

GENERAL CONSTRUCTION SYSTEMS

I. EXISTING CONDITIONS

A. ORIGINAL BUILDING

Date of Construction	:	1939.
Construction Classification	:	A (Fire resistive/Noncombustible).
Total Floor Area	:	16,970 sf.
Number of Floors	:	One; ground, partial basement.
Structural System	:	Structural steel frame.
Floor Construction	:	Reinforced concrete.
Roof Construction	:	Steel frame, slate roofing.
Exterior Wall Construction	:	Coursed ashler.
Interior Wall Construction	:	Plaster.
Windows	:	Wood sash/frame, single glazed, double hung.
Exterior Doors	:	Wood doors and frames.

B. ADDITION

Date of Construction	:	1955 and 1963.
Construction Classification	:	A (Fire resistive/Noncombustible).
Total Floor Area	:	12,700 sf.
Number of Floors	:	One; ground.
Structural System	:	Masonry bearing wall (assumed).
Floor Construction	:	Reinforced concrete.
Roof Construction	:	Steel frame (assumed).
Exterior Wall Construction	:	Brick face, masonry back up.
Interior Wall Construction	:	Plaster, painted masonry.
Windows	:	Aluminum sash/frame, dual glazed, double hung.
Exterior Doors	:	Aluminum doors and frames.

C. ADDITION

Date of Construction	:	1985.
Construction Classification	:	A (Fire resistive/Noncombustible).
Total Floor Area	:	10,300 sf.
Number of Floors	:	One; ground.
Structural System	:	Masonry bearing wall.
Floor Construction	:	Reinforced concrete.
Roof Construction	:	Steel frame.
Exterior Wall Construction	:	Brick face, masonry back up.
Interior Wall Construction	:	Plaster, painted masonry.
Windows	:	Aluminum sash/frame, dual glazed, double hung.
Exterior Doors	:	Aluminum doors and frames.

II. CODE REQUIREMENTS

* _____	\$	0	1. Rescue Window: Emergency egress windows must be identifiable at all times from both inside and out to promote rapid egress and rescue. Rescue window signage was noted to be absent in several classrooms. Review signage throughout school and correct where necessary. No cost.
	\$	0	TOTAL - CODE REQUIREMENTS WORK

III. ARCHITECT'S AND ENGINEER'S RECOMMENDATIONS

III.A. HEALTH AND SAFETY IMPROVEMENTS

_____	\$	62,500	1. Corridor Separation: New construction would require 1-hour fire-resistance rated construction in the corridors since they are a component in the primary means of egress and the building is not sprinklered. Classroom corridor walls are open at the bottom in the 1955 Addition. Replace with 1-hour wall constructed from floor to underside of roof deck. See also Furnishings/Casework (below) for related recommendation.
_____	\$	0	2. Closets: Pivot type coat closets remain in many of the Original Building classrooms. These are undesirable for several reasons. The pivoting doors allow the two adjacent leaves to close tightly and abruptly which can result in hand or finger injuries. Pivoting door operation results in wasted space. Maintenance of closet hardware is becoming a burden. Replacement parts are no longer available. Additionally, some school districts have found that not segregating coats, hats, etc. inside the closet provides an avenue for the spread of lice that affects an estimated 25% of children in grades K-6. Consider replacing closets with individual cubbies and open wardrobes. No cost provided here. See III.B. Furnishings/Casework (below) for primary recommendation.
_____	\$	5,650	3. Closers: Newly constructed, unsprinklered buildings require door closers on all doors that open onto a corridor in order to maintain exit corridor fire separation rating. Provide closers throughout.
_____	\$	9,000	4. Wall Pads: Unprotected surfaces in the Gymnasium are potential sources of injury from accidental contact. Currently, only the steel columns are protected. Cover exposed wall and door surfaces to improve safety.
	\$	77,150	TOTAL - HEALTH AND SAFETY IMPROVEMENTS



III.B. FACILITY IMPROVEMENTS

INTERIOR

- | | | |
|----------|---------|--|
| _____ \$ | 36,800 | 1. Ceiling: Provide suspended ceiling system 1955 Addition classrooms to improve appearance. This will also facilitate heating system replacement. See Mechanical Work III.B. Heating System Replacement. |
| _____ \$ | 30,000 | 2. Ceilings/Mechanical Work: Replace all adhered spline ceilings in classrooms/offices not listed above, and remove, store, and reinstall suspended ceilings as necessary to facilitate heating system replacement. Does not include Original Building corridor ceilings. |
| _____ \$ | 18,500 | 3. Chalk/ Marker Boards: Many chalk and tackboards throughout are worn, scratched, faded, and at the end of their utility. Cost provides for replacement of primary boards in most Original Building and 1955 Addition classrooms with new chalk or marker boards.
Note: Cost also provides for option to install a steel (marker board) skin over existing chalkboards, replacement of chalkboards with markerboards or combination of the above. |
| _____ \$ | 5,700 | 4. Doors: Existing wood doors in the Original Building are worn and damaged. Doors are very attractive however and should be restored. Cost assumes refinishing. |
| _____ \$ | 6,250 | 5. Finishes - Miscellaneous: Consider the following in response to observed damage or deterioration:
a. Repair plaster damage below chalkboards in Original Building classrooms.
b. Allowance for accent paint on classroom and corridor wall surfaces. |
| _____ \$ | 2,500 | 6. Floor - Stage: Refinish Stage and Stage apron hardwood floor, sand and seal hardwood floor backstage. |
| _____ \$ | 184,500 | 7. Flooring: Sheet vinyl and vinyl asbestos flooring (VAT), throughout the Original Building and 1955 Addition is worn and damaged. Replacement should be considered to improve uniformity, appearance, and maintenance. Sheet vinyl is assumed to be an ACBM. Abatement is included in the cost. Note: at a minimum, some VAT abatement will be necessary to facilitate heating system replacement. See Mechanical Work section III.B. |
| _____ \$ | 150,000 | 8. Furnishings/Casework:
Classroom upgrade to include:
a. New base cabinet with handicapped accessible sink;
b. Casework: storage cabinets, wardrobes and cubbies. Note: many of the classrooms only have coat hooks, not individual wardrobes. Original Building classrooms have pivot type closets (see above). |
| _____ \$ | 10,000 | 9. Kindergarten: Provide new finishes and casework. |



_____	\$	70,000	10. Library: The Library as a core facility, and an important part of the educational experience, should be dedicated to providing an accessible, active learning center, in addition to maintaining the facilities for the storage, control, and dissemination of audiovisual equipment used for other programs. <ul style="list-style-type: none"> a. Provide carpet. Assumes VAT to be abated. b. Acoustical lay-in ceiling system with 2x2 parabolic light fixtures.; c. Circulation desk; d. New casework. Consider some smaller workstations and tables to foster individualized study (space dependent); e. Update finishes; f. Provide segregated computer space.
_____	\$	10,000	11. Nurse: Provide new layout for Nurse’s Office, include new casework and finishes.
_____	\$	12,000	12. Special Needs Rooms: Provide new layout, casework, finishes and handicapped accessible toilet.
_____	\$	4,000	13. Toilet Stalls: Doors to the marble stalls in the Original Building B/G toilet rooms are in poor condition. Replace existing wood and hollow metal doors with high-density polyethylene (HDPE) resin units.
_____	\$	16,500	14. Window Treatment: Replace existing window blinds with new blinds or shades.

EXTERIOR

_____	\$	550	15. Exterior Doors: Remove loose paint and recoat wood doors on Original Building.
_____	\$	6,200	16. Fascia/Soffits/Eaves: Existing wood soffits and fascia are weathered.



Remove loose paint and recoat.

\$	563,500		TOTAL – FACILITY IMPROVEMENTS
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III.C. ENERGY CONSERVATION

_____ \$	25,000	1. Exterior Doors: Replace the following doors/frames based on poor operation and condition: a. Wood full glass exit in 1955 Addition (near corridor stairs); b. Room 17 exterior exit; c. Room 16 exterior exit; d. Cafeteria exits (2). New insulated weatherstripped doors to include panic hardware, continuous hinges and closers.
_____ \$	65,000	2. Windows: Original building windows have never been upgraded. Wood sash/frame, single glazed windows provide poor thermal and air resistance. Units are heavy and difficult to operate. Primary recommendation would be to replace with a thermally broken dual glazed aluminum framed system to improve energy efficiency, appearance, and to bring rescue windows up to current SED standards. We realize that SHPO will likely not approve their replacement. Several alternatives follow: a. Wrap the existing wood frames with aluminum panning on the exterior. Install new aluminum wrapped wood sashes on the exterior, and maintain a wood interior. b. Completely restore existing windows and install an interior storm window in the interior.
_____ \$	90,000	TOTAL - ENERGY CONSERVATION MEASURES

III.D. HANDICAPPED ACCESSIBILITY

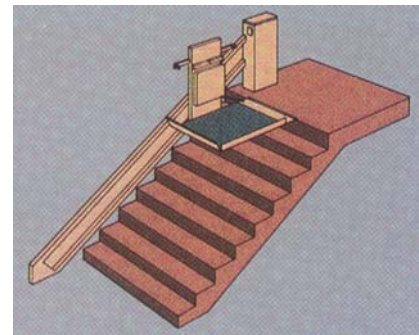
Our evaluation and recommendations are based on the design and site criteria established by the State Education Department and the Rehabilitation Act of 1973, Public Law 93-112, Section 504. Our proposal will benefit, in our opinion, most disabled individuals requiring building and program accessibility. We believe that in addition to general accessibility, the District may need to further implement building and programmatic modifications in response to an individual's specific and unique needs as provided under the legislative intent of aforementioned law as well as the ADA. The Americans with Disabilities Act (ADA), signed into law on July 26, 1990 mandates that all public and private accommodations be accessible to people with disabilities, and that employers make reasonable accommodations to facilitate the employment of people with disabilities.

BUILDING ENTRY

* _____ \$	375	1. Entrances: Install additional exterior signage directing persons to the accessible (ramped) entrance.
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INTERIOR ROUTES

* _____ \$	10,000	2. Interior Routes: Provide a stair lift at the stairs between the Original Building and the 1955 Addition. These units occupy little space when not in use. Restricting egress width should not be an issue here since these stairs are not in a required path of egress.
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* _____ \$ 725 3. **Stairs:** To improve stairway safety and promote access by ambulatory disabled persons, provide the following at the corridor stair:

- a. Contrasting colors and materials can help visually and tactilely orient the user. Paint treads and risers or use color strips on nosing and paint stairwell walls with two color system.
- b. Replace wall mounted handrails with unit that complies with current accessibility standards: rounded gripping surface, 12” extension beyond top and bottom risers.

This should be done even if a stair lift is installed per recommendation above.

* _____ \$ 950 4. **Signage:** The interior accessible route, spaces, and elements within the school should be clearly identified.

- a. Provide directional signage throughout;
- b. Provide raised letter and brailled signage at classrooms and other interior spaces to include assembly areas, offices, and designated accessible spaces;
- c. Provide signage to include the international symbol of accessibility at accessible toilet rooms.

INTERIOR ELEMENTS

_____ \$ 9,500 5. **Door Hardware:** Many, but not all, doors have knob type handles. Replace remaining knobs with leversets.

INTERIOR SPACES

_____ \$ 4,900 6. **Toilet Room – Nurse:** The toilet room in the Nurse’s Office is large and could be fully accessible with the following modifications:

- a. Widen door and reverse to swing out;
- b. Replace doorknob with leverset (cost included above);
- c. Install grab bars.

_____ \$ 750 7. **Toilet Rooms – Student (Addition):** The toilet rooms in the Addition will be fully accessible with some minor modifications:

- a. Replace doorknobs with leversets (cost included above);
- b. Provide audible and visual fire alarm.

_____ \$ 19,300 8. **Toilet Rooms – Student (Original Building):** Substantially accessible toilet rooms are present in the building. Consider providing accessible toilets in the Original Building:

- a. Relocate urinals and toilets as necessary to provide minimum clear floor space in front of accessible urinals, lavatories and toilets;
- b. Replace one urinal with elongated rim wall hung unit;
- c. Install one accessible stall with accessible water closet in each toilet room;
- d. Provide required grab bars, toilet accessories, and mirrors in response to the above renovations;
- e. Provide audible and visual fire alarm;
- f. Either reconfigure entrance to girl’s toilet room or remove corridor door. Pull side clearance is only 8 inches here, 18-24” is required.

_____	\$ 12,500	9.	Toilet Rooms - Kindergarten: Toilet facilities for early intervention should be designed for their exclusive use, handicapped accessible and configured to insure privacy. Renovate and enlarge toilet room in Kindergarten Room 129 to provide full accessibility.
	\$ 59,000		TOTAL - HANDICAPPED ACCESSIBILITY

III.E. RECOMMENDED STUDIES AND TESTING

_____			None.
	\$ 0		TOTAL - RECOMMENDED STUDIES AND TESTING

IV. DISTRICT REQUESTS

* _____	\$ 6,250	1.	Dishwasher: This appliance is no longer used or needed. Remove and provide stainless steel shelving units to improve storage.
* _____	\$ 0	2.	Roof: EPDM single-ply membrane roof appears to be separating at the seams. This roof is approximately 8 years old and should be under warranty. No cost, assumes warranty coverage.
	\$ 6,250		TOTAL - DISTRICT REQUESTS
	\$ 795,900		TOTAL - GENERAL CONSTRUCTION SYSTEMS

SITE WORK

I. EXISTING CONDITIONS

The Hyde Park Elementary School site is accessed from Route 9. There is a long entry drive bordered by other properties that is centered on the main historic entrance to the school. The property is long and narrow, with playing fields to the rear and neighboring properties on each side. Removal of the existing plantings and new landscaping is recommended at the main doors to complement the attractive historic entrance to the school.

Asphalt topcourse of all existing asphalt with the exception of the new parking to the north is recommended to extend the life of the pavement and improve its appearance. Additional parking spaces and a new parent drop-off separated from the bus loop were also recommended. For improvement of the playing fields, it is recommended that they be leveled out and refurbished.

II. CODE REQUIREMENTS

	_____	None.	
\$	0		TOTAL - CODE REQUIREMENTS WORK

III. ARCHITECT'S AND ENGINEER'S RECOMMENDATIONS

III.A. HEALTH AND SAFETY IMPROVEMENTS

	_____	None.	
\$	0		TOTAL - HEALTH AND SAFETY IMPROVEMENTS

III.B. FACILITY IMPROVEMENTS

- | | | | | |
|-------|----|--------|----|---|
| _____ | \$ | 8,000 | 1. | Main Entry Drives: Add way finding signage and landscaping to “announce” entrance and define circulation routes. |
| _____ | \$ | 10,000 | 2. | Main Entrance: Remove existing overgrown yews and provide new landscaping in keeping with the historic entrance to the school. |
| _____ | \$ | 15,000 | 3. | Main Entrance to Addition: Remove existing asphalt pavement at entry doors and add concrete paving and landscaping to improve appearance and pedestrian safety at entrance. |
| _____ | \$ | 800 | 4. | New Concrete Curbing: Provide extension of concrete curb at east end of parking bay to prevent damage to adjacent lawn. |
| _____ | \$ | 77,400 | 5. | Existing Asphalt Pavement: At existing pavement (with the exception of the new parking lot), power wash, fill cracks, provide paving fabric and asphalt topcourse. Remove and replace approximately 20% of pavement that is too deteriorated to repair. Provide new line striping and symbols. |
| _____ | \$ | 1,000 | 6. | Existing Concrete Walk Repair: Remove and replace deteriorated concrete walk. |

_____	\$	30,000	7. Playing Fields: Smooth out grades in playing areas by removing high and low spots. Correct drainage problems. Rehabilitate turf by aerating, topdressing, fertilizing and overseeding.
_____	\$	40,000	8. Playgrounds: All pea gravel surfacing to be removed and replaced by 12" depth of engineered wood fiber surfacing with underdrainage. It is recommended that all play equipment over ten years old be inspected by a certified playground safety inspector for compliance with current playground safety codes.
_____	\$	50,000	9. New Parent Drop-Off Parking: Provide new parking spaces designated for parent drop-off.
_____	\$	7,000	10. New Chain Link Fencing: Provide six foot high chain link fence behind softball backstop at property line.
_____	\$	5,000	11. Planting Screen at Property to South: Provide shrub screening along fence line to screen view into adjacent property, particularly in area opposite classroom windows.
_____	\$	25,000	12. Security Lighting at Parking and Pedestrian Areas: Provide additional security lighting at parking and pedestrian circulation areas.
	\$	269,200	TOTAL - FACILITY IMPROVEMENTS

III.C. ENERGY CONSERVATION

_____		None.
\$	0	TOTAL - ENERGY CONSERVATION MEASURES

III.D. HANDICAPPED ACCESSIBILITY

_____	\$	20,000	1. Accessible Ramp at Main Entrance: Provide new accessible ramp at main entrance in keeping with historic nature of building.
_____	\$	15,000	2. Ramp at Special Needs Entrance: Remove and replace existing ramp at Special Needs entrance to meet current ADA requirements.
_____	\$	10,000	3. Ramp at South Entrance: Provide new accessible ramp at south entrance to school with an accessible route to the playground.
	\$	45,000	TOTAL - HANDICAPPED ACCESSIBILITY

III.E. RECOMMENDED STUDIES AND TESTING

_____	\$	<u>2,500</u>	1. Geotechnical Pavement Borings.
\$	2,500		TOTAL - RECOMMENDED STUDIES AND TESTING

IV. DISTRICT REQUESTS

* _____ \$	500	1. New Concrete Curb Cut: Provide new curb cut at existing playground for accessibility and maintenance.
* _____ \$	20,000	2. Asphalt Play Area: Provide new asphalt play area (approximately 90' x 90') so that they can use parking area for parking as it is now being reserved for asphalt play.
* _____ \$	50,000	3. New Parent Drop-off and Additional Parking: Provide new parent drop-off separate from bus loop and ten additional parking spaces for visitors.
* _____ \$	25,000	4. New Security Lighting: Provide exterior lighting at new parking lot to north of building.
* _____ \$	3,500	5. Drainage Problem at South Entrance: Correct drainage problem that is resulting in a large puddling area adjacent to door.
* _____ \$	200	6. Septic Odor: Investigate reason for septic odor in courtyard and define measures to prevent it.
	99,200	TOTAL - DISTRICT REQUESTS
\$	415,900	TOTAL – SITE WORK

MECHANICAL SYSTEMS

I. EXISTING CONDITIONS

A. Primary Systems:

1. Heating System:
 - a. Boilers : Two (2) Cleaver Brooks, fire tube steam boilers are used to produce steam. Each boiler has a rated output of 2678 MBH and is original to the building.
 - b. Burners : Two (2) No. 2 oil fired burners rated at 24 GPH input. Each burner is capable of firing both oil and natural gas.
2. Distribution System : Steam is distributed throughout the original portion of the building. Steam to hot water heat exchanger produces heating hot water that is then pumped to the 1955, 1963 and 1990 additions.
3. Fuel : The main fuel source is No. 2 fuel oil.
4. Controls : Original pneumatic control system is the main means of control. A new digital control system has been installed but does not control the majority of the building.

B. Secondary Systems

1. Classrooms Original Building:
 - a. Heating : Cast iron radiators under windows.
 - b. Cooling : None.
 - c. Ventilation : Operable windows and a central exhaust system.
 - d. Relief Air : Via corridors and rooftop hoods.
2. Classrooms – 1955 and 1963 Additions:
 - a. Heating : Hot water air handling unit ducted to perimeter outlets under windows.
 - b. Cooling : None.
 - c. Ventilation : Outside air intake hoods at air handling unit.
 - d. Relief Air : Via corridors and rooftop hoods.

3. Classrooms – 1990 Additions:
 - a. Heating : Unit ventilators under windows.
 - b. Cooling : None.
 - c. Ventilation : Outside air intake at unit ventilators.
 - d. Relief Air : Via rooftop hoods.

4. Nurses Area:
 - a. Heating : Cast iron radiators under windows.
 - b. Cooling : None.
 - c. Ventilation : Operable windows.
 - d. Relief Air : Via corridors and rooftop hoods.

5. Corridors and Vestibules:
 - a. Heating : Cabinet heaters, convectors and cast iron radiators.
 - b. Cooling : None.
 - c. Ventilation : None.
 - d. Relief Air : Via rooftop hoods.

6. Toilets:
 - a. Heating : Cast iron radiators.
 - b. Cooling : None.
 - c. Ventilation : Exhaust air drawn from corridor through door grilles.
 - d. Exhaust Air : Exhaust air exits the building through a power roof exhauster.

7. Music/Art Area:
 - a. Heating : Perimeter fin tube radiation under windows.
 - b. Cooling : None.
 - c. Ventilation : Operable windows.
 - d. Exhaust Air : Exhaust air exits the building through a power roof fan.

8. Gymnasium:
 - a. Heating : Indoor central air handling units with hot water heating coil.
 - b. Cooling : None.
 - c. Ventilation : Outside air intake at central air handler.
 - d. Relief Air : Exhausted via roof fan.

9. Cafeteria/Auditorium:
 - a. Heating : Cast iron radiators.
 - b. Cooling : None.
 - c. Ventilation : Operable windows.
 - d. Relief Air : Via rooftop hoods.

- 10. Kitchen:
 - a. Heating : Cast iron radiators.
 - b. Cooling : None.
 - c. Ventilation : Transfer air from Cafeteria.
 - d. Exhaust Air : Grease hood serves cooking equipment and condensate hood serves dishwasher. A power roof fan provides additional Kitchen exhaust.
 - e. Fire suppression : Grease hood supplied with fire protection system.

- 11. Office Area:
 - a. Heating : Cast iron radiators under windows.
 - b. Cooling : Window air conditioning units.
 - c. Ventilation : Operable windows and a central exhaust system.
 - d. Relief Air : Via corridors and rooftop hoods.

II. CODE REQUIREMENTS

_____ None.

\$ 0 TOTAL - CODE REQUIREMENTS WORK

III. ARCHITECT'S AND ENGINEER'S RECOMMENDATIONS

III.A. HEALTH AND SAFETY IMPROVEMENTS

_____ \$ 0 1. **Ventilation:** Many classrooms and office spaces currently haven't any means of positive tempered ventilation. Either the space has no equipment that can provide the ventilation, or the existing equipment is no longer capable of producing this tempered ventilation. Provide positive ventilation by installing unit ventilators and/or central air handling units ducted to these spaces. Equipment will be designed to deliver tempered air quantities as recommended by ASHRAE Standard 62 continuously during the building occupied times. Note: specific recommendations concerning ventilation to all spaces are addressed under various items in section III.B. Facility Improvements (below).

\$ 0 TOTAL - HEALTH AND SAFETY IMPROVEMENTS

III.B. FACILITY IMPROVEMENTS

- _____ \$ 1,250,000 1. **Heating System Replacement:** Boilers are 37 years old. In addition, as noted in section III.A. Health and Safety Improvements, many of the classroom and office spaces have no means of providing tempered ventilation. The temperature control system, although has new direct digital controls installed in various parts of the building, the majority of the building remains on the original pneumatic control system with broken or leaky air tubing.

The general removal of the heating and ventilation system and replacement with new efficient hot water heating, ventilation and the extension of the existing direct digital control system is therefore recommended. This system will offer many advantages over the existing, including better control, simplicity, efficiency and flexibility to incorporate future changes.

The proposed hot water heating system would include the complete removal of the existing and installation of new efficient hydronic boilers, pumps, piping distribution system and radiation. Pumping would include variable speed drives so energy use would track load. Boilers and pumps would have redundancy for insured heat during service. Piping and radiation would be of institutional grade for long and easily maintained service life.

The proposed ventilation system changes would, in general, bring all school spaces up to current ventilation code standards. This would include replacement of or upgrade to all supply air ventilation equipment with new hydronic heat units with economizer (100% outside air) cooling capability. Some ductwork may be able to be re-used – scope would include certified cleaning and sanitizing of all duct to remain in service, supply *and* exhaust. Entire building ventilation system is included. Classroom return and relief air pathways are currently non-compliant and inadequate, and would be upgraded to current standards. Corridor ventilation system would be separated from the classroom system as required by current code. Relief hoods would be replaced where indicated. Replacement or rebuilding of all power exhaust fans is included, while again, some serviceable duct would remain.

The cost listed includes miscellaneous electrical work, and other modest incidental related work, but does not include substantial upgrades to systems other than HVAC, which may be desired concurrently. It was noted during the building walk-through, numerous window air conditioning units are installed throughout the building. The cost associated with this Heating System Replacement item includes air conditioning of the Main Office area, Nurses area and designated Computer Labs. It does not include air conditioning of every space.

Note: See also General Construction Systems III.B. Ceilings/Mechanical Work for related recommendation.

- _____ \$ 0 2. **Boiler Replacement:** If the entire heating system replacement is not chosen, given the age of the existing boilers and the fact that they are past their design life, replacement is recommended. Cost of (\$200,000) to implement this recommendation is not included in total. See III.B. Heating System Replacement for primary recommendation.

_____	\$	0	3.	Ventilation Replacement: Replace the existing ventilation system through out the entire building as the current systems are not currently functioning or are in need of repair. The new system will be designed to deliver tempered air quantities as recommend by ASHRAE Standard 62 continuously during the building occupied times. Cost of (\$450,000) to implement this recommendation is not included in total. See III.B. Heating System Replacement for primary recommendation.
_____	\$	0	4.	Exhaust Fan Replacement: Given the age of the existing exhaust fans and to insure that the building is receiving the adequate amount of air exchange, the replacement of all exhaust fans throughout the entire building is recommended. Cost of (\$100,000) to implement this recommendation is not included in total. See III.B. Heating System Replacement for primary recommendation.
_____	\$	0	5.	Air Handling Unit Replacement: Replace existing air handling units throughout the entire building. The units are past their design life, outside air dampers are not all functioning and replacement parts are becoming difficult to obtain. Cost of (\$100,000) to implement this recommendation is not included in total. See III.B. Heating System Replacement for primary recommendation.
\$		1,250,000		TOTAL - FACILITY IMPROVEMENTS

III.C. ENERGY CONSERVATION

_____	\$	0	1.	Temperature Controls: Included with the Heating System Replacement listed above, the existing direct digital temperature controls systems will be extended. The control system would incorporate direct digital control logic and electronic actuation. The control system will be capable of controlling the equipment more efficiently and the building temperatures to tighter tolerances thus saving operating costs. The cost associated with the energy management system and controls is covered under Item III.B. Heating System Replacement (above). It would not be prudent to install the energy management system without replacing the heating terminal units and heating plant.
_____	\$	0	2.	Variable Speed Drive Pumping: Variable speed drive pumping saves roughly \$1,000 per Hp per year, offering positive cash flow for most financed installations. This would only apply if the Heating System Replacement in section III. B. above was chosen.
\$		0		TOTAL - ENERGY CONSERVATION MEASURES

III.D. HANDICAPPED ACCESSIBILITY

_____				None.
\$		0		TOTAL - HANDICAPPED ACCESSIBILITY

III.E. RECOMMENDED STUDIES AND TESTING

	<u> </u>	None.
\$	0	TOTAL - RECOMMENDED STUDIES AND TESTING

IV. DISTRICT REQUESTS

	<u> </u>	None.
\$	<u>0</u>	TOTAL - DISTRICT REQUESTS
\$	1,250,000	TOTAL - MECHANICAL SYSTEMS

PLUMBING SYSTEMS

I. EXISTING CONDITIONS

A. ORIGINAL BUILDING:

1. Water Supply:
 - a. Source : Provided from municipal water system. Dutchess County Water District.

2. Sewage Disposal:
 - a. Method : On-site septic systems.

3. Fuel Oil:
 - a. Provided For : Boilers and water heaters.
 - c. Tank Size/Location : 10,000 gallon above ground tank.

4. Domestic Hot Water:
 - a. Provided By : Tank type oil fired water heater.
 - b. Temperature : Approximately 120° F (averaged).

5. Toilet Rooms:
 - a. Gang : Three sets; B/G.
 - b. Individual : Some classrooms have individual toilets. Separate toilet facilities are provided for the Health Room and for staff use.

6. Drinking Water:
 - a. Provided By : Electric water coolers and drinking fountains.
 - b. Location : Corridors. Some classrooms have sinks with individual drinking fountains or have sink/bubbler units.

7. Fire Suppression System:
 - a. Fire Standpipe : None.
 - b. Sprinkler System : None.
 - c. Kitchen Range Hood : None.

8. Portable Fire Extinguishers:
 - a. Type : ABC and H2O.
 - b. Location : In cabinets in corridors or in individual rooms.

II. CODE REQUIREMENTS

*	\$	250	1. Fire Extinguisher: Provide a fire extinguisher in the Computer Room located near the Cafeteria to eliminate excessive travel distance to a corridor located extinguisher.
		250	TOTAL - CODE REQUIREMENTS WORK
		\$	

III. ARCHITECT'S AND ENGINEER'S RECOMMENDATIONS

III.A. HEALTH AND SAFETY IMPROVEMENTS

_____ \$	1,500	1. Backflow Preventor: Provide a reduced pressure zone (RPZ) backflow prevention device on the makeup water connection to the boilers to guard against contamination of the potable (building) water system.
_____ \$	10,000	2. Backflow Preventor: Provide a reduced pressure zone (RPZ) backflow prevention device on building water service to guard against contamination of the municipal (public) potable water system and to comply with the New York State Department of Health Cross Connection Control Program.
_____ \$	6,000	3. Classroom Sinks: Classroom sinks have bubblers, which is contrary to current sanitary standards. Replace sinks to include a separate bubbler to provide required separation distance between sink and bubbler. (Total of 2).
_____ \$	5,000	4. Kitchen Fire Suppression: Install fire suppression system to provide protection at equipment under the hood. Provide additional cylinder, piping and appliance nozzles as needed. Provide a remote pull station on the path to exit to allow manual activation of the system in the event of fusible element failure.
_____ \$	500	5. Wrist Blades: Provide a "hands-free" hospital type faucet for the handwashing sink in the nurse's area to improve hand washing sanitation during physical examinations.
_____ \$	23,000	TOTAL – HEALTH AND SAFETY IMPROVEMENTS

III.B. FACILITY IMPROVEMENTS

_____ \$	1,500	1. Boiler Room Sump: Replace sump pump system, which has reached the end of its useful life.
_____ \$	75,000	2. Plumbing Fixtures: Replace outdated plumbing fixtures and related piping throughout building to improve operation, appearance and serviceability.
_____ \$	4,500	3. Water Coolers: Replace outdated electric water coolers throughout building to improve operation, appearance and serviceability and to provide access to the physically handicapped. (Total of 3 units).
_____ \$	81,000	TOTAL – FACILITY IMPROVEMENTS

III.C. ENERGY CONSERVATION

_____ \$		None.
_____ \$	0	TOTAL – ENERGY CONSERVATION MEASURES

III.D. HANDICAPPED ACCESSIBILITY

_____ None.
\$ 0 TOTAL - HANDICAPPED ACCESSIBILITY

III.E. RECOMMENDED STUDIES AND TESTING

_____ \$ 1,000 1. **Drain Pipe:** Building sewer piping problem may indicate possible fractures or other breaches in piping. Provide pressure testing and/or video inspections of specific pipe sections to review condition of piping system.
_____ \$ **1,000** TOTAL - RECOMMENDED STUDIES AND TESTING

IV. DISTRICT REQUESTS

_____ None.
\$ 0 TOTAL - DISTRICT REQUESTS
\$ **105,250** TOTAL - PLUMBING SYSTEMS

ELECTRICAL/TECHNOLOGY SYSTEMS

I. EXISTING CONDITIONS

A. ORIGINAL BUILDING:

1. Service and Distribution:
 - a. Service Entrance : Underground, Primary.
 - b. Metering : Secondary.
 - c. Voltages : 120/208, 3PH.
 - d. Size : 600 amperes.
 - e. Main Dist. Panel : Circuit breaker.
 - f. Local Panels : Circuit breaker.

2. General Wiring:
 - a. Majority of wiring does meet the National Electrical Code.
 - b. Location and quantity of convenience receptacles is adequate.
 - c. Majority of convenience receptacles are of the grounded type.
 - d. Location and quantity of light switches is adequate.

3. Fire Alarm System:
 - a. Make : Simplex 4001.
 - b. Equipment : Stations, bells, smoke detectors, thermal detectors, municipal connection, fan shut down, door holders, drill switch, remote annunciator, trouble light.

4. Clock and Program System:
 - a. Make : Simplex.
 - b. Master : Electronic.
 - c. Program : Bells.
 - d. Secondary Clocks : Surface.

5. Intercom/Sound System:
 - a. Make : Dukane.
 - b. Equipment:
 - (1) Console : Intercom channel, program channel, amplifier.
 - (2) Classrooms : Intercom telephone, wall speakers.
 - (3) Stage : Speaker jack, microphone jack.
 - (4) Gymnasium : Ceiling speakers.

6. Emergency Lighting/Power:

	<u>Local</u>	<u>Remote</u>	<u>Generator</u>	Sufficient Lighting	
	<u>Batts.</u>	<u>Batts.</u>	<u>Connect.</u>	<u>Yes</u>	<u>No</u>
(1) Gymnasium	X			X	
(2) Corridors	X				X
(3) Cafetorium	X				X

II. CODE REQUIREMENTS

* _____ \$	800	1. Exit Lights: Install exit lights to more clearly define the path of egress in the following locations: a. Exits to Classroom 140; b. Exit to Library.
* _____ \$	1,500	2. Emergency Lights: Install new emergency lights to improve safety at the following locations: a. Most corridors (additional); b. Cafetorium (additional); c. Library.
_____ \$	2,300	TOTAL - CODE REQUIREMENTS WORK

III. ARCHITECT'S AND ENGINEER'S RECOMMENDATIONS

III.A. HEALTH AND SAFETY IMPROVEMENTS

_____ \$	58,700	1. Emergency Generator: Install a new 125KW emergency generator in the building and install new emergency lighting in all areas of assembly and all corridors. Also, generator shall be connected to heating plant and circulating pumps, kitchen refrigeration equipment, sound system, fire alarm system, telephone system and all exit lights in the building.
_____ \$	13,800	2. Smoke Detection: Install heat detection to improve safety in the following locations: a. Most corridors (additional in some cases); b. Cafetorium; c. Library; d. Gymnasium; e. Computer rooms.
_____ \$	500	3. Heat Detection: Install heat detection to improve safety in the following locations: Gymnasium storage.
_____ \$	73,000	TOTAL - HEALTH AND SAFETY IMPROVEMENTS

III.B. FACILITY IMPROVEMENTS

_____ \$	58,700	1. Fire Alarm System: Replace existing fire alarm system including all detectors, bells, pull stations and all associated wiring with new addressable system including all necessary ADA upgrades.
_____ \$	11,400	2. Clock System: Replace existing clock system including all secondary clocks and all associated wiring.
_____ \$	4,700	3. Exterior Lighting: Replace existing exterior lighting and provide additional vandal resistant metal halide exterior lighting to increase building security.

_____ \$	30,300	4. Power Panels & Circuit Wiring: Install additional power panels, with TVSS (transient voltage surge suppression), in each classroom wing to handle the additional circuit loads associated with new computers, televisions and similar electrical devices. Provide two additional branch circuits per classroom and one per office.
_____ \$	36,700	5. Wiring for HVAC Motors: Provide new power panels in each wing on the building and provide all new wiring to all new HVAC equipment as required for HVAC work.
_____ \$	41,400	6. Convenience Receptacles: Provide additional convenience receptacles in most classrooms to discourage the use of adapters and extension cords.
_____ \$	14,400	7. Keyless Entry System: Provide new keyless entry system for up to four doors in the building including control panel, printer, sensors at doors, electronic door hardware and key-phobs for staff.
_____ \$	14,800	8. Entry Doors CCTV System: Provide new closed circuit television system for up to four locations matching locations where keyless entry system is installed. System to consist of color IP cameras tied to a digital video recorder (DVR), which can be monitored over the district's current computer network.
_____ \$	39,800	9. Building Wide CCTV System: Provide new closed circuit television system for the entire building including cameras in all corridors, computer rooms, lobbies and on the exterior of the building. System to consist of color IP cameras tied to digital video recorder(s) (DVR) which can be monitored over the district's current computer network.
_____ \$	57,300	10. Computer Network Hardware: Provide all new 100baseT switches with 1000baseF backbone electronics in each telecommunications closet and to support existing network cabling infrastructure. Network electronic to include a core chassis in MDF and new edge switches in all IDF's.
_____ \$	24,600	11. Computer Network Wiring: Provide four (4) new category 6 UTP computer drops in all classrooms with associated raceways and power to accommodate new VOIP telephone system and teachers computer.
_____ \$	56,200	12. Telephone System: Replace the existing administrative telephone system with a new Voice Over IP (VOIP) system with voice mail, including new full feature telephones for all offices and classrooms. The telephones shall have the capability of being programmed with different levels of restriction from the new VOIP call manager, while still having transparent communication for features such as voice mail and district wide four digit dialing plan. The telephone system will be run over the existing District's LAN in the building. Price includes all required network switches, uninterruptible power supplies and assumes using existing network wiring.

_____ \$	243,700	13. Video on Demand System: Provide new broad band video on demand system which would allow either networked computers or hand held infrared remotes to control a centrally located digital video server which will house all existing district media, and any other audio/video sources desired from each classroom or office in the building. The signal would be distributed over the new television distribution system. Price includes 42” plasma display televisions with associated mounting brackets for all classrooms and also a teacher’s computer for each classroom to be used as a system control device.
_____ \$	18,500	14. Television System: Replace existing cable distribution system with a new broadband cable television distribution system throughout the building. The new system will include distribution equipment with amplifiers, splitters, tapoffs and RG-6 & RG-11 coaxial cable with new television outlets in all classrooms. This system also includes control cabling to all television jack locations to support a future video on demand system.
\$	652,500	TOTAL – FACILITY IMPROVEMENTS

III.C. ENERGY CONSERVATION

_____ \$		None.
\$	0	TOTAL - ENERGY CONSERVATION MEASURES

III.D. HANDICAPPED ACCESSIBILITY

_____ \$	5,500	1. Assistive Listening System: Provide an assistive listening system for the Cafetorium.
_____ \$	15,600	2. Fire Alarm Bells: Replace all existing fire alarm bells with new bell strobes and relocated to 80-96” AFF in order to comply with ADA Guidelines.
_____ \$	5,100	3. Fire Alarm Strobes: Install new fire alarm strobe lights in all toilet rooms, practice rooms and special education rooms, auditorium and within 15’ of all exit and smoke doors in order to comply with ADA Guidelines.
\$	26,200	TOTAL - HANDICAPPED ACCESSIBILITY

III.E. RECOMMENDED STUDIES AND TESTING

_____ \$		None.
\$	0	TOTAL - RECOMMENDED STUDIES AND TESTING

IV. DISTRICT REQUESTS

	<u> </u>	None.
\$	<u> 0</u>	TOTAL - DISTRICT REQUESTS
\$	754,000	TOTAL - ELECTRICAL SYSTEMS