Facilities Assessment

FOR THE

Bayberry Elementary School

113 Bayberry Lane
Watchung, NJ 07069

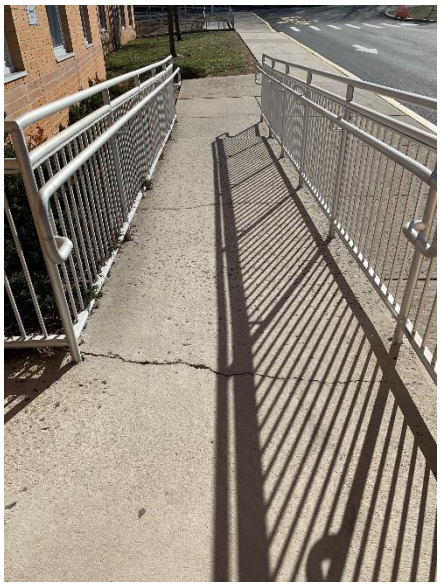
Building Data		
Year Constructed: 35,766 sf building constructed 195X, 40,850 sf addition built in 2002		
Grades Housed: Pre-k – 4		
Total SF: 76,616 sf		
Lot/Block: Lots 6, 7, 8 & 9/Block 69.09		
Total Acreage: 14.86		
Utilities		
Water – Municipal 2-1/2" Service with Pressure Reducing Valve		
Sewer – Municipal Sanitary		
Electric –	Amps - 2500	Voltage – 120/208, 3-Phase
Fire Service - Municipal 3" Service		
Fuel – Natural Gas 3"		
Communications – Internet Service: Cablevision Fiber Optic	Telephone: Verizon Category 3 Copper	
Systems		
Heating – Gas Fired Hot Water Boilers, Aerco Benchmark 2.0 (4 Qty) and gas-fired packaged rooftop units (see HVAC)		
Boilers – NJ 000032749H, NJ 000032748H, NJ 000041479H, NJ 000041480H		
Terminal Units – There are a combination of ducted systems with ceiling diffusers and unit ventilators		
AC – There are packaged rooftop units and a main chiller tied into a two-pipe system that feeds AHUs and U/Vs		
Controls – Building Control Technologies, serviced by Automated Logic Building Automation Systems (973) 633-7730		
Fire Alarm – Notifier		

SITE

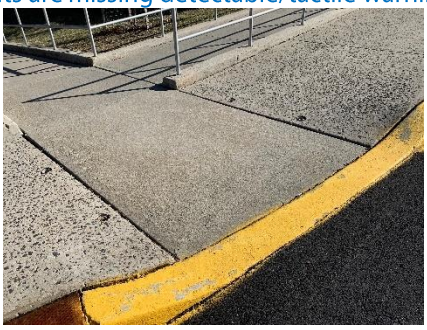
PAVING SYSTEMS INCLUDING ROADS AND PARKING AREAS: Good Condition

CONCRETE SIDEWALKS: While the overall condition of the sidewalks is good, there are two (2) sections of walkway beneath the solar panel canopy that are in very poor shape. They are badly cracked and have sunk below the edge of the adjacent curb - and are a tripping hazard.

The concrete in the ramp up to main entrance has noticeable cracks running from side to side and should be monitored.



ADA REQUIREMENTS: All of the curb cuts are missing detectable/tactile warning surfaces:



This is an example of a detectable/tactile warning surface:

EXTERIOR SITE LIGHTING: There are no light fixtures under the solar panel canopy in the front of the school. Energy efficient LED wall packs with photocells should be installed under the canopy to provide security lighting after dark. ***A PORTION OF THIS WORK WAS DONE OVER THE SUMMER OF 2020.***

DRAINAGE: Adequate

PLAYGROUND / PLAYFIELD CONDITIONS: Excellent

BUILDING ENVELOPE

ROOF/SKYLIGHT CONDITIONS: The skylights in the original wing of the school appear to be original to the building. It also appears that when the roof over this portion of the school was replaced, the curbs for the skylights were replaced, but not the skylights themselves. The skylights are a white translucent plastic – and are extremely energy inefficient. At certain times of the day/year the classroom teachers need to move students/desks because of the extreme brightness and heat. These should eventually either be replaced with energy-efficient skylights or removed entirely – with the roof opening infilled.

This is true for the skylights in the corridors too:

See the Roof Analysis done by TREMCO Roofing & Building Maintenance in April of 2017, attached the end of this report.

EXTERIOR WALL CONDITIONS: The exterior walls are in good condition, however – the some of the brick on the northeast and northwest facades of the Gymnasium (below the water table feature) and on the brick on one of the stairwells adjacent to the Gymnasium have become very discolored.

The cement parge coat on the wall of the ramps in that same area needs repair.

WINDOW SYSTEMS: The windows are in good shape.

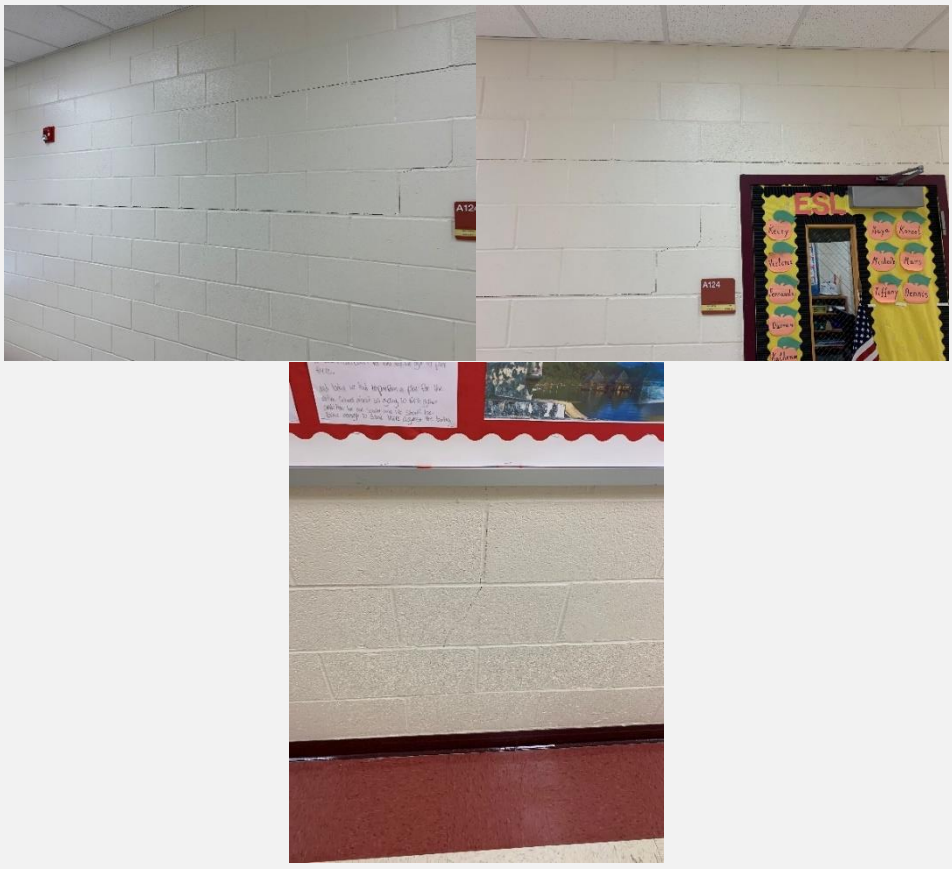
EXTERIOR DOOR CONDITIONS: The exterior doors are in good shape.

BUILDING INTERIORS

INTERIOR WALL CONDITIONS: The interior walls are in good shape apart from some of the walls in the Nurse's Suite (missing a control joint):

There are also cracks in the CMU wall in the corridor outside of the Nurse's Suite:

There are also cracks in the walls of the corridor adjacent to the Media Center:



The corridor walls in the original wing of the school have a glazed structural block wainscoting that is a muddy salmon color. The block could easily painted over with an epoxy paint that would update and brighten the overall look of the corridors.

INTERIOR DOOR CONDITIONS / BF: The doors are all in relatively good condition.

INTERIOR FINISHES FLOORS, VINYL ASBESTOS TILE (VAT) / CEILINGS:

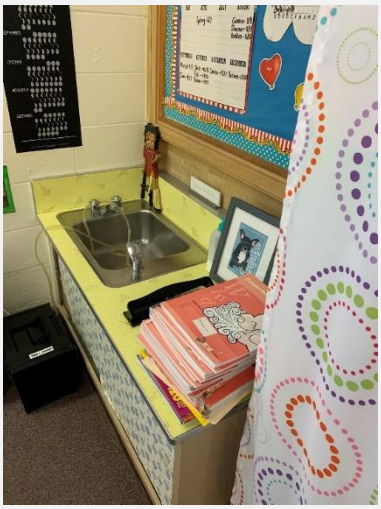
FLOORS: In the original wing of the school (upper level), apart from Classroom #124 (which has newer Vinyl Composition Tile (VCT), the flooring is for the most part carpeting – or a combination of carpeting and Vinyl Asbestos Tile (VAT). The carpeting may have been installed over the original VAT. The BOE was going to see what is shown in the latest AHERA report. Many of these classrooms also have sinks so the carpeting easily gets wet. Ideally all the carpeting should be removed, any original VAT flooring removed/abated – and new VCT installed.

While the carpeting in the newer classrooms is in good shape, when it needs to be replaced, it should be replaced with VCT.

CEILINGS: The acoustic ceiling tiles (and the ceiling grid system) in the spaces located in the oringal wing of the building are somewhat discolored and many of the tiles have become warped and are sagging. Over the years damaged tiles have been replaced with mismatched tiles.

The ceiling grids can be primed and painted and new ceiling tiles installed.

CASEWORK: What casework there is in the classrooms located in the original wing of the school is original to the space and is inadequate for the grades being taught. It would be preferable to replace the existing casework with more up-to-date storage cubbies



The STEM Classroom/Lab is lacking in storage. Additional storage could easily be added along the walls:

ADA: While overall the school is ADA compliant, only a few of the Pre-k, Kindergarten Toilet Rooms 9in the original wing of the school) have been made ADA Compliant. The rooms are only large enough to house one (1) small toilet. The sinks are outside of the toilet rooms themselves – which is not the most sanitary situation. The sinks themselves are also not ADA compliant.

The existing "countertop" sinks in these rooms are not ADA compliant.

There are still some gang toilet rooms that have not been updated to meet ADA requirements (especially off the Media Center). The toilet rooms in the music rooms are also just small rooms with space for only a toilet – with the sink outside of the space.

The existing drinking fountains located in the corridor alcoves in the original wing of the school are not ADA compliant.

The existing handrails on the stairs are not ADA compliant. See attachments at the end of this report.

Security System

FRONT ENTRANCE – SECURE VESTIBULE: A small section of the window wall separating the main entry vestibule and main office could be replaced with a bullet-resistant transaction window. Two (2) additional sets of double doors could be added within the existing vestibule – creating a "Secure Vestibule". Any visitor to the school would have to show ID (could be passed through the transaction slot) and give a reason for being at the school. If they were just dropping something off, depending on the size, could be passed through the transaction slot – or left in the "Secure Vestibule"; they would have no reason to enter the school itself.

A parent picking up a child would not need to enter the main office. If any visitor needed to enter the school (attend a meeting, a parent helping in class, etc.) the main office personnel could electronically release one of the new doors leafs and then into the main office.

ACCESS CONTROL – DOORS: There was a request made for an additional electronic access for a door near the music rooms. Currently, if there is a fire drill, the occupants of the music rooms must walk a considerable distance for their teacher to open a door via an electronic access card. The situation becomes problematic during the colder winter months. If possible, the addition of electronic access to the door between the music rooms and storage room (leading to an exterior ramp) would be ideal.

LOCKDOWN EMERGENCY NOTIFCATION SYSTEM: Needs to be added.

ACCESS CONTROL MONITORING: Currently there are only a few exterior doors with access controls at the school (including the main visitor's entrance). The district is currently evaluating proposals to upgrade the security system at the school which may include some additional door access controls. The school has an EST Burglar Alarm system which includes a number of motion sensors located around the building. The district is evaluating proposals to upgrade this system to include make/break contacts on each exterior door.

CCTV – VIDEO MONITORING: The school has a series of exterior building cameras and interior corridor cameras that can be viewed from one location in the main office. The district is currently evaluating proposals to upgrade the security system at the school which will include enhancements to the video surveillance system.

HVAC SYSTEM

BOILERS: The boiler system in the school consists of 4 high efficiency condensing boilers that provide hot water which is circulated throughout the building. The hot water supplies unit ventilators, air handlers, unit heaters and cabinet heaters which heat all of the classrooms, assembly spaces, corridors, toilet rooms and administration areas. The boilers are Aerco Benchmark 2.0 units and are interconnected through a central controller that modulates the boilers to match the building demand. The boilers were installed in 2002 and are reported to be functioning well.

HEATING/COOLING SYSTEMS - UNIT VENTILATORS: The majority of the classrooms are conditioned via unit ventilators. Each of the unit ventilators has a hot water/chilled water coil which provides both heating and cooling depending on the season. Since the school is outfitted with a two-pipe system the unit ventilators must all provide heat or cooling at any one time. There is no way to provide heating one classroom while providing cooling in another. Many of the classrooms have a centralized exhaust system which has been disabled (old rooftop fans). Individual through wall exhaust fans were installed in these classrooms on the exterior walls. Many of these fans were turned off at the unit which adversely affects the ventilation of the classroom. It is assumed that these units were shut off due to the noise of the fan motors. This situation could also contribute to the high humidity in the classrooms during summer months as it limits the ability for outside air to be exhausted from the room. Upgrade of the exhaust fans should be investigated to see if quieter units can be installed.

HEATING/COOLING SYSTEMS – ROOFTOP UNITS: The school has 6 packaged rooftop units that are reaching the end of their useful life. The systematic replacement of these units should be undertaken as soon as capital funding is available. The district should develop a prioritized list based on service records and amount of personnel affected.
RTUs NOS. 2, 4 AND 5 WERE REPLACED 5 OVER THE SUMMER OF 2020.

HEATING/COOLING SYSTEMS – AIR HANDLING UNITS: The school has one large ground mounted packaged air handling unit that serves the All-Purpose Room. This unit has a 50-ton capacity and is approximately 12 years old. It is reported that this unit does not adequately cool and heat the All-Purpose room and has a history of service problems

COOLING SYSTEMS – CHILLERS, COOLING TOWERS, PUMPS: There is one ground mounted air-cooled chiller that supplies chilled water to the entire school. The chiller has a 275-ton capacity and is approximately 12 years old. Chilled water is delivered to the terminal units via a duplex pump system that was recently outfitted with a variable frequency drive which allows the water to be delivered according to the cooling demand.

EXHAUST SYSTEMS – CLASSROOM: See the Unit Ventilator section above.

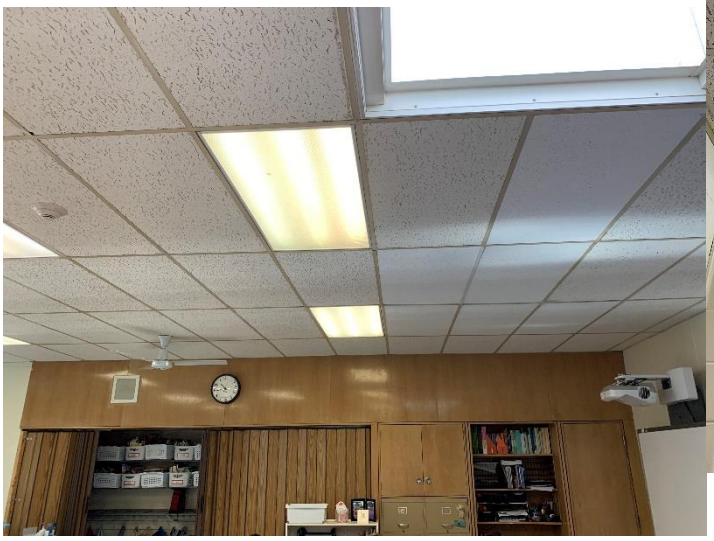
EXHAUST SYSTEMS – TOILET ROOMS: The exhaust systems in both the Girl's and Boy's Room in the Media Center are not working. The existing exhaust fan and controls should be diagnosed by the maintenance staff or an HVAC service contractor to determine the cause of the malfunction.

EXHAUST SYSTEMS – KITCHEN: There is a 1600 cfm Kitchen Exhaust fan that is interconnected with the range hood installed above the oven in the Kitchen. This fan is seldom active as the space is used only as a warming Kitchen.

ATC SYSTEMS – DDC: The school has a Building Management System (BMS) from Building Controls Technologies. This system is web based and allows monitoring of room temperatures, unit status and system alarms from any remote device. This system should be expanded to include all HVAC equipment in the school for better monitoring and control of the building environment.

ELECTRICAL SYSTEM

INTERIOR LIGHTING: ~~All existing fluorescent fixtures should be replaced with LED fixtures for increased energy efficiency and light quality. Pricing of LED fixtures is now very competitive and the maintenance (bulb, ballast replacement) is greatly reduced. For any existing 2' x 4' lay in fixtures, LED retro-fit kits are available.~~ ***THIS WORK WAS DONE OVER THE SUMMER OF 2020.***



The foot candle levels should be checked in the music rooms (lower level) as well as the classroom adjacent to the Art Room. There is a ceiling mounted HVAC unit and the placement of the lighting fixtures creates dark areas in the space.

OUTLETS: The classrooms in the original section of the school have an inadequate number of electrical outlets. The electrical service in the school has adequate capacity to support additional circuits in the classroom. The new electrical outlets could be installed using surface raceway (Wiremold) to avoid the disruption and difficulty of snaking CMU/plaster walls.

EXIT SIGNS: The school currently has a myriad of illuminated exit signs. These range from incandescent back lit units to new LED edge lit signs. The district should consider a systematic program of replacing the existing signs with a single style of LED combination exit/emergency light. This replacement program could be coupled with an LED light fixture retrofit program. Changing the exit signs to a single style would greatly reduce maintenance time and spare part stock inventory.

PA SYSTEM: The current system is outdated and when the system is replaced the school would prefer a Voice Over IP Phone System installed in lieu of simply replacing the PA system with and in-kind system.

The speakers in the Multi-purpose Room are not adequate for the space.

The sound system for the stage is barely adequate. A better system should be installed, or at least the BOE could investigate whether the existing system can be upgraded.

ELEVATOR: There are two ThyssenKrupp hydraulic passenger elevators in the school. The hydraulic pump systems are ThyssenKrupp TAC 20 units. The school has reported repeated issues with the elevators requiring a lot of service calls.

EMERGENCY POWER: There is no emergency generator at the school. All pieces of equipment that requires back up power (Fire Alarm, Emergency Lights, Exit Signs, etc.) have on board batteries with charger systems.

ELECTRIC PANELS: The Main Distribution Panel (MDP) has a 2500 Amp Main Circuit Breaker and feeds two Secondary Distribution Panel Sections in the Boiler Room. The main electric service equipment is General Electric Spectra Series equipment. The secondary sections are fitted with a number of circuit breakers that protect equipment and secondary panels throughout the school. There are several spare breakers and spaces available in the secondary sections. The majority of the secondary panels throughout the school are also GE products.

FIRE ALARMS: There is a Notifier multiplexed fire alarm system installed in the school. This system includes manual pull stations, horn/strobes, smoke detectors, heat detectors and water flow detectors. This point ID type system provides individual point identification for any alarm or trouble condition at the digital display on the control unit. The school did not report any issues with fire alarm system. In 2018 the district installed a number of Carbon Monoxide detectors throughout the school.

EXTERIOR SPEAKERS: There was one exterior speaker observed high on the rear wall of the school. It is recommended that additional exterior speakers be added to increase the audio coverage.

Plumbing System

LAVATORIES: The lavatories in the gang toilet rooms have standard faucets with ADA compliant paddle handles on the ADA lavs. The lavatories in the individual toilet rooms in the classrooms are not ADA compliant. They also have standard knob handles. It is recommended that the district investigate a program to convert the faucets to hands free automatic sensor type. This will save water and is more hygienic.

WATER CLOSETS/URINALS: The majority of the water closets in the school have manual flushometer valves. This is also true for the urinals. It is recommended that the district investigate a program to convert the flushometer valves to hands free automatic sensor type. This will save water and is more hygienic.

DOMESTIC HOT WATER HEATER: The district installed a new 75 Gallon gas-fired domestic hot water heater in November of 2014 (Bradford White M/N: MI75S6BN) . This heater serves the hot water demand for the entire school and is reported to be functioning properly. There are sections of the hot water outlet piping that are uninsulated that should be insulated to improve the performance and efficiency of the heater.

EMERGENT NEEDS

MEDIA CENTER: The Media Center is a large space that was designed as a "Library" as we knew them 20-years ago. The space is underutilized – much of this due to the location of the circulation desk and the arrangement of the low bookshelves that take up most of the floor space at the rear of the room:

Ideally, the tall shelving units around the perimeter of the space would remain, the lower (permanent) shelving would be replaced with mobile shelving units – and the furniture would be replaced with modular furniture.

This would provide for the flexibility required in a space like this; there is enough space for a dedicated staff area and with the mobile and modular furniture; as well as stools and foam cushions, the layout of the space could be easily modified for the various student activities within the Media Center – or the end users could rearrange the furniture as needed to suit their specific needs. There can be creative areas (some of the new tables could have marker board tops) and quiet reading areas, there could be multiple classes and a variety of events and learning experiencing occurring simultaneously.

GYMNASIUM: When a Genie Lift is needed in the Gymnasium – there is no easy way to get it into the building. Either the ramp that they try to use to bring the Genie in would have to be reconfigured (widened) or possibly a the stairs at the opposite end of the Gym could be replaced with a ramp – and the Genie could be brought in via a straight run into the space.