b. DEFICIENCIES

i. Floors

The existing carpet is in fair/poor condition with visible signs of wear in high traffic areas as well as spot stains throughout. The linoleum flooring located around the dedicated bathroom and kitchen style cabinets and sink is in fair condition. The major deficiency is that this linoleum flooring is installed overtop of 9" x 9" vinyl asbestos tile. The tile floor in the existing dedicated bathroom is in fair condition.

ii. Ceilings

The spray-applied acoustic ceiling system in the Classroom is in fair condition with visible signs of cracking. The LAT ceiling assembly in the Dedicated Bathroom is in good/fair condition with minimal discoloration in the tiles.

iii. Walls

The cement plaster walls in these classrooms are in fair condition with a considerable amount of wear visible to the paint. The wood base trim along the concrete walls has been marred and shows signs of age as well. The gypsum board wall and vinyl cove base also show signs of wear and use.

iv. Windows

The existing windows consist of a single pane of glass set in a wood frame. In this style of window, both the frame and glazing type, have little or no insulation value. Although there are storm window assemblies screwed into the wood frames these also offer little thermal value.

v. Doors & Hardware

The doors and hardware sets are in fair condition.

vi. Code Compliance

The small sink located in this room does not meet front approach, knee space, code compliance. The knob style door hardware also is not code compliant. In the Dedicated Bathroom, the proximity of the sink to the door does not allow for the required 18 inches of clear floor space on the pull side of the door.

vii. Specialties (Chalk/Marker/Tack Boards)

Tack boards in this room are in fair condition.

viii. Millwork & Shelving

The kitchen style cabinets are in fair condition with visible signs of age and use.

c. RECOMMENDATIONS

i. Floors

Our office recommends removing the existing carpet and linoleum flooring, including the VAT underlayment, down to the concrete slab, and replacing it entirely with a new VCT flooring system. The bathroom tiles should be patched, repaired and repointed with any grout repair to be done at this time.

ii. Ceilings

The damaged areas of the ceiling should be scraped cleaned and new spray-on acoustic ceiling assembly should be applied to match existing texture. All sprayed ceilings should be repainted. The existing LAT tiles should be removed and replaced with new. The existing metal grid system that supports the tiles should be repainted.

iii. Walls

Cement plaster walls in these spaces are in fair condition with small areas in need of some patching and all walls are in need of new paint. The gypsum board walls should be

patched, repaired as required, and repainted. The existing wood base trim should be removed and replaced, along with the removal and replacement of the vinyl cove base.

iv. Windows

The existing wood windows and exterior mounted storm windows should be removed and replaced with thermally efficient aluminum sash of the appropriate style, with thermally broken frames and low-e insulated glass.

v. Doors & Hardware

All wood doors in these classrooms should be refinished. These doors should also be fitted with new hardware that meets current code compliance. (See Code Compliance Section below for further detail.)

vi. Code Compliance

The small classroom sink does not meet front approach knee space required by 521 CMR: Architectural Access Board. This unit should be removed and new handicap accessible sink unit should be installed.

Regarding door location and hardware; all doors need to be outfitted with the proper accessible style door hardware. To properly meet push/pull clearances as defined by the current code there are a few door modification options our office recommends, these options need to be applied due to an excessive door recess along corridor walls. 1) The corridor door and frame could be relocated within the wall opening in an attempt to reduce the existing door recess. 2) The masonry wall could be modified and additional shoring at the door header could be added for support, to allow for proper clear floor space. 3) The last option would be to apply for a variance as described in *The Massachusetts State Building Code, 780 CMR, Sixth Edition, Chapter 521 CMR, Architectural Access Board, Part A Administration, Section 4 Appeals and Variance*. Under this section the Board may find "that full compliance with 521 CMR is impracticable."

Regarding the Dedicated Bathroom door, the existing sink size and location should be modified to allow for the proper pull side clearance.

vii. Specialties (Chalk/Marker/Tack Boards)

The current tack boards are in good shape our office would not recommend replacement unless room layouts change such that current locations would be problematic. At least one white board should be installed in this classroom for teaching purposes.

viii. Millwork & Shelving

The existing kitchen style cabinetry should be replaced with new upper and lower cabinets. This would increase storage space required for this classroom. In addition, there should also be a dedicated teacher's closet with keyed locks.

(14) UPPER LEVEL - READING AND CONFERENCE ROOMS

a. EXISTING CONDITIONS

i. Floors

The finished flooring in these rooms is carpet.

ii. Ceilings

The finish in these rooms is a sprayed on acoustic ceiling.

iii. Walls

Both the Reading Room and Conference Room have a combination of painted cement plaster over brick and painted gypsum board construction. The concrete walls have a wood base trim, and the gypsum walls have vinyl cove base.

iv. Windows

The Conference Room windows are wood frame construction with a single pane of glass. Each window has a set of metal-framed storm windows that have been fastened to the exterior wood frame. The Reading Room has one large, metal frame window with a single pane of glass. This window is not exposed to the outside elements.

v. Doors & Hardware

All the doors in this space are wood with borrowed lights (clear pane of glass) in a wood frames. The amount of glass in each door in this space varies from the standard classroom door with the large single window to the corridor doors with multiple smaller panes of glass. Each door connected to this space has knob style door hardware, with the corridor doors having push plates and small pull handles.

vi. Code Compliance

There are code compliant issues in this room, see Deficiencies Section below for further description.

vii. Specialties (Chalk/Marker/Tack Boards)

There is an existing tack board located by the office desk.

viii. Millwork & Shelving

There are a few stand-up book/storage shelves within the reading room.

b. DEFICIENCIES

i. Floors

The existing carpet is in fair/poor condition with visible signs of wear in high traffic areas as well as spot stains throughout.

ii. Ceilings

This sprayed-on acoustic ceiling is in fair condition with visible cracking in small areas.

iii. Walls

The cement plaster walls in these classrooms are in fair/poor condition with visible wear to the paint. The wood base trim along the plaster sidewalls has been marred and shows signs of age. The gypsum walls have also been abused over time as well as the vinyl cove trim.

iv. Windows

The existing Conference Room windows consist of a single pane of glass set in a wood frame. In this style of window, both the frame and glazing type, have little or no insulation value. Although there are storm window assemblies screwed into the wood frames these also offer little thermal value. The large window located in the reading room is primarily there to stop sound from traveling up from the open space below. This window seems to be doing that job satisfactorily.

v. Doors & Hardware

The doors and hardware sets are in fair condition (see *Code Compliance* below for further information).

vi. Code Compliance

The classroom knob style door hardware does not meet current code requirements.

vii. Specialties (Chalk/Marker/Tack Boards)

None.

viii. Millwork & Shelving

The existing shelving units are in fair condition.

c. **RECOMMENDATIONS**

i. **Floors**

Our office would first recommend removing the existing flooring, down to the concrete slab, and replacing it entirely with a new VCT flooring system. If the school would rather stay with carpet then the existing carpet floor should be replaced with a new high traffic, stain resistant, carpet.

ii. **Ceilings**

Although this ceiling is in fairly good condition, it would be appropriate to match the other recommended improvements for the rest of this building and replace this system with a new LAT ceiling assembly, similar to the adjacent corridor.

iii. **Walls**

Cement plaster walls in these spaces are in fair condition with small areas in need of some patching and all walls are in need of new paint. The gypsum board walls should be patched, repaired as required, and repainted. The existing wood base trim should be removed and replaced, along with the removal and replacement of the vinyl cove base.

iv. **Windows**

The existing wood windows and exterior mounted storm windows should be removed and replaced with thermally efficient aluminum sash of the appropriate style, with thermally broken frames and low-e insulated glass. The existing large window in the Reading Room should remain as is, unless a future use change deems it necessary to remove or replace it.

v. **Doors & Hardware**

All wood doors in these classrooms should be refinished. These doors should also be fitted with new hardware that meets current code compliance. (See Code Compliance Section below for further detail.)

vi. **Code Compliance**

Regarding door location and hardware, all doors need to be outfitted with the proper accessible style door hardware. To properly meet push/pull clearances as defined by the current code there are a few door modification options our office recommends, these options need to be applied due to an excessive door recess. 1) The classroom doors and frames could be relocated within the wall opening in an attempt to reduce the existing door recess. 2) The other option would be to apply for a variance as described in *The Massachusetts State Building Code, 780 CMR, Sixth Edition, Chapter 521 CMR, Architectural Access Board, Part A Administration, Section 4 Appeals and Variance*. Under this section the Board may find "that full compliance with 521 CMR is impractical."

vii. **Specialties (Chalk/Marker/Tack Boards)**

There are no current deficiencies to the existing condition, but the school should consider additional board space in this classroom.

viii. **Millwork & Shelving**

The existing shelving units should be replaced with larger, tall units to quickly increase the amount of available storage in this classroom.

(15) UPPER LEVEL – BOY’S AND GIRL’S BATHROOM

a. EXISTING CONDITIONS

i. Floors

The existing flooring is 2”x 2” Ceramic tiles.

ii. Ceilings

This room has a Lay-In-Acoustical tile ceiling assembly.

iii. Walls

The walls are made up of 2”x 2” tile over a gypsum board substrate.

iv. Windows

All windows (only occur in the Boy’s bathroom) are wood frame construction with a single pane of glass. Each window has a set of metal-framed storm windows that have been fastened to the exterior wood frame.

v. Doors & Hardware

The two Bathroom areas have metal doors and frames with opaque borrowed lights.

vi. Code Compliance

See Deficiencies Section below for description.

vii. Specialties (Chalk/Marker/Tack Boards)

None.

viii. Millwork & Shelving

None.

b. DEFICIENCIES

i. Floors

The existing tile floors are in fair condition with visible wear to both tile and grout from age and use.

ii. Ceilings

The LAT ceiling assembly is in fair condition with noticeably damaged areas of ceiling tiles in the Boy’s bathroom. Consistent throughout both bathrooms is a slight discoloration of all tiles.

iii. Walls

Both the tile and gypsum walls show signs of age and use. The grout between tiles and the paint on the above gypsum walls has taken the majority of wear.

iv. Windows

The existing windows consist of a single pane of glass set in a wood frame. In this style of window, both the frame and glazing type, have little or no insulation value. Although there are storm window assemblies screwed into the wood frames these also offer little thermal value.

v. Doors & Hardware

Both doors are in fair condition.

vi. Code Compliance

The toilet height, toilet paper dispenser height, and the grab bar height in the current bathrooms do not meet current code for children grades Kindergarten to third grade.

vii. Specialties (Chalk/Marker/Tack Boards)

None.

viii. Millwork & Shelving

None.

c. RECOMMENDATIONS

i. Floors

The bathroom tiles should be patched, repaired and repointed with all grout repairs to be done at this time.

ii. Ceilings

All existing LAT tiles only, should be replaced with new. The existing metal grid system should be sanded, cleaned and repainted.

iii. Walls

The tile walls should be cleaned and any damaged tile should be repaired along with all required re-grouting. The gypsum board wall above the tile also should be patch, repaired as required and repainted.

iv. Windows

The existing wood windows and exterior mounted storm windows should be removed and replaced with thermally efficient aluminum sash of the appropriate style, with thermally broken frames and low-e insulated glass.

v. Doors & Hardware

The metal doors should be stripped and repainted.

vi. Code Compliance

The existing toilets should be removed and replaced with properly sized toilets with the proper seat height. The existing toilet paper dispensers should be removed and relocated within the proper height requirement. And the existing grab bars should be removed and relocated within the proper height requirements.

vii. Specialties (Chalk/Marker/Tack Boards)

None.

viii. Millwork & Shelving

None.

(16) GENERAL - CORRIDORS

a. EXISTING CONDITIONS

i. Floors

The Lower Floor is concrete, with the Main and Upper floors having carpet.

ii. Ceilings

The Lower Floor has a sprayed acoustic ceiling, with the Main and Upper floors having a LAT ceiling assembly.

iii. Walls

The Lower Floor has mainly painted brick walls, with the Main and Upper floors having painted cement plaster over brick.

iv. Windows

All windows are wood frame construction with a single pane of glass. Each window has a set of metal-framed storm windows that have been fastened to the exterior wood frame.

v. Doors & Hardware

See individual classroom Existing Conditions section.

vi. Code Compliance

Code issues are addressed in individual classroom Existing Condition section.

vii. Specialties (Chalk/Marker/Tack Boards)

None.

viii. Millwork & Shelving

There are fixed and loose shelving units on the Main and Upper levels. There is none on the Lower Level.

b. DEFICIENCIES

i. Floors

The painted concrete floor on the Lower level is worn with areas that have different color paint as well as some rough spots. The existing carpet on the Main and Upper levels is worn due to age and continual traffic, especially near doorway exit/entrances.

ii. Ceilings

The Lower level, sprayed-on acoustic ceiling is in fair condition with visible cracking in small areas. The LAT ceiling assembly in the Main and Upper level corridors is in fair condition with discoloration in some tiles.

iii. Walls

The Lower level brick walls have areas of pealed paint and deteriorated mortar. The Main and Upper levels have painted cement plaster with wood chair rails. These walls and chair rails are worn and damaged.

iv. Windows

The existing windows consist of a single pane of glass set in a wood frame. In this style of window, both the frame and glazing type, have little or no insulation value. Although there are storm window assemblies screwed into the wood frames these also offer little thermal value.

v. Doors & Hardware

See individual classroom Deficiencies section.

vi. Code Compliance

Code issues are addressed in individual classroom Deficiencies section.

vii. Specialties (Chalk/Marker/Tack Boards)

None.

viii. Millwork & Shelving

The existing loose and fixed shelving located on the Main and upper levels is in fair condition, with visible signs of wear from regular use.

c. RECOMMENDATIONS

i. Floors

Our office would first recommend removing the existing flooring, down to the concrete slab, and replacing it entirely with a new VCT flooring system, on the Main and Upper levels. The Lower level concrete floor should be cleaned, leveled and prepped to also receive new VCT resilient flooring. If the school would rather stay with carpet then the existing carpet on the Main and Upper levels should be replaced with a new high traffic, stain resistant, carpet. This should also be done throughout, so we would recommend the same carpet treatment as the Main and Upper level floors.

ii. Ceilings

On the Lower level the damaged areas of the spray-applied ceiling should be scraped cleaned and new spray-on acoustic ceiling assembly should be applied to match existing texture. All sprayed ceilings should be repainted. On the Main and Upper levels the existing LAT tiles only, should be replaced with new. The existing metal grid system

- should be sanded, cleaned and repainted.
- iii. **Walls**
All walls need to be patched, repaired and painted to match existing conditions.
 - iv. **Windows**
The existing wood windows and exterior mounted storm windows should be removed and replaced with thermally efficient aluminum sash of the appropriate style, with thermally broken frames and low-e insulated glass.
 - v. **Doors & Hardware**
See individual classroom Recommendations section.
 - vi. **Code Compliance**
Code issues are addressed in individual classroom Recommendations section.
 - vii. **Specialties (Chalk/Marker/Tack Boards)**
None.
 - viii. **Millwork & Shelving**
Due to the apparent need of additional storage and areas for the student to hang coats and bags, our office recommends the removal and replacement of the fixed units located on the Main and Upper levels. There should also be loose shelving placed throughout the corridors as required.

(17) **GENERAL – STAIRS**

a. **EXISTING CONDITIONS**

ii. **Stair 1**

The existing Stair 1 was built during the 1986 addition/renovation project. This set of stairs is in good condition overall. It is made up of poured concrete treads with vinyl tread covering, metal stringers, and metal risers. There are painted, metal pipe handrails and guardrails within the stairwell. The corridor separations at all levels are made with “B” labeled metal door and frame assemblies.

ii. **Stair 2**

This set of stairs is original to the building. It is made up of wood treads with vinyl treads, wood risers and wood stringers. There are painted, metal pipe handrails within the stairwell. There is lockable storage under this set of stairs on the Lower Level. The corridor separations at all Levels are two wood doors with sidelights in wood frames with wire glass.

b. **DEFICIENCIES**

i. **Stair 1**

The existing treads are showing signs of wear from age and use. The existing handrails are also showing signs of age and use. The existing handrail and guardrail heights also do not meet minimum code compliance.

ii. **Stair 2**

The existing stair treads are worn from age and use. Existing handrails are worn and do not meet minimum handrail heights as defined by code. The storage area underneath the stairwell is not permitted by code. The corridor separations at each landing are not fire-rated. These sets of doors, frames and wall assemblies all need to be part of a fire-rated means of egress, by code.

c. RECOMMENDATIONS

i. Stair 1

All stair treads should be removed and replaced with new rubber stair treads. New handrails and guardrails should be installed, at the appropriate height, to meet minimum code requirements.

ii. Stair 2

All stair treads should be removed and replaced with new rubber stair treads. New handrails, at the appropriate height, should be installed to meet minimum code requirements. The removal of the existing storage area below the stairwell, at the basement level, this area should then be refinished with furring strips and gypsum board with vinyl base trim. This set of stairs also needs a fire-rated set of doors and a fire-rated wall assembly at each landing, on each floor. The existing wood doors and frames need to be removed and replaced with "B" labeled assemblies.

3. ARCHITECTURAL - EXTERIOR

a. EXISTING CONDITIONS

i. Walls

The existing building exterior is made up of a solid brick foundation, with a typical brick wall construction on the Main and Upper floors.

ii. Doors

The main doors to this facility are located off of the 1986 stairwell/elevator addition on the west side of the building. These two doors are the only handicap accessible entries to this building.

The north façade has one set of operating double doors located off of the only other set of stairs in the building. These doors also appear to have been updated during the 1986 renovation.

There are two additional, single, metal doors located on the southern façade that service the basement and main floor levels respectively.

iii. Windows

All windows on the original building are wood frame construction with a single pane of glass. Each window has a set of metal-framed storm windows that have been fastened to the exterior wood frame. The only exception to this on the original building, are the two old door entrances on the North façade. The operational entrance on the left has a glass transom window over its set of doors, this is part of a storefront system installed during the 1986 addition and renovation. During that same renovation the right side entrance was closed off, the existing doors were removed and a complete window storefront system was installed in the entire opening.

The windows on the 1986 stairwell/elevator addition are a double glazed aluminum frame storefront system.

v. Roof

The Helen E. James School was re-roofed in 2000 by Harlow & Beretta with a new overlay roofing system consisting of recovery board insulation and a Stevens Roofing System mechanically attached E.P. Roofing System. There is a fifteen (15) year warranty for this roofing system which is in effect until the year 2015. The existing roof is in good condition.

b. DEFICIENCIES

i. Walls

The **North façade** on the original building has little efflorescence, but does suffer from extensive mortar deterioration on the lower areas of the brick foundation wall due to ground contact. The original concrete lintels, which are acting as headers over all the existing windows, have visible wet areas on the exposed underside indicating moisture within the wall itself. On the same side, there is noticeable efflorescence on the 1986 addition.

The **East façade** has little efflorescence on the taller three-story section of the building, but shows signs of significantly more efflorescence on the lower, rear three-story section of the building, most noticeable immediately under the existing fascia. The left-side brick quoins are starting to pull away from the face brick on the upper section of this wall. There are large gaps where this separation occurs, as well as some missing brick.

The **South façade** shows significantly more efflorescence than the rest of the building, all along the existing fascia there are signs of possible water damage. On this same elevation, the upper floor window bay has a severely damaged concrete sill that has visible cracks, and noticeably missing, broken off sections. There is also efflorescence and significant mortar deterioration on the area of brick below this same concrete windowsill.

The **West façade** has similar problems. The areas of efflorescence occur on the lower two-story façade under the existing fascia as well as the two concrete windowsills. The taller three-story façade is in better condition with considerably less efflorescence, with only small isolated areas of damage. The 1986 addition also is in good condition with some lower areas along the brick that have some staining.

Our office offers a general comment about the condition of the overhang that runs continuous around the upper three-story section of the building. These overhangs are in fair physical condition with the only visible deficiency is peeling paint.

ii. Doors

The main doors to this facility were installed during the 1986 stairwell/elevator addition on the west side of the building. These two handicap accessible door entries are in good standalone condition. (See *Windows* section below for further description)

The north façade operating double doors also appear to have been updated during the 1986 renovation. These doors too, are in good/fair standalone condition. The main deficiency is that these doors are in large *Windows* section below for further description)

The two additional, single, metal doors located on the southern façade are in fair condition, with dents, dings and peeled paint.

iii. Windows

The existing windows consist of a single pane of glass set in a wood frame. In this style of window, both the frame and glazing type, have little or no insulation value. Although there are storm window assemblies screwed into the wood frames these also offer little thermal value.

The windows that installed during the 1986 renovation, including the storefront systems on the north and west façades, have exceeded their life span and no longer possess much, if any thermal value. The worst case being the double glazed aluminum storefront system located between the main and upper levels in the new stairwell. These

windows are stained from continual condensation occurring on the inside of the glass. In some cases there is standing water, between the panes of glass, at the bottom of the windows.

v. Roof

Alderman & MacNeish observed one area where the wall flashing was loose. This area is not leaking and the flashing is anchored at the top and bottom of the parapet wall and no repairs are required at this time.

c. RECOMMENDATIONS

i. Walls

The walls on the 1986 addition need to be cleaned of any efflorescence and sealed. All walls on the original building should be cleaned, patched, repaired and repointed. With special attention paid to the areas of loose and deteriorated mortar. The concrete lintels both at the head and the sill condition of each window should be cleaned of any weathering stains, and those headers and sill that have received excessive damage should be removed and replaced.

The overhang that runs continuous around the upper three-story section of the building needs to be cleaned, and have all loose paint removed. Once that is complete the surface should be prepared to receive new paint.

ii. Doors

The main entry doors are in good condition and we would recommend leaving these doors as is. These should only be removed and replaced to better work with a new storefront window system. (See Windows section below for further description)

The north façade operating double doors also appear to have been updated during the 1986 renovation. These doors too, are in good standalone condition. These doors should be looked at for their thermal value as well since these doors are primarily glass. These doors should be removed and replaced along with the glass transom window. (See Windows section below for further description)

The two additional, single, metal doors should be replaced with new hollow metal doors and frames.

iii. Windows

The existing wood windows and exterior mounted storm windows should be removed and replaced with thermally efficient aluminum sash of the appropriate style, with thermally broken frames and low-e insulated glass.

The windows that were installed during the 1986 renovation, including the storefront systems on the north and west façades show signs that indicate there is continual airflow from the exterior, leaking in through the frame causing water penetration and condensation. All of these windows should be removed and replaced with a thermally efficient aluminum sash of the appropriate style, with thermally broken frames and low-e insulated glass. This would include the window systems around each door on the north and west façades, as well as the closed off door on the north façade.

iv. Roof

Keep roof drains clean and inspect the roofing system two (2) times a year for any caulking which has become loose or deteriorated. Caulking occasionally requires repair and is not covered under the warranty.

5. STRUCTURAL

a. EXISTING CONDITIONS

The existing school building is a three-story masonry structure. The foundation of the building is red brick masonry. Although the majority of the foundation is concealed below grade, portions of the foundation are visible from within the basement level of the structure. Based upon the condition of the foundation as observed from within it is believed the foundation as a whole is in fair condition. The mortar joints of the masonry are deteriorated somewhat due to moisture from the exterior of the structure. Some of the masonry has been repointed and some of the masonry has been concealed in a gypsum wainscot for aesthetic reasons. The basement floor of the structure is cast in place concrete and is in very good condition. The exterior walls of the structure are solid red brick masonry. The interior walls of the structure are also red brick masonry walls with a cement plaster coating. The interior columns are typically 6" diameter steel pipe columns. The floors are wood joists supporting wood plank sheathing. The beams supporting the roof are rough sawn timber beams. The columns and beams supporting the roof are all in very good condition. The roof framing is rough sawn timber supporting plank sheathing. The roof weatherproofing is a single ply membrane.

b. DEFICIENCIES

The majority of the masonry walls are in fair to good condition with the following exceptions. A minor crack was found in the exterior red brick masonry at the southeast corner of the structure. This crack extends up the entire height of the building and is located at the intersection of the red brick where it keys in to the buff brick column on the corner of the building.

There are numerous location around the perimeter of the building where the mortar joints of the red brick masonry exterior is deteriorated. This is most noticeable beneath the windowsills and roof coping. This is believed to be due to water from rainfall splashing back onto the masonry from the sills and copings over long periods of time.

There is a severely deteriorated windowsill on the south side of the building on the second floor. There is also a severely deteriorated window lintel on the third floor, northeast side of the building.

c. RECOMMENDATIONS

The cracked masonry on the southeast corner of the building should be removed and reconstructed to mach the existing masonry. The masonry mortar joints in this location should be cutback and repointed with repair mortar to match existing.

All damaged exterior red brick masonry should be removed and replaced. Where mortar joints are deteriorated the mortar should be cutback and the masonry repointed with repair mortar.

The deteriorated windowsills and lintels should be removed and replaced in their entirety with masonry to match the existing.

6. FIRE PROTECTION

a. EXISTING CONDITIONS

The building currently has no automatic fire suppression system.

b. DEFICIENCIES

A major renovation would require the installation of sprinklers throughout the building, including combustible concealed spaces such as attics and crawl spaces.

c. RECOMMENDATIONS

A flow test should be completed to determine available water flow and pressure in the street and

to complete hydraulic calculations for design of the system. The school should be broken up into fire protection zones utilizing a wet pipe type sprinkler system. Due to the small interstitial space between the top floor ceiling and the roof, this area should be served by dry style upright sprinklers in lieu of full dry or anti-freeze systems. Standpipes in each stairway with fire department connections at every floor landing would also need to be provided to comply with current code.

7. PLUMBING

a. EXISTING CONDITIONS

i. Fixtures

The existing buildings plumbing systems appear adequate in quantity for the current occupancy use and most had the appropriate style fixtures for compliance with ADA and MA accessibility codes. It appears that these fixtures were replaced during a 1987 renovation project.

Existing water closets are of the water conserving 1.6-gallon flush valve type. The lavatory sinks were primarily wall-hung style, with at least one in each bathroom group complying with accessibility requirements. urinals are of the wall hung type however, to comply with current accessibility codes, at least one urinal in each bathroom group would need to be lowered.

The cafeteria area has no food preparation fixtures as the food is brought in from the nearby Dunphy School.

There is one electric water cooler located on each floor near the bathroom groups. The cooler is of the handicap accessible type.

Apparently maintenance is routinely performed on faucets, toilet fill valves, etc. as needed. In general, all the fixtures appear to be in good condition.

ii. Cold Water Service

The domestic water service for the building enters in a basement office area used by the school's nurse. It is a 2" copper line, which runs through a turbine style meter before supporting the building's domestic water loads. There was no pressure reducer on the service which is an indication that the municipal water service pressure must be under 80 psig; otherwise a reducer would be required.

iii. Domestic Hot Water Service

The domestic hot water needs of the building are supported by a Boch oil-fired water heater, which appears to be in good condition. The heater has a 50-gallon capacity and a maximum input rating of 162,000 BTUH and is supplied with #3 fuel oil via the (4) 330-gallon fuel oil tanks located in the boiler room.

iv. Drainage Systems

The roof is drained via roof drains connected to interior storm leaders. These leaders were not visible so we are unclear as to where they leave the building. In addition, we were unable to determine whether these leaders connect to a municipal storm sewer system or an on-site storm system.

Most of the sanitary drainage piping is concealed from view, however what we were able to see was primarily of the cast iron hub and spigot and no-hub type. The sanitary sewer lines exit the building and connect to a municipal sewer system.

During our inspection we noticed that the elevator machine room had an open sump pit, which collects footing drain water and discharges via two submersible pumps to the storm water system. Water was flowing into the pit during our site visit and according to the facility personnel, water flows into the pit most of the year indicating a high ground water level.

We noticed no outward signs of failure in either the sanitary sewer system or the storm drainage system during our site inspection.

vi. Natural Gas Service

There is no natural gas or LP gas on the premises. The heating fuel is 32 fuel oil. Natural gas may not be available in this area but could be reviewed with the local gas municipality if applicable.

b. DEFICIENCIES

i. Fixtures

In general, the plumbing systems are compliant with current code and, at 15 years of age, do not require wholesale replacement.

ii. Cold Water Service

No deficiencies.

iii. Domestic Hot Water Service

The existing configuration appears to comply with current codes with the exception that the mixing valve is set too high allowing 120° F to the lavatory fixtures whereas 110° F is the code allowed maximum.

iv. Drainage Systems

Typically, current elevator code would not allow this pit and pump to be located in this room. In addition, the baffle around the pit is not sealed tight so if a hydraulic leak should occur, the fluid could enter the pit and then be pumped to the storm water system, which would be a violation of environmental regulations. If the pump system cannot be removed from the room, as a minimum an oil sensing alarm should be installed which would kill the power to the sump pumps and set off an alarm.

v. Natural Gas Service

None.

c. RECOMMENDATIONS

i. Fixtures

The only fixture item that would need to be brought into compliance would be modifying one of the existing urinals in each boy's bathroom to a lower height to comply with code.

ii. Cold Water Service

The service as well as all the other domestic water piping appears to have been installed

during the 1987 renovation project. As such, the piping and valves are in good condition and are not in need of replacement during a renovation project.

iii. Domestic Hot Water Service

The mixing valve at the hot water heater should be adjusted to the proper 110° F temperature.

iv. Drainage Systems

We recommend repairing the shroud at the footing drain pit in the elevator machine room to make for a tight seal against an accidental hydraulic spill. In addition, an oil monitoring system should be added which can shut down the footing drain pump if hydraulic oil is detected in the water. Since the location of the pit and the pump are pre-existing conditions which were approved at the time of installation, we do not recommend relocating this footing drainage system at this time.

v. Natural Gas Service

None.

7. HEATING, VENTILATING AND AIR CONDITIONING

a. EXISTING CONDITIONS

i. Boilers

The building's heating requirements are currently supported by a single 3-module oil fired hot water boiler located in a boiler room, which is in a depressed area of the basement. The boiler is a HydroTherm unit dry base type, cast iron sectional. The boiler has three (3) Beckett flame retention oil burners with a total combined input rating of 909,000 BTUH.

The boiler discharges into a masonry chimney. The internal condition of the chimney is unknown. Number 2 fuel oil is supplied from four (4) 330-gallon steel fuel oil tanks located in the boiler room. The installation appears to comply with current codes.

Combustion air for the boiler room is supplied from ductwork connecting to a window louver.

Boiler controls appear fairly simple enabling and disabling the boiler via outside air temperature.

ii. Piping Distribution

Heating from the boiler plant is distributed via a hydronic distribution system serving classroom unit ventilators and convectors located throughout the building. There is a single close coupled Bell & Gossett pump rated for 47 GPM @ 35 ft. hd. which circulates water through the system. There is no stand-by pump, which would be typically provided to allow for back up if the main pump failed.

There is a pressure relief bypass valve located at the pump. This bypass valve dumps supply water back into the return line as the 2-way valves in the building begin to close to prevent the pump from "dead-heading" (i.e. moving no water), which could damage the pump. Although there are more efficient ways to control system water flow, such as through a variable speed drive, being that the pump is only 1 HP this current method

remains a viable solution.

iii. Ventilation and Miscellaneous HVAC

Classroom unit ventilators are located throughout the building. These units are located along exterior walls and each has an outdoor air louver and associated control dampers to allow outdoor air to enter the classroom space through the unit ventilator. During occupied periods, the unit fans run continuously to provide space ventilation and electric 2-way valves modulate water flow through the units to maintain space temperature.

The classroom unit ventilators are only 15 years old and appear to be in good condition and can be re-utilized during a renovation project. The units have electric control systems with internal thermostats which, however, have been problematic according to facility personnel.

Classroom exhaust in the building is supported by what appears to be a common ducted system connecting to wall registers in the respective classroom spaces. According to facility personnel, it appears that this system connects to centrifugal roof exhaust fan(s). Further investigation would be required to ascertain whether the existing ducts could adequately support the maximum exhaust airflow, which results when the unit ventilators operate in economizer (100% outdoor air) "free cooling" mode.

During a renovation project, the existing unit ventilators would need to be verified for proper compliance with new ventilation standards. Current ventilation standards require at least 15 CFM of outdoor air per occupant in classroom areas and 20 CFM per person in office spaces and most other areas.

All bathrooms appear to have ducted exhaust systems which, since they were installed only 15 years ago, should be adequate to support current ventilation requirements for areas such as these.

b. DEFICIENCIES

i. Boilers

Although the boilers have cast iron sections, they are of the dry base type, meaning that the burner burns in a firebox with the cast iron sections located above. Typically the firebox in these type boilers can burn out over time resulting in overheating of the boiler steel walls. We noticed signs of overheating and warping of the boilers steel panels. This can lead to burn through of the walls significantly damaging the boiler and creating a fire hazard.

ii. Piping Distribution

The piping system has only one pump. The use of two (2) pumps would allow for back up. Our estimates have allowed for the replacement of the existing pump as well as the addition of a stand-by pump and associated modification to the existing piping to accommodate the pumps. We have also included small variable frequency drives on the pumps, which may be rebateable by the local electric utility.

iii. Ventilation and Miscellaneous HVAC

HVAC controls are somewhat limited. The system consists primarily of pneumatic

controls, thermostats and operators to run the classroom unit ventilators and other building systems. In order to comply with new energy codes and ventilation standards and to optimize energy operating costs, an upgrade to a new DDC system capable of controlling all building HVAC systems is highly recommended as part of a renovation project.

c. RECOMMENDATIONS

i. Boilers

Being that most of the HVAC equipment is no more than 15-years of age and in good condition, there is no need for a wholesale replacement of equipment. The biggest improvement the system could use would be the implementation of a building wide direct digital control (DDC) type energy management system. The existing equipment should be retrofitted with new valve and damper operators to achieve this conversion. In addition, we would recommend that the space temperature sensors for each room be placed on a wall in lieu of in the unit ventilator as this will allow for improved space temperature control and easier user adjustment. We also recommend that the fireboxes on each boiler section be repaired and/or replaced as soon as possible.

ii. Piping Distribution

The existing pump should be replaced and a new stand-by pump should be provided to support the hot water distribution system. The system should incorporate variable speed drives to minimized pump energy costs.

iii. Ventilation and Miscellaneous HVAC

Further investigation would be required regarding the existing classroom exhaust ducts capability to support increased 100% outside air ventilation rates. If we assume that the duct sizes are adequate, we then recommend replacement of only the roof exhaust fans. The new fans should have variable speed drives or 2-speed motors (dependent upon final motor size) to achieve proper building air balance as classroom unit ventilators vary the amount of incoming outdoor air. All existing unit ventilators should be retrofitted with new valve and damper operators for incorporation into a new building-wide energy management system (EMS). This would accomplish intelligent ventilation and energy saving control. New units should deliver code required outdoor air as well as have the ability to provide 100% outdoor air for free cooling.

8. ELECTRICAL

a. EXISTING CONDITIONS

i. Electrical Service Entrance

The incoming primary service is rated at 13,800 Volt Delta fed from exterior utility pole mounted transformers located on the exterior portion of the property. One set of 4 conductor #500 MCM copper conductors are fed overhead to a 400 ampere, 120/208 Volt, 3 phase, 4 wire, 60 hertz secondary WYE distribution service.

The main service equipment is located in a storage room on the First Floor Level. The service disconnect is manufactured by General Electric Company and appears to have been installed when the 1987 elevator addition was constructed. From this service location, two sets of 4#3/0 cables were installed in two 2 1/2" conduits to the original 400

ampere service disconnect switch located in the main boiler room. A service distribution panel is located adjacent to the switch which distributes power to a load center panel located in the main corridor of each floor as well as an elevator disconnect switch.

The branch circuit panels have been recently updated over the last ten years. The circuit capacity appears adequate for the school's current needs.

ii. Lighting

Classroom Area Lighting

Lighting consists of three rows of 1x4, pendant mounted acrylic style fluorescent fixtures with three or two F40T12 cool white lamps. Each area has local switching connected to area lighting panels. The fixtures appear to be in good operating condition, offer adequate light levels and are sufficient for the needs of the space.

Corridor Lighting

The lighting consists of 2x4, 3 lamp, recessed mounted acrylic lensed fixtures with three F40T12 Cool White non-energy efficient lamps. The fixtures appear to be in good operating condition, offer adequate light levels and are sufficient for the needs of the space.

iii. Exterior Lighting

The rear of the building has a wall mounted fixture leased from the local utility company as well as a utility company leased light fixture attached to a pole located on the edge of the property closest to the 1987 addition. The majority of the exterior lighting are those located at the egress doors.

iv. Emergency Lighting

Emergency lighting battery units have been utilized throughout the building as well as several illuminated exit signs.

v. General Power Outlets

The majority of the duplex receptacles located throughout, appear original to the building. In most cases there are at most only one to two duplex receptacle installed in each classroom.

Additional receptacles have been installed over the past several years to allow for new equipment within the classrooms to be used. It is evident that the devices were connected onto existing circuits without researching whether or not the existing circuit could handle the additional load. The facility is constantly overloading circuits within the classrooms. The receptacles are also used to support new computer systems.

The corridors have minimal receptacles installed throughout.

vi. Fire Alarm System

The fire alarm system appears to have been upgraded when the 1987 addition was constructed. The main fire alarm control panel is manufactured by Simplex Grinnell and is series 4001. One manual pull station is located at the stair egress to the elevator addition. An audio-visual is installed above each pull station.

Photo-electric smoke detectors are installed throughout the corridor spaces. Heat detectors are installed in each storage closet and boiler room.

The elevator does not have elevator recall capability.

vii. Security System

The facility currently does not have a security system in place.

viii. Clock System

The clocks are centrally controlled via a main controller which is manufactured by Simplex Grinnell Company. The clocks are original to the building and are manufactured by a variety of manufacturers.

ix. Building Sound System

The building does not have a sound paging system currently installed within the facility. A local sound system has been installed in the gymnasium for local amplification only.

x. Telephone System

The existing system is of a generic manufacturer. Further information is required to determine the type and condition of the existing system.

xi. Technology System

One category 5 data cable has been installed into each classroom. The systems terminate onto a patch panel located in the computer classroom.

b. DEFICIENCIES

i. Electrical Service Entrance

The existing electrical cannot support the increased power demands if a significant addition were made to the Helen E. James School.

ii. Lighting

The building has minimal exterior lighting. The majority of fixtures are showing signs of deterioration. The emergency lighting battery units are not tied into the local lighting circuit to ensure proper protection to each area. The illuminated exit signs do not have battery backup to stay illuminated in the event of power failure.

iii. General Power Outlets

There are too few power outlets in classrooms to support modern educational needs with numerous computers and visual aids currently in use. The corridors have minimal outlets installed throughout.

iv. Fire Alarm System

The audio-visual alarms above each pull station are not ADA approved. The elevator does not have safety recall capability in the event of fire.

v. Security System

The facility currently does not have a security alarm system in place.

vi. Clock System

The clock system is old and individual clocks are showing signs of deterioration and in some cases are inoperable.

vii. Building Sound System

There is no building-wide sound system currently in place.

viii. Technology System

There are insufficient numbers of data outlets in the classrooms to support a modern educational program.

c. RECOMMENDATIONS

i. Electrical Service Entrance

If renovations and possibly building additions occur, the distribution equipment should be removed and replaced in its entirety along with all branch circuit feeders. A minimum of 600 to 800 ampere should be introduced into the facility to ensure that all future power considerations have been accounted for.

ii. Lighting

Remove the existing utility company leased fixtures and install fixtures with low glare value installed on the exterior walls of the building. The fixtures can be controlled via a photocell with a remote time clock programmed to switch the fixtures on and off at certain times of the evening hours. Replace the fixtures at each egress door with energy efficient weatherproof fixtures with long life lamps. The fixtures can be connected onto a local photocell as well as be programmed onto a time clock.

iii. General Power Outlets

The general receptacle power located throughout the facility should be upgraded as renovations occur along with all associated branch circuit wiring. Additional receptacles should be installed within each classroom and common area with separate circuits for computers and normal power. All components are to be properly grounded in accordance with National Electric Code standards.

iv. Fire Alarm System

Remove the existing fire alarm in its entirety and replace with a new ADA compliant system that meets NFPA standards, National Electric Code, Sixth Edition Massachusetts State Building Code and local fire department requirements.

Install additional manual pull stations with audio-visuals that are ADA/AAB compliant at each egress door and stairwell landing. Install a photo-electric smoke in each classroom.

Reconnect the new system the existing communicator as well as to the sump pumps.

v. Clock System

Provisions should be made to install a new master clock system with system clocks installed into each classroom. The master clock should also be synchronized with the sound paging system to allow for bell tones to indicate class changes.

vi. Building Sound System

Provisions should be made to install a new sound amplification system to each of the

classrooms, cafeteria, and a weatherproof exterior sound speaker to be connected onto a separate sound channel. This will allow for two-way communications to each classroom.

vii. Telephone System

Evaluation in progress.

viii. Technology System

Install additional data connections to each classroom along with media connections and video connections.

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