Existing Conditions Assessment –

Executive Summary

February 23, 2018

EXISTING CONDITIONS ASSESSMENT –

EXECUTIVE SUMMARY

February 23, 2018

1.0 EXISTING CONDITIONS – PURPOSE AND METHODS

The attached Existing Conditions Report was completed to assess the conditions of Millcreek Township School District's existing facilities. Each building was toured by a team that reviewed the general condition of the building and the mechanical, electrical, and plumbing systems. Structural concerns were reviewed on an as needed basis.

A representative of the district, typically Brad Dunn, gave an initial tour of each building for the reviews. A detailed walkthrough without Mr. Dunn followed. For the mechanical, electrical, and plumbing reviews, the engineering team was typically accompanied by someone from the maintenance department that was familiar with each building.

Mr. Dunn explained that the facilities department had a five-year maintenance plan. This plan covered some known maintenance items and it covered finish replacements. We have left finish replacement that is covered by the maintenance plan out of our notes.

Observations for each school are noted in the following reports. The narratives describe the findings and a separate spread sheet notes expected costs associated with larger issues. In some instances, we give suggested lump sum budget costs. In others, where the work could be phased, (casework replacement, for example) unit costs are given for budgeting purposes. Expected costs are to be used purely for planning purposes. Further study would be required before bidding any individual project.

2.0 OVERALL DISTRICT FACILITIES CONDITIONS

2.1 MAINTENANCE

2.1.1 General Building Maintenance

We were very impressed with the general building maintenance. Your schools vary in age, but all were well maintained. Most of the general issues we pointed out during our walk-throughs, were known by the maintenance department and a plan was in place to address the issues. Roofing and interior finishes replacements were well documented and planned.

We were also impressed that the district had standards for roofing replacement. The district preferred a 90 mil EPDM roof that would provide a 30-year warranty and the district had a recoat product that would provide an additional ten years of warranty.

2.1.2 Custodial/Wear and Tear

The pride that the district takes in their buildings is obviously shared by the staff and students. Your school buildings are clean. Our last tour of the high school was done shortly after dismissal, before that custodians were through. The building was cleaner that we see in many other districts after the custodians are done.

We also noted that there was very little intentional damage to buildings. There was no graffiti. In places where wallcovering was loose (and we only noted a couple of locations), no one had intentionally done further damage.

2.2 INTERIOR FINISHES

Interior finishes for Millcreek schools are different than we typically see in public K-12 facilities. Millcreek schools typically have carpeted corridors and classrooms. It provides a quieter environment overall. The trend has been away from carpet in classrooms over the past 10-15 years because of health concerns. In discussions with Mr. Dunn, the district has a robust cleaning schedule and have tested cleaning products to get the level of cleanliness that the district wants.

Many of the walls have some type of wallcovering. Again, this is not a typical public K-12 wall finish. But again, the district maintains the finishes well and the students seem to respect it.

The ceiling systems vary from school to school and are, in many cases, tied to the mechanical systems. These systems are not replaced or updated, typically, as floor and wall finishes are finished or updated. In many cases, the ceiling systems are showing their age.

Despite being well maintained, the interior finishes in many cases are inconsistent (colors vary within a school) and are dated. The District may want to consider an overall finish plan to set standard products, update colors, and create a wayfinding plan where colors and finishes could help identify spaces within the larger schools.

2.3 EXTERIOR FINISHES

Exterior finishes are typically brick and in good condition.

We were told that there was a study by Wiss Janney Elstner of the Intermediate brick that indicated that there may be some failed brick/cmu (concrete block) connections and the brick may be pulling away from the cmu back up. We were not able to confirm the report. If this is the case, the condition should be reviewed and corrected.

Roofing is addressed in each building report.

Windows are generally in good condition, but the condition varies consistently with the age of the building.

2.4 MECHANICAL/PLUMBING ISSUES

The overall condition of the mechanical systems based on the ages of equipment is good and this is due to equipment being well maintained. There are areas of concern in the district i.e. the Intermediate High School mechanical systems despite the maintenance program the systems are old and tired and are in need of replacement. The Natatorium HVAC system uses the mechanical room ceiling as a return plenum and the return grilles above the pool water surface are plugged and in a position where they are close to impossible

to clean. The mechanical room lay-in ceiling has indications of moisture problems.

Plumbing systems throughout are in good condition with no issues to drainage piping reported. Fixtures should be upgraded when ADA upgrades are done.

2.5 ELECTRICAL ISSUES

Our major electrical concerns for the district center around McDowell Intermediate. The equipment in the mechanical room for the pool is in poor condition, as is most of the equipment in the room, and should receive immediate attention.

We have discussed lighting upgrades for the district in general. Upgrading to LED fixtures, as a standalone project for energy reasons, doesn't offer a significant payback. The true advantages to lighting replacement come from upgrades in control (dimming and switching) and, if the district sees merit, color/light temperature control. (Note: a sample of a fixture with adjustable controls has been delivered to the district for review. Research is indicating that the color/light temperature of the light in a room can affect learning outcomes. Cooler temperatures can increase attention for testing, warmer colors can encourage relaxation and interaction.)

We do recommend that any lighting replaced be replaced with LED fixtures and that any project the district embarks on includes lighting replacement.

2.6 CLASSROOM LIGHTING

Millcreek School District classrooms are currently lit with T8 or T5 fluorescent lamp fixtures. Current technologies today are to light classrooms with high efficiency troffers utilizing LED lamp technology that offers better performance, multiple level lighting, reduced energy cost, and less maintenance. In addition, present energy codes require occupancy sensors to automatically turn lights off when a space becomes unoccupied, which provides additional energy savings. Daylight sensors can also be installed in classrooms

with available natural daylight to reduce artificial light when natural light is available in adequate levels.

An enhanced feature that is available is tunable white lighting for educational spaces. This allows for adjustment of lamp color temperature anywhere in the range from 3000 degree Kelvin to 5000 degree Kelvin. Tunable while is perfect in classrooms and educational settings as it allows the light color temperature to be adjusted to the optimal light level for student tasks such as reading or test taking.

Three different options for LED lighting in classrooms are indicated below with estimated cost and energy consumption. The options are based on a typical twelve 2 x 4 fixture classroom with replacement of the fixtures one for one, connecting to the existing power circuits, and includes new switching and control devices. For larger classrooms with more than twelve fixtures, costs for fixtures and energy consumption would increase incrementally.

Option	Fixture	Controls	Cost	Energy-Watts
1	2 x 4 recessed LED troffer, 3500K fixed color temperature	Low-voltage dimmer-switch and ceiling occupancy sensor	$4,000	456
2	2 x 4 recessed LED troffer 3500k fixed color temperature	Low-voltage dimmer-switch and ceiling occupancy and daylight sensor	$5,000	456
3	2 x 4 recessed LED troffer, tunable white 3000 K to 5000 K color temperature	Low-voltage dimmer and color temperature switches, occupancy and daylight sensors	$6,000	456

As a comparison, based on a classroom of twelve 3-lamp T8 fixtures, the current energy in watts is 1,152 Watts. LED lighting would cut energy consumption by approximately 60%.

In the table of recommendations, Option 1 is included for each building as this would be the minimum recommendation for upgrading to LED lighting. Options 2 and 3 can be reviewed and considered for spaces where daylighting or tunable white lighting are a viable option.

2.7 ENERGY

Energy usage for the Mill Creek schools which have air conditioning range from a low of 43 kBTU/sq ft to a high of 92 kBTU/sq ft. These include Asbury, Belle Valley, Grandview, Millcreek Education Center, Tracy, Walnut Creek, Westlake, James S Wilson, and McDowell Intermediate High School.

Energy usage for the Mill Creek Schools which do not use air conditioning is generally lower. Chestnut Hill and Ridgefield use 34 kBTU/sq ft and 31 kBTU/sq ft, respectively. McDowell High School is the exception, using 132 kBTU/sq ft. Please refer to the attached spreadsheet for detailed energy usage data on each school as collected from utility bills.

The average energy use for schools in a similar U.S. climate region is 87.7 kBTU/sq ft, according to data from the most recent "CBECS" Commercial Buildings Energy Consumption Survey by the U.S. Energy Information Administration. This same data also shows that approximately 45% of the total energy used in similar schools is for heating. Approximately 12% is used for cooling. The remainder of the energy is used for other miscellaneous items such as lighting, computer equipment, cooking, etc.

The Mill Creek schools with air conditioning generally use less energy per square foot than similar schools in the average regional data. Millcreek Education Center is highest, near the average, at 92 kBTU/sq ft. This can be attributed to variations in equipment efficiency and energy management practices, as well as variations in school activities.

The Mill Creek schools without air conditioning generally use less energy per square foot than those with air conditioning as expected. Of these, McDowell High School is the highest at 132 Kbtu/sq ft, which can be attributed to ventilation requirements for the higher student population density as well as variations in equipment efficiency and school activities.

2.8 ENERGY USAGE SPREADSHEET

	Square Footage	Annual Electric Usage	Units	Annual Electric Cost	Annual Gas Usage	Units	Annual Gas Cost	Annual Electric Usage per square foot	Units	Annual Gas Usage per square foot	Units	Total Energy Usage per square foot	Units	Annual Electric Cost per square foot	Annual Gas Cost per square foot	Total Annual Energy Cost per square foot	Air Conditioned?	System Type
Chestnut Hill	46,355	215,550	kWh	$21,226.57	877.0	DTH	$10,387.07	15,870	btu/sq ft*year	18,919	btu/sq ft * year	34,790	btu/sq ft * year	$0.46	$0.22	$0.68	no	boiler / UV
Ridgefield	33,171	25,260	kWh	$6,385.85	946.2	DTH	$7,331.24	2,599	btu/sq ft*year	28,523	btu/sq ft * year	31,122	btu/sq ft * year	$0.19	$0.22	$0.41	no	unknown
McDowell High School	203,734	1,159,760	kWh	$108,176.22	23,012.0	DTH	$122,200.00	19,429	btu/sq ft*year	112,951	btu/sq ft * year	132,380	btu/sq ft * year	$0.53	$0.60	$1.13	no	boiler / UV
Asbury	73,750	977,920	kWh	$97,254.17	1,244.3	DTH	$8,043.79	45,256	btu/sq ft*year	16,872	btu/sq ft * year	62,128	btu/sq ft * year	$1.32	$0.11	$1.43	yes	WSHP
Belle Valley	93,500	742,302	kWh	$75,586.96	2,979.0	DTH	$18,088.42	27,096	btu/sq ft*year	31,861	btu/sq ft * year	58,957	btu/sq ft * year	$0.81	$0.19	$1.00	yes	4-pipe UV
Grandview	85,378	675,043	kWh	$71,398.37	1,403.0	DTH	$10,360.92	26,985	btu/sq ft*year	16,432	btu/sq ft * year	43,417	btu/sq ft * year	$0.84	$0.12	$0.96	yes	DX RTU
Millcreek Education Center	69,853	740,880	kWh	$66,429.03	3,897.9	DTH	$22,549.06	36,199	btu/sq ft*year	55,801	btu/sq ft * year	92,001	btu/sq ft * year	$0.95	$0.32	$1.27	yes	4-pipe AHU
Tracy	65,800	805,056	kWh	$80,140.03	2,086.1	DTH	$14,494.31	41,758	btu/sq ft*year	31,704	btu/sq ft * year	73,461	btu/sq ft * year	$1.22	$0.22	$1.44	yes	DX RTU
Walnut Creek	123,300	1,112,254	kWh	$121,720.50	2,955.8	DTH	$20,076.34	30,788	btu/sq ft*year	23,972	btu/sq ft * year	54,760	btu/sq ft * year	$0.99	$0.16	$1.15	yes	unknown
Westlake	124,912	1,177,849	kWh	$115,207.81	5,962.4	DTH	$33,239.24	32,183	btu/sq ft*year	47,733	btu/sq ft * year	79,915	btu/sq ft * year	$0.92	$0.27	$1.19	yes	4-pipe UV
James S Wilson	136,385	1,231,590	kWh	$122,579.14	3,578.5	DTH	$15,941.37	30,820	btu/sq ft*year	26,238	btu/sq ft * year	57,058	btu/sq ft * year	$0.90	$0.12	$1.02	yes	GEO HP
McDowell Intermediate High School	345,521	3,385,963	kWh	$308,907.48	10,196.5	DTH	$53,988.51	33,446	btu/sq ft*year	29,511	btu/sq ft * year	62,956	btu/sq ft * year	$0.89	$0.16	$1.05	yes	4-pipe AHU

3.0 DESIGN CONCERNS

3.1 ACCESSIBILITY

The Americans with Disabilities Act of 1990 is federal civil rights legislation. Building accommodations have become the part of some building codes, but meeting building codes does not shield a building owner from civil rights action in court.

From discussions with Mr. Dunn, you have enjoyed a good working relationship with local ADA advocates. This, also, will not shield you from a lawsuit.

We've noted some ADA issues in the narratives on each building, but this was not a comprehensive accessibility audit. We recommend the District have an accessibility audit performed and either take corrective action, or at least create a plan to address the issues.

3.2 SECURITY

Many of your schools do not have security vestibules. These vestibules work as a sally port; during non-arrival and dismissal times, visitors are kept in the vestibule and routed through the administration suite before being able to enter the building. In some cases, this would be a simple fix. In others, it would require moving the administration suite adjacent to the entry.

Additionally, few of your schools have easily identified main entries. Without a strong visual clue for telling visitors where to enter, you may have people trying to enter through secondary doors or simply walking around looking for the main entry. You could consider adding an entry canopy to schools, and that project could tie in neatly to adding/expanding a vestibule for security.

We also noted that some buildings had sidelites (fixed windows to the side of a door with a view into a classroom) and borrowed lites (fixed windows into a classroom from a corridor). While these views into the classroom can provide a security feature, allowing someone in the corridor to monitor what is happening in the classroom, they are also a

liability in a lock down. Some schools in the district are leaving the lites open, others are covering the lites with construction paper. Many districts install roller shades or miniblinds to these windows to allow visual access in typical conditions and allowing for quick closure in a lock down.

3.3 EQUITY

While all your buildings are maintained equally well, they are not equal. This is especially obvious in the elementary schools when comparing your newest school to your oldest. This can become an issue with the public in larger districts. You should keep this in mind as you consider future renovations of consolidations.

3.4 MCDOWELL INTERMEDIATE HIGH SCHOOL

The Intermediate is as well maintained as your other schools, but it's design has inherent flaws to instruction in its current classroom configuration. This is typical for designs of this age that were originally conceived as open plan configurations.

The building is difficult to navigate. Many of the current classroom configurations/layouts make instruction difficult. Many classrooms do not have exterior windows. The administration is in the middle of the building on the second floor where it cannot monitor the main entry.

The cost of replacement or extensive renovation is very high and difficult to justify, as demonstrated in the 2013 report. The district should consider the long-term options regarding a shrinking student body; is there a point where the Intermediate could simply be closed, and grades realigned between the remaining buildings?

Existing Conditions Assessment –

Asbury Elementary School

February 23, 2018

Contents

1.0 EXISTING CONDITIONS – SITE AND ARCHITECTURAL

This assessment describes the existing site and architectural systems for the Asbury Elementary School in Erie, Pennsylvania. The existing school is a one-story building.

Constructed: 2004

Building Area: 73,750

PDE Capacity: 600

Grade Levels Served: K-5

1.1 SITE

OUTSIDE ENTRANCE

Paving. The parking area and roadway area asphalt paving is in good condition.

Sidewalks. The concrete sidewalks are in good shape. They do not have the ADA tactile warnings on the sloped areas.

Storm Water and Drainage. No issues were noticed, and none mentioned.

Yards and Plantings. Appear to be in good condition.

1.2 ARCHITECTURAL

Summary

WET MORTAR

The building was constructed in 2004 and is in excellent condition. The recent issue with mold on the exterior drywall was removed.

Note: I surveyed this building on November 6th. The night before Erie experienced a major rain/wind event. While walking around the outside, I noticed many areas of the brick mortar that appeared to be very wet. I discussed this issue with Brad Dunn and will do a follow up on a future visit.

Exterior

The brick, metal panel accents, aluminum windows and door are in very good condition.

Roof

0.60 EPDM. Installed in 2004: 20-year warranty, 75,000 SF.

ENTRANCE SECURITY

Interior Areas

Vestibule/Lobby. The vestibule has a security sign-in window directly adjacent to the front doors. The vestibule and lobby finishes are in excellent condition.

Administration/Nurse. Very good condition. The nurse's area has an ADA toilet and shower.

Library. The finishes, shelving, charge desk and furnishings are in excellent condition.

Cafeteria. The carpet, walls, and other finishes are in excellent condition. A folding partition can be closed to divide the cafeteria from the gymnasium.

LOBBY

Kitchen. The Acrovyn walls, scrubbable acoustical ceiling and equipment are in excellent shape. The sheet vinyl floor however is due for replacement.

Gymnasium. The gym has one full size basketball court and two smaller side courts with the related court lines in the carpet. There is a climbing wall. The finishes and equipment are in excellent condition. However, there is second story open unusable space above the group toilets and the storage areas. These areas may want to be partitioned to prevent faculty and/or students from accessing these areas.

RECEPTION DESK

Stage. The seldom used stage is located off the cafeteria and its curtains and finishes are in excellent condition.

L.G.I. The finishes are in excellent condition. It is located next to the music room and is often used for large group ensembles. Its stage is ADA accessible.

LIBRARY

GYM - OPEN AREA ABOVE TOILETS

CORRIDOR WITH CUBBIES

COMPANY AREA WITH COMPUTER FLOOR AREA

COMPUTER ACCESS PANEL

Corridors. The wide and well-lit corridors have carpeting, wallpaper, and acoustic ceilings that are in excellent shape. Cubbies are located near the classroom wings.

Toilet Rooms. The ceramic tile floor and walls, the fixtures and partitions are in excellent condition. Note – The ADA toilets are adjacent in the separate faculty toilets.

Company Areas. These areas are large and well-lit and the finishes, casework, and markerboards are in excellent condition.

However, there is an area of computer access floor which is no longer needed or used.

Classrooms. The finishes, casework, and whiteboards are in excellent condition. However, there are computer access panels in the floor which create an uneven surface.

Art. The sheet vinyl floor, the walls, and ceiling are in excellent condition. There are two large sinks with clay traps.

Music. The finishes and casework is in excellent shape. The room felt small but is adjacent to the L.G.I.

1.3 ACCESSIBLITY ISSUES

Note – A further accessibility study of the facility would be required to evaluate these and other related ADA requirements.

Group toilets do not have a properly sized ADA stall. There may be more ADA issues in both the group and individual toilets. This will require more study.

1.4 POSSIBLE IMPROVEMENTS

- New kitchen floor.
- Close off open areas in gymnasium.
- Infill computer floors.

2.0 EXISTING CONDITIONS – PLUMBING / FIRE PROTECTION / MECHANICAL SYSTEMS

HEATING BOILERS

COOLING TOWER SUMP

CONDENSER WATER PUMPS

This assessment describes the existing mechanical, electrical, plumbing, and fire protection systems for the Asbury Elementary School in Erie, Pennsylvania. The existing school is a two-story building (73,750 sf) and was constructed in 2004.

2.1 HVAC SYSTEM

2.1.1 Central Heating

The school is heated by a water source heat pump system and the heat pump loop is heated by 12 "Hydrotherm" high efficiency gas fired heating boilers. The boilers mainly appear to be in good condition. Combustion air is provided directly to the boilers. The boiler room is ventilated by a roof mounted exhaust fan and wall mounted intake louvers, all appear to be in good condition.

2.1.2 Central Cooling

The school is cooled by water source heat pumps with heat pump condenser water distributed through a closed-circuit fluid cooler, water is then distributed through the heat pumps by floor mounted condenser water pumps.

2.1.3 Condenser Water Pumps and Distribution

Condenser water is distributed through the building by two primary pumps that appear to be in good condition. The piping is original to the building, no reported issues with this system. The pumps are controlled by variable frequency drives.

2.1.4 Fluid Cooler Spray Water Pumps and Distribution

Spray water is distributed over the fluid cooler coils by two pumps that appear to be in good condition. The piping is original to the building, no reported issues with this system.

2.1.5 Air Distribution

Cafeteria. Rooftop water source heat pumps with energy recovery wheels with ducted air distribution above the ceiling for heating, cooling and ventilating. The unit appears to be in fair condition.

ROOFTOP AIR HUMIDIFIER

Gymnasium. Horizontal four pipe indoor air handler located above the toilet rooms with air distribution ductwork located in the ceiling space above the Cafeteria. The unit appears to be in fair condition.

Classrooms. Horizontal concealed water source heat pumps with ducted air distribution system for the classrooms heating, cooling, and ventilating, these units appear to be in good condition. Ventilation to classrooms is provided by rooftop water source heat pumps with energy recovery wheels, the ventilation air is ducted directly to the heat pumps. The rooftop units appear to be in fair condition.

Office areas. Rooftop water source heat pumps with energy recovery wheels with ducted air distribution above the ceiling to fan powered terminal units for heating, cooling and ventilating. The fan powered terminals have electric reheat coils in the units. This equipment appears to be in good condition.

LIBRARY SIDEWALL GRILLES

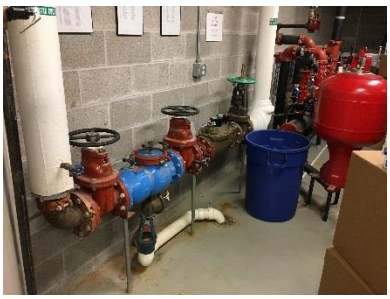
Toilet Rooms. Heat is provided by electric radiant panels, these are in good condition.

Library/Media Center. Rooftop water source heat pumps with energy recovery wheels with ducted sidewall air distribution for heating, cooling and ventilating. The unit appears to be in fair condition.

Kitchen. Rooftop water source heat pumps without energy recovery wheel with ducted air distribution above the ceiling for heating, cooling and ventilating. The unit appears to be in fair condition.

2.1.6 Temperature Controls

The building has an electronic temperature control system throughout the building and is in good condition.



DOMESTIC WATER SERVICE

WATER HEATERS

LAVATORIES

FIRE PROTECTION SUPPLY

2.2 PLUMBING SYSTEMS

2.2.1 Existing Plumbing System

The building is serviced by a municipal 8" water service from street to fire protection and domestic service entrance. The domestic water service is 4". The piping for water distribution is primarily copper piping and there have been no reported issues.

2.2.2 Domestic Water Heating and Service

Two power vented tank-type gas fired water heaters, located in the mechanical room, serve the building. (State model SDV 80140NE), these units appear to be in good condition.

One power vented tank-type gas fired water heater, located in the mechanical room, serves the kitchen. (State model SDV 100199NE), this unit appears to be in good condition.

2.2.3 Natural Gas

The building is served by a 4" natural gas service.

2.2.4 Plumbing Fixtures and Trim

The water closets, urinals, lavatories and faucets all appear to be in good condition.

2.2.5 Sanitary and Storm

Sanitary and storm piping has no reported issues.

2.3 FIRE PROTECTION SYSTEM

The building is fully sprinklered.

3.0 EXISTING CONDITIONS ELECTRICAL SYSTEMS

3.1 ELECTRIC SERVICE

The Asbury Elementary School is currently supplied electric service by Penelec from a pad mounted utility owned transformer that is fed from overhead utility lines along the front of the site. The service drops underground and extends to the transformer located next to the building. The utility service appears to have adequate capacity to serve the facility as no issues have occurred with the utility service or pad mounted transformer.

3.2 ELECTRICAL DISTRIBUTION

2000 AMP SQUARE D MAIN SWITCHBOARD

The pad mounted transformer serves a 2000 amp, 277/480 volt switchboard located in a main equipment room on the second level. The switchboard feeds two interior step-down transformers to supply 120/208 volt, 3 phase power to the building, one for general power equipment loads and one dedicated to computer and electronic equipment loads. The main switchboard was manufactured by Square D, and is original to the building construction and is in great condition. It was observed to have approximately 139 amps of load per phase which indicates it has plenty of capacity to serve future loads needed in the building. There are several spares and spaces available in the switchboard and distribution panelboards for ease of connection to future loads.

3.3 EMERGENCY POWER

KOHLER 35KW EMERGENCY BACK-UP POWER GENERATOR

There is one emergency generator located in the main equipment room that provides back-up power to the facility. The generator is 35kw, 277/480 volt, 3 phase, natural gas fired, was manufactured by Kohler and is original to the building construction. The generator is located in the upper level of the building in the boiler room and is ducted directly to the exterior for venting. The generator is tested weekly and serviced once a year and appears to be in good operating condition. The generator should continue to be maintained yearly and tested regularly to verify proper operation.

There is one automatic transfer switch located next to the generator that transfers loads to emergency power upon loss of normal service. The transfer switch appears to be in good condition and should be maintained and tested regularly. Although the one transfer switch was acceptable at the time of installation, current codes require the facility to have two automatic transfer switches, one designated to serve life safety type loads and one to serve optional stand-by equipment. If the transfer switch is ever replaced, it should be replaced with two units to meet the current codes.

The generator currently provides back-up power to life safety egress lighting in the building via an emergency only distribution panel. The transfer switch allows normal/emergency to be supplied to the fire alarm system, security system, IT equipment, condensing units and the public address system.

3.4 LIGHTING

The majority of the lighting fixtures are original to the building when constructed in 2004 and utilize T8 fluorescent lamping which are inefficient based on current lamping technologies. The light fixtures are original to the building and are in good condition and should be maintained and relamped as required.

Classrooms currently have recessed parabolic fixtures with three T8 fluorescent tube lamps and are dual switched to provide three levels of lighting. Consideration should be given to replacement of the fixtures with new LED type fixtures designed for LED technology that provide optimal performance, the ability to dim fixtures to provide only the required light levels for the task and to provide the most energy savings. See Executive Summary, Section 2.6 Classroom Lighting.

Site lighting consists of metal halide wallpacks mounted on the building, metal halide pole mounted fixtures in parking areas. The site lighting is currently controlled by programmable relay panels and these should be maintained to provide light at needed times only.

Lighting control within corridors, vestibules, canopies, cafeteria and restrooms is accomplished by the circuits being connected to a programmable relay panel allowing time schedule control. Master override switches are located

within the custodial office. Lighting control within the building interior rooms is primarily accomplished by manual lighting switches located at entrances to rooms or areas. Any upgrades to lighting fixtures should include adding automatic controls in individual rooms such as occupancy sensors to turn lights off when rooms are unoccupied to increase energy savings.

3.5 EMERGENCY FIXTURES

Emergency lighting is provided throughout the building's egress paths, assembly spaces, equipment rooms, and stairwells and utilize dedicated lighting fixtures supplied from the emergency electrical system. The emergency fixtures are directly connected to the emergency lighting circuits supplied from the emergency generator.

Exit signs are LED type fixtures connected to the normal emergency power system.

3.6 FIRE ALARM SYSTEMS

An addressable Simplex fire alarm system presently provides fire alarm protection to the building with the main panel being located on the first floor of the school. Addressable initiating devices (pull stations, smoke detectors, sprinkler system tamper and flow switches, and duct detectors) are located throughout the building. Fire alarm notification appliances (horns and strobes) are also located throughout the building.

The fire alarm system was installed in the 2014 renovations and meets the current needs of the facility. The system should be tested regularly and serviced as required for proper operation.

3.7 TELEPHONE/DATA CABLING

The facility has two central data network closets that house patch panels and server equipment. The two network closets are interconnected with fiber optic cable and are connected via a demark location to utility internet access. Data cabling from the closets to workstations is category 6 cabling with outlets located at designated staff and teacher locations, select student locations, computer labs and to wireless access points located in the ceilings

throughout the space. The cabling meets current standards and internet access meets the needs of the facility.

The current phone system is a Cisco phone system that was installed in the 2014 renovations and consists of category 3 telephone cabling wired to punchdown blocks located in the data closets. A central phone switch connects the phones to the utility access to outside lines.

3.8 SECURITY

Currently there is a Kerri access control system that provides for authorized access to designated entrances of the facility. The building is locked down once students are in school and authorized access only is permitted. The connecting corridor entrance to the middle school is unlocked during class changes and entrance and exit is monitored by security personnel.

An IP CCTV camera system exists at the facility with 123 cameras located around the building to monitor corridors, entrances and stairwells. The system is capable of being monitored in the administration and district admin areas. There does exist a few dead-zones that should be addressed.

3.9 PUBLIC ADDRESS SYSTEM

A Dukane public address system exists in the building with a master control cabinet located in a data closet on the first floor. There are call-in stations with recessed ceiling speakers for communication back to the administration suite. Speakers exist in public areas and corridors for paging and class change tones.

The system includes a master clock system with digital clocks in classroom and other educational spaces tied to the central controller for time correction.

Local sound systems exist in the auditorium and gymnasium for sound amplification during events held in those spaces.

3.10 CATV/AV DISTRIBUTION SYSTEM

A CATV cable distribution system exists throughout the building to distribute TV signal from local cable TV company and also from the local in-house broadcast studio for

announcements. However, several of the TV's located in educational spaces to receive the signal have been removed. One enhancement for more effective use of the system could include equipment to distribute the signal over the facility network to be broadcast on the in-room projectors and whiteboards. Several of the classrooms are already equipped with ceiling mounted projectors and whiteboards for video presentations of instructional material to students.

3.11 LIGHTNING PROTECTION SYSTEM

No Lightning protection exists on the school and no issues have been indicated due to lightning.

Asbury Elementary School

February 8, 2019 Age: 2004, renovations/additions: n/a

Approx. SF: 73,750

Description	Existing Conditions	Age of Asset	Remaining Life Expectancy	Recommendations	Short Term 1-3 years	Mid Term 3-5 years	Long Term 5-10 years	Projects Upgrades	Maintenance Operations
					3	2	1		0
Architectural									
New kitchen flooring	Exisitng kitchen sheet flooring needs to be replaced	2004		replace flooring - this is on the district's on-going maintenance program					X
Close off open areas in gymnasium.	These are open 2nd floor areas accessible from the gym. These areas are not structured for storage or to be walked on	2004		Build a partition wall at the face of the openings.				$5.50 SF	
Infill computer floors.	these areas of the floor are no longer used for their intended purpose	2004		infill the floor slab to provide an even floor surface				$15.00 SF	
Mechanical									
Heat Pumps	Classroom water source heat pumps	13 years old	7 years	The heat pumps are approaching the end of their expected useful lives, but with continued maintenance these units can operate longer					$10,000
Boilers	Gas-fired modular hot water boilers	13 years old	12 years	Maintain water treatment.					$4,000
Rooftop Units	The existing rooftop units are manufactured by Carrier.	13 years old	7 years	Maintain rooftop units with regular filter changes, coil cleaning, etc.					$15,000
Electrical									
Emergency Generator	The existing emergency generator is a 35kw natural gas generator manufactured by Kohler connected to the distrbution system via one automatic transfer switch which provides back-up power to egress lighting and select equipment	13 years	17 years	Maintenance existing generator. Change all fluids yearly and provide regular testing to ensure proper operation.					$2,500
Classroom Lighting Fixture Replacement	Existing classroom and large goup instruction lighting fixtures are primarily fluorescent fixtures in variuos styles with T8 lamps and electronic ballasts.	13 years		Fixtures are original to the 2004 construction and have T8 lamps and electronic ballasts. Consideration should be given to replace existing fixtures with new LED technolgy for optimal energy savings, better lighting performance and reduced maintenance costs. Cost is indicated to replace classroom lighting with LED dimmable lights with occupancy sensor control.				$ 124,000	
Totals					**$ -**	**$ -**	**$ -**	**$ 124,000**	**$ 31,500**

Existing Conditions Assessment –

Belle Valley Elementary School

February 23, 2018

Table of Contents

EXISTING CONDITIONS ASSESSMENT –

BELLE VALLEY ELEMENTARY SCHOOL

February 23, 2018

1.0 EXISTING CONDITIONS – SITE AND ARCHITECTURAL

This assessment describes the existing site and architectural systems for the Belle Valley Elementary School in Erie, Pennsylvania. The existing school is a one-story building constructed in 1990.

Constructed: 1990

Renovations/Additions: None

Site Area: 23 acres

Building Area: 93,500

PDE Capacity: 1,100

Grade Levels Served: K-5

1.1 SITE

Paving. The parking areas and roadways are in good condition.

Sidewalks. The concrete sidewalks are in good condition.

Storm Water and Drainage. No issues were noticed and none mentioned.

Yards and Plantings. Appear to be in good condition.

Note – There are several plastic standpipes around the perimeter of the building that are damaged.

ENTRANCE

1.2 ARCHITECTURAL

Overview

The building was originally constructed in 1990 with no major renovations or additions. The building and its finishes appear to be in good condition. Some areas of the carpeting are in need of replacement. Some minor areas of the wallpaper are loose or damaged.

EXISTING CONDITIONS ASSESSMENT –

BELLE VALLEY ELEMENTARY SCHOOL

February 23, 2018

EXPOSED AND DAMAGED PIPE

LOBBY

PATCHED KITCHEN FLOORING

CORRIDOR WITH CUBBIES

Exterior

The brick, metal panel accents, aluminum windows and door are in very good condition. Many of the classrooms have doors to the outside. It was stated that these doors are not used for outside access. There are several plastic standpipes that appear to be part of a surface water drainage system that are damaged.

Roof

0.90 EPDM. Installed 2013, 30 year warranty 48,000 S.F.

Interiors

The interior finishes of ceramic tile, carpet, wallpaper and 2 x 4 lay-in ceilings are for the most part in very good condition. There are some areas of carpeting that are due for replacement.

Doors. The wood doors are in excellent condition; however, they do not have ADA accessible hardware.

Interior Areas

Vestibule and Lobby. The vestibule floor is wall-to-wall walk off carpeting. There is currently not a security desk at the front door and it is a distance to the main office. Push button ADA doors were recently installed at the entry.

Administration. The reception/secretarial area, offices and nurse's area are all in very good condition.

Library. The finishes, shelving and charge desk are in very good condition.

Cafeteria. The cafeteria and gym have a folding partition to separate them. The cafeteria has a small stage in one corner. The finishes are in very good condition.

Kitchen. The kitchen and equipment are in very good condition except for the flooring which is scheduled for replacement this summer.

Gymnasium. The gymnasium finishes are in very good condition. It has basketball court markings in the carpet. There are two basketball backstops, a climbing net and climbing ropes.

LOCKER ROOMS USED FOR STORAGE

DAMAGED WALL PAPER IN CORRIDOR

COMPANY AREAS WITH COMPUTER FLOOR

EXTERIOR DOOR IN CLASSROOM

Locker Rooms. There are boys and girls locker rooms at the end of the gym. These contain toilets, sink and a shower. However, these rooms are used for storage.

Corridors. The corridors are wide and well lit. They contain cubbies and coat hooks toward the classroom areas. The finishes are in good condition.

Toilet Rooms. The toilet room finishes, fixtures and plastic laminate partitions are in very good condition.

Faculty Toilets. Very good condition.

Company Areas. The finishes are in very good condition. There is a large section of the floor which is computer access floor and is unused for that purpose and can be removed and filled in.

Classrooms. The classrooms are in good condition except in several areas, the older "red carpet" is due to be replaced. There are also computer floor access panels that could be removed and filled in.

Art. The art room is large and well lit. The finishes, casework, and equipment are in good condition.

Music. The music room is large and well lit. The finishes, casework, and equipment are in good condition.

1.3 ACCESSIBLITY ISSUES

Note – A further accessibility study of the facility would be required to evaluate these and other related ADA requirements.

Interior door hardware is not lever hardware.

Group toilets do not have a properly sized ADA stall. There may be more ADA issues in both the group and individual toilets. This will require more study.

1.4 POSSIBLE IMPROVEMENTS

- Areas of old carpet to be replaced
- ADA accessible door hardware
- Security desk at front entry
- Kitchen flooring (on maintenance schedule)
- Infill computer floors

2.0 EXISTING CONDITIONS – PLUMBING / FIRE PROTECTION / MECHANICAL SYSTEMS

BOILER

HOT WATER PUMPS

CHILLED WATER PUMPS

This assessment describes the existing mechanical, electrical, plumbing, and fire protection systems for the Belle Valley Elementary School.

2.1 HVAC SYSTEM

2.1.1 Central Heating

The school is heated by 2 Bryan water tube gas fired atmospheric heating boilers. The boilers mainly appear to be in fair to good condition. Combustion air is provided to the boiler room through a Reznor gas fired indirect fired horizontal ceiling mounted air handler.

2.1.2 Central Cooling

The school is provided with chilled water from a split air cooled chiller located in the mechanical room, this chiller appears to be in good condition and was installed in 2010.

2.1.3 Hot Water Pumps and Distribution

Hot water is distributed through the building by two primary pumps that appear to be in fair condition. The piping is original to the building, no reported issues with this system.

2.1.4 Chilled Water Pumps and Distribution

Chilled water is distributed through the building by two pumps that appear to be in fair condition. The piping is original to the building, no reported issues with this system.

2.1.5 Air Distribution

Cafeteria. Horizontal four pipe indoor air handler located above the toilet rooms with air distribution ductwork located in the ceiling space above the Cafeteria. The unit appears to be in fair condition.

Gymnasium. Horizontal four pipe indoor air handler located above the toilet rooms with air distribution ductwork located

GYNNASIUM DUCTWORK

HORIZONTAL UV

KITCHEN

DOMESTIC WATER HEATERS

in the ceiling space above the Cafeteria. The unit appears to be in fair condition.

Classrooms. Horizontal recessed four pipe unit ventilators with ducted air distribution system for the interior classrooms for heating, cooling, and ventilating the rooms. These units appear to be in good condition.

Office areas. Unit ventilators with ducted air distribution above the ceiling and fin-tube radiation on the perimeter for exterior skin heat loss. Multiple office grouped together on one unit ventilator. This equipment appears to be in good condition.

Library. Horizontal ducted unit ventilators with ducted air distribution system. These systems appear to be in good condition.

Kitchen. Hoods are served with a supply fan with untreated make-up air with ducted air distribution system. Grease exhaust hoods appear to be in good condition.

2.1.6 Temperature Controls

The building has a pneumatic temperature control system throughout the building, when the building undergoes a renovation the system should be changed to an electronic control system.

2.2 PLUMBING SYSTEMS

2.2.1 Existing Plumbing System

- 8" municipal water service from street to fire hydrant. 4" tap off 6" service for domestic water service
- Municipal sewer (6" service)

2.2.2 Domestic Water Heating and Service

Two tank type Universal gas fired water heaters located in the boiler room, these units appear to be in fair condition.

2.2.3 Natural Gas

The building is served by a 6" low pressure gas main and has no reported issues.

WATER SERVICE ENTRANCE

2.2.4 Plumbing Fixtures and Trim

Water closets, urinals, sinks, and faucets appear to be in good condition and there are no reported issues at this time.

2.2.5 Sanitary

Sanitary and storm piping have no reported issues.

2.2.6 Kitchen Equipment:

Full service kitchen

2.3 FIRE PROTECTION SYSTEM

Fire hydrant only. No apparent sprinkler system.

3.0 EXISTING CONDITIONS ELECTRICAL SYSTEMS

3.1 ELECTRIC SERVICE

The Belle Valley Elementary School is currently supplied electric service by Penelec from a pad mounted utility owned transformer that is fed from overhead utility lines along the edge of the site. The service drops underground and extends to the transformer located next to the building. The utility service appears to have adequate capacity to serve the facility as no issues have occurred with the utility service or pad mounted transformer.

3.2 ELECTRICAL DISTRIBUTION

2000A MAIN SWITCHBOARD

The pad mounted transformer serves a 2000 amp, 277/480 volt switchboard located in a main equipment room on the second level. The switchboard feeds two interior step down transformers to supply 120/208 volt, 3 phase power to the building, one for general power equipment loads and one dedicated to computer and electronic equipment loads. The main switchboard was manufactured by Westinghouse, and is original to the building construction and is in good condition. It was observed to have approximately 150 amps of load per phase which indicates it has plenty of capacity to serve future loads needed in the building. There are several spaces available in the switchboard and distribution panelboards for ease of connection to future loads.

Branch panelboards throughout the facility were all manufactured by Westinghouse which is no longer in business; however, the equipment is still in good condition and parts are still available.

3.3 EMERGENCY POWER

KOHLER 30KW EMERGENCY GENERATOR

There is one emergency generator located in the main equipment room that provides back-up power to the facility. The generator is 30kw, 120/208 volt, 3 phase, natural gas fired, was manufactured by Kohler and is original to the building construction. The generator is located in the upper level of the building in the boiler room and is ducted directly to the exterior for venting. The generator is tested weekly and serviced once a year and appears to be in good operating condition. The generator should continue to be maintained yearly and tested regularly to verify proper operation. It is 27 years old and should any issues arise consideration should be given to replacement.

There is one automatic transfer switch located next to the generator that transfers loads to emergency power upon loss of normal service. The transfer switch appears to be in good condition and should be maintained and tested regularly. Although the one transfer switch was acceptable at the time of installation, current codes require the facility to have two automatic transfer switches, one designated to serve life safety type loads and one to serve optional stand-by equipment. If the transfer switch is ever replaced, it should be replaced with two units to meet the current codes.

The generator currently provides back-up power to life safety egress lighting in the building via an emergency only distribution panel. The transfer switch allows normal/emergency to be supplied to the fire alarm system, security system, IT equipment, and the public address system.

3.4 LIGHTING

The majority of the lighting fixtures are original to the building when constructed in 1990 and utilize T8 fluorescent lamping which are inefficient based on current lamping technologies. The light fixtures are original to the building and are in good condition and should be maintained and relamped as required.

Classrooms currently have recessed parabolic fixtures with three T8 fluorescent tube lamps and are dual switched to provide three levels of lighting. Consideration should be given to replacement of the fixtures with new LED type fixtures designed for LED technology that provide optimal

performance, the ability to dim fixtures to provide only the required light levels for the task and to provide the most energy savings. See Executive Summary, Section 2.6 Classroom Lighting.

Site lighting consists of metal halide wallpacks mounted on the building, metal halide pole mounted fixtures in parking areas. The site lighting is currently controlled by programmable relay panels and these should be maintained to provide light at needed times only.

Manual lighting controls are used to turn lights on and off for all interior spaces. Exterior lighting is controlled by a timeclock. Any upgrades to lighting fixtures should include adding automatic controls in individual rooms such as occupancy sensors to turn lights off when rooms are unoccupied to realize energy savings.

3.5 EMERGENCY FIXTURES

Emergency lighting is provided throughout the building's egress paths, assembly spaces, equipment rooms, and stairwells and utilize dedicated lighting fixtures supplied from the emergency electrical system. The emergency fixtures are directly connected to the emergency lighting circuits supplied from the emergency generator.

Exit signs are LED type fixtures connected to the normal emergency power system.

3.6 FIRE ALARM SYSTEMS

FCI FIRE ALARM CONTROL PANEL

An FCI fire alarm system presently provides fire alarm protection to the building with the main panel being located on the first floor of the school. The system is an older zoned system (16 active zones of indication); however, it is operational and should be tested regularly for proper operation. Initiating devices (pull stations, smoke detectors, sprinkler system tamper and flow switches, and duct detectors) are located throughout the building. Fire alarm notification appliances (horns and strobes) are also located throughout the building; however, some areas do not meet the proper coverage.

The fire alarm system was installed in 1990 during the original construction and meets the current needs of the facility; however, consideration should be given to upgrading to new addressable technology with devices located to meet

current codes. The system should be tested regularly and serviced as required for proper operation.

3.7 TELEPHONE/DATA CABLING

The facility has a central data network MDF closet that houses patch panels and server equipment. The network closet is connected via a demark location to utility internet access and the main data center at the Education Center. Data cabling from the closets to workstations is category 5 cabling with outlets located at designated staff and teacher locations, select student locations, computer labs and to wireless access points located in the ceilings throughout the space. The cabling meets current standards and internet access meets the needs of the facility.

The current phone system is a Cisco phone system that consists of category 3 telephone cabling wired to punchdown blocks located in the data closet. A central phone switch connects the phones to the utility access to outside lines.

3.8 SECURITY

Currently there is a Kerri access control system that provides for authorized access to designated entrances of the facility. The building is locked down once students are in school and authorized access only is permitted. There is an intercom station between the main entry and the administration office to allow the admin staff to verify visitor admittance to the building.

An IP CCTV camera system exists at the facility with cameras located around the building to monitor corridors, entrances and stairwells. The system is capable of being monitored in the administration and district admin areas.

3.9 PUBLIC ADDRESS SYSTEM

DUKANE PUBLIC ADDRESS SYSTEM

A Dukane/Rauland Borg public address system exists in the building with a master control cabinet located in a data closet on the first floor. There are call-in stations with recessed ceiling speakers for communication back to the administration suite. Speakers exist in public areas and corridors for paging and class change tones.

The system includes a Rauland master clock system with analog clocks in classroom and other educational spaces, and digital clocks in offices tied to the central controller for time correction.

Local sound systems exist in the LGI and gymnasium/ cafeteria for sound amplification during events held in those spaces.

3.10 CATV/AV DISTRIBUTION SYSTEM

A CATV cable distribution system exists throughout the building to distribute TV signal from the local in-house broadcast studio for announcements. However, several of the TV's located in educational spaces to receive the signal have been removed. Cable TV service from the utility was disconnected. One enhancement for more effective use of the system could include equipment to distribute the signal over the facility network to be broadcast on the in-room projectors and whiteboards. Several of the classrooms are already equipped with ceiling mounted projectors and whiteboards for video presentations of instructional material to students.

3.11 LIGHTNING PROTECTION SYSTEM

No Lightning protection exists on the school and no issues have been indicated due to lightning.

Belle Valley Elementary School

February 8, 2019 Age: 1990, renovations/additions: n/a

Approx. SF: 93,500

Description	Existing Conditions	Age of Asset	Remaining Life Expectancy	Recommendations	Short Term 1-3 years	Mid Term 3-5 years	Long Term 5-10 years	Projects Upgrades	Maintenance Operations
					3	2	1		0
Architectural									
Areas of old carpet to be replaced	Some areas of the carpet are older and showing their age	Varies		Replace Carpet - part of district's on-going maintenance / replacement program					X
ADA accessible door hardware	Existing door hardware is not ADA compliant	1990		Replace hardware with ADA lever hardware				$300.00 / DOOR	
Security desk at front entry	The administration office is not within site of the main entrance	1990		Establish a security desk at the main entrance. Or relocate the admin to near the front entrance				$250.00 SF	
Replace Kitchen flooring	Existing flooring is in need of replacement			replace flooring - this is on the district's on-going maintenance / replacement program					X
Infill computer floors	these areas of the floor are no longer used for their intended purpose	1990		infill the floor slab to provide an even floor surface				$15.00 SF	
Mechanical									
Unit Ventilators	The existing unit ventilators are 27 years old and due to good maintenance are still operating.	27 years old	0 years	The unit ventilators are at the end of their expected useful lives and a replacement program should be in place		$650,000			
Heating Boilers	Due to age of boilers, new boilers should be considered	27 years old	3 years	Replace existing boilers with new high efficiency gas-fired boilers		$100,000			
Air Handlers	The existing air handlers	27 years old	0 years	Air handlers are at the end of their expected useful life and should be replaced		$300,000			
Water Heaters	Existing "universal" atmospheric gas-fired water heater	27 years old	0 years	Replace water heaters with new high efficiency water heaters (2)	$20,000				
Temperature Controls	Existing pneumatic temperature controls	27 years old	0 years	Life expectancy is 20 years. Controls should be replaced with DDC when building undgoes a renovation.				$650,000	
Electrical									
Emergency Generator	The existing emergency generator is a 30kw natural gas generator manufactured by Kohler connected to the distrbution system via one automatic transfer switch which provides back-up power to egress lighting and select equipment	27 years		Maintenace existing generator, change all fluids yearly and provide regular testing to ensure proper operation.					$2,500
Emergency Generator	The existing emergency generator is a 30kw natural gas generator manufactured by Kohler connected to the distrbution system via one automatic transfer switch which provides back-up power to egress lighting and select HVAC equipment	27 years	5-10 years	Plans should be consisdered for replacement of existing generator to maintain reliability and to be brought up to current codes. Generator should be upgraded to 80 or 100kw to allow connection of additional equipment			$200,000		

Belle Valley Elementary School

February 8, 2019 Age: 1990, renovations/additions: n/a

Approx. SF: 93,500

Description	Existing Conditions	Age of Asset	Remaining Life Expectancy	Recommendations	Short Term 1-3 years	Mid Term 3-5 years	Long Term 5-10 years	Projects Upgrades	Maintenance Operations
					3	2	1		0
Classroom Lighting Fixture Replacement	Existing classroom and large goup instruction lighting fixtures are primarily fluorescent fixtures in variuos styles with T8 lamps and electronic ballasts.	27 years		Fixtures are original to the 1994 construction and have T8 lamps and electronic ballasts. Consideration should be given to replace existing fixtures with new LED technolgy for optimal energy savings, better lighting performance and reduced maintenance costs. Cost is indicated to replace classroom lighting with LED dimmable lights with occupancy sensor control.				$184,000	
Fire Alarm System	The existing fire alarm system is an older zoned fire alarm system manufactured by FCI. The system is functioning and adequately provides fire alarm coverage to the facility however newer addressable technology provides additional protection.	27 years	5-10 years	Consideration should be given in the future to replace the exsitng system with current technoloy in an addressable fire alarm system. Current devices provide coverage and notification to the facility but in some locations in egress paths does not meet current codes.			187,000		
Totals					**$ 20,000**	**$ 1,050,000**	**$ 387,000**	**$ 834,000**	**$ 2,500**

Existing Conditions Assessment -

Chestnut Hill Elementary School

February 23, 2018

Table of Contents

EXISTING CONDITIONS ASSESSMENT -

CHESTNUT HILL ELEMENTARY SCHOOL

February 23, 2018

1.0 EXISTING CONDITIONS – SITE AND ARCHITECTURAL

This assessment describes the existing site and architectural systems for the Chestnut Hill Elementary School in Erie, Pennsylvania. The existing school is a one-story building with a partial basement and was constructed in 1965.

Constructed: 1965

Renovations/Additions: 1968, 2014

Site Area: 10 acres

Building Area: 46,355

PDE Capacity: 625

Grade Levels Served: K - 5

1.1 SITE

FRONT ENTRY DOORS

Paving. The parking areas and roadways are in good condition.

Sidewalks. The concrete sidewalks are in good condition.

Storm Water and Drainage. No issues were noticed, and none mentioned.

Yards and Plantings. Appear to be in good condition.

1.2 ARCHITECTURAL

Overview

STAINS ON BRICK AND THE BACK STEP AT THE EXIT DOOR

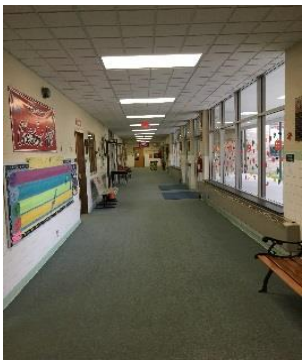
The school was originally built in 1965 and had additions in 1968 and renovation in 2014. The traditional layout style of the building is typical of most schools in the state but not typical of the schools in the Mill Creek School District. The overall feel of the building is old and tired, but its finishes are well maintained and clean. It is the only elementary in the district with vinyl tile in the classrooms and not carpet.

Overall, this elementary is the most likely elementary to be considered for full renovation, or closure and redistricting of the population to other schools.

EXISTING CONDITIONS ASSESSMENT -

CHESTNUT HILL ELEMENTARY SCHOOL

February 23, 2018



ENTRY DOORS INTO MAIN CORRIDOR

RECEPTION AREA

LIBRARY

CAFÉ/GYM

Exterior

The exterior is brick with aluminum trim and aluminum windows and doors.

The exterior appears to be in good condition.

There is some minor rusting of the steel on the canopies. There is some staining on the brick on the south entrance that comes from the canopy ceiling, a possible roof leak or condensation. In the adjacent southern brick wall, there are several areas where the mortar is missing or very shallow.

The only apparent ADA accessible entrance occurs at the kitchen vestibule. Most exterior doors do not exit "To Grade". They have a step down from the floor to the sidewalk.

Roof

0.90 EPDM. Installed 2013, 30-year warranty 48,000 S.F.

Interiors

The interior finishes are newer and in good condition. The wooden doors with glass lights in them look original but are in good condition. They have recently had ADA lever hardware installed.

Interior Areas

Vestibule and Lobby. There is no entry vestibule and the main lobby for the administration is part of the main corridor.

Administration. The administrative office is located within site of the front entry. This area seems small and cramped. The waiting area is small. There is an entry door that is no longer used.

Library. The carpet, bookshelves, and charge deck are in fair condition. The room while functional, does not have the character of the other libraries in the district.

Cafeteria/Gymnasium. The cafeteria and gym share the same room. It contains two basketball backstops, and a divider curtain. The carpet has court markings in it and is in good condition. Overall the room felt dark and small.

Kitchen. The full prep kitchen has some dated equipment, a walk-in cooler that needs to be replaced, an original natural

KITCHEN SERVING LINE

TYPICAL CORRIDOR

GROUP TOILET

TYPICAL CLASSROOM

gas heated serving line and a new walk in freezer. The ceramic tile finishes are in good condition.

Stage. The small stage is at one end of the gym and is in good condition. There is no ADA accessible access to the stage.

Corridors. The corridors are carpet, the walls have a ceramic tile wainscot with painted block above and a suspended tile ceiling. These finishes are in good condition.

Toilet Rooms. Group toilets - The ceramic tile floors, ceramic tile walls, gypsum board ceilings, fixtures and metal partitions are in good condition. The ADA stall does not meet clearance standards.

Faculty Toilets. The finishes and fixtures are similar and in good condition.

However, neither completely provide accessible clearances and fixtures.

Classrooms. The classrooms contain the original vinyl asbestos floor tile. The walls are painted C.M.U. with a ceramic tile wainscot at the teaching wall. They also have whiteboards, tack boards, a projector and screen, and ceiling fans.

The kindergarten rooms contain a single stall toilet room.

1.3 ACCESSIBILITY ISSUES

Group toilets do not have a properly sized ADA stall. There may be more ADA issues in both the group and individual toilets. This will require more study.

Note – A further accessibility study of the facility would be required to evaluate these and other related ADA requirements.

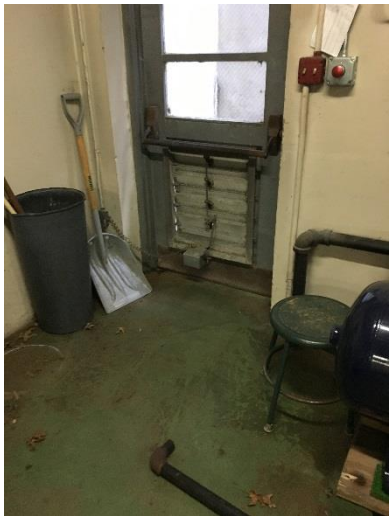
1.4 POSSIBLE IMPROVEMENTS

- Entry vestibule with security desk
- New admin area
- At grade exits
- ADA access to play area
- ADA toilets
- Walk-in cooler (on Districts list for replacement)

- ADA access to stage
- Replace building

2.0 EXISTING CONDITIONS – PLUMBING / FIRE PROTECTION / MECHANICAL SYSTEMS

STEAM BOILER



COMBUSTION AIR LOUVER

This assessment describes the existing mechanical, plumbing, and fire protection systems for the Chestnut Hill Elementary School in Erie, Pennsylvania. The existing school is a single-story building with lower level boiler room (46,355 sf) and was constructed in 1965. 1968 (addition), in 2014 a performance contract was performed, and new lights were installed.

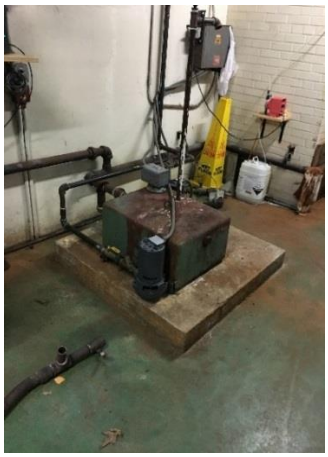
2.1 HVAC SYSTEM

2.1.1 Central Heating

The building is served by a Weil-McLain model 88 cast iron gas fired steam boiler installed in 2011 and is in good condition. The boiler room combustion air is provided untreated to the boiler room through louvers in the outside wall and the exit door from the boiler room. Boiler emergency shut down switches were not installed. Relief vents from boilers not piped to the outdoors. Relief vents from boiler gas regulator not pied to the outdoors.

2.1.2 Central Cooling

The building is not air conditioned and paddle fans were added to the classrooms in 2014.



CONDENSATE RECEIVER

CLASSROOM UNIT VENTILATOR

FIN-TUBE RADIATION

OFFICE SPLIT SYSTEM AIR CONDITIONER

2.1.3 Hot Water Pumps and Distribution

Duplex steam condensate return pump in boiler room appears to be in poor condition. Relief vent from condensate receiver is not piped to the outdoors.

2.1.4 Air Distribution

Classrooms. The classrooms are heated and ventilated by floor mounted vertical unit ventilators with steam coils for heating and fin tube radiation/draft-stop steam fin tube under windows. The unit ventilators are original and appear to be in poor condition.

Corridors. Steam convectors and fin-tube radiation heat the corridors. These units appear to be in poor condition.

Toilet Rooms. Exhaust only via roof-mounted fans.

Offices. Steam convectors along the perimeter for heating and a residential style split system was installed in 2010 to provide air conditioning to the offices.

Boiler Room / Mechanical Room. Combustion air louvers only.

Multi-purpose Room. Multi-purpose room is served by an 8000 cfm heating and ventilating unit located on a platform above the corridor. There is fin-tube radiation located under the windows on the exterior wall.

2.1.5 Temperature Controls

The building has a pneumatic temperature control system and has a new pneumatic controls air compressor. The building head end is tied into the central DDC system/ for the district. The pneumatic lines are original, and no real issues have been reported at this time such as leaks in the tubing.

2.2 PLUMBING SYSTEMS

GAS FIRED WATER HEATER

- Individual single-toilet restrooms in approximately half of the classrooms with toilet, sink and urinal.
- All classrooms have classroom-area sink
- Two larger group restrooms for students.

2.2.1 Existing Plumbing System

- 6" water service from municipal connection at street to fire hydrant
- 4" tap (from 6" service) for domestic water into the building, water service requires a backflow preventer assembly.
- 6" C.I." sanitary from building to manhole. 8" C.I." slip seal tile from manhole to street.
- 2" Natural Gas service from street.
- 15" concrete from street to manhole on property. 12" V.T. from building rain leaders to manhole. 8" from site area drains to manhole.

2.2.2 Domestic Water Heating and Service

Gas-fired water heater with separate, horizontal, storage tank in boiler room. The water heater is a newer high efficiency water heater and appears to be in good condition, the storage tank is original. Existing mixing valve and circulation pump.

TYPICAL FLUSH VALVE WALL HUNG URINAL

2.2.3 Natural Gas

2" gas service from street to the boiler room.

2.2.4 Plumbing Fixtures and Trim

Wall mounted flush valve water closets and urinals appear to be in good condition. Wall hung sinks in the Gang toilets are vitreous china and appear to be in good condition.

2.2.5 Sanitary

Cast iron sanitary piping is in satisfactory condition, no reported issues with drainage.

KITCHEN GREASE HOOD

2.2.6 Kitchen Equipment:

Full service kitchen with range exhaust hood and dishwasher exhaust, hoods have an "Amerex" system for fire protection. Gas piping has a solenoid valve installed per current code for emergency shut off.

2.3 FIRE PROTECTION SYSTEM

The fire protection system is a limited fire protection system with sprinklers provided in storage rooms and mechanical rooms.

3.0 EXISTING CONDITIONS ELECTRICAL SYSTEMS

3.1 ELECTRIC SERVICE

The Chestnut Hill Elementary School is currently supplied electric service by Penelec from a pad mounted utility owned transformer that is fed from overhead utility lines. The service drops underground and extends to the transformer located next to the building.

3.2 ELECTRICAL DISTRIBUTION

The pad mounted transformer serves a 225 amp, 277/480 volt main service panel located in a main equipment room. The main panelboard was manufactured by Square D and was upgraded recently. Several branch panelboards exist throughout the facility, some upgraded to new Square D panelboards. However, eight original Federal Specific panelboards were observed which should be replaced for reliability and availability of replacement parts.

3.3 EMERGENCY POWER

38KW GENERATOR IN EXTERIOR ENCLOSURE

There is one emergency generator located in the main equipment room that provides back-up power to the facility. The generator is 38kw, 120/208 volt, 3 phase, natural gas fired, was manufactured by Kohler and was recently replaced. The generator is located in courtyard in an exterior weather proof enclosure. The generator is tested weekly and serviced once a year and appears to be in good operating condition. The generator should continue to be maintained yearly and tested regularly to verify proper operation.

There is one automatic transfer switch located next to the generator that transfers loads to emergency power upon loss of normal service. The transfer switch appears to be in good condition and should be maintained and tested regularly. Although the one transfer switch was acceptable at the time of installation, current codes require the facility to have two automatic transfer switches, one designated to serve life safety type loads and one to serve optional stand-by equipment. If the transfer switch is ever replaced, it should be replaced with two units to meet the current codes.

The generator currently provides back-up power to life safety egress lighting in the building via an emergency only distribution panel. The transfer switch allows normal / emergency power to be supplied to the fire alarm system, security system, IT equipment, boilers, hot water pump, air compressor, condensate pumps, and minimal kitchen equipment.

3.4 LIGHTING

The majority of the lighting fixtures were replaced during a 2014 renovation and utilize T8 and T5 fluorescent lamping which are inefficient based on current lamping technologies. The light fixtures are in good condition and should be maintained and relamped as required.

Classrooms currently have recessed high efficiency troffer fixtures with two T5 fluorescent tube lamps. The fixtures are in great condition; however, LED fixtures would allow for multiple levels of lighting, additional energy savings, and reduced maintenance. See Executive Summary, Section 2.6 Classroom Lighting.

Site lighting consists of compact fluorescent wallpacks mounted on the building and canopies, and metal halide pole mounted fixtures in parking areas. There are timeclocks for control of the parking lot lighting and exterior building lighting which should be maintained to provide light at needed times only.

Lighting control within the building interior rooms is primarily accomplished by manual lighting switches located at entrances to rooms or areas. Any upgrades to lighting fixtures should include adding automatic controls in individual rooms such as occupancy sensors to turn lights off when rooms are unoccupied to increase energy savings.

3.5 EMERGENCY FIXTURES

Emergency lighting is provided throughout the building's egress paths, assembly spaces, equipment rooms, and stairwells and utilize dedicated lighting fixtures supplied from the emergency electrical system. The emergency fixtures are directly connected to the emergency lighting circuits supplied from the emergency generator.

Exit signs are LED type fixtures connected to the normal emergency power system.

3.6 FIRE ALARM SYSTEMS

An addressable FCI fire alarm system presently provides fire alarm protection to the building with the main panel being located on the first floor of the school. Addressable initiating devices (pull stations, smoke detectors, sprinkler system tamper and flow switches, and duct detectors) are located throughout the building. Fire alarm notification appliances (horns and strobes) are also located throughout the building.

The fire alarm system meets the current needs of the facility. The system should be tested regularly and serviced as required for proper operation.

3.7 TELEPHONE/DATA CABLING

The facility has data network closets that house patch panels and server equipment. The network closets are interconnected with fiber optic cable and are connected via a demark location to utility internet access. Data cabling from the closets to workstations is category 6 cabling with outlets located at designated staff and teacher locations, select student locations, computer labs and to wireless access points located in the ceilings throughout the space. The cabling meets current standards and internet access meets the needs of the facility.

The current phone system is a Cisco phone system that was installed in the 2014 renovations and consists of category 3 telephone cabling wired to punchdown blocks located in the data closets. A central phone switch connects the phones to the utility access to outside lines.

3.8 SECURITY

Currently there is a Kerri access control system that provides for authorized access to designated entrances of the facility. The building is locked down once students are in school and authorized access only is permitted.

An IP CCTV camera system exists at the facility with nine cameras located around the building to monitor corridors and entrances. The system is capable of being monitored in the administration and district admin areas.

3.9 PUBLIC ADDRESS SYSTEM

A Dukane public address system exists in the building with a master control cabinet located in a data closet on the first floor. There are call-in stations with recessed wall speakers for communication back to the administration suite. Speakers exist in public areas and corridors for paging and class change tones.

The system includes a master clock system with analog clocks in classroom and other educational spaces tied to the central controller for time correction.

A local sound system is in the gym/cafeteria for sound amplification during events held in the spaces.

3.10 CATV/AV DISTRIBUTION SYSTEM

A CATV cable distribution system exists throughout the building to distribute TV signal from local cable TV company and also from the local in-house broadcast studio for announcements. However, several of the TV's located in educational spaces to receive the signal have been removed. One enhancement for more effective use of the system could include equipment to distribute the signal over the facility network to be broadcast on the in-room projectors and whiteboards. Several of the classrooms are already equipped with ceiling mounted projectors and whiteboards for video presentations of instructional material to students.

3.11 LIGHTNING PROTECTION SYSTEM

No Lightning protection exists on the school and no issues have been indicated due to lightning.

Chestnut Hill Elementary School

February 8, 2019 Age: 1965, renovations/additions: 1968, 2014

Approx. SF: 46,355

Description	Existing Conditions	Age of Asset	Remaining Life Expectancy	Recommendations	Short Term 1-3 years	Mid Term 3-5 years	Long Term 5-10 years	Projects Upgrades	Maintenance Operations
					3	2	1		0
Architectural									
ADA Upgrades - faculty and student toilets	Existing facilities do not meet ADA requirements	Original	0 years	A full study is needed to determine the renovation scope and cost needed to bring these facilities up to required ADA standards. We would initially price these renovations at $250/sf.				$250.00 SF	
ADA Upgrades - door clearances	Some doors do not have ADA required clearances	Original		Renovate as required to provide ADA clearances at non compliant doors, assume up to $2500/door. A full study is needed to verify which doors need to be revised.				$2,500 / DOOR	
ADA Upgrades - exits to grade	Most exits to grade, including the main entry, have step transitions.	Original		Proivde accessible transitions at required exits to grade. Assume $100/sf, but costs will vary depending on specific conditions.				$100.00 SF	
ADA Access to Playground	Playground is not currently accessible			Provide accessible sidewalk/ramps				$100.00 SF	
ADA Access to Stage	Stage is not currently accessible			Provide a wheelchair lift				$10,000	
Administation Area improvements	the admin area is small and cluttered and it does not have a lobby or waiting area.			renovate or construct an addtion at the main entry that would improve the admin area, security entrance and vestibule				$250.00 SF	
Vinyl Tile	Most classrooms have original vinyl tile. This tile may be asbestos containing. If the tile is not friable, it is generally considered non hazardous.	Original		Replace of the tile may be considered. Assume $2.50/sf for abatement, if needed. Assume $3.00/sf for replacement with carpet tiles. Assume base replacement will be required also.				$5.50 SF	
Security Entry Vestibule	The existing lack of entry does not provide for the ability to check-in visitors before they enter the building.			Complete renovation of the area is needed to address the issues. An addition maybe required to properly address all of the issues. Assume $250/sf for renovation, $350 for additions.				$250.00 SF	
Walk in cooler in Kitchen	Existing cooler is in poor condition			Replace - already on District's maintenance/replacement list					X
Mechanical									
Unit Ventilators		28 years old		The unit ventilaors are at the end of their expected useful lives and should be replaced. The cost to replace is without adding air conditioning.		$ 150,000			
Option 1 - Add air conditioning to existing classrooms	existing unit ventilators are in various condition states and are overall in fair condition.	28 years old		Replace the existing unit ventilators with new DX thru wall unit ventilators with steam heating coil.				$ 300,000	
Option - 2 Add air conditioning to existing classrooms	existing unit ventilators are in various condition states and are overall in fair condition.	44 years old		New four pipe unit ventilators with hot water heating coil and chilled water cooling coil, add new water chiller, convert existing steam boiler to hot water heating boilers.				$ 1,200,000	
Multi-purpose room	The existing air handler is located on a platform above the storage room at the Multi-purpose room.	44 years old		The air handler is at the end of its useful service life and shouold be replaced.		$ 120,000			

Chestnut Hill Elementary School

February 8, 2019 Age: 1965, renovations/additions: 1968, 2014

Approx. SF: 46,355

Description	Existing Conditions	Age of Asset	Remaining Life Expectancy	Recommendations	Short Term 1-3 years	Mid Term 3-5 years	Long Term 5-10 years	Projects Upgrades	Maintenance Operations
					3	2	1		0
Administration/office areas	There are steam convectors along the perimeter and a residential style split system for air conditioning.	conv. 54 yrs old split sytem 7 yrs old		The heating and air conditioning system for this area should be replaced with a system the will provide both heating,air conditioning and proper ventilation of the office areas.		$ 50,000			
Building temperature controls	The existing building distribution control system is pneumatic and is original to the building, no reported issues with the air lines at this time.	54 yrs old		The existing temperature controls system shall be replaced when building renovations take place, the system should be changed to all electronic control system.				$ 230,000	
Electrical									
Emergency Generator	The existing emergency generator is a 38kw natural gas generator manufactured by Kohler connected to the distrbution system via one automatic transfer switch which provides back-up power to egress lighting and select equipment. The generator was recently replaced	Approx 5 years		Maintenance existing generator, change all fluids yearly and provide regular testing to ensure proper operation.					$ 2,500
Branch Panelboards	Several old Federal Pacific panelboards exist within the facility and are original to the building construction	52 years	0 years	The orignal Federal specific panelboards are old and replacement breakers and parts are hard to obtain and costly. It is recommended that these panelboards be replaced. Eight were observed but an exact quantity needs verified	$ 40,000				
Cafeteria/Gymnasium lighting	The lighting in the cafeteria gymnasium is fluorescent industrial fixtures with wireguards	52 years	0 years	The fixtures are old, in-efficient and provide poor lighting in for the cafeteria/gymnasium space and it is receommended thay be replaced	$ 22,000				
Classroom Lighting Fixture Replacement	Existing classroom lighting fixtures are fluorescent high efficiency fixtures with T5 lamps and electronic ballasts.	3 years		Fixtures in classrooms, corridors and offices were replaced in the 2014 renoavtion and are in good condition. However, consideration should be given to replace existing fixtures with new LED technolgy for optimal energy savings, better lighting performance and reduced maintenace costs. Cost is indicated to replace classroom lighting with LED dimmable lights with occupancy sensor control.				$ 88,000	
Totals					**$ 62,000**	**$ 320,000**	**$ -**	**$ 1,828,000**	**$ 2,500**

Existing Conditions Assessment –

Grandview Elementary School

February 23, 2018

Table of Contents

1.0 EXISTING CONDITIONS – SITE AND ARCHITECTURAL

ENTRANCE – WITH STEP TO GRADE

EXPOSED AND DAMAGED PIPE

STEP AT EXTERIOR DOOR

This assessment describes the existing site and architectural systems for the Grandview Elementary School in Erie, Pennsylvania. The existing school is a one-story building.

Constructed: 1971

Renovations/Additions: None

Site Area: 22 acres

Building Area: 85,378 sq. ft.

PDE Capacity: 1,050

Grade Levels Served: K-5

1.1 SITE

Paving. The parking areas and roadways are in good condition.

Sidewalks. The concrete sidewalks are in good condition.

Storm Water and Drainage. No issues were noticed, and none mentioned.

Yards and Plantings. Appear to be in good condition.

1.2 ARCHITECTURAL

Summary

The building was originally constructed in 1971 with no major additions or renovations. It is in good condition with upgrades to the carpeting. The interior walls are wallpapered throughout. The original folding partitions are still in place between the classrooms but are not opened. There are several ADA deficiencies: Door hardware, door clearances and accessible toilet facilities. The interior finish that has the most negative impact is the original ceiling. It is a combination of custom sized 2' x 5' ceiling tile and a perforated grid that serves as the air supply.

DAMAGE AT DECORATIVE BRICK

REPAIRED DAMAGE AT CONCRETE PANELS

Exterior

The exterior is brick with aluminum trim and aluminum windows and doors.

The exterior appears to be in good condition.

Most exterior doors do not exit "To Grade." They have a step down from the floor to the sidewalk.

The white brick outside the lobby is damaged at the grade.

The exposed concrete aggregate roof beams have been damaged and visibly patched over the years.

There are plastic standpipes/drainpipes in the ground that are exposed and damaged.

Roof

Several Roofing Systems

EPDM installed in 1996 with a 10-year warranty (out).

EPDM installed in 1994 with a 10-year warranty (out).

BUR (Built Up roofing) Installed in 1997 with a 10-year warranty (out).

These roofing systems are in need of replacement and new tapered insulation installed.

Interiors

The floors and walls are in good condition. The entry vestibule and corridor area is Terrazzo tile flooring. The main corridors are carpet. The walls are gypsum board with wall covering throughout. The ceilings are the 2' x 5' tile which are in need of replacement.

LIBRARY

DAMAGED GYM DOORS

CUSTOM SIZED CEILING GRID AND TILE

DAMAGED CASEWORK

Doors. The interior doors are 8' x 8" tall. They do not have accessible hardware and some have accessibility clearance issues.

Interior Areas

Vestibule and Lobby. The vestibule has a walk off matt, brick walls are in good shape. The lobby has Terrazzo tile, brick walls and 1 x 1 ceiling tile in good condition. There is a new PTA room and a fitness room infilling two corners of the lobby.

Administration. The administrative office is located within site of the front entry but not directly adjacent. The administrative area is in good condition. The Terrazzo tile floor and brick walls are in good condition.

Library. The carpet, bookshelves, and charge desk are in good condition. The large wood beams are dated and drab in color but in good condition.

Cafeteria. The Terrazzo tile floor, brick walls with sound absorbing panels and the wood ceiling are in excellent shape. A folding partition divides the cafeteria and gym.

Full Prep Kitchen. The finishes and equipment are in good condition. There is some evidence of patching on the gypsum board ceiling.

Gymnasium. The gymnasium is in good condition, the Terrazzo tile floor, brick walls with sound absorbing panels and the wood ceiling show little damage and have been well maintained. The stage is located off of the gym and is in good condition and seldom used. There are also boys and girls locker rooms located below the stage. They are in good condition but are used as storage rooms.

The doors to the gym and cafeteria have visible damage to the finish.

The gym contains one main court basketball, wall pads, and a climbing wall on the stage.

EXISTING FOLDING PARTITION TRACK IN CEILING

FOLDING PARTITION

DAMAGED ART CASEWORK

Corridors. The corridors are wide and well lit. The flooring is either Terrazzo tile or carpet, both are in good condition. The walls are gypsum board with wall covering in good condition. There are some minor areas in need of cosmetic repair. Cubbies and coat hooks are located near the classroom areas.

Toilet Rooms. Group toilets - The ceramic tile floors, ceramic tile walls, gypsum board ceilings, fixtures and metal partitions are in good condition.

Faculty Toilets. The finishes and fixtures are similar and in good condition.

However, neither the student or adult toilets completely provide accessible clearances and fixtures.

Company Areas. The carpet, wall paper and cubbies are in good condition.

Classrooms. While the finishes are in good condition, many of the dividing walls are the original folding and fixed metal partitions. These partitions are only used in their closed position and do not offer much sound control from room to room. The wooden casework shows its age and many of the lower doors have damaged finishes.

Most classrooms have a door to the exterior, but it is not used.

Art Room. The Terrazzo tile floor and brick walls are in good condition. The kiln is in good condition. The wooden casework is damaged and tired.

1.3 ACCESSIBILITY ISSUES

Interior door hardware is not lever hardware.

Group toilets do not have a properly sized ADA stall. There may be more ADA issues in both the group and individual toilets. This will require more study.

Note – A further accessibility study of the facility would be required to evaluate these and other related ADA requirements.

1.4 POSSIBLE IMPROVEMENTS

- New ceilings throughout
- New casework
- New doors
- Replacement of unused folding partitions with sound rated gypsum board walls
- At-grade sidewalks added to exit doors
- Façade repair at main lobby area
- Security desk at front entrance

2.0 EXISTING CONDITIONS – PLUMBING / FIRE PROTECTION / MECHANICAL SYSTEMS

This assessment describes the existing mechanical, electrical, plumbing, and fire protection systems for the Grandview Elementary School in Erie, Pennsylvania. The existing school is a single-story building with basement level locker rooms under the stage and a mechanical equipment room above the kitchen (85,378 sf) and was constructed in 1971 and renovated in 1987.

HEATING BOILERS

ROOFTOP UNIT

VARIABLE FREQUENCY DRIVES

2.1 HVAC SYSTEM

2.1.1 Central Heating

The school is heated by gas fired hot water boilers. The boilers were replaced in 2013 and appear to be in good condition. In 1987 the building heating system was converted from electric to hot water.

2.1.2 Central Cooling

Multi-zone DX rooftop units. Original (1971), which have all been replaced in a phased manner within the last four years. Eight units serve classrooms, library, and offices.

Two single-zone rooftop units. Original (1971) units with DX coils in average condition. One unit serves lobby & vestibule. One unit serves multipurpose room and has new condensing unit.

2.1.3 Hot Water Pumps and Distribution

Hot water is distributed through the building by a primary/ secondary pumping system utilizing two primary base mounted water pumps on variable frequency drives. The piping is original to the building, no reported issues with this system.

2.1.4 Chilled Water Pumps and Distribution

No central chilled water system.

2.1.5 Air Distribution

General. "Ductboard" is utilized throughout the school for supply air. The system utilizes the ceiling itself as the air distribution system. This combined ceiling/ duct/ lighting system needs to be replaced.

Multi-purpose Room. One rooftop unit above the room with air distribution ductwork located in the ceiling space. The rooftop unit appears to be in fair condition. Economizer relief dampers are pneumatic in lieu of DDC and will not function.

Classrooms. Multi-zone rooftop units serve the classrooms with ducted air distribution system for heating, cooling, and ventilating the rooms. These units are one to four years old.

Office Areas. Multi-zone rooftop units with ducted air distribution above the ceiling and fin-tube radiation on the perimeter for exterior skin heat loss. This equipment appears to be in fair condition.

Corridors. Indirectly heated & cooled with classroom air. Supplemental hot water cabinet heaters added at vestibules in 1987.

KITCHEN

Kindergarten Classrooms. (2) have individual toilet rooms with individual exhaust fans. Original electric wall heaters.

Toilet Rooms. - Larger toilet rooms for upper grades are paired (boys and girls) on a common exhaust fan. Original electric wall heaters.

Kitchen. Served by rooftop unit with heat recovery for make-up air and exhaust. This unit is original to the building, is in poor condition, and should be replaced.

Locker Rooms. In basement under stage have exhaust only and are used as storage.

Telecom Room. Mitsubishi "Mr Slim" cooling unit in poor condition. This unit is scheduled to be replaced by school maintenance.

LOCKER ROOM/ STORAGE

CONTROL PANEL

DOMESTIC BOILER

PLUMBING FIXTURES

PLUMBING FIXTURES

2.1.6 Temperature Controls

The rooftop units utilize a Johnson "Metasys" DDC system and are viewable/ controllable via laptop computer. An existing abandoned pneumatic compressor should be demolished.

2.2 PLUMBING SYSTEMS

2.2.1 Existing Plumbing System

6" municipal water service from street splits to 3" domestic supply and 3" fire supply. The piping in the building has no reported issues.

2.2.2 Domestic Water Heating and Service

Lochinvar domestic hot water boiler with two separate storage tanks. No reported issues. An existing abandoned electric water heater/ tank should be demolished.

2.2.3 Natural Gas

The building is served by a 2" service from the street.

2.2.4 Plumbing Fixtures and Trim

Water closets, urinals, lavatories and faucets are original to the building and appear to be in fair to poor condition.

2.2.5 Sanitary and Storm

Sanitary and storm piping has no reported issues.

2.3 FIRE PROTECTION SYSTEM

The building is served by a limited fire protection system. Telecom, Kitchen Dry Storage, Stage, and Gym Storage/ Coach Office rooms are the only rooms with sprinkler systems.

3.0 EXISTING CONDITIONS ELECTRICAL SYSTEMS

3.1 ELECTRIC SERVICE

The Grandview Elementary School is currently supplied electric service by Penelec from a pad mounted utility owned transformer that is fed from overhead utility lines along the front of the site. The service drops underground and extends to the transformer located next to the building. The utility service appears to have adequate capacity to serve the facility as no issues have occurred with the utility service or pad mounted transformer.

3.2 ELECTRICAL DISTRIBUTION

WESTINGHOUSE MAIN FUSIBLE SWITCHBOARD

The pad mounted transformer serves a 2000 amp, 277/480 volt switchboard located in a main equipment room on the second level. The main switchboard was manufactured by Westinghouse, and is original to the building construction and is in good condition. The switchboard consists of a main fusible pringle switch and a fusible distribution section. It was observed to have approximately 200 amps of load per phase which indicates it has plenty of capacity to serve future loads needed in the building. There are several spares and spaces available in the switchboard and distribution panelboards for ease of connection to future loads.

3.3 EMERGENCY POWER

KOHLER NATURAL GAS EMERGENCY GENERATOR

There is one emergency generator located in the main equipment room that provides back-up power to the facility. The generator is 35kw, 277/480 volt, 3 phase, natural gas fired, was manufactured by Kohler and was recently relocated from another building. The generator is located in the boiler room below the main electric room and is ducted directly to the exterior for venting. The generator is tested weekly and serviced once a year and appears to be in good operating condition. The generator should continue to be maintained yearly and tested regularly to verify proper operation.

There is one automatic transfer switch located in the main electric room that transfers loads to emergency power upon loss of normal service. The transfer switch appears to be in good condition and should be maintained and tested regularly. Although the one transfer switch was acceptable

EXISTING ABANDONED EMERGENCY GENERATOR

at the time of installation, current codes require the facility to have two automatic transfer switches, one designated to serve life safety type loads and one to serve optional stand-by equipment. If the transfer switch is ever replaced, it should be replaced with two units to meet the current codes.

The generator currently provides back-up power to life safety egress lighting in the building via an emergency only distribution panel. The transfer switch allows normal/emergency to be supplied to the fire alarm system, security system, IT equipment, and the public address system.

The original emergency generator has been abandoned but is still located in the main electrical room on the upper level. Consideration should be given to remove the generator and all associated piping and electrical connections.

3.4 LIGHTING

The majority of the lighting fixtures are original to the building when constructed in 1974 and utilize T8 fluorescent lamping which are inefficient based on current lamping technologies. The light fixtures are original to the building and are in fair condition and should be maintained and relamped as required.

Classrooms currently have recessed lensed fixtures with one T8 fluorescent tube lamps and are connected to a single switch. Consideration should be given to replacement of the fixtures with new LED type fixtures designed for LED technology that provide optimal performance, the ability to dim fixtures to provide only the required light levels for the task and to provide the most energy savings. See Executive Summary, Section 2.6 Classroom Lighting.

Site lighting consists of metal halide wallpacks mounted on the building, high pressure sodium pole mounted fixtures in parking areas. The site lighting is currently controlled by photocells located on the fixture.

Lighting control within corridors, vestibules, canopies, cafeteria and restrooms is accomplished by master switches located in the administration office and are manual only with no auto-on/auto-off control. Lighting control within the building interior rooms is primarily accomplished by manual

lighting switches located at entrances to rooms or areas. Any upgrades to lighting fixtures should include adding automatic controls in individual rooms such as occupancy sensors to turn lights off when rooms are unoccupied to increase energy savings.

3.5 EMERGENCY FIXTURES

Emergency lighting is provided throughout the building's egress paths, assembly spaces, equipment rooms, and stairwells and utilize dedicated lighting fixtures supplied from the emergency electrical system. The emergency fixtures are directly connected to the emergency lighting circuits supplied from the emergency generator.

Exit signs are LED type fixtures connected to the normal emergency power system.

SIMPLEX MAIN FIRE ALARM CONTROL PANEL

3.6 FIRE ALARM SYSTEMS

An addressable Simplex fire alarm system presently provides fire alarm protection to the building with the main panel being located on the first floor in the boiler room. Addressable initiating devices (pull stations, smoke detectors, sprinkler system tamper and flow switches, and duct detectors) are located throughout the building. Fire alarm notification appliances (horns and strobes) are also located throughout the building.

The fire alarm system was installed during renovations and meets the current needs of the facility. The system should be tested regularly and serviced as required for proper operation.

3.7 TELEPHONE/DATA CABLING

The facility has a central data network closet that houses patch panels and server equipment. Data cabling from the closets to workstations is category 5e cabling with outlets located at designated staff and teacher locations, select student locations, computer labs and to wireless access points located in the ceilings throughout the space. The cabling meets current standards and internet access meets the needs of the facility.

The current phone system is a Cisco phone system consists of category 3 telephone cabling wired to punchdown

blocks located in the data closets. A central phone switch connects the phones to the utility access to outside lines.

3.8 SECURITY

Currently there is a Kerri access control system that provides for authorized access to designated entrances of the facility. The building is locked down once students are in school and authorized access only is permitted. Card access is provided at select entrances for authorized entry of district personnel.

An IP CCTV camera system exists at the facility with 5 cameras located around the building to monitor corridors and entrances. The system is capable of being monitored in the administration and district admin areas. There is one camera at the playground that is not operational and should be replaced.

3.9 PUBLIC ADDRESS SYSTEM

A Dukane public address system exists in the building with a master control cabinet located in a data closet on the first floor. There are call-in stations with recessed ceiling speakers for communication back to the administration suite. Speakers exist in public areas and corridors for paging and class change tones.

The system includes a BRG master clock system with analog clocks in classroom and other educational spaces tied to the central controller for time correction.

Local sound systems exist in the auditorium/gymnasium for sound amplification during events held in the spaces.

3.10 CATV/AV DISTRIBUTION SYSTEM

A CATV cable distribution system exists throughout the building to distribute TV signal from local cable TV company. Cable service is no longer active, and the TV distribution is only used to broadcast in-house video. Ceiling mounted projectors and whiteboards are used in each classroom to project video from teachers computer for teaching purposes.

3.11 LIGHTNING PROTECTION SYSTEM

No Lightning protection exists on the school and no issues have been indicated due to lightning.

Grandview Elementary School

February 8, 2019 Age: 1971, renovations/additions: n/a

Approx. SF: 85,378

Description	Existing Conditions	Age of Asset	Remaining Life Expectancy	Recommendations	Short Term 1-3 years	Mid Term 3-5 years	Long Term 5-10 years	Projects Upgrades	Maintenance Operations
					3	2	1		0
Architectural									
New ceilings throughout	The exisitng ceiling system is not a standard size so therefore replacing the ceiling tile is expensive. The exisitng grid is part of the ventilation system.	1971		Replace the ceiling system with a standard 2'x4' grid. (replace the ventilation system)				$4.00 SF	
New casework	The exisiting casework is cosmetically damaged.	1971		Replace the casework and countertops				$400.00 LINEAL FOOT	
New doors	Several doors throughout are damaged	1971		Replace damaged doors. A further study is needed to establish a quantitiy.				$750.00 /DOOR	
Existing unused folding classoom partitions	The folding parttions between the classrooms are not used for their intended purpose. They do not provide good sound insulation between classrooms.	1971		Remove partitions and replace with metal stud and gypsum board sound insulated walls				$6.00 SF	
At-grade sidewalks added to exit doors	Several egress exits have a step down from the door to the sidewalk			Add concrete landings and ramps on the exterior				$100.00 SF	
Façade repair at main lobby area	Decorative brick is damaged or missing			Replace brick in kind or provide a different solution if matching brick are unavailable				$25.00 SF	
Security desk at front entrance	The administration office is not within site of the main entrance			Establish a security desk at the main entrance. Or relocate the admin to near the front entrance				$250.00 SF	
Roofing replacement	The roofing systems are out of warranty and need to be replaced.			Replace roofing systems and include new tapered insulation.					$15.00 SF
Mechanical									
Building Mechanical Systems Upgrades	The existing HVAC and plumbing systems should be upgraded	29 years old	0 years	Replace existing systems.				$4,000,000	
Electrical									
Emergency Generator	The existing emergency generator is a 25kw natural gas generator manufactured by Kohler connected to the distribution system via one automatic transfer switch which provides back-up power to egress lighting and select equipent. The generator was recently relocated from another building.	Unknown	15 years	Maintenance existing generator, change all fluids yearly and provide regular testing to ensure proper operation.					$2,500
Emergency Generator	The original Onan natural gas generator is still located in the main electrical room. The generator is abandoned and is not being used.		0 years	Remove the abandoned generatorar and all associated piping and electrical circuiting and controls.				5,000	

Grandview Elementary School

February 8, 2019 Age: 1971, renovations/additions: n/a

Approx. SF: 85,378

Description	Existing Conditions	Age of Asset	Remaining Life Expectancy	Recommendations	Short Term 1-3 years	Mid Term 3-5 years	Long Term 5-10 years	Projects Upgrades	Maintenance Operations
					3	2	1		0
Classroom Lighting Fixture Replacement	Existing classroom and common area lighting fixtures are primarily fluorescent fixtures in various styles with T8 lamps and electronic ballasts.	30+ years	5 years	Fixtures are original to the building construction and have T8 lamps and electronic ballasts. Consideration should be given to replace existing fixtures with new LED technology for optimal energy savings, better lighting performance and reduced mainteannce costs. Cost is indicated to replace classroom lighting with LED dimmable lights with occupancy sensor control.				$184,000	
Security cameras	A CCTV camera system currently consists of IP cameras for staff monitoring of selected areas within the school and around the exterior			One camera at the playground is not functioning and that area is not being currently monitored.				$1,000	
Totals					**$ -**	**$ -**	**$ -**	**$ 4,190,000**	**$ 2,500**

Existing Conditions Assessment –

Tracy Elementary School

February 23, 2018

Table of Contents

1.0 EXISTING CONDITIONS – SITE AND ARCHITECTURAL

This assessment describes the existing site and architectural systems for the Tracy Elementary School in Erie, Pennsylvania. The existing school is a single-story building.

Constructed: 1998

Renovations/Additions: No major renovations.

Site Area: 10 acres

Building Area: 65,800 s.f.

PDE Capacity: 650 students

Grade Levels Served: K-5

1.1 SITE

Paving. The parking areas and roadways are in good condition.

Sidewalks. The concrete sidewalks are in good shape.

Storm Water and Drainage. There doesn't appear to be any issues, and no mention was made of any.

Yards and Plantings. The yards and plantings appear to be in good condition.

1.2 ARCHITECTURAL

Summary

The building was originally constructed in 1998 with no major renovations taking place. The building and finishes appear to be in very good condition and very well maintained. The carpet, while clean and in good condition, appears drab and tired. It is noted that there is only one set of group toilets for the students.

Exterior

The brick, aluminum windows and doors, and the metal siding accents are in very good condition.

ENTRANCE

REMOVABLE WALL FOR POSSIBLE GYM ADDITION

LOBBY – NEW SECURITY DOORS BEING INSTALLED

CORRIDOR WITH CUBBIES

Roof

Modified bitumen. Installed 1998. 20-year warranty. 68,000 S.F. - Many leaking issues.

Interiors

Interior Areas

Vestibule/Lobby. There were new doors being installed on the main entry doors. The main office entrance is several feet from the main entry doors. The lobby's ceramic tile floor and wall covering are in very good condition.

Administration/Nurse. The finishes, while dated, are in very good condition. The casework is in very good condition, but it did not have ADA accessibility.

Library. The library and its wood shelves and charge desk, and its furnishings are in very good condition. The wooden ceiling and skylights add a warm accent. The work area sink is not ADA accessible.

Cafeteria. The cafeteria and gymnasium share the same room. The floor is carpet and there is a divider curtain to divide the room in half. The serving lines open into the cafeteria.

Kitchen. The full prep kitchen finishes and equipment are in very good condition except the sheet vinyl flooring needs to be replaced.

Gymnasium. The gym and cafeteria share the same room with a divider curtain at the half court. There is a full-size basketball court with the court markings in the carpet. There are two practice backstops, a climbing net and wall pads.

Stage. There is a small stage on the side of the gymnasium. It has curtains, lights, and an ADA wheelchair lift.

Corridor. The corridors are wide and well lit. The main corridors are carpeted and have wall covering and 2 x 4 suspended acoustic tile. They contain plastic laminate cubbies and coat storage. The corridors near the entry and cafeteria have ceramic tile floors.

FOLDING PARTITION IN CLASSROOM

COMPUTER ACCESS IN FLOOR

Toilet Rooms. The ceramic tile floor and walls, the plastic laminate partitions, and the fixtures are in very good condition. The ADA accessible toilets are in the separate faculty toilets.

Company Areas. These areas are in good condition. They don't appear to be used.

Classrooms. The finishes and casework are in very good condition. There are folding partitions that are not used, but they have whiteboard panels which are used as writing surfaces. There is also an overhead projector and screen. The classroom sink has a bubbler. There are computer access panels in the floor which are no longer used.

Music. The room, while in very good condition, seemed small and cluttered. The room contained casework for storage, a sink, whiteboards, a projector, and screen.

Art. The sheet vinyl flooring, wall covering, and casework are in very good condition. The room contains two sinks, tack boards, whiteboards, and a projector and screen.

1.3 ACCESSIBILITY ISSUES

Note – A further accessibility study of the facility would be required to evaluate these and other related ADA requirements.

1.4 POSSIBLE IMPROVEMENTS

- Another set of group toilets
- Carpet replacement
- Kitchen flooring replacement
- A separate gym
- Infill computer floors

2.0 EXISTING CONDITIONS – PLUMBING / FIRE PROTECTION / MECHANICAL SYSTEMS

This assessment describes the existing mechanical, electrical, plumbing, and fire protection systems for the Tracy Elementary School in Erie, Pennsylvania. The existing school is a single-story building (65,800 sf) and was constructed in 1998.

HEATING BOILER

HOT WATER PUMPS

CLASSROOM ROOFTOP AIR HANDLER

2.1 HVAC SYSTEM

2.1.1 Central Heating

The building is served by two "Smith "cast iron sectional gas fired hot water boilers that were installed in 1998 and are in good condition. The boiler room combustion air is provided untreated to the boiler room through a roof mounted supply fan. Boiler emergency shut down switches were installed.

2.1.2 Central Cooling

The building does not have a central chiller system.

2.1.3 Hot Water Pumps and Distribution

Hot water is distributed through the building by two primary base mounted hot water pumps that appear to be in fair condition. The piping is original to the building, no reported issues with this system.

2.1.4 Air Distribution

Gymnasium. Two "Carrier" DX rooftop units above the Gym with air distribution ductwork located in the ceiling space. The rooftop units appear to be in good condition.

Classrooms. There are four "Carrier" rooftop units that serve the classrooms with a ducted air distribution system, each classroom has a variable air volume, variable temperature (VVT terminal unit). These units appear to be in good condition with no reported temperature control issues.

Office Areas. Rooftop unit with ducted air distribution above the ceiling and fin-tube radiation on the perimeter for

exterior skin heat loss. This equipment appears to be in good condition.

Library. Rooftop unit with ducted air distribution above the ceiling and fin-tube radiation on the perimeter for exterior skin heat loss. This equipment appears to be in good condition.

Kitchen. Rooftop unit gas fired with ducted air distribution system. Grease exhaust hoods appear to be in good condition.

2.1.5 Temperature Controls

The building has a pneumatic temperature control system throughout the building, when the building undergoes a renovation the system should be changed to an electronic control system.

DOMESTIC WATER SERVICE

WATER HEATER

2.2 PLUMBING SYSTEMS

2.2.1 Existing Plumbing System

The building is serviced by a 4" domestic water service main. The piping for water distribution in the building is primarily copper piping and is in good condition.

2.2.2 Domestic Water Heating and Service

There are two gas fired storage type water heaters for the building domestic hot water, these units appear to be in good condition.

2.2.3 Natural Gas

The building has a 4" gas service main.

2.2.4 Plumbing Fixtures and Trim

Water closets, urinals, lavatories and faucets appear to be in good condition.

LAVATORY

WALL HUNG URINAL

2.2.5 Sanitary and Storm

Sanitary and storm piping has no reported issues.

2.3 FIRE PROTECTION SYSTEM

The building is fully sprinkled.

3.0 EXISTING CONDITIONS ELECTRICAL SYSTEMS

3.1 ELECTRIC SERVICE

The Tracy Elementary School is currently supplied electric service by Penelec from a pad mounted utility owned transformer that is fed from overhead utility lines at the rear of the site. The service drops underground and extends to the transformer located next to the building. The utility service appears to have adequate capacity to serve the facility as no issues have occurred with the utility service or pad mounted transformer.

3.2 ELECTRICAL DISTRIBUTION

2000 AMP MAIN FUSIBLE SWITCHBOARD

The pad mounted transformer serves a 2000 amp, 277/480 volt switchboard located in a main equipment room on the first floor. The switchboard feeds two interior step-down transformers to supply 120/208 volt, 3 phase power to the building, one for general power equipment loads and one dedicated to computer and electronic equipment loads. The main switchboard, manufactured by Westinghouse / Cutler Hammer, is original to the building construction and is in great condition. It was observed to have approximately 215 amps of load per phase which indicates it has plenty of capacity to serve future loads needed in the building. There are several spaces available in the switchboard and distribution panelboards for ease of connection to future loads.

3.3 EMERGENCY POWER

DISTRIBUTION TRANSFORMERS AND DISTRIBUTION PANELBOARD

There is one emergency generator located in the main equipment room that provides back-up power to the facility. The generator is 20kw, 277/480 volt, 3 phase, natural gas fired, was manufactured by Kohler and is original to the building construction. The generator is located in the first floor of the building in the boiler room and is ducted directly to the exterior for venting. The generator is tested weekly and serviced once a year and appears to be in good operating condition. The generator should continue to be maintained yearly and tested regularly to verify proper operation.

There is one automatic transfer switch located next to the generator that transfers loads to emergency power upon

KOHLER 20KW EMERGENCY BACK-UP POWER GENERATOR

loss of normal service. The transfer switch appears to be in good condition and should be maintained and tested regularly. Although the one transfer switch was acceptable at the time of installation, current codes require the facility to have two automatic transfer switches, one designated to serve life safety type loads and one to serve optional stand-by equipment. If the transfer switch is ever replaced, it should be replaced with two units to meet the current codes.

The generator currently provides back-up power to life safety egress lighting in the building via an emergency only distribution panel. The transfer switch allows normal / emergency to be supplied to the fire alarm system, security system, telephone system, and the public address system.

3.4 LIGHTING

The majority of the lighting fixtures are original to the building when constructed in 1998 and utilize T8 fluorescent lamping which are inefficient based on current lamping technologies. The light fixtures are original to the building and are in good condition and should be maintained and relamped as required.

Classrooms currently have recessed parabolic fixtures with three T8 fluorescent tube lamps and are dual switched to provide three levels of lighting. Consideration should be given to replacement of the fixtures with new LED type fixtures designed for LED technology that provide optimal performance, the ability to dim fixtures to provide only the required light levels for the task and to provide the most energy savings. See Executive Summary, Section 2.6 Classroom Lighting.

Site lighting consists of metal halide wallpacks mounted on the building, metal halide pole mounted fixtures in parking areas. The site lighting is currently controlled by programmable relay panel and should be maintained to provide light at needed times only.

Lighting control within corridors, vestibules, canopies, cafeteria and site is accomplished by the circuits being connected to a programmable relay panel allowing time schedule control. Lighting control within the building interior rooms is primarily accomplished by manual lighting switches located at entrances to rooms or areas. Any upgrades to lighting fixtures should include adding automatic controls in

individual rooms such as occupancy sensors to turn lights off when rooms are unoccupied to increase energy savings.

3.5 EMERGENCY FIXTURES

Emergency lighting is provided throughout the building's egress paths, assembly spaces, and equipment rooms and utilize dedicated lighting fixtures supplied from the emergency electrical system. The emergency fixtures are directly connected to the emergency lighting circuits supplied from the emergency generator.

Exit signs are LED type fixtures connected to the normal emergency power system.

3.6 FIRE ALARM SYSTEMS

An FCI fire alarm system presently provides fire alarm protection to the building with the main panel being located on the first floor of the school. The system is an older zoned system; however, it is operational and should be tested regularly for proper operation. Initiating devices (pull stations, smoke detectors, sprinkler system tamper and flow switches, and duct detectors) are located throughout the building. Fire alarm notification appliances (horns and strobes) are also located throughout the building; however, many areas including classrooms do not have coverage.

The fire alarm system was installed in 1998 during the original construction and meets the current needs of the facility; however, consideration should be given to upgrading to new addressable technology with devices located to meet current codes. The system should be tested regularly and serviced as required for proper operation.

3.7 TELEPHONE/DATA CABLING

The facility has a central data network closet that houses patch panels and server equipment. The network closet is connected via a demark location to utility internet access. Data cabling from the closets to workstations is category 5e cabling with outlets located at designated staff and teacher locations, select student locations, computer labs and to wireless access points located in the ceilings throughout the space. The cabling meets current standards and internet access meets the needs of the facility.

The current phone system is a Cisco phone system which consists of category 3 telephone cabling wired to punchdown blocks located in the data closets. A central phone switch connects the phones to the utility access to outside lines.

3.8 SECURITY

Currently there is a Kerri access control system that provides for authorized access to designated entrances of the facility. The building is locked down once students are in school and authorized access only is permitted. An intercom station at the main entry communicates to the admin offices to allow guests to be buzzed in.

An IP CCTV camera system exists at the facility with 4 cameras located at entrances and the playground. The system is capable of being monitored in the administration and district admin areas.

3.9 PUBLIC ADDRESS SYSTEM

A Dukane public address system exists in the building with a master control cabinet located in a data closet on the first floor. There are call-in stations with recessed ceiling speakers for communication back to the administration suite. Speakers exist in public areas and corridors for paging and class change tones.

The system includes a master clock system with analog clocks in classroom and other educational spaces tied to the central controller for time correction.

A local sound system exists in the gym/cafeteria for sound amplification during events held in the spaces.

3.10 CATV/AV DISTRIBUTION SYSTEM

A CATV cable distribution system exists throughout the building to distribute TV signal from local cable TV company and also from the local in-house broadcast studio for announcements. However, several of the TV's located in educational spaces to receive the signal have been removed. One enhancement for more effective use of the system could include equipment to distribute the signal over the facility network to be broadcast on the in-room projectors and whiteboards. Several of the classrooms are

already equipped with ceiling mounted projectors and whiteboards for video presentations of instructional material to students.

3.11 LIGHTNING PROTECTION SYSTEM

No Lightning protection exists on the school and no issues have been indicated due to lightning.

Tracy Elementary School

February 8, 2019 Age: 1998, renovations/additions: n/a

Approx. SF: 65,800

Description	Existing Conditions	Age of Asset	Remaining Life Expectancy	Recommendations	Short Term 1-3 years	Mid Term 3-5 years	Long Term 5-10 years	Projects Upgrades	Maintenance Operations
					3	2	1		0
Architectural									
Add set of group toilets	There is currently one set of student group toilets	1998		Renovate or add an addition to the building to provide a second set of student group toilets				$250.00 SF	
Carpet replacement	Some areas of the carpet are older and showing their age			Replace Carpet - part of district's on-going maintenance / replacement program					X
Kitchen flooring replacement	Existing flooring is in need of replacement			Replace flooring - this is on the district's on-going maintenance / replacement program					X
A separate gym	The cafeteria and the gym share the same room			Add a building addition to provide a separate gym space.				$350.00	
Infill computer floors	These areas of the floor are no longer used for their intended purpose			Infill the floor slab to provide an even floor surface				$15.00 SF	
Roofing issues	The roof's manufactures warranty expires this year. There are several leak issues.			Evaluate roofing system to determine if it should be recoated or replaced. Investigate roof leaks to determine the sourse.					X
Mechanical									
Boilers	Existing cast iron sectional hot water boilers.	19 years old	11 years +	Boilers have been well maintained.					$5,000
Classrooms	Are served by existing DX/hot water rooftop air handlers	19 years old	6 years	5 to 10 year plan should be to replace these air handlers			$1,500,000		
Temperature Controls	Existing pneumatic temperature controls	19 years old	0 years	Life expectancy is 20 years. Controls should be replaced with DDC when building undgoes a renovation.				$650,000	
Electrical									
Emergency Generator	The existing emergency generator is a 20kw natural gas generator manufactured by Kohler connected to the distrbution system via one automatic transfer switch which provides back-up power to egress lighting and select equipment. The generator is original to the building construction	10 years	20 years	Maintenace existing generator, change all fluids yearly and provide regular testing to ensure proper operation.					$2,500
Fire Alarm System	The existing fire alarm system is a older zoned fire alarm system manufactured by FCI. The system is functioning and adequately provides fire alarm coverage to the facility however newer addressable technology provides additional protection.	20 years	5-10 years	Consideration should be given in the future to replace the existing system with current technoloy in an addressable fire alarm system. Current devices provide coverage and notification to the facility but in some locations in egress paths and in public spaces does not meet current codes.			$132,000		

Tracy Elementary School

February 8, 2019 Age: 1998, renovations/additions: n/a

Approx. SF: 65,800

Description	Existing Conditions	Age of Asset	Remaining Life Expectancy	Recommendations	Short Term 1-3 years	Mid Term 3-5 years	Long Term 5-10 years	Projects Upgrades	Maintenance Operations
					3	2	1		0
Classroom Lighting Fixture Replacement	Existing classroom and large group instruction lighting fixtures are primarily fluorescent fixtures in variuos styles with T8 lamps and electronic ballasts.	20 years		Fixtures are original to the 1998 construction and have T8 lamps and electronic ballasts. Consideration should be given to replace existing fixtures with new LED technolgy for optimal energy savings, better lighting performance and reduced maintenance costs. Cost is indicated to replace classroom lighting with LED dimmable lights with occupancy sensor control.				$128,000	
Totals					**$ -**	**$ -**	**$ 1,632,000**	**$ 778,350**	**$ 7,500**

Existing Conditions Assessment –

James S Wilson Middle School

February 23, 2018

Table of Contents

EXISTING CONDITIONS ASSESSMENT –

JAMES S WILSON MIDDLE SCHOOL

February 23, 2018

1.0 EXISTING CONDITIONS – SITE AND ARCHITECTURAL

This assessment describes the existing site and architectural systems for the JS Wilson Middle School in Erie, Pennsylvania. The existing school is a one-story building.

Constructed: 1967

Renovations/Additions: 2008

Site Area: 28.40 acres

Building Area: 136,385 S.F.

PDE Capacity: 883 students

Grade Levels Served: 6 – 8

1.1 SITE

Paving. The parking areas and roadway areas are in good conditions.

Sidewalks. The concrete sidewalks are in good condition.

Storm Water and Drainage. There doesn't appear to be, and no mention was made of any issues.

Yards and Plantings. The yards and plantings appear to be in good condition.

1.2 ARCHITECTURAL

Summary

FRONT ENTRANCE

The building was originally constructed in 1967. It underwent major renovation in 2008. The renovation incorporated many LEED design philosophies, however, the LEED accreditation was not sought. The building is very well maintained and looks in very good condition inside and out. However, the majority of the interior is painted with "Zolatone" or spackle paint and it is expensive to maintain.

It is also noted that throughout the school, several ceiling tile are sagging or stained due to the condensation drips from the A/C lines.

LOADING DOCK DOOR

STAINED FACIA

POSSIBLE SECURITY WINDOW

MISSING COVER PLATE

Exterior

The exterior is brick with aluminum doors and windows. There was noticeable rust on the man door at the loading area. There is also rusting and/or staining on the white fascia above several of the exterior doors at the ends of the classroom wings. This could be a possible roofing issue.

Roof – Two Roofing Systems

EPDM installed in 2008. 20 year warranty.

TPO installed in 2008. 20 year warranty.

Requires constant repair to flashing and skylight curbs.

2028 – possible complete removal and replacement.

Interior Areas

Vestibule/Lobby. The walk off carpet and brick walls of the vestibule are in excellent condition. The ceramic tile and painted walls of the lobby are in excellent condition as well. However, there is a security issue as the administration office is a considerable distance from the front door where several corridors connect.

Administration/Nurse. The finishes and casework are in very good condition.

Library. The finishes, casework, bookshelves, charge desk and furniture is in very good condition.

Cafeteria. The carpet, walls, ceilings, and overhead coiling doors are in very good condition.

Kitchen. The sheet vinyl flooring, plastic paneled walls, and scrubbable ceiling tiles are in very good condition.

Gymnasium. The gym contains one full size basketball court and two smaller cross courts with backstops. There are plastic bleachers on both sides and wall pads at the ends of the main court. There is a roll up divider curtain in the center. The wood floor, finishes and equipment are in very good condition.

Locker Rooms. The finishes are in very good condition and the rooms are ADA accessible. However, there is a large cleanout cover missing in the one ceramic tile wall.

NON-ADA ACCESSIBLE EXIT

NON-ADA ACCESSIBLE EXIT

CEILING - WATER STAIN

TWO KILNS – POSSIBLE ADDITIONAL VENTILATION ?

Fitness. The room is new. The finishes and equipment are in excellent condition.

Auditorium. The 650-seat auditorium is well maintained. The carpet, paint and padded seats are in excellent condition. There is an ADA wheelchair lift for access to the stage. There are spot lights and a control panel in the rear of the auditorium.

Stage. The stage is large, and it's finishes and ample riggings appear to be in good condition.

Corridors. The corridors are wide and well lit. The finishes are in very good condition. Ceramic tile floors occur in the entry areas and carpet is used in the classroom areas. The corridor by the shop area has a sheet vinyl floor and the ceiling has been left out to show the buildings MEP systems. Student lockers 6' x 1' x 1' are distributed throughout the corridors and are in excellent condition.

There are ceiling tiles that show moisture damage. This may be condensation from the condensing lines.

There are two exit corridors, one by the art rooms and one by the Tech Ed's that have interior steps and no ADA ramp to exit the building.

Toilet Rooms. The ceramic tile floors and walls, the scrubbable 2 x 4 ceiling tile, the fixtures and the plan partitions are in very good condition. The ADA accessible toilets are in individual rooms separate from the group toilets. These also serve as faculty toilets.

Company Areas. The finishes are in very good condition. ADA drinking fountains are located in this area. The floor does contain computer access flooring which is no longer used.

Classrooms. The classrooms are well day lighted and spacious feeling. The finishes and casework are in excellent condition. These also contain whiteboards, projector and screen and speakers, all in good condition.

Art. The sheet vinyl flooring, finishes, casework and equipment are in good condition. The two kilns are in a separate room and possibly need more exhaust for the heat generated.

Music. The band room and the chorus room are both in very good condition. There are office and a large storage room between that are also in very good condition. The only observation is that perhaps the storage room could use more shelving.

Science. The rooms contain sheet vinyl flooring, wood casework with epoxy tops, large sinks, whiteboards, projector-screen-and speakers, and ADA lab sink, emergency eyewash and shower, a fire blanket and wall cabinets, all in very good condition.

Home Economics. The kitchen areas are located on the perimeter of the room. There is an ADA accessible kitchenette. The equipment, casework and finishes appear to be in very good condition. The sewing lab is also in very good condition. The office and storage are located between the two labs.

Shop. The wood shop and Tech ED room is well equipped and in very good condition.

1.3 ACCESSIBILITY ISSUES

Note – A further accessibility study of the facility would be required to evaluate these and other related ADA requirements.

Renovate the two egress paths to incorporate ADA ramps.

1.4 POSSIBLE IMPROVEMENTS

- Paint or clean exterior door and fascia.
- Security desk at vestibule.
- Accessible egress exits to grade at two corridors.
- Additional exhaust at kilns.

2.0 EXISTING CONDITIONS – PLUMBING / FIRE PROTECTION / MECHANICAL SYSTEMS

This assessment describes the existing mechanical, electrical, plumbing, and fire protection systems for the JS Wilson Middle School in Erie, Pennsylvania. The existing school is a two-story building (136,385 sf) and was constructed in 1967, renovations and additions in 2008.

HIGH EFFICIENCY BOILERS

HORIZONTAL HEAT PUMP

FLUID COOLER

2.1 HVAC SYSTEM

2.1.1 Central Heating

The school is heated by a geothermal water source heat pump system with 120 vertical wells each 250 ft deep. The geothermal loop is heated by 2 Lochinvar high efficiency gas fired heating boilers. The boilers mainly appear to be in good condition. Combustion air is provided directly to the boilers. The boiler room is ventilated by a roof mounted exhaust fan and wall mounted intake louvers, all appear to be in good condition.

2.1.2 Central Cooling

The school is cooled by geothermal water source heat pumps with heat pump condenser water distributed through a vertical well ground loop and closed circuit fluid cooler. Water is then distributed through the heat pumps by floor mounted condenser water pumps.

2.1.3 Condenser Water Pumps and Distribution

Condenser water is distributed through the building by two primary pumps that appear to be in good condition. The piping is original to the building, no reported issues with this system. The pumps are controlled by variable frequency drives.

2.1.4 Fluid Cooler Spray Water Pumps and Distribution

Spray water is distributed over the fluid cooler coils by two pumps that appear to be in good condition. The piping is original to the building, no reported issues with this system.

SNOW MELT BOILER

GYMNASIUM

ROOFTOP UNITS

KITCHEN HOOD

2.1.5 Snow Melt System

The heating for the snow melt system is by a gas fired hot water boiler which appears to be in good condition.

2.1.6 Air Distribution

Special Areas

Cafeteria. Rooftop water source heat pumps with energy recovery wheels with ducted air distribution above the ceiling for heating, cooling, and ventilating. The unit appears to be in fair condition.

Gymnasium. Rooftop water source heat pumps with energy recovery wheels with ducted air distribution above the ceiling for heating, cooling, and ventilating. The unit appears to be in fair condition.

Classrooms. Horizontal concealed water source heat pumps with ducted air distribution system for the classrooms heating, cooling, and ventilating, these units appear to be in good condition. Ventilation to classrooms is provided by rooftop water source heat pumps (9) with energy recovery wheels, the ventilation air is ducted directly to the heat pumps. The rooftop units appear to be in fair condition. There is an issue with water freeze ups in the units, heat trace has been added to some units.

Office Areas. Rooftop water source heat pumps (2) with energy recovery wheels with ducted air distribution above the ceiling to variable volume variable temperature terminal units for heating, cooling and ventilating. This equipment appears to be in good condition.

Toilet Rooms. Heat is provided by electric radiant panels, these are in good condition.

Library/Media Center. Indoor (AHU-3) water source heat pumps with energy recovery wheels with ducted air distribution above the ceiling for heating, cooling and ventilating. The unit appears to be in fair condition. Gas fired make-up air unit directly feeds the grease hoods.

Kitchen. Rooftop water source heat pumps without energy recovery wheel with ducted air distribution above the ceiling for heating, cooling and ventilating. The unit appears

TEMPERATURE CONTROLS

DOMESTIC WATER HEATERS

PLUMBING FIXTURES

FIRE PROTECTION

to be in fair condition. Gas fired make-up air unit directly feeds the grease hoods.

2.1.7 Temperature Controls

The building has an electronic temperature control system throughout the building and is in good condition.

2.2 PLUMBING SYSTEMS

2.2.1 Existing Plumbing System

The building is serviced by a municipal 6" water service from street to fire protection and domestic service entrance. The domestic water service is 4". The piping for water distribution is primarily copper piping and there has been no reported issues. A rainwater harvesting system was provided as part of the 2008 renovation.

2.2.2 Domestic Water Heating and Service

Two tank-type gas fired water heaters, located in the mechanical room, serve the building, these units appear to be in good condition.

2.2.3 Natural Gas

The building is served by a 6" natural gas service.

2.2.4 Plumbing Fixtures and Trim

The water closets, urinals, lavatories and faucets all installed in 2008 appear to be in good condition.

2.2.5 Sanitary and Storm

Sanitary and storm piping has no reported issues.

2.3 FIRE PROTECTION SYSTEM

The building is fully sprinklered.

3.0 EXISTING CONDITIONS ELECTRICAL SYSTEMS

3.1 ELECTRIC SERVICE

The James S. Wilson Middle School is currently supplied electric service by Penelec from a pad mounted utility owned transformer that is fed from overhead utility lines along the edge of the site. The service drops underground and extends to the transformer located next to the building. The utility service appears to have adequate capacity to serve the facility as no issues have occurred with the utility service or pad mounted transformer.

3.2 ELECTRICAL DISTRIBUTION

4000A MAIN SWITCHBOARD

The pad mounted transformer serves a 4000 amp, 277/480 volt switchboard located in a main electric room on the first floor. The switchboard feeds interior step down transformers to supply 120/208 volt, 3 phase power to the building for general power equipment loads and computer and electronic equipment loads. The main switchboard (manufactured by Square D) was installed in the 2008 renovation and is in great condition. It was observed to have approximately 400 amps of load per phase which indicates it has plenty of capacity to serve future loads needed in the building. There are several spares and spaces available in the switchboard and distribution panelboards for ease of connection to future loads.

Branch panels are located throughout the facility and were installed in the recent renovation and are all in great condition.

3.3 EMERGENCY POWER

GENERATOR

There is one emergency generator located outdoors in a weather proof enclosure that provides back-up power to the facility. The generator is natural gas fired, was manufactured by Cummins, and was installed in 2008. The generator size was unable to be determined by observation. The generator is tested weekly and serviced once a year and appears to be in good operating condition. The generator should continue to be maintained yearly and tested regularly to verify proper operation.

There are two automatic transfer switches located in the main electric room that transfers loads to emergency power upon loss of normal service. The transfer switches appear to be in good condition and should be maintained and tested regularly.

The generator currently provides back-up power to life safety egress lighting in the building and the fire alarm system via the life safety transfer switch. The equipment transfer switch allows normal / emergency power to be supplied to the security system, IT equipment, one heating pump, and a panel in the kitchen for minimal cooking equipment.

3.4 LIGHTING

The lighting fixtures were replaced when the building was renovated in 2008 and utilize T8 fluorescent lamping which are inefficient based on current lamping technologies. The light fixtures are in good condition and should be maintained and relamped as required.

Classrooms currently have two rows of pendant direct / indirect fixtures with three T8 fluorescent tube lamps and are dual switched to provide three levels of lighting. Occupancy sensors are located in each classroom to turn lights off when the room is unoccupied.

Site lighting consists of metal halide wallpacks mounted on the building, metal halide pole mounted fixtures in parking areas. The site lighting is currently controlled by programmable relay panels and these should be maintained to provide light at needed times only.

Lighting control within corridors, vestibules, canopies, cafeteria and restrooms is accomplished by the circuits being connected to a programmable relay panel allowing time schedule control. Lighting control within the building interior rooms is primarily accomplished by manual lighting switches located at entrances to rooms or areas and occupancy sensors to turn lights off when rooms are unoccupied.

3.5 EMERGENCY FIXTURES

Emergency lighting is provided throughout the building's egress paths, assembly spaces, equipment rooms, and stairwells and utilize dedicated lighting fixtures supplied from

the emergency electrical system. The emergency fixtures are directly connected to the emergency lighting circuits supplied from the emergency generator.

Exit signs are LED type fixtures connected to the normal emergency power system.

3.6 FIRE ALARM SYSTEMS

An addressable FCI fire alarm system presently provides fire alarm protection to the building with the main panel being located in the MDF room. Addressable initiating devices (pull stations, smoke detectors, sprinkler system tamper and flow switches, and duct detectors) are located throughout the building. Fire alarm notification appliances (horns and strobes) are also located throughout the building.

The fire alarm system was installed in the 2008 renovations and meets the current needs of the facility. The system should be tested regularly and serviced as required for proper operation.

3.7 TELEPHONE/DATA CABLING

The facility has one central data network closet and multiple IDF closets that house patch panels and server equipment. The network closets are interconnected with fiber optic cable and are connected via a demark location to utility internet access. Data cabling from the closets to workstations is category 5e cabling with outlets located at designated staff and teacher locations, select student locations, computer labs and to wireless access points located in the ceilings throughout the space. The cabling meets current standards and internet access meets the needs of the facility.

Floor boxes are located in each instructional space with power and data for student computer use. With the use of laptops and wireless network access, none of the floor boxes were observed to be in use.

The current phone system is a Cisco phone system that was installed in the 2008 renovations and consists of category 3 telephone cabling wired to punchdown blocks located in the data closets. A central phone switch connects the phones to the utility access to outside lines.

3.8 SECURITY

Currently there is a Kerri access control system that provides for authorized access to designated entrances of the facility. The building is locked down once students are in school and authorized access only is permitted. The system is located in the MDF room. A keypad is located at select entrances to disarm the security system when the building is occupied.

An IP CCTV camera system exists at the facility with cameras located around the building to monitor corridors, entrances and stairwells. The system is capable of being monitored in the administration and district admin areas. A digital video recorder is located in the security rack in the MDF room.

3.9 PUBLIC ADDRESS SYSTEM

A Dukane public address system exists in the building with a master control cabinet located in the administration office. There are call-in stations with recessed ceiling speakers for communication back to the administration suite. Speakers exist in public areas and corridors for paging and class change tones.

The system includes a master clock system with digital clocks in classroom and other educational spaces tied to the central controller for time correction.

Local sound systems exist in the auditorium, cafeteria, and gymnasium for sound amplification during events held in those spaces.

A local sound reinforcement system is located in each instructional space to provide sound amplification to teachers.

3.10 CATV/AV DISTRIBUTION SYSTEM

A CATV cable distribution system exists throughout the building to distribute TV signal from local cable TV company and also from the local in-house broadcast studio for announcements. However, several of the TV's located in educational spaces to receive the signal have been removed. One enhancement for more effective use of the system could include equipment to distribute the signal over the facility network to be broadcast on the in-room

projectors and whiteboards. Several of the classrooms are already equipped with ceiling mounted projectors and whiteboards for video presentations of instructional material to students.

3.11 LIGHTNING PROTECTION SYSTEM

No Lightning protection exists on the school and no issues have been indicated due to lightning.

3.12 SCOREBOARDS

Two Nevco scoreboards are located in the gymnasium tied to a scoreboard control outlet. The scoreboards appear functional and adequate for the current use of gym events.

ROOF-MOUNTED PHOTOVOLTAIC PANELS

3.13 PHOTOVOLTAICS

Photovoltaic panels that produce electricity are located on the roof above the classroom wings. They are tied into the building electrical distributions system and provide power for the building to reduce off-site electric energy costs. The facility is considered a green school and plaques share information about the sustainability of the building to students and staff.

JS Wilson Middle School

February 8, 2019 Age: 1967, renovations/additions: 2008

Approx. SF: 136,385

Description	Existing Conditions	Age of Asset	Remaining Life Expectancy	Recommendations	Short Term 1-3 years	Mid Term 3-5 years	Long Term 5-10 years	Projects Upgrades	Maintenance Operations
					3	2	1		0
Architectural									
Paint exterior kitchen door	Kitchen door has visible surface rust	2008		prep and paint door					
Security desk at vestibule.	The administration office is not within site of the main entrance			Establish a security desk at the main entrance. Or relocate the admin to near the front entrance				$250.00 SF	
Accessible egress exits to grade at two corridors.	the egress corridors at the art area and the tech ed area do not have ADA access to grade.	2008		Revise the plan to add internal Ada ramps and landings				$100 SF RAMP + $100.00 LF RAILING	
Addiitonal exhaust at kilns.	The two art kilns are located in a storage closet	2008		Provide exhuast hoods to remove the heat				$5,000.00	
Clean or paint stained fascia	Several areas of the fascia at the end of the classroom wings are stained and/or rusting	2008		prep and clean / or paint the fascia and investigate the source of the stain					X
Roofing issues	Leaks at flashings and skylight curbs			On going maintenance problem.					X
Mechanical									
Rooftop Air Handling Units	The rooftop units are experiencing coil freeze-ups. Heat trace has been added.	9 years old	11 years	Add glycol to condenser water system.	$15,000				
Electrical									
Emergency Generator	The existing emergency genrator is a natural gas generator manufactured by cummins connected to the distrbution system via two automatic transfer switches which provides back-up power to egress lighting, one heating pump and select kitchen and miscellaneous equipment. The generator was installed in the 2008 renovations.	9 years	21 years	Maintenance existing generator, change all fluids yearly and provide regular testing to ensure proper operation.					$2,500
Totals					**$ 15,000**	**$ -**	**$ -**	**$ 5,000**	**$ 2,500**

Existing Conditions Assessment –

Walnut Creek Middle School

February 23, 2018

Table of Contents

EXISTING CONDITIONS ASSESSMENT –

WALNUT CREEK MIDDLE SCHOOL

February 23, 2018

1.0 EXISTING CONDITIONS – SITE AND ARCHITECTURAL

MAIN ENTRANCE

UNFINISHED YARD AREA UNDER OVERHANG

This assessment describes the existing site and architectural systems for the Walnut Creek Middle School in Erie, Pennsylvania. The existing school is a two-story building.

Constructed: 1993

Renovations/Additions: None

Site Area: 55 acres

Building Area: 123,300 S.F.

PDE Capacity: 810

Grade Levels Served: 6 - 8

1.1 SITE

Paving. The roads and paved parking areas are in good condition.

Sidewalks. The concrete sidewalks are in good condition.

Storm Water and Drainage. No issues were noticed and none were mentioned.

Yards and Plantings. These are in good condition. However, there is an area under a long roof overhang that is neither grass nor gravel. There is some concrete paving cracks in the plaza outside the cafeteria.

1.2 ARCHITECTURAL

Summary

The building was constructed in 1993 and except for minor touch ups, is in original condition. It is well maintained and looks to be in very good condition. The finishes throughout are carpet, wallpaper, and 2' x 4' suspended acoustic tile. The There is some minor wallpaper damage and a few damaged ceiling tiles sprinkled throughout.

LOBBY

LIBRARY ACCESS FLOOR

CAFÉ – DAMAGED WALLPAPER

PATCHED KITCHEN FLOORING

Exterior

The exterior is a light buff brick with dark brown brick accents, aluminum windows and doors are a dark brown metal roof "cap" in some areas. The materials appear to be in very good condition.

Roof

0.60 EPDM installed in 1993. 123,000 S.F. Trucoat sealant applied in 08, 09, 10. District is looking to schedule a second Trucoat coating.

Interior Areas

Vestibule/Lobby. The vestibule and main lobby are large and spacious. The ceramic tile floor in the lobby is in excellent condition. The vestibule is wall to wall walk off carpet squares. However, the main entry doors are many feet from the administration office. This presents a possible security issue.

Administration/Nurse. These areas are in very good condition. The reception desk may be 'dated' but in very good condition.

Library. The finishes, carpet, wallpaper, wood ceiling with heavy wood beams are all in very good shape. The wood shelving, charge desk and furnishings are all in very good condition.

Cafeteria. The carpet is in good condition. The wallpaper is loose and/or damaged around the room from the floor to the height of approximately 2' – 0" above the floor. The serving line doors into the kitchen are in good condition.

Kitchen. The full prep kitchen equipment is in good condition. The sheet vinyl flooring has been patched and needs to be replaced.

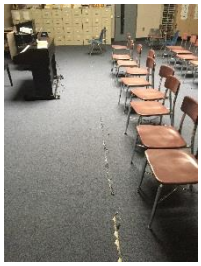
Gymnasium. The gym contains one full size basketball court and two smaller courts, wall pads, bleachers, climbing net and a nicer curtain. The wood competition floor, finishes and equipment are in very good condition.

Locker Rooms. The locker rooms and showers are in very good condition and have ADA accessible fixtures.

CORRIDOR WITH LOCKERS

COMPUTER FLOORING IN COMPANY AREAS

CLASSROOM FOLDING PARTITION



MUSIC ROOM CARPET

Stage. The stage is a unique shape that is at one end and one corner of the gym and opens to the LGI and the band room. The curtain and riggings are in very good condition.

Fitness Room. The room is new, the finishes and equipment are in excellent condition.

LGI. The finishes, seating and risers are in very good condition. The stage is double faced and opens into the gym.

Corridors. The corridors are wide and well lit. The finishes are in very good condition. There are some areas with minor wallpaper peeling and a few stained ceiling tiles. The 1' x 1' double tier metal lockers are also in very good condition.

Toilet Rooms. The ceramic tile walls and floors are in very good condition. The fixtures and plastic laminate toilet partitions are also in very good condition. The ADA accessible toilets are separate from the group toilets and are also the faculty toilets.

Company Areas. These areas are in very good condition and well lit, there is a large skylight in the center. The flooring is carpet with a large area of VCT at the computer floor.

Classrooms. The classroom finishes and casework are in very good condition. They also contain a whiteboard, project and screen.

Music. The finishes in this area were not in good condition. There are many stained ceiling tile, stained tectum panels, damaged wallpaper and fraying carpet. There is plenty of storage and the casework is in good condition. There is a large stage which also opens to the corner of the gym. The curtain is in good condition. There is also a wheelchair lift at the stage.

Science. The science room finishes and casework are in very good condition. However, there is a large area of computer flooring in the center of the room. The room also contains epoxy tops, labs, sinks, emergency eye wash, and a large storage room.

Home Economics. The finishes and casework are in very good condition in both the food lab and the sewing lab. However, there is a set of cubbies that the finish is worn.

MUSIC ROOM DAMAGED WALL PAPER

SCIENCE ROOM WITH COMPUTER FLOOR IN CENTER

1.3 ACCESSIBILITY ISSUES

Note – A further accessibility study of the facility would be required to evaluate these and other related ADA requirements.

1.4 POSSIBLE IMPROVEMENTS

- Remove and infill computer floors
- New finishes in band and music area
- Security office at main entry vestibule
- Move admin closer to front door
- More durable finishes on the café wall

2.0 EXISTING CONDITIONS – PLUMBING / FIRE PROTECTION / MECHANICAL SYSTEMS

This assessment describes the existing mechanical, electrical, plumbing, and fire protection systems for the Walnut Creek Middle School in Erie, Pennsylvania. The existing school is a two-story building (123,300 sf), constructed in 1993.

BOILERS

CHILLER

2.1 HVAC SYSTEM

Two story building with an upper-level mechanical equipment room.

Summary: Four-pipe unit ventilator system system with additional heating and cooling via ten rooftop units and two indoor air handling units.

2.1.1 Central Heating

Two Bryan Flex-Tube boilers provide hot water to the heating equipment and are in good condition.

2.1.2 Central Cooling

Chilled water system. A split air-cooled chiller provides 350 tons of cooling, utilizing R-22, to the chilled water piping loop and is in good condition.

HOT WATER CIRCULATION PUMPS

2.1.3 Hot Water Pumps and Distribution

- Pumps P-3, P-4 alternate to provide to provide 512 GPM of 180 degree hot water to the heating loop and are in good condition.

CHILLED WATER CIRCULATION PUMPS

2.1.4 Chilled Water Pumps and Distribution

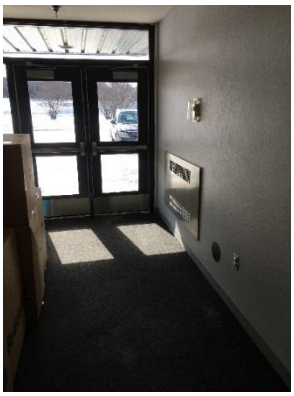
- Pumps P-1, P-2 alternate to provide to provide 760 GPM of chilled water to the cooling loop and are in good condition.

CLASSROOM

2.1.5 Air Distribution

Special Areas

Classrooms. "Nesbitt" horizontal four-pipe unit ventilators, typically mounted concealed above classroom ceilings, with ducted supply air, outside air and return air. Units each have integral economizer function. Units are in good condition; however, replacement parts are hard to find.



VESTIBULE HEATER

GYM DUCTWORK

ROOFTOP UNITS

LARGE GROUP INSTRUCTION

Corridors. Same as classrooms with supplemental hot water cabinet unit heaters in vestibules. All are in good condition.

Toilet Rooms. The toilet rooms are provided only with exhaust. The roof mounted fans appear in good codition.

Special Areas.

- The stage area is served by a multi-zone air handling unit in the second floor mechanical room, which is in good condition.
- The gymnasium is served by a single-zone air handling unit in the second floor mechanical room, which is in good condition.
- The admin area is served by a DX rooftop unit with fan-powered terminal boxes for cooling and heating. All equipment is in good condition.
- The media center and surrounding rooms are served by a chilled-water rooftop unit with fan-powered terminal boxes for cooling and heating.
- Band, Choral, Communications Large Group Instruction, Maintenance, Preschool, Kitchen, and Environmental Laboratory rooms are all served by single-zone DX rooftop units with gas heat. These units are in good condition.
- IDF Rooms have split systems which require replacement (district wide).

2.1.6 Temperature Controls

Temperature controls are a proprietary DDC system by Johnson Controls which needs to be updated.

2.2 PLUMBING SYSTEMS

Summary: Large group toilets in classroom areas and locker rooms. Smaller toilet rooms in office areas.

2.2.1 Existing Plumbing System

- Original 8" gas service.
- Original 4" domestic water service.

WATER HEATERS

2.2.2 Domestic Water Heating and Service

Two "Universal" storage type water heaters with recirculation pump original to building. No reported issues.

2.2.3 Plumbing Fixtures and Trim

Generally good condition. No reported issues.

2.2.4 Kitchen Equipment

Full service kitchen with hood and dishwasher

2.3 FIRE PROTECTION SYSTEM

Fully sprinklered building with 8" main and no fire pump.

3.0 EXISTING CONDITIONS ELECTRICAL SYSTEMS

3.1 ELECTRIC SERVICE

The Walnut Creek Middle School is currently supplied electric service by Penelec from a 1000kVA pad mounted utility owned transformer that is fed from overhead utility lines along the front of the site. The service drops underground and extends to the transformer located next to the building. The utility service appears to have adequate capacity to serve the facility as no issues have occurred with the utility service or pad mounted transformer.

3.2 ELECTRICAL DISTRIBUTION

WESTINGHOUSE MAIN SERVICE SWITCHBOARD

The pad mounted transformer serves a 3000 amp, 277/480 volt switchboard located in a main equipment room on the second level. The switchboard feeds two interior step down transformers to supply 120/208 volt, 3 phase power to the building, one for general power equipment loads and one dedicated to computer and electronic equipment loads. The main switchboard was manufactured by Westinghouse, and is original to the building construction and is in great condition. It was observed to have approximately 320 amps of load per phase which indicates it has plenty of capacity to serve future loads needed in the building. There are several spaces available in the switchboard and distribution panelboards for ease of connection to future loads.

3.3 EMERGENCY POWER

KOHLER DIESEL EMERGENCY GENERATOR

There is one emergency generator located in the main equipment room that provides back-up power to the facility. The generator is 250kW, 277/480 volt, 3 phase, diesel, was manufactured by Kohler and is original to the building construction. The generator is located in the upper level of the building in the boiler room and is ducted directly to the exterior for venting. The generator is tested weekly and serviced once a year and appears to be in great operating condition. The generator should continue to be maintained yearly and tested regularly to verify proper operation.

There is one automatic transfer switch located next to the generator that transfers loads to emergency power upon loss of normal service. The transfer switch appears to be in good condition and should be maintained and tested

regularly. Although the one transfer switch was acceptable at the time of installation, current codes require the facility to have two automatic transfer switches, one designated to serve life safety type loads and one to serve optional stand-by equipment. If the transfer switch is ever replaced, it should be replaced with two units to meet the current codes.

The facility was designed to be an emergency shelter, and the generator was sized for additional loads for emergency shelter operation. The generator currently provides back-up power to life safety egress lighting in the building via an emergency only distribution panel. The transfer switch allows normal/emergency to be supplied to the fire alarm system, security system, IT equipment, and the public address system. In addition, to accommodate shelter use, additional lighting, boilers, AHU, kitchen equipment, and exhaust are backed up.

3.4 LIGHTING

The majority of the lighting fixtures are original to the building when constructed in 1993 and utilize T8 fluorescent lamping which are inefficient based on current lamping technologies. The light fixtures are original to the building and are in good condition and should be maintained and relamped as required.

Classrooms currently have recessed parabolic fixtures with four T8 fluorescent tube lamps and are dual switched to provide two levels of lighting. Consideration should be given to replacement of the fixtures with new LED type fixtures designed for LED technology that provide optimal performance, the ability to dim fixtures to provide only the required light levels for the task and to provide the most energy savings. See Executive Summary, Section 2.6 Classroom Lighting.

Site lighting consists of metal halide wallpacks mounted on the building, metal halide pole mounted fixtures in parking areas. The site lighting is currently controlled by programmable relay panels and these should be maintained to provide light at needed times only.

Lighting control within corridors, vestibules, canopies, cafeteria and restrooms is accomplished by the circuits being connected to a programmable relay panel allowing time schedule control. Lighting control within the building

interior rooms is primarily accomplished by manual lighting switches located at entrances to rooms or areas. Any upgrades to lighting fixtures should include adding automatic controls in individual rooms such as occupancy sensors to turn lights off when rooms are unoccupied to increase energy savings.

3.5 EMERGENCY FIXTURES

Emergency lighting is provided throughout the building's egress paths, assembly spaces, equipment rooms, and stairwells and utilize dedicated lighting fixtures supplied from the emergency electrical system. The emergency fixtures are directly connected to the emergency lighting circuits supplied from the emergency generator.

Exit signs are LED type fixtures connected to the normal emergency power system.

FCI MAIN FIRE ALARM CONTROL PANEL

3.6 FIRE ALARM SYSTEMS

An addressable FCI fire alarm system presently provides fire alarm protection to the building with the main panel being located in the main data closet. Addressable initiating devices (pull stations, smoke detectors, sprinkler system tamper and flow switches, and duct detectors) are located throughout the building. Fire alarm notification appliances (horns and strobes) are also located throughout the building.

The fire alarm system meets the current needs of the facility. The system should be tested regularly and serviced as required for proper operation.

3.7 TELEPHONE/DATA CABLING

The facility has a central data network closet that houses patch panels and server equipment. Remote network closets are interconnected with fiber optic cable and are connected via a demark location to utility internet access. Data cabling from the closets to workstations is category 5e cabling with outlets located at designated staff and teacher locations, select student locations, computer labs and to wireless access points located in the ceilings throughout the space. The cabling meets current standards and internet access meets the needs of the facility.

The current phone system is a Cisco phone system that was installed in the 2014 renovations and consists of category 3 telephone cabling wired to punchdown blocks located in the data closets. A central phone switch connects the phones to the utility access to outside lines.

3.8 SECURITY

Currently there is a Kerri access control system that provides for authorized access to designated entrances of the facility. The building is locked down once students are in school and authorized access only is permitted.

An IP CCTV camera system exists at the facility with cameras located around the building to monitor corridors, entrances, cafeteria, and stairwells. The system is capable of being monitored in the administration and district admin areas.

3.9 PUBLIC ADDRESS SYSTEM

A Dukane public address system exists in the building with a master control cabinet located in a data closet on the first floor. There are call-in stations with recessed ceiling speakers for communication back to the administration suite. Speakers exist in public areas and corridors for paging and class change tones.

The system includes a master clock system with digital clocks in classroom and other educational spaces tied to the central controller for time correction.

Local sound systems exist in the auditorium/gymnasium and LGI for sound amplification during events held in those spaces.

3.10 CATV/AV DISTRIBUTION SYSTEM

A CATV cable distribution system exists throughout the building to distribute TV signal from local cable TV company and also from the local in-house equipment rack. However, several of the TV's located in educational spaces to receive the signal have been removed. One enhancement for more effective use of the system could include equipment to distribute the signal over the facility network to be broadcast on the in-room projectors and whiteboards. Several of the classrooms are already equipped with ceiling mounted

projectors and whiteboards for video presentations of instructional material to students.

3.11 LIGHTNING PROTECTION SYSTEM

No lightning protection exists on the school and no issues have been indicated due to lightning.

Walnut Creek Middle School

February 8, 2019 Age: 1993, renovations/additions: none

Approx. SF: 123,300

Description	Existing Conditions	Age of Asset	Remaining Life Expectancy	Recommendations	Short Term 1-3 years	Mid Term 3-5 years	Long Term 5-10 years	Projects Upgrades	Maintenance Operations
					3	2	1		0
Architectural									
Remove and infill computer floors	these areas of the floor are no longer used for their intended purpose			Infill the floor slab to provide an even floor surface				$15.00 SF	
New finishes in band and music area	the carpet and wall coverings are damaged	2014		Replace carpet; replace the wallcovering with a more durable wainscot material.				$7.50 SF	
Security office at main entry vestibule	The administration office is not within site of the main entrance			Establish a security desk at the main entrance. Or relocate the admin to near the front entrance				$250.00 SF	
Wallcovering in caferteria	the wallcoverings in the cafeteria are damaged to approxiamately 36" aboce the floor.			Replace the wallcovering with a more durable wainscot material				$7.50 SF	
Roofing issues	Roof was installed in 1993, and recoated in 2008, 09, and 10.			District is considering a second recoat with sealer.					X
Mechanical									
Unit Ventilators	Horizontal ceiling mounted "Nesbitt" unit ventilators with ducted air distribution.	25 years	5 years	The unit ventilaors are approaching the end of their expected useful lives and should be replaced. Replacement parts are hard to procure.		$250,000.00			
Hot Water Boilers	Gas fired hot water boilers are in good condition for their age.	25 years	5 years	maintain the boilers and they should continue to operate for several years.					$5,000
Air cooled chiller	Split air cooled chiller with condenser mounted on the roof.	25 years	0 years	maintainance the chiller, keep tubes clean and ensure proper operation.					$6,000
Temperature Controls	Existing distribution controls are pnuematic controls with the head end being DDC.	25 years	0 years	When project upgrades are done the controls system should be converted to an electronic DDC system.				$750,000	
All systems	Existing mechanical systems in the building.	25 years	0 years	The existing mechanical systems are at the end of their service life and should be condiered for replacement.				$ 4,900,000	
Plumbing	Existing water heaters are aged and in good condition.	25 years	0 years	The water heaters should be considered for replacement due to their age.	$12,000				
Electrical									
Emergency Generator	The existing emergency generator is a diesel generator manufactured by Kohler connected to the distrbution system via one automatic transfer switch which provides back-up power to egress lighting, boiler, AHU and select kitchen and miscellaneous equipment.	25 years	10 years	Maintenance existing generator, change all fluids yearly and provide regular testing to ensure proper operation.					$2,500
Classroom Lighting Fixture Replacement	Existing classroom and large group instruction lighting fixtures are primarily parabolic fluorescent fixtures with T8 lamps and electronic ballasts.	25 years		Fixtures are original to the 1993 construction and have T8 lamps and electronic ballasts. Consideration should be given to replace existing fixtures with new LED technolgy for optimal energy savings, better lighting performance and reduced maintenance costs. Cost is indicated to replace classroom lighting with LED dimmable lights with occupancy sensor control.				$220,000	
Totals					**$ 12,000**	**$ 250,000**	**$ -**	**$ 5,870,000**	**$ 13,500**

Existing Conditions Assessment –

Westlake Middle School

February 23, 2018

Table of Contents

EXISTING CONDITIONS ASSESSMENT –

WESTLAKE MIDDLE SCHOOL

February 23, 2018

1.0 EXISTING CONDITIONS – SITE AND ARCHITECTURAL

Areaway at 203 -207

This assessment describes the existing site and architectural systems for the Westlake Middle School in Erie, Pennsylvania. The existing school is a two-story building (203,734 sf) with a partial basement and was constructed in 1958.

Constructed: 1958

Renovations/Additions: 1970, 1996

Site Area: 19 acres

Building Area: 124,912

PDE Capacity: 931

Grade Levels Served: 6 – 8

1.1 SITE

General. The building is a three-story building with the main floor as the top floor. There is significant slope to the site from the front/main entry to play areas at the back of the building level with the gym. There are large grass playfields further behind the building and even lower in elevation.

Lower Play Fields

Paving. The paving is in generally good condition.

Sidewalks. The concrete sidewalks are generally in good condition at the front of the building and at lower entry/exit points.

Storm Water and Drainage. There is an areaway at the front of the building that provides daylight to rooms 203 to 207. This appears to be well drained. There was no evidence of water infiltration in these rooms.

The lower play fields can be unusable at time due to their elevation and general topography.

The yards and plantings appear to be in good condition.

1.2 ARCHITECTURAL

Summary

The building was originally constructed in 1953 with major additions / renovations in 1970 and 1996. There were other minor alterations in its history as well. The current walk through revealed a building that has had a recent interior finishes update and is in good condition and is well maintained.

The building area of approximately 125,000 sf and functional capacity of 826 yields an area/student ration of approximately 150 sf/student, which is within the expected range.

EIFS at grade in the areaway – watch for water infiltration and deterioration.

Main Building Elevation

Exterior

The exterior is primarily standard orange face brick. There are areas of an aqua colored glazed brick. There are areas above the windows where there is EIFS. This is typical for buildings of this era where larger windows have been replaced. There are also EIFS areas where windows have been removed.

Generally, the EIFS system appears to be in good conditions. Yearly inspection and repair of failing sealant joints is recommended. Special attention should be taken where the EIFS meets grade.

Roof

Modified bitumen. Installed in 1996. 20 year warranty (out). 74,000 S.F. There are flashing issues. District is considering a Trucoat sealant or a cap sheet to gain a 10 year warranty.

Interiors

Layout. The building is much bigger than the initially perceived from approaching the building. The layout is logical and generally easy to follow. The open areas in each classroom wing present excellent opportunities for group work or pull out instruction.

General. The interiors are a rather typical combination of for this district. Floors include carpet, VCT, ceramic tile, concrete, sheet vinyl, and athletic wood floor. Walls are structural glazed facing time, plaster/drywall, and wall

Classroom Doors and Sidelights

coverings. Ceilings are typically acoustical tile. Typically, all finishes are in good condition. They appear clean and well maintained, and appear to be on a maintenance schedule for cleaning and replacement. See detailed description of individual spaces for more information.

Overall, the colors tend to be somewhat monochromic. The District could consider changing the colors of the finishes that are periodically replaced to help distinguish separate areas by color (wayfinding.) For example, each wing on the on the 200 level could have a different color of wallcovering, paint, or carpet to help someone quickly and visually identify their location. The cue could be as simple as varying door frame color.

Doors. The doors are generally wood with full height narrow lites. ADA clearances are generally met at alcoves. Doors have ADA hardware.

Interior Clerestories

Many of the classroom doors have significant amounts of side lites that are covered with construction paper for security reasons. The District may consider applying a glazing film to obscure the glass or provide roller shades for a more permanent solution.

Interior Clerestories. The corridors typically have interior clerestories between the corridors and the classrooms. This detail is typical of the era in which the building was built. This is a nice detail to allow light from the exterior into the corridors. In a renovation, however, the full height exterior windows have been replaced and the borrowed light to the corridors has been significantly reduced. Unless there are acoustic issues, however, we don't see any reason to replace these features.

Waiting Area

Corridor Lockers. The recessed metal lockers are in good condition.

Special Areas

Administration/Entry. The administrative offices are located at the main entry of the building. It can supervise the entry and adjacent corridors. The main reception area, however, has limited visual access to the parking area. When we were on site, it appeared that there was a project underway to extend the vestibule. We will confirm whether this work included a security vestibule entry (allowing the administration to require entry through the suite.) This work will limit the area outside the doors that are under cover.

Nurses Suite

Cafeteria

Library Circulation Desk

Library Seating

The ceiling is 2 x 4 ACT with 2 x 4 troffer lighting with T-8 fixtures.

The walls are painted and in good condition.

The flooring is carpet in the office areas and is showing some wear in the high traffic areas. The nurse's suite has VCT floors that are in good condition.

The reception desk is in good condition, but does not have a low area for accessibility.

Cafeteria. The cafeteria has the same ceiling tile and lighting as is seen throughout the building.

The walls are a combination of structural glazed facing tile (SGFT) and Tectum (a wood fiber panel for sound absorption. All are in good condition.

The floor is carpet, which is surprising for a cafeteria. But the carpet is in surprisingly good condition; it is clean and free from major stains and does not smell of any food or mold. The floor does show some wear in the high traffic areas.

Kitchen. We had limited access to the kitchen. It appeared in good condition with SGFT walls and a textured sheet vinyl floor.

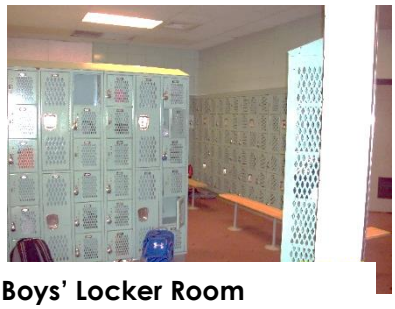
Library. The library appears to be same layout as originally designed. It has a good layout and provides good observation of the students. There is, however, very little technology available in the library itself. There is no electronic monitoring for books leaving the library. The bookshelves and charge desk appear to be 1970 vintage, but are in good condition.

The finishes are all typical for this school; lay in ACT ceilings, walls are painted, and the floors carpeted. The carpet appears to be carpet tile. All finishes appear in good condition.

Gymnasium

Gymnasium

Gang Showers



Boys' Locker Room

Gymnasium. The gym is an adequate size for a facility of this size. It is located, due to layout and topography, somewhat away from the classrooms which separates the noise and disruption from the classroom areas. The gym seems adequately equipped; the main hoops are newer (assume the 1996 renovation) the side hoops appear older, there is a drop down curtain (replaced a full panel operable partition in a previous renovation), wall pads, and a matt hoist. The bleachers appear have been replaced in the 1996 renovation.

The ceiling is a structural tectum deck. It appears in good condition, but structural tectum decks can be a problem if they get wet. It appears that the gym originally had a lowered ceiling that has been removed in one of the renovation projects. The lighting is newer high output fluorescent.

The walls are concrete block, SGFT, and tectum (for sound absorption.) The walls above the former ceiling line are unfished on the inside. It appears that large windows were removed in one of the previous renovations and replaced with EIFS. In future renovations, consideration should be given to replacing the EIFS with a translucent material that will let light in, but limit direct sunlight glare.

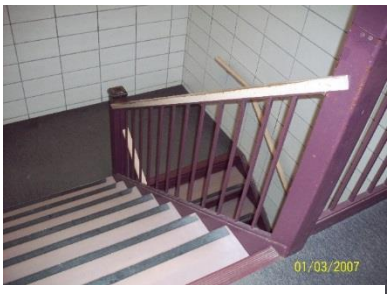
The wood floor is in good condition and assumed to be from the 1996 renovation. The floor has should have another 20-30 years of life, depending on how many re-sandings/refinishing's have taken place and how aggressive they were.

Locker Rooms. We reviewed the boys locker room only and assume the girls is in similar condition. The locker rooms appear to be in serviceable condition, but in need of upgrades if they are used. Locker rooms are typically not used for much other than changing rooms in middle schools.

For use as changing rooms, they appear adequate. The lockers are older, and most are small. There are some larger lockers available. It does not appear that there are accessible lockers or benches.

The ceiling is showing signs of moisture damage. This is likely a mechanical issue

The finishes are adequate.



Typical Stairs

Classroom Wing Corridor

Typical Gang Toilet

Wood Shop

FCS Classroom

The showers are a gang shower arrangement; typical middle school arrangements provide for more privacy.

Stairs. The stairs are generally in good condition. The walls are SGFT and floors are carpet and rubber tile. Handrails are generally in good condition. Most stairs lack guards (single rails at 42" to prevent falls.)

Corridors. The corridor at the main entry is in good condition. The ceilings are typical for the school, the walls are SGFT, and the floor is 8 x 8 ceramic tile.

The classroom corridors are typical ceiling finishes. The walls are typically a combination of lockers, SGFT, wall coverings, some tectum panels (for noise) and some corridor have clerestory lights from the corridor to classrooms. The floors are typically carpeted, condition varies by replacement date.

Generally, the corridors are in good condition. Some classroom wings have "break out" areas that would be the envy on every teacher who wants to pursue projects based and collaborative learning. See general notes regarding finish colors and wayfinding opportunities.

Toilet Rooms. The gang toilet rooms are generally in good condition with durable finishes; ceramic tile floors and walls, laminate partitions, and 2 x 4 lay in ceilings. Some toilet rooms have individual lavatories, others have gang/shop style sinks.

There are single stall faculty toilet rooms at each pair of gang toilets. There are also in good condition and are used as the accessible stalls.

Auditorium. The auditorium was difficult to assess because we did not have access to the lighting. The seating appeared original, but in relatively good condition. We suspect that as seat mechanisms fail, they will be difficult, if not impossible, to replace. The stage appears to have limited rigging for lights which should be inspected regularly.

Shops. The shops are in good condition. They have hard floors, cleanable walls, and are generally well lit.

Family and Consumer Science. The FCS Lab is in generally good condition, though dated. The casework is functional, but showing wear. The floor is a combination of carpet and sheet vinyl. The sheet vinyl seams are failing in some places

Art Room

Typical Classroom

Typical Classrooms Windows

and will eventually become a hazard. There does not appear to be any ADA accommodations in the suite. The district may want to consider adding some additional fire extinguishers to the suite.

Art Rooms. The art room is generally in good condition. The casework appears to be from the renovation and is holding up well for an art room. The finishes are generally in good condition. This is typical for an art room; every surface is covered with art work and every space that can store something is used.

Classrooms. Typical classrooms are in generally good condition with typical finishes; carpet floors, painted walls and 2 x 4 acoustic tile ceilings. The ACT is showing some sag in areas due to humidity/lack of air conditioning. The casework appears to have been replaced about 20 years ago and is generally in good condition for that vintage. Classroom display boards are white boards and in generally good condition. The windows are singe pane, with integral blinds and a storm window. These are generally in good condition, but do not offer the thermal performance of a true insulated glass unit.

Overall, the classrooms are good condition, offer views from the corridor through borrowed lights and clerestories. Unlike some buildings, the lites in doors and the sidelites are not covered with construction paper. The open areas in each wing offer excellent opportunities for pull out instruction or group projects.

1.3 ACCESSIBILITY ISSUES

Note – A further accessibility study of the facility would be required to evaluate these and other related ADA requirements.

The door hardware is generally accessible, lever style hardware and door approaches are generally large enough for accessibility. While accessibility for toilets is achieved using single stall faculty toilets, this is not ideal.

1.4 POSSIBLE IMPROVEMENTS

- Wayfinding – Adding colors to wings or floors
- Guardrail and handrails

2.0 EXISTING CONDITIONS – PLUMBING / FIRE PROTECTION / MECHANICAL SYSTEMS

COPPER FIN BOILERS

CHILLER

HOT WATER PUMPS

CHILLED WATER PUMPS

This assessment describes the existing mechanical, electrical, plumbing, and fire protection systems for the Westlake Middle School in Erie, Pennsylvania. The existing school is a two-story building (124,912 sf) and was constructed in 1958 with renovations in 1996.

2.1 HVAC SYSTEM

2.1.1 Central Heating

The school is heated by 8 modular copper fin gas fired hot water boilers. The boilers mainly appear to be in fair to good condition.

2.1.2 Central Cooling

The school is provided with chilled water from a water cooled chiller located in the mechanical room, this chiller appears to be in fair condition. Two cooling towers located on the roof with remote water sump located in the boiler room.

2.1.3 Hot Water Pumps and Distribution

Hot water is distributed through the building by two primary pumps and four secondary pumps that appear to be in fair condition. The piping is original to the building, no reported issues with this system.

2.1.4 Chilled Water Pumps and Distribution

Chilled water is distributed through the building by two pumps that appear to be in fair condition. The piping is original to the building, no reported issues with this system.

2.1.5 Air Distribution

Auditorium. Rooftop unit located above the Auditorium with air distribution ductwork located in the ceiling space above the Auditorium. The rooftop unit appears to be in fair condition.

GYMNASIUM

CLASSROOM UNIT VENTILATOR

LIBRARY

OFFICE AREA

OFFICE AREA HEATING

Gymnasium. Two rooftop units above the Gym with air distribution ductwork located in the ceiling space. The rooftop units appear to be in fair condition.

Classrooms. Horizontal recessed four pipe unit ventilators with ducted air distribution system for the interior classrooms and floor mounted four pipe vertical unit ventilators for heating, cooling, and ventilating the rooms. These units appear to be in fair condition.

Shops. Horizontal ducted unit ventilators with ducted air distribution system and a dust collection system for wood working tools. These systems appear to be in good condition.

Office Areas. Rooftop unit with ducted air distribution above the ceiling and fin-tube radiation on the perimeter for exterior skin heat loss. This equipment appears to be in good condition.

Library. Horizontal ducted unit ventilators with ducted air distribution system. These systems appear to be in good condition.

Kitchen. Rooftop unit gas fired with ducted air distribution system. Grease exhaust hoods appear to be in good condition.

2.1.6 Temperature Controls

The building has a pneumatic temperature control system throughout the building, when the building undergoes a renovation the system should be changed to an electronic control system.

KITCHEN

PLUMBING FIXTURES

JANITORIAL SINK

2.2 PLUMBING SYSTEMS

2.2.1 Existing Plumbing System

The building is serviced by a 4" domestic water service main. The piping for water distribution in the building is primarily copper piping and is in good condition.

2.2.2 Domestic Water Heating

Two gas fired high efficiency water heaters serve the building and appear to be in good condition.

2.2.3 Plumbing Fixtures and Trim

Water closets, urinals, lavatories and faucets appear to be in good condition.

2.2.4 Sanitary and Storm

Sanitary and storm piping has no reported issues.

2.3 FIRE PROTECTION SYSTEM

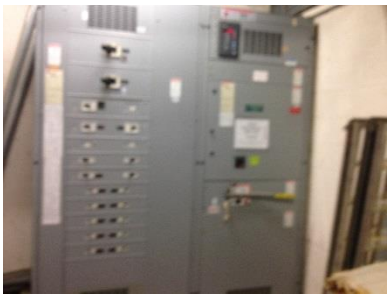
The building is served by a limited fire protection system.

3.0 EXISTING CONDITIONS ELECTRICAL SYSTEMS

3.1 ELECTRIC SERVICE

The Westlake Elementary School is currently supplied electric service by Penelec from a pad mounted utility owned transformer that is fed from overhead utility lines at the rear of the site. The service drops underground and extends to the transformer located next to the building. The utility service appears to have adequate capacity to serve the facility as no issues have occurred with the utility service or pad mounted transformer.

3.2 ELECTRICAL DISTRIBUTION



2000A WESTINGHOUSE MAIN SWITCHBOARD

The pad mounted transformer serves a 2000 amp, 277/480 volt switchboard located in a main equipment room on the lower level. The switchboard feeds two interior step down transformers to supply 120/208 volt, 3 phase power to the building, one for general power equipment loads and one dedicated to computer and electronic equipment loads. The main switchboard was manufactured by Westinghouse/Cutler Hammer in 1996, and is in good condition. It was observed to have approximately 160 amps of load per phase which indicates it has plenty of capacity to serve future loads needed in the building. There are several spares and spaces available in the switchboard and distribution panelboards for ease of connection to future loads.

3.3 EMERGENCY POWER

35KVA KOHLER EMERGENCY GENERATOR

There is one emergency generator located in the main equipment room that provides back-up power to the facility. The generator is 35kw, 277/480 volt, 3 phase, natural gas fired, was manufactured by Kohler was installed in 1996. The generator is located in the lower level of the building in the boiler room and is ducted directly to the exterior for venting. The generator is tested weekly and serviced once a year and appears to be in good operating condition. The generator should continue to be maintained yearly and tested regularly to verify proper operation.

There is one automatic transfer switch located next to the generator that transfers loads to emergency power upon loss of normal service. The transfer switch appears to be in

good condition and should be maintained and tested regularly. Although the one transfer switch was acceptable at the time of installation, current codes require the facility to have two automatic transfer switches, one designated to serve life safety type loads and one to serve optional stand-by equipment. If the transfer switch is ever replaced, it should be replaced with two units to meet the current codes.

The generator currently provides back-up power to life safety egress lighting in the building via an emergency only distribution panel. The transfer switch allows normal/emergency to be supplied to the fire alarm system, security system, IT equipment, automatic doors, and the public address system.

3.4 LIGHTING

The lighting fixtures are original to the building when renovated in 1996 and utilize T8 fluorescent lamping which are inefficient based on current lamping technologies. The light fixtures are in good condition and should be maintained and relamped as required.

Classrooms currently have recessed parabolic fixtures with three T8 fluorescent tube lamps and are dual switched to provide three levels of lighting. Consideration should be given to replacement of the fixtures with new LED type fixtures designed for LED technology that provide optimal performance, the ability to dim fixtures to provide only the required light levels for the task and to provide the most energy savings. See Executive Summary, Section 2.6 Classroom Lighting.

Site lighting consists of metal halide wallpacks mounted on the building, metal halide pole mounted fixtures in parking areas. The site lighting is currently controlled by programmable relay panels and these should be maintained to provide light at needed times only.

Lighting control within corridors, vestibules, canopies, cafeteria, and restrooms is accomplished by the circuits being connected to a programmable relay panel allowing time schedule control. Master override switches are located within the Administration office. Lighting control within the building interior rooms is primarily accomplished by manual lighting switches located at entrances to rooms or areas with occupancy sensors to turn lights off when rooms are unoccupied to increase energy savings in selected rooms.

3.5 EMERGENCY FIXTURES

Emergency lighting is provided throughout the building's egress paths, assembly spaces, equipment rooms, and stairwells and utilize dedicated lighting fixtures supplied from the emergency electrical system. The emergency fixtures are directly connected to the emergency lighting circuits supplied from the emergency generator.

Exit signs are LED type fixtures connected to the normal emergency power system.

3.6 FIRE ALARM SYSTEMS

FCI FIRE ALARM CONTROL PANELS

An addressable FCI fire alarm system presently provides fire alarm protection to the building with the main panel being located on the lower level of the school. Addressable initiating devices (pull stations, smoke detectors, sprinkler system tamper and flow switches, and duct detectors) are located throughout the building. Fire alarm notification appliances (horns and strobes) are also located throughout the building. There are no fire alarm notification appliances in classrooms and other educational spaces.

The fire alarm system was installed in the 1996 renovations. The system should be tested regularly and serviced as required for proper operation.

3.7 TELEPHONE/DATA CABLING

The facility has a central MDF data network closet that house patch panels and server equipment. Data cabling from the closets to workstations is category 5e cabling with outlets located at designated staff and teacher locations, select student locations, computer labs and to wireless access points located in the ceilings throughout the space. The cabling meets current standards and internet access meets the needs of the facility.

The current phone system is a Cisco phone system that consists of category 3 telephone cabling wired to punchdown blocks located in the data closets. A central phone switch connects the phones to the utility access to outside lines.

3.8 SECURITY

Currently there is a Kerri access control system that provides for authorized access to designated entrances of the facility. The building is locked down once students are in school and authorized access only is permitted. A keypad to control system is located at main entrance with motion detectors and door contacts to monitor the facility.

There is an intercom station at the main entrance for visitors to communicate with the Administration office to allow authorized entry of visitors.

An IP CCTV camera system exists at the facility with cameras located around the building to monitor corridors, entrances, and stairwells. The system is capable of being monitored in the Administration and district admin areas.

3.9 PUBLIC ADDRESS SYSTEM

A Dukane public address system exists in the building with a master control cabinet located in a data closet on the first floor. There are call-in stations with wall mounted speakers for communication back to the administration suite. Speakers exist in public areas and corridors for paging and class change tones.

The system includes a master clock system with analog clocks in classroom and other educational spaces tied to the central controller for time correction. Clocks are a mix of Dukane and American manufacturers.

Local sound systems exist in the auditorium and gymnasium for sound amplification during events held in those spaces.

3.10 CATV/AV DISTRIBUTION SYSTEM

A CATV cable distribution system exists throughout the building to distribute TV signal from local cable TV company and also form the local in-house broadcast studio for announcements. However, several of the TV's located in educational spaces to receive the signal have been removed. One enhancement for more effective use of the system could include equipment to distribute the signal over the facility network to be broadcast on the in-room projectors and whiteboards. Several of the classrooms are already equipped with ceiling mounted projectors and

whiteboards for video presentations of instructional material to students.

3.11 LIGHTNING PROTECTION SYSTEM

No Lightning protection exists on the school and no issues have been indicated due to lightning.

Westlake Middle School

February 8, 2019 Age: 1958, renovations/additions: 1970, 1996

Approx. SF: 124,912

Description	Existing Conditions	Age of Asset	Remaining Life Expectancy	Recommendations	Short Term 1-3 years	Mid Term 3-5 years	Long Term 5-10 years	Projects Upgrades	Maintenance Operations
					3	2	1		0
Architectural									
Replace guardrails and handrails at stairs	The guardrails and the handrails in the stairs do not meet current building codes			Modify or replace the guardrails and handrails				$100.00 LF	
Improve Wayfinding	This large school has no variation of color to help establish awareness as to your location in the building			Add different color (paint) to areas of the building				$1.00 SF	
Roofing issues	The roofing is out of warranty and leaking issues.	1996		The district is considering having the roof sealed or a cap sheet to gain a 10 year warranty. The leaks will need to be investigated.					X
Mechanical									
Building Mechanical Systems Upgrades	The existing HVAC and plumbing systems should be upgraded	31 years old	0 years	Replace existing systems.				$4,000,000	
Electrical									
Emergency Generator	The existing emergency generator is a 20kw natural gas generator manufactured by Kohler connected to the distrbution system via one automatic transfer switch which provides back-up power to egress lighting and select equipment. The generator is original to the building construction	21 years	9-10 years	Maintenance existing generator, change all fluids yearly and provide regular testing to ensure proper operation.					$2,500
Classroom Lighting Fixture Replacement	Existing classroom and large group instruction lighting fixtures are primarily fluorescent fixtures in variuos styles with T8 lamps and electronic ballasts.	19 years		Fixtures are original to the 1996 renovation and have T8 lamps and electronic ballasts. Consideration should be given to replace existing fixtures with new LED technolgy for optimal energy savings, better lighting performance and reduced maintenance costs. Cost is indicated to replace classroom lighting with LED dimmable lights with occupancy sensor control.				$215,000	
Totals					**$ -**	**$ -**	**$ -**	**$ 4,215,000**	**$ 2,500**

Existing Conditions Assessment –

McDowell Intermediate School

February 23, 2018

Table of Contents

1.0 EXISTING CONDITIONS – SITE AND ARCHITECTURAL

NOT AN "AT GRADE" EXIT

This assessment describes the existing site and architectural systems for the McDowell Intermediate High School in Erie, Pennsylvania. The existing school is a two-story building with a partial basement and was constructed in 1972.

Constructed: 1972

Renovations/Additions: 1989, 2014

Site Area: 14

Building Area: 345,521

PDE Capacity: 1,566

Grade Levels Served: 9 & 10

DAMAGED PAVING

1.1 SITE

The sidewalks are generally in good condition. There are some exits to grade where there is concrete slab as a transition to grade that does not meet ADA requirements.

The asphalt paving varies in condition. Some areas show enough deterioration to indicate subgrade failure. Monies should be budgeted for limited replacement.

The retaining wall at the main entry is failing and should be repaired or replaced. Exterior handrails are rusting and bent in places and should be scheduled for repair or replacement.

FAILING WALL AND RUSTING HANDRAIL

The storm water system appears to be in working and in good condition. Maintenance agreements should be reviewed to confirm the district is meeting its responsibilities.

The yards and plantings appear to be in good condition.

1.2 ARCHITECTURAL

AERIAL VIEW

ROOF DRAINAGE ISSUES

RUSTING COLUMNS

Summary

McDowell Intermediate is a typical large open plan classroom school of the early '70's. The building was originally constructed in 1972 and its configuration is typical of that era. As that teaching method failed or fell out of favor, these buildings were typically subdivided into more traditional closed classrooms. At McDowell Intermediate, that separation is made by demountable or movable partitions that have since become permanent. The result is a hodgepodge of classroom sizes and configurations, classrooms without windows, sound transmission issues between classrooms, and confusing circulation.

The district seems to have adapted to the configuration issues at MIHS, but the configuration is far from ideal for current teaching methods.

The lower level support and loading areas are impressive, but the idea of bringing delivery trucks into the building is not consistent with our current safety concerns.

Overall, the building like most of the district's buildings, are in very good condition.

Exterior

The exterior is primarily brick and in good condition. There are areas of staining on the brick, some are simply cosmetic, but others indicate roof drainage issues that will eventually lead to water infiltration.

There are some exposed exterior columns that are rusting. These should be addressed. The issue appears cosmetic, but deterioration at the base is a concern and structural review may be warranted.

STAINED BRICK

UPPER LEVEL CORRIDOR

CLASSROOM

CORRIDOR

The windows are in good condition for their age, but the glass is not insulated. Operable windows do not typically have screens.

Roof

Several roofing systems 180,000 S.F. total

Sandfil Roofing – Installed in 2002, 15 year warranty.

Built Up Roofing – Installed in 2006

EPDM – Seal coated in 2014

0.90 EPDM on canopies

Possible total roofing replacement in 5 years

Interiors

The interior finishes are typical for Millcreek School District; floors are primarily carpet, walls are painted or have wall coverings, and ceilings are acoustic panels. The finishes are well maintained, and the district follows a replacement schedule for the carpeting.

Doors. Classroom doors are typically solid core, oak veneer with solid transoms. The glass configuration of the doors varies. Most doors have significant sidelites. These sidelites and the glass in the doors are typically covered for privacy and security. There are also vents in a number of the doors which may be a current code concern.

The doors generally meet ADA clearance requirements, but the hardware is not ADA compliant.

Ideally, in a renovation, the doors and sidelites would be replaced due to the security and privacy concerns, but the large amounts of glass are the only visual relief in the classrooms without exterior windows.

Lockers. The lockers are generally in good condition.

Administration. The administrative offices are located on the second floor and in the middle of the building. Ideally, administration is located at the main entry to the building for safety and security reasons.

KITCHEN

CAFETERIA

LIBRARY

The suite appears adequate for the building's needs. The finishes are in good condition, though the finishes and furniture are not very institutional.

The buildings' elevator is in the office area of the administration suite, which is not conducive to its use.

Kitchen and Cafeteria. The kitchen is a full prep kitchen located in the basement with access to the lower level loading docks. It appears in relatively good condition. We did not assess the kitchen equipment.

The wall insulation in the walk-in coolers is saturated and effects the performance of the refrigeration system.

The cafeteria is on the main floor in the center of the building. There is a smaller prep area on the main floor. An elevator delivers the food from the kitchen. The open cafeteria area is more consistent with modern dining areas. The open plan allows for eating, socializing, and the area is open for activities before, between, and after classes. It can also function as an extended lobby for auditorium use.

Library. The library is located on the first floor in the middle of the building. It is a combination of single story and areas open to the second floor. The office area is open to the rest of the library.

The finishes are in good condition and the furniture and fixtures are adequate.

The entire library area, however, is dated and does not integrate technology. If the building was to be renovated, the library should receive a complete redo.

Gymnasium. The gymnasium is in relatively good condition. Overall, however, the gym does not seem adequate for a school of this size. We would expect more of a competition level gym. Clearances at the ends of court is excellent.

WOODEN BLEACHERS

The gym floor area is large and in good condition, but the bleachers are original and likely do not meet current code requirements for aisles. Side guards have been added to the bleachers. The floor is wood and likely original. It appears to have been recently refinished. At nearly 50 years old, the floor will likely not survive another sanding.

Some of the doors in the gym have been replaced. Others need replacement.

The ceiling is tectum. It is fairly abuse resistant and does a good job reducing sound. There are other acoustically absorbent surfaces in the gym.

GYM OFFICE

The lockers are large and in generally fair condition. The observation from the coaching/teaching offices into the locker areas is good. The men's showers are typical gang showers. The floors are ceramic tile and generally in good condition.

The locker configuration does not allow for separate team rooms for competition purposes.

The locker room is in similar condition and configuration, though the natatorium locker room is showing limited signs of some moisture issues.

GANG SHOWERS

Natatorium. The natatorium was recently renovated and in very good condition. There is no ADA accessibility to the pool deck.

The guard from the upper level to the lower level does not meet current codes.

NON-COMPLIANT RAILING AT POOL

NON-COMPLIANT STAIR RAILING

STAIR TOWER

NON-COMPLIANT RAILING

NARROW CORRIDOR TO TOILETS

Stairs. The enclosed exit stairs are generally in good condition. The guards and handrails, however, do not meet current codes. The guards should be 42" high, the guard rail pickets should be spaced so that a 4" sphere cannot pass through, and handrails should be 34-36" high. One stair well had a masonry crack, but it appeared to be a settlement crack that is no longer moving. This should, however, be monitored. The separations of these stair towers from the adjacent corridors are primarily glass and do not meet current codes for fire separation.

The intercommunicating stairs in the center of the building are also in good condition, but do not meet current codes for handrails and guards.

The building's only elevator is in an awkward position and not accessible to the general population. We realize that schools generally limit elevator use by the general student body, but increased travel distance and limited accessibility is not in compliance with the spirit of ADA legislation.

Toilet Rooms. The student accessible toilets throughout the building are generally in good condition with appropriate fixtures and finishes. The fixtures are generally not water conserving fixtures. Some of the ceramic tile is cracked is poor condition, but these areas are limited.

The toilet rooms are generally accessible once you get into the rooms. Access into many of the toilet rooms does not meet ADA clearance requirements.

Auditorium and Stage. A program was going on during our site visit, so we did not take any pictures.

TOILETS

METAL SHOP

ART

LGI

The auditorium seating appeared in good condition. Visibility was good. The overall acoustics seemed lively during the presentation that was going on when we were there. Additional acoustic treatment may be warranted. The carpet appeared in good condition.

We were not able to get on the stage, but understand that the rigging is in need of replacement.

Overall ADA access is questionable. The main doors were pairs of 2'-6" doors. Both doors would need to be open to meet ADA access requirements. We did not see any ADA seating.

Wood, Metal, Tech Shops, and Home Economics. These areas were in good condition, though accessibility requirements were not met.

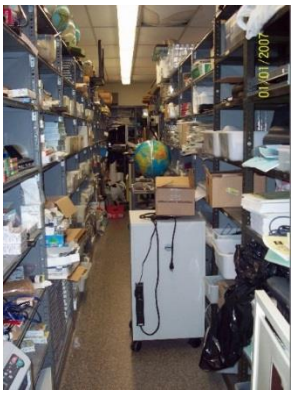
FCS

Art Rooms. The art rooms were generally very crowded and show wear. The casework varies in condition, but is generally showing its age. Accessibility is an issue.

LGI's. The large group instruction areas were generally large with tiered seating. The stairs lacked handrails. They are not accessible. Much of the technology has been retrofitted. Generally, they are serviceable, but could be upgraded to provide a more modern teaching space.

Sciences. The science rooms were all in good condition. The general arrangements were serviceable, but not necessarily state of the art. Separate storage areas are provided. Accessibility is a concern.

SCIENCE



SCIENCE STORAGE

CLASSROOM

TV Studio. The TV studio in the lower level is a makeshift space used for the program. It is in a relatively isolated part of the building. It seems functional, but it is not in an appropriate space.

RAMP AT TV STUDIO

TV STUDIO

Classrooms. As noted in the summary, the classrooms are generally the result of "space available" to be separated in to individual rooms resulting in odd shaped rooms, inconsistent sizes and layouts, and retrofitted casework, teaching stations, and markerboards. On one hand, this does provide a variety of teaching venues, but there is no real rhyme or reason to what's available where.

CLASSROOM

CLASSROOM

1.3 ACCESSIBILITY ISSUES

Note – A further accessibility study of the facility would be required to evaluate these and other related ADA requirements.

See narrative of individual spaces.

1.4 POSSIBLE IMPROVEMENTS

We did not get a chance to speak with the administration about specific "wish list" items. It is clear to us, however, that the administration and staff have done an excellent job keeping the building in good condition and working within the limits of what they have. There is no good answer to this building. It is in such good condition it would be difficult to justify demolishing the building to build a new school with an appropriate layout. As explored in 2013, consolidating the MIHS with the High School or renovating the MIHS is a daunting task.

- Wayfinding
- Accessibility upgrades
- Stair guardrail / handrail

2.0 EXISTING CONDITIONS – PLUMBING / FIRE PROTECTION / MECHANICAL SYSTEMS

HEATING BOILER

WATER CHILLER

WATER CHILLER

This assessment describes the existing mechanical, electrical, plumbing, and fire protection systems for the McDowell Intermediate High School in Erie, Pennsylvania. The existing school is a two-story building (345,521 sf) with a partial basement and was constructed in 1972. Equipment was replaced in 1989 when the building was renovated.

2.1.1 Central Heating

The school is heated by 2 "Cleaver Brooks" packaged fire tube gas fired hot water boilers. The boilers are approximately 29 years old and appear to be in fair condition. These boilers are also used for domestic hot water heating but in the summer time there is one small boiler for domestic water heating. Replacement of the existing boilers is recommended due to age and efficiency.

2.1.2 Central Cooling

The school is provided with chilled water for air conditioning by 2 Trane "CentraVac" 300 ton centrifugal water chillers. The chillers are approximately 29 years old. The chillers use refrigerant R-11 which is currently not produced anymore. The chillers should be considered for replacement with newer higher efficiency centrifugal chillers with newer environmentally friendlier refrigerants. The building cooling towers were installed at the same time as the chillers and are in fair condition. Condenser water pumps appear to be in fair condition.

2.1.3 Hot Water Pumps and Distribution

Hot water is distributed through the building by two primary pumps that appear to be in fair condition. The piping is original to the building, no reported issues with this system.

PUMPS

PUMPS

2.1.4 Chilled Water Pumps and Distribution

Chilled water is distributed through the building by two pumps that appear to be in fair condition. The piping is original to the building, no reported issues with this system.

2.1.5 Air Distribution

Cafeteria. Horizontal indoor air handlers which provide heating and ventilating for the Cafeteria are approximately 29 years old and should be considered for replacement. Air distribution ductwork is located in the ceiling space above the Cafeteria.

Gymnasium. The Gym is served by 4 heating and ventilating units which appear to be in fair condition. These units are approximately 30 years old and should be considered for replacement.

Auditorium. The Auditorium is served by 2 heating and ventilating units which appear to be in fair condition. These units are approximately 29 years old and should be considered for replacement.

Classrooms. The classrooms are heated and cooled by dual duct air handlers with hot water and chilled water coils. Hot and cold air is distributed via supply ductwork to dual duct boxes that serve each classroom. The dual duct boxes are in need of repair and due to their age parts are not available. The system should be considered for replacement.

Library. The classrooms are heated and cooled by dual duct air handlers with hot water and chilled water coils. Hot and cold air is distributed via supply ductwork to dual duct boxes that serve each classroom. The dual duct boxes have been in a state of disrepair and due to their age parts are not readily available. The system should be considered for replacement.

NATATORIUM AIR HANDLER

POOL MECHANICAL ROOM CEILING

Kitchen. Hoods are served with a supply fan with untreated make-up air with ducted air distribution system. Grease exhaust hoods appear to be in fair condition.

Natatorium. The Natatorium is served by central station air handling units located on the mechanical mezzanine alongside the pool. The air handlers and ductwork are approximately 30 years old and should be high on the priority list for being replaced. These return air grilles are in a position stationed over the top of the pool that makes them very difficult to clean and they are plugged with dirt which is causing the pool area to be under positive pressure. The pool should be under a slightly negative pressure to control humidity, condensation, and exfiltration of chloramines from pool water treatment. Tag air handler room has lay-in ceiling which is in poor condition from the moisture and humidity.

Administration. The administration area is served by two Trane rooftop variable air volume air handling units with hot water and chilled water coils and VAV terminal units providing temperature control of the offices. The air handling units appear to be in poor condition and should be replaced.

Wood Shop. The dust collection system appears to be in poor condition

Building Air Systems – these systems serve multiple areas in the building

- Nine dual-duct units, tagged AC-1 through AC-9, approximately 29 years old and parts for dual duct boxes are not available readily.
- Six multi-zone units, tagged AC-10, 15, 16, 17, 18, 19, these units appear to be in fair condition but due to their age should be considered for replacement.

DUST COLLECTION SYSTEM

TEMPERATURE CONTROLS

DOMESTIC WATER HEATER

- Four single zone units, tagged AC-11, 12, 13, 14, these units have hot water and chilled water coils and provide heating and cooling for four areas of the building. These units are aged and should be considered for replacement.
- Heating and Ventilating units, tagged HV-6,7,13,14,15,16 are approximately 29 years old and should be considered for replacement.
- Two H&V units serving the locker rooms, tagged HV-5 & 10 are approximately 29 years old and should be considered for replacement.

2.1.6 Temperature Controls

The District standard control system is Johnson Controls/Metasys. The control system is pneumatic and is original to the building, installed in 1972. The head end of the control system is DDC so some of the central equipment can be monitored at the main computer system. The control system should be considered to be replaced with all DDC controls when the building systems undergo a renovation to new.

2.2 PLUMBING SYSTEMS

2.2.1 Existing Plumbing System

No reported issues with the sanitary and storm drainage systems in the building.

- 8" sanitary main to street
- 8" municipal water main to fire protection and domestic water services
- 8" domestic water service
- 21", 18", and 8" storm from municipal connections

2.2.2 Domestic Water Heating and Service

Two domestic water heaters and storage tank for summer time hot water and in the winter-time the main heating boilers are used to generate domestic hot water for the facility. The water heaters are aged and should be considered for replacement. The pool water heater is in poor condition and should be replaced.

POOL WATER HEATER

WALL MOUNTED URINALS

WALL MOUNTED WATER CLOSET

2.2.3 Natural Gas

- 8" gas service to the building.

2.2.4 Plumbing Fixtures and Trim

Wall mounted flush valve water closets and urinals appear to be in good condition. Wall hung sinks in the Gang toilets are vitreous china and appear to be in good condition.

2.2.5 Sanitary

Cast iron sanitary piping is in satisfactory condition, no reported issues with drainage.

Kitchen Equipment:

Full service kitchen with range exhaust hood and dishwasher exhaust, hoods have a "Ansul" system for fire protection. Gas piping has a solenoid valve installed per current code for emergency shut off. Mechanical equipment is approximately 29 years old and should be considered for replacement.

Full service kitchen in basement area. (Cafeteria above, on first floor).

2.3 FIRE PROTECTION SYSTEM

Fully sprinklered building. Four hydrants on-site, each with 8" service from 8" water main.

3.0 EXISTING CONDITIONS ELECTRICAL SYSTEMS

3.1 ELECTRIC SERVICE

MAIN SERVICE SWITCHBOARD

The McDowell Intermediate School is currently supplied electric service by Penelec from a pad mounted utility owned transformer that is fed from overhead utility lines along the edge of the site. The service drops underground and extends to the transformer located next to the building. The utility service appears to have adequate capacity to serve the facility as no issues have occurred with the utility service or pad mounted transformer.

3.2 ELECTRICAL DISTRIBUTION

The pad mounted transformer serves a 4000 amp, 277/480 volt switchboard located in a main equipment room on the lower level. The switchboard has three main switches. Two 800 amp switches that feed the chillers and a 2000 amp switch that feeds the building main service panel. The switches are fusible Pringle switches and the board was installed in 1989 when the facility was converted from on-site cogeneration to utility power. The switchboard was manufactured by Westinghouse and is in good condition. The load on the 2000 amp building switch was observed to be 815 amps which indicates the service has adequate capacity to serve the facility.

ORIGINAL SERVICE SWITCHBOARD WITH ABANDONED EQUIPMENT

The original building main service switchboard is located in the main equipment room and is still in operation as a distribution switchboard for service to the building power. The facility previously had on-site cogeneration generators that tied into the main switchboard via paralleling equipment and main generator switches that have been abandoned in place. The distribution section is still active for power distribution to distribution equipment within the facility. Recommendation should be considered to remove the original equipment that is abandoned or being used for distribution and replaced with a new 20004 switchboard for reliability, ease of maintenance and a clearer installation of the operation of the equipment.

ORIGINAL SERVICE SWITCHBOARD WITH ABANDONED EQUIPMENT

A motor control center located in the boiler provides power and controls to mechanical equipment in the main equipment room. The motor control center is rated at 600 amps, 277/480 volts, was manufactured by Westinghouse, and is original to the building when constructed in 1972. The control center contains 21 full load starters and five empty or abandoned spaces. The starters are in poor condition with several of the operation handles broken which creates a hazard to operate the starter. Consideration should be to upgrade the motor control center with one of two possible options.

- Option 1: Replace with a new motor-control center in place with integral combination starters/fusible disconnect switch. Loads should be rated and controls upgraded and integrated to the building control system.
- Option 2: Replace the motor control center with a new distribution panelboard with molded case circuit breakers sized for protection of each load. Variable frequency drives should then be added to each load and connected to the building control system to control the motors to operate at the required load thus reducing energy costs. The frequency drives and controls should be included as a mechanical system upgrade.

POOL EQUIPMENT ROOM PANELBOARD

Distribution and branch panelboard throughout the facility are mostly original to the building construction and are in fair to poor condition, lack capacity for any upgrades and replacement parts will become harder to obtain. The branch panelboard in the pool equipment room has deteriorated due to environmental conditions in the space.

3.3 EMERGENCY POWER

CATERPILLAR DIESEL EMERGENCY GENERATOR

There is one emergency generator located in a basement equipment room that provides back-up power to the facility. The generator is 125kw, 277/480 volt, 3 phase, diesel, was manufactured by Caterpillar and was installed in 1984 when cogeneration was eliminated. A diesel fuel tank is located next to the generator with a pump to fill a daytank that supplies fuel to the engine. The generator is tested weekly and serviced once a year and appears to be in fair operating condition. The generator should continue to be maintained yearly and tested regularly to verify proper operation.

There is one automatic transfer switch located next to the generator that transfers loads to emergency power upon loss of normal service. The transfer switch appears to be in good condition and should be maintained and tested regularly. Although the one transfer switch was acceptable at the time of installation, current codes require the facility to have two automatic transfer switches, one designated to serve life safety type loads and one to serve optional stand-by equipment. If the transfer switch is ever replaced, it should be replaced with two units to meet the current codes.

The generator currently provides back-up power to life safety egress lighting in the building via an emergency only distribution panel. The transfer switch allows normal/emergency to be supplied to the fire alarm system, security system, IT equipment, and the public-address system.

3.4 LIGHTING

The majority of the lighting fixtures are original or were upgraded and utilize T8 fluorescent lamping which are inefficient based on current lamping technologies. The light fixtures are in good condition and should be maintained and relamped as required.

Classrooms currently have surface mounted lensed fixtures with one T8 fluorescent tube lamps. Consideration should be

given to replacement of the fixtures with new LED type fixtures designed for LED technology that provide optimal performance, the ability to dim fixtures to provide only the required light levels for the task and to provide the most energy savings. See Executive Summary, Section 2.6 Classroom Lighting.

Site lighting consists of metal halide wallpacks mounted on the building, high pressure sodium pole mounted fixtures in parking areas. The site lighting is currently controlled by timeclocks; these should be maintained to provide light at needed times only.

Lighting control within the building interior rooms is primarily accomplished by manual lighting switches located at entrances to rooms or areas. Any upgrades to lighting fixtures should include adding automatic controls in individual rooms such as occupancy sensors to turn lights off when rooms are unoccupied to increase energy savings.

3.5 EMERGENCY FIXTURES

Emergency lighting is provided throughout the building's egress paths, assembly spaces, equipment rooms, and stairwells and utilize dedicated lighting fixtures supplied from the emergency electrical system. The emergency fixtures are directly connected to the emergency lighting circuits supplied from the emergency generator.

Exit signs are LED type fixtures connected to the normal emergency power system.

3.6 FIRE ALARM SYSTEMS

An addressable Simplex fire alarm system presently provides fire alarm protection to the building with the main panel being located on the lower level in the main MDF room. Addressable initiating devices (pull stations, smoke detectors, sprinkler system tamper and flow switches, and duct detectors) are located throughout the building. Fire alarm notification appliances (horns and strobes) are also located throughout the building.

The fire alarm system was installed in a recent renovation and meets the current needs of the facility. The system should be tested regularly and serviced as required for proper operation.

An old Simplex zone panel is located in the emergency power room and appears to be abandoned and should be removed.

3.7 TELEPHONE/DATA CABLING

TELECOMMUNICATIONS SERVICES – POOL EQUIPMENT ROOM

The facility has one main data network closets that house patch panels and server equipment. Intermediate network closets are interconnected with fiber optic cable and are connected via a demark location to utility internet access. Data cabling from the closets to workstations is category 6 cabling with outlets located at designated staff and teacher locations, select student locations, computer labs and to wireless access points located in the ceilings throughout the space. The cabling meets current standards and internet access meets the needs of the facility.

There are currently connections (fiber, telephone and CATV) that extend from the intermediate school to the high school and athletic stadium. The services are installed in a 6-way, 4" conduit duct bank that enters the intermediate school in the pool equipment room and extend inside the building to the main data closet. The services appear operational, however the duct bank and pull box have deteriorated and water is entering the building through the conduits. This condition should be corrected in the near future to maintain integrity of the connections and eliminate the water entering the pool room. A corrosion resistant pull box should be installed and the duct bank investigated for extent of replacement and repair to prevent water infiltration.

The current phone system is a Cisco phone system that was installed in the 2014 renovations and consists of category 3 telephone cabling wired to punchdown blocks located in the data closets. A central phone switch connects the phones to the utility access to outside lines.

3.8 SECURITY

Currently there is a Kerri access control system that provides for authorized access to designated entrances of the facility. The building is locked down once students are in school and authorized access only is permitted. The connecting corridor entrance to the high school is unlocked during class changes and entrance and exit is monitored by security personnel.

An IP CCTV camera system exists at the facility with cameras located around the building to monitor corridors, entrances and stairwells. The system is capable of being monitored in the administration and district admin areas.

3.9 PUBLIC ADDRESS SYSTEM

A Dukane public address system exists in the building with a master control cabinet located in the administration offices. There are call-in stations with recessed ceiling speakers for communication back to the administration suite. Speakers exist in public areas and corridors for paging and class change tones.

The system includes a Simplex master clock system with analog clocks in classroom and other educational spaces tied to the central controller for time correction.

Local sound systems exist in the auditorium and gymnasium for sound amplification during events held in those spaces.

3.10 CATV/AV DISTRIBUTION SYSTEM

A CATV cable distribution system exists throughout the building to distribute TV signal from local cable TV company and from the local in-house broadcast studio for announcements. However, several of the TV's located in educational spaces to receive the signal have been removed. One enhancement for more effective use of the system could include equipment to distribute the signal over the facility network to be broadcast on the in-room projectors and whiteboards. Several of the classrooms are already equipped with ceiling mounted projectors and

whiteboards for video presentations of instructional material to students.

A TV studio is located in the basement with studio lighting system with a control board in control room and recording and broadcasting equipment. In-house recordings can be distributed over the CATV cable to classrooms and areas with televisions.

3.11 LIGHTNING PROTECTION SYSTEM

No lightning protection exists on the school and no issues have been indicated due to lightning.

McDowell Intermediate School

February 8, 2019 Age: 1972, renovations/additions: 1989, 2014

Approx. SF: 345,521

Description	Existing Conditions	Age of Asset	Remaining Life Expectancy	Recommendations	Short Term 1-3 years	Mid Term 3-5 years	Long Term 5-10 years	Projects Upgrades	Maintenance Operations
					3	2	1		0
Architectural									
Wayfinding	This large school has no variation of color to help establish awareness as to your location in the building.			Add different color (paint) to areas of the building				$1.00 SF	
Stair guardrail / handrail	The guardrails and the handrails in the stairs do not meet current building codes			Modify or replace the guardrails and handrails				$100.00 LF	
ADA accessible toilets	Current toilet facilities do not comply with current ADA requirements			Renovate toilet rooms and access corridors to provide ADA facilities				$250.00 SF	
ADA accessible door hardware	Current door hardware does not comply with current ADA requirements			Replace door hardware to provide ADA lever hardware				$300.00 /DOOR	
ADA accessible sidewalks	Several door exits to grade do not comply with current ADA requirements			Add concrete landings and ramps to existing sidewalks to meet current building codes				$100.00 SF	
Roofing issues	Several roofing systems. The Sarna-fil roofing area is out of warranty. The built-up and the EPDM potiions are still under warranty.	2002		Replace or recoat the Sarna-fil roofing.					X
Mechanical									
Boilers	Existing Cleaver Brooks gas fired hot water boilers were installed in 1989	29 years old	1-5 years	Although the boilers have been well maintained and are at the end of their useful life and ashould be replaced		$300,000.00			
HVAC systems	Existing heating, cooling, and ventilation systems throughout the building are in fair to poor condition.	29 years old	1-3 years	Consideration should given to the complete replacement of mechanical systems including temperature controls throughout due to condition, age, and efficiency of this equipment.				$13,000,000	
Natatorium HVAC systems	The pool area is heated and ventilated by two air handling units with no dehumidification capability. The units are located behind the spectator area in a mechanical equipment room. This room has moisture and humidity problems and an inspection should be done by a qualified expert for the possibility of mold and mildew growth.	29 years old	0 years	This system for the pool area should be given priority for equipment replacement. The pool is starved for return air because the location of the return grilles above the pool water surface makes them difficult to keep clean.				$325,000	
Domestic water heaters	The builkding is served by the existing hot water boilers and summer time domestic water heaters	29 years old	1-5 years	The domestic hot water heaters should be replaced with a high efficiency water heater system and removed from the central boiler plant system		$ 150,000			
Mechanical Room Motor Control Center for Mechanical Equipment	Original motor control center in the boiler room to control mechancial equipment is operational but in poor condition and neared the end of it's useful life	46 years	1-3 years	Replace with a new distribution panel and feed to variable frequency drives that should be added to mechanical equipment for energy efficient operation and control of mechanical equipment. Cost inlcudes new variable frequency drives at equipment such as pumps, fans, etc. If a system wide upgrade is done then this line item can be eliminated.	$120,000				
Electrical									

McDowell Intermediate School

February 8, 2019 Age: 1972, renovations/additions: 1989, 2014

Approx. SF: 345,521

Description	Existing Conditions	Age of Asset	Remaining Life Expectancy	Recommendations	Short Term 1-3 years	Mid Term 3-5 years	Long Term 5-10 years	Projects Upgrades	Maintenance Operations
					3	2	1		0
Emergency Generator	The existing emergency generator is a 125kw diesel generator manufactured by Caterplillar connected to the distrbution system via one automatic transfer switch which provides back-up power to egress lighting and select equipment. The generator was installed in 1989 when the co-generaion was eliminated..	29 years	5 years	Maintenance existing generator, change all fluids yearly and provide regular testing to ensure proper operation.					$2,500
Emergency Generator	The existing emergency generator is a 125kw diesel generator manufactured by Caterplillar connected to the distrbution system via one automatic transfer switch which provides back-up power to egress lighting and select equipment. The generator was installed in 1989 when the co-generaion was eliminated..	29 years	5-10 years	Plans should be consisdered for replacement of existing generator to maintain reliability and to be brought up to current codes. Generator should be upgraded to 125kw to allow connection of additional equipment			$300,000		
Classroom Lighting Fixture Replacement	Existing classroom and common area lighting fixtures are primarily fluorescent fixtures in variuos styles with T8 lamps and electronic ballasts.	30+ years	5 years	Fixtures are original to the building construction and have T8 lamps and electronic ballasts. Consideration should be given to replace existing fixtures with new LED technolgy for optimal energy savings, better lighting performance and reduced maintenance costs. Cost is indicated to replace classroom lighting with LED dimmable lights with occupancy sensor control.				$360,000	
Main switchboard	Original main switchboard with co-generation switches, parrelling gear and distribution sectionis being used a distribution switchboard with the co-generation and paralleing equipment abandoned. The equipment is old and with all the abandoned devices is difficult to maintain and operate	46 years	5 years	Original switchboard shall be removed and replaced with a distribution switchboard with molded case switches.		$200,000			
Distribution panels and branch panels	Most of the distribution equipment outside of the main electrical room is original to the facility and is Westinghouse equipment that has neared the end of it's useful life.	46 years	5 years	Replace the existing distribution equipment and branch panels with new distribution panels, transformers and branch panel boards.					
Mechanical Room Motor Control Center	Original motor control center in the boiler room to control mechancial equipment is operational but in poor condition and neared the end of it's useful life	46 years	1-3 years	Replace with a new motor control center and integral fusible motor control switches for control of mechanical equipment.	$120,000				
Mechanical Room Motor Control Center	Original motor control center in the boiler room to control mechancial equipment is operational but in poor condition and neared the end of it's useful life	46 years	1-3 years	Replace with a new distribution panel and feed to variable frequency drives that should be added to mechanical equipment for energy efficient operation and control of mechanical equipment. Cost inlcudes new distribution panel and feeding variable frequency drvives installed as part of a	$80,000				
Pool room panels	Pool equipment room panel is in poor condition due to atmoshere conditions in the space.	46 years	1-3 years	Replace the pool panel and associated branch circuits in the pool equipment room.	$20,000				
Pullbox and Telecom pathways to High School	Existing 6 way 4" ductbank from intermediate school to high school has deteriorated and is allowing water to enter the intermediate school pool equipment room.		0 years	Replace the deteriorated portion of the ductbank and the pullbox in the pool equipment room. The pullbox should be a non-corosive type. Investigation of the underground system should be done to determine the extent that the ductbank would need to be replaced.	$50,000				
Totals					**$ 240,000**	**$ 650,000**	**$ 300,000**	**$ 13,685,000**	**$ 2,500**

Existing Conditions Assessment –

McDowell High School

February 23, 2018

Table of Contents

EXISTING CONDITIONS ASSESSMENT –

MCDOWELL HIGH SCHOOL

February 23, 2018

1.0 EXISTING CONDITIONS – SITE AND ARCHITECTURAL

MAIN ENTRY

WATER PONDING

OPEN, UNSECURE CONNECTOR

SECURITY WINDOW- NOT ADA ACCESSIBLE

This assessment describes the existing site and architectural systems for the McDowell High School in Erie, Pennsylvania. The existing school is 3 stories.

Constructed:	1953
Renovations/Additions:	1961, 1965, 1988, 2014
Site Area:	22 Acres
Building Area:	203,734 sf
PDE Capacity:	1,539
Current Enrollment:	1,100 – 1,200
Grade Levels Served:	11 & 12

1.1 SITE

Paving. The parking areas and roadway areas asphalt paving are in good condition.

Sidewalks. The concrete sidewalks are in good condition. However, it was noticed that the curb cuts are not at an accessibility slope nor do they have the tactile warning areas.

Storm Water and Drainage. It was mentioned that the drainage works properly except for an area at the front entry which ponds water.

The yards and plantings appear to be in good condition.

1.2 ARCHITECTURAL

Summary

The building was originally constructed in 1953 with major additions / renovations in 1961, 1965, 1988, and 2014. There were other minor alterations in its history as well. The current walk through revealed a building that has had a recent interior finishes update and is apparently in good condition and is well maintained. The most outstanding architectural issues are areas that do not comply with current accessibility standards (ANSI A117.1).

EXISTING CONDITIONS ASSESSMENT –

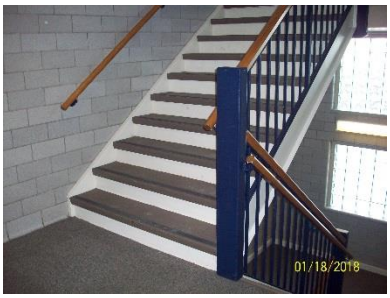
MCDOWELL HIGH SCHOOL

February 23, 2018

STAINING ON BRICK AT ONE STORY

EGRESS EXIT – NON ADA ACCESSIBLE

TOILET STALL – NON ADA ACCESSUIBLE



NON-CONTINOUS HANDRAIL

Exterior

The exterior is brick with aluminum windows and doors. The exterior appears to be in good condition with no major issues. There are areas of the painted exterior lintels above the windows that the paint is peeling.

Roof – Several Roofing Systems

96,000 S.F. total, built up roofing with slag installed in 1998 and 2003.

No warranty EPDM – seal coated in 2014.

0.90 EPDM on canopies

Possible total roofing replacement in 5 years.

Interiors

The interior finishes (floors, walls, ceilings) were recently updated in 2014. They all appear to be in good condition. Resinous flooring is used in the entries and carpet tiles are used in the corridors and classrooms. Sheet vinyl is used in the science labs. 2 x 4 suspended acoustic tile is used throughout.

Doors. The doors are solid core wood doors in good condition but do not have ADA hardware. Most classroom doors do not have ADA clearance on the pull side of the hardware.

Lockers. The recessed metal lockers are in good condition.

Administration. The administrative offices are located near the main entry and the finishes and casework are in good condition. There is a security vestibule at the main entry with a sign-in window and electronic locks.

Cafeteria. Finishes and furniture are in good condition.

Kitchen. Full prep kitchen. Most equipment is new or like new. The only item of concern is the stove with oven. The oven is inoperative.

Library. The finishes and furnishings are in good condition. The adjacent Library Café is new.

Gymnasiums. Both gymnasiums are in good condition.

RAISED DRAIN COVER – LOWER LEVEL – TRIP HAZARD

RUSTING STAIRS – NEAR CONNECTOR ENTRY

WATER DAMAGE AT BULKHEAD IN CAFETERIA

INTERIOR DOOR WITH PAINTED DEBRIS

Stairs. Stairs are in good condition except there are ADA issues with the handrails. The handrails need to be continuous and have the proper clearances.

Toilet Rooms. The toilet rooms have glazed block walls, resinous floors, and 2x4 acoustic tile ceiling. The finishes and fixtures appear to be in good condition. However, there are ADA issues with the lack of properly sized ADA toilet stalls.

Auditorium. The auditorium is rarely used. While the floors, walls, and ceiling are in good condition, the seating is the original wood seating. There is not enough capacity to seat the entire student population. It is also not used due to poor air circulation and lingering odors.

Stage. The stage finishes, rigging, and curtains are in good condition. They were all recently replaced.

Wood Shop. Finishes and equipment appear to be in good condition.

Metal Shop. Finishes and equipment appear to be in good condition.

Home Economics. Finishes and equipment appear to be in good condition. One was recently renovated.

Art Rooms. Art rooms are in good condition. Kiln is in good condition.

Classrooms. Classrooms are in good condition with a whiteboard, chalkboard, and projector. Note: Roller blinds on the south and west classrooms are too transparent and often the sunlight is too bright for using the projector.

1.3 ACCESSIBILITY ISSUES

Note – A further accessibility study of the facility would be required to evaluate these and other related ADA requirements.

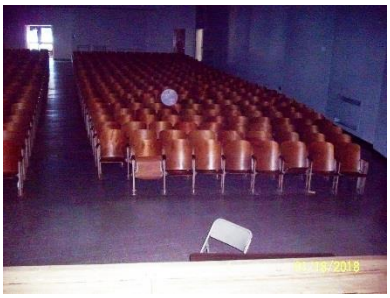
Interior door hardware is not lever hardware.

Many doors, including classroom doors, do not have accessibility clearances on the strike side of the door.

Group toilets do not have a large accessible stall.

MANY BANKS OF LOCKERS ARE CORDONED OFF

ROLLER SHADES THAT ALLOW IN TOO MUCH LIGHT



ORIGINAL SEATING IN THE SELDOM USED AUDITORIUM

The handrails in the stairwells are not continuous and need to meet ADA requirements.

The interior gym doors are pairs of 30" doors that do not meet ADA requirements. They would have to be replaced.

1.4 POSSIBLE IMPROVEMENTS

- Air conditioning
- Swipe cards instead of keys
- Auditorium – Either renovate it or repurpose it including the ancillary rooms adjacent
- Additional security gates
- Additional video surveillance
- A security system that indicates if an exterior door is open
- Improve the Channel 1 broadcast system, currently it only comes over the T.V. cable system, not over the data system
- ADA door hardware
- ADA door clearances
- ADA toilets
- Code compliant stair guardrail and handrails

2.0 EXISTING CONDITIONS – PLUMBING / FIRE PROTECTION / MECHANICAL SYSTEMS

This assessment describes the existing mechanical, electrical, plumbing, and fire protection systems for the McDowell High School in Erie, Pennsylvania. The existing school is 3 stories (243,900 square foot) and was constructed in 1961.

2.1 GAS SERVICE

The McDowell High School utilizes natural gas to heat the building. The heating boilers, domestic water boilers, emergency generator, and kitchen equipment are connected to this service.

HEATING BOILERS

2.2 HEATING PLANT

The hydronic central plant replaced the original steam system in 1988. Four "PK Mach" high efficiency boilers serve to provide hot water for heating. Two of these boilers were installed in 2014 and two in 2007. These boilers currently have issues in communicating with the Johnson Controls system and are being controlled manually. Appropriate control boards should be installed in these boilers for better control and efficiency.

2.3 AIR DISTRIBUTION SYSTEMS

Classrooms. Classrooms are served by AAF unit ventilators with pneumatic controls. The units are approximately 28 years old and are in need of replacement.

Gymnasiums. The south gym has a newer air handing unit located in an adjacent mechanical room. The north gym units are hung above the ceiling. The north gym units are installed with DX cooling coils. No condensing units have yet been installed.

Auditorium. The auditorium is served by four air handlers. The units heat and ventilate only. The space does not get used regularly because of a musty smell and uncomfortable conditions.

Fitness Room. The fitness room is served by a VAV air handling unit with air conditioning.

Locker Rooms. A constant volume, 100% outside air unit serves the locker room area. No heat recovery is installed.

Shops. The wood shop includes two dust collection systems in good condition. A dedicated paint spray booth is also installed.

Cafeteria/Kitchen. The area is served by a central heating and ventilating air handling unit. The service line is cooled by split system type units. There is no air conditioning in the kitchen.

Administration. The areas are heated and cooled by an air handling unit installed in 2014. Three averaging temperature sensors control this unit.

2.4 HVAC INSTRUMENTATION AND CONTROLS

The District standard control system is Johnson Controls/Metasys. This controls system is utilized at McDowell High School. Some areas still utilize older pneumatic type controls.

DOMESTIC WATER HEATERS AND STORAGE TANK

2.5 DOMESTIC WATER SERVICES

The domestic hot water plant consists of a large storage tank and two hot water boilers. The boilers are standard-efficiency, gas-fired, atmospheric type and are in good condition. Much of the piping system was replaced in 1988. The piping is predominantly copper.

3.0 EXISTING CONDITIONS ELECTRICAL SYSTEMS

3.1 ELECTRIC SERVICE

The McDowell High School is currently supplied electric service by Penelec from a pad mounted utility owned transformer that is fed from overhead utility lines along the side of the site. The service drops underground and extends under the parking lot to the transformer located next to the building. The utility service appears to have adequate capacity to serve the facility as no issues have occurred with the utility service or pad mounted transformer. This service was upgraded with renovations that occurred to the building in 2014.

3.2 ELECTRICAL DISTRIBUTION

The pad mounted transformer serves a 2500 amp, 277/480 volt switchboard located in a main electrical room. The switchboard feeds two interior step down transformers to supply 120/208 volt, 3 phase power to the building and also a feeder to the football stadium. The main switchboard was manufactured by Square D, was installed in the 2014 renovations and is in great condition. It was observed to have approximately 475 amps of load per phase which indicates it has plenty of capacity to serve future loads needed in the building.

Prior to the 2014 renovations, the facility was served 120/208 volts from the utility. All of the distribution equipment within the facility with the exception of the new 277/480 volt service was installed in 1988 and appears to have adequate capacity to serve all the loads within the building. The equipment was manufactured by Square D, replacement parts are readily available and has been well maintained and is in good condition.

3.3 EMERGENCY POWER

KOHLER 60KW EMERGENCY BACK-UP POWER GENERATOR

There is one emergency generator located in the utility plant that provides back-up power to the facility. The generator is 60kw, 120/208 volt, 3 phase, natural gas fired, was manufactured by Kohler and was installed in the 1988 renovations. The generator is located in the lower level of the building in the boiler room and is ducted directly to the exterior for venting. The generator is tested weekly and serviced once a year and appears to be in fair operating condition. The generator should continue to be maintained yearly and although functioning and in fair condition, should any major issues be determined, consideration should be for replacement and capacity increased to handle any additional loads as required by the district.

There is one automatic transfer switch located next to the generator that transfers loads to emergency power upon loss of normal service. The transfer switch appears to be in fair condition, and should be maintained and tested regularly. Although the one transfer switch was acceptable at the time of installation, current codes require the facility to have two automatic transfer switches, one designated to serve life safety type loads and one to serve optional stand-by equipment. When the generator is replaced, the transfer switch should be replaced with two transfer switches and life safety and optional loads separated on their own distribution systems.

The generator currently provides back-up power to life safety egress lighting in the building and also to the boilers, hot water pumps and boiler controls. This provides freeze protection to the building should there be a loss of power during below freezing temperatures. The district should consider any additional loads that may be recommended for back up during power loss such as walk-in freezers and refrigerators, minimal cooking equipment and equipment associated with the buildings security and network systems and replacement shall be sized accordingly.

3.4 LIGHTING

The majority of the lighting fixtures are original to the building when renovated in 1988 and utilize T8 fluorescent lamping which are inefficient based on current lamping technologies. The district has replaced lamps in select locations with LED type tube lamps in existing fixtures and is monitoring the efficiency and effectiveness of this

alternative approach to the fluorescent lamps. Although this does save energy, this still relies on the almost 30 year old fixtures for distribution and performance. Consideration should be given to replacement of the older fixtures with new LED type fixtures designed for LED technology that provide optimal performance, the ability to dim fixtures to provide only the required light levels for the task and to provide the most energy savings. See Executive Summary, Section 2.6 Classroom Lighting.

Site lighting consists of metal halide floodlights mounted on the building, metal halide post top fixtures along sidewalks and entrances and pole mounted flood lights in parking areas that have been retrofitted with LED type lamps. New LED wall lights were installed along the rear of the building at the stadium area during the 2014 renovations to the stadium lights. Consideration should be as fixtures need replaced to install LED type fixtures for energy savings, reduced maintenance costs and for optimal light performance. The site lighting is currently controlled by time clocks and these should be maintained to provide light at needed times only.

Lighting control within the building is primarily accomplished by manual lighting switches located at entrances to rooms or areas. Providing automatic lighting controls for non-critical and non-life safety lighting would provide additional energy savings. It was observed at our walkthrough of the facility that many rooms were unoccupied with the lighting on at full brightness. Installing occupancy sensors in select locations will provide energy savings by turning lights off when the space is not utilized. Any upgrades to LED type fixtures should be provided with dimming controls to allow occupants to set light levels based on needs and tasks to be performed to realize maximum energy savings and provide the most visual comfort.

The athletic stadium lighting was upgraded in 2014 with a Musco lighting system and was installed on the existing lighting support structures. This lighting is adequate for the use of the athletic field and should be maintained and tested regularly.

3.5 EMERGENCY FIXTURES

Emergency lighting exists throughout the building's egress paths, assembly spaces, equipment rooms, and stairwells and utilizes designated lighting fixtures supplied from the

emergency electrical system. The emergency fixtures are directly connected to the emergency lighting circuits supplied from the emergency generator.

Directional illuminated exit signs exist in corridors and large assembly spaces to indicate direction of egress.

3.6 FIRE ALARM SYSTEMS

An addressable Simplex fire alarm system presently provides fire alarm protection to the building with the main panel being located on the first floor of the school. Addressable initiating devices (pull stations, smoke detectors, sprinkler system tamper and flow switches, and duct detectors) are located throughout the building. Fire alarm notification appliances (horns and strobes) are also located throughout the building.

The fire alarm system was installed in the 2014 renovations and meets the current needs of the facility. The system should be tested regularly and serviced as required for proper operation.

3.7 TELEPHONE/DATA CABLING

The facility has two central data network closets that house patch panels and server equipment. The two network closets are interconnected with fiber optic cable and are connected via a demark location to utility internet access. Data cabling from the closets to workstations is category 6 cabling with outlets located at designated staff and teacher locations, select student locations, computer labs and to wireless access points located in the ceilings throughout the space. The cabling meets current standards and internet access meets the needs of the facility.

The current phone system is a Cisco phone system that was installed in the 2014 renovations and consists of category 3 telephone cabling wired to punchdown blocks located in the data closets. A central phone switch connects the phones to the utility access to outside lines.

3.8 SECURITY

Currently there is a Kerri access control system that provides for authorized access to designated entrances of the facility. The building is locked down once students are in

school and authorized access only is permitted. The connecting corridor entrance to the middle school is unlocked during class changes and entrance and exit is monitored by security personnel.

An IP CCTV camera system exists at the facility with 123 cameras located around the building to monitor corridors, entrances and stairwells. The system is capable of being monitored in the administration and district admin areas. There are a few dead-zones that should be addressed.

3.9 PUBLIC ADDRESS SYSTEM

A Dukane public address system exists in the building with a master control cabinet located in a data closet on the first floor. There are call-in stations with recessed ceiling speakers for communication back to the administration suite. Speakers exist in public areas and corridors for paging and class change tones.

The system includes a master clock system with digital clocks in classroom and other educational spaces tied to the central controller for time correction.

Local sound systems exist in the auditorium and gymnasium for sound amplification during events held in those spaces.

3.10 CATV/AV DISTRIBUTION SYSTEM

A CATV cable distribution system exists throughout the building to distribute TV signal from local cable TV company and also form the local in-house broadcast studio for announcements. However, several of the TV's located in educational spaces to receive the signal have been removed. One enhancement for more effective use of the system could include equipment to distribute the signal over the facility network to be broadcast on the in-room projectors and whiteboards. Several of the classrooms are already equipped with ceiling mounted projectors and whiteboards for video presentations of instructional material to students.

3.11 LIGHTNING PROTECTION SYSTEM

No lightning protection exists on the school and no issues have been indicated due to lightning.

McDowell High School

February 8, 2019 Age: 1953, renovations/additions: 1961, 1965, 1988, 2014

Approx. SF: 203,734

					MTSD	Stantec				
Description	**Existing Conditions**	**Age of Asset**	**Remaining Life Expectancy**	**Recommendations**	**1-3 Years**	Short Term 1-3 years	Mid Term 3-5 years	Long Term 5-10 years	Projects Upgrades	Maintenance Operations
						3	**2**	**1**		**0**
Architectural										
Auditorium Upgrades	Existing auditorium is rarely used as it is not large enough to seat the entire student body and it has original seats and a musty smell	Original seating	0 years	Upgrade finishes, seating, lighting and HVAC systems to create a functioning aesthic pleasing space for use by large groups of students.					$100.00 SF	
Auditorium Repurpose	Existing auditorium is rarely used as it is not large enough to seat the entire student body and it has original seats and a musty smell			Renovate the existing interior auditorium, ancillary rooms, and stage. This may include infilling the floor and fit-out the space with technology labs and/or classrooms.					$250.00 SF	
Security Doors	Partitioning off the existing interior space for after hour activities is currently limited.			Add additional security gates to provide less public access to the building interior.					$5,000 / GATE	
Swipe Cards	Currently keys are required for door access.			Update the lock system to work in conjuction with swipe cards					$1,000 / SET	
Exterior Window Lintel Painting	Some areas of the exting lintels have paint peeling.			On-going maintenance issue.						X
Connector to MIHS	Existing covered walkway is open sided and poses a security issue daily.			Provide retractable gates or doors that provide security when closed and also can be opened for bus loading					$10.00 LF	
ADA door hardware	Existing door hardware is not ADA compliant			Replace exisitng hardware with ADA lever hardware					$300.00 / SET	
ADA door clearance	Many existing door clearance do not meet ADA standards			Renovate existing door openings to provide proper ADA clearance					$2,500 / DOOR	
ADA toilets	Existing toilets are not ADA compliant			Renovate existing toilet rooms to provide proper ADA clearance					$250.00 SF	
Stair guardrails and handrails	Existing guardrails and handrails do not meet current building codes			Renovate existing stair railing to provide proper ADA clearance					$100.00 LF	
Room darkening roller shades	Existing window roller shades are not dark enough to block sunlight to allow proper viewing of the projection screen			Revise existing building components and structure to meet current building codes					$4.00 SF	
Roofing issues	Several roofing systems - the built-up roofing system is out of warranty. The EPDM was recoated in 2014.	1998		Possible total roof replacement in 5 years.						X
Mechanical										
Unit Ventilators	The existing unit ventilators are AAF units.	29 years old		The unit ventilators are approaching the end of their expected useful lives and should be replaced			$300,000.00			
Air Conditioning	Classrooms Option #1			New DX thruwall unit ventilators					$4,500,000	
	Classrooms Option #2			New four pipe unit ventilators / chiller					$5,500,000	
Hot water heating boilers.	Existing boilers are "PK Mach installed in 1988.	29 years old	0 years	Replace existing boilers with new high efficiency gas fired boilers due to age.			$ 200,000			
AHU with DX coils, ready for A/C	North Gym air handling unit.	29 years old	0 years	The north gym air handler should be replaced with new and air conditioning should be added to a new unit. We would strongly recommend agianst adding air conditioning to the existing unit due to age and unit configuration.					$25,000	

McDowell High School

February 8, 2019 Age: 1953, renovations/additions: 1961, 1965, 1988, 2014

Approx. SF: 203,734

					MTSD	Stantec				
Description	**Existing Conditions**	**Age of Asset**	**Remaining Life Expectancy**	**Recommendations**	**1-3 Years**	Short Term 1-3 years	Mid Term 3-5 years	Long Term 5-10 years	Projects Upgrades	Maintenance Operations
						3	**2**	**1**		**0**
Auditorium air handlers	There are 4 existing heating and ventilating only air handlers for the auditorium.	29 years old	0 years	The air handlers should be considered for replacement and provide heating and air condtioning to cool and dehumidify the Auditorium.					$ 400,000	
Temperature controls	The existing temperature control system is pnuematic.	29 years old	0 years	When project upgrades are done the temperature controls should be considered for replacement to a DDC electronic control system.					$ 1,300,000	
Electrical										
Lighting fixture relamping/replacement	Existing lighting fixtures are primarily fluorescent fixtures in variuos styles with T8 lamps and electronic ballasts.	29 years		Most fixtures are original to the 1988 renovations and have been upgraded to T8 lamps and electronic ballasts. As lamps and ballasts fail or lenses are damaged, consideration should be given in a maintenace budget to replace existing fixtures with new LED technolgy for optimal energy savings and reduced maintenace costs. At a minimum, existing fixtures should be retrofited with LED lamp technology. An allowance in a maintenance budget should be maintained.						$50,000
Classroom Lighting Fixture Replacement	Existing classroom lighting fixtures are primarily fluorescent fixtures in variuos styles with T8 lamps and electronic ballasts.	29 years		Fixtures are original to the 1998 construction and have T8 lamps and electronic ballasts. Consideration should be given to replace existing fixtures with new LED technolgy for optimal energy savings, better lighting performance and reduced maintenance costs. Cost is indicated to replace classroom lighting with LED dimmable lights with occupancy sensor control.					$ 270,000	
Emergency Generator	The existing emergency generator is a 60kw natural gas generator manufactured by Kohler connected to the distrbution system via one automatic transfer switch which provides back-up power to egress lighting and select HVAC equipment	29 years		Maintenace existing generator, change all fluids yearly and provide regular testing to ensure proper operation.						$2,500
Emergency Generator	The existing emergency generator is a 60kw natural gas generator manufactured by Kohler connected to the distrbution system via one automatic transfer switch which provides back-up power to egress lighting and select HVAC equipment	29 years	5-10 years	Plans should be consisdered for replacement of existing generator to maintain reliability and to be brought up to current codes. Generator should be upgraded to 100kw to allow connection of additional equipment				$200,000		
Security cameras	A CCTV camera system currently consists of IP cameras for staff monitoring of selected areas within the school and around the exterior			Add 12 additional security IP cameras at selected locations for additional coverage of student areas.					$18,000	
CATV	Existing CATV system broadcasts TV signal over coax cable to select TV's and is used for morning announcements and channel 1			Improve the Channel 1 broadcast system, currently it only comes over the T.V. cable system, not over the data system					$20,000	
Totals						**$ -**	**$ 500,000**	**$ 200,000**	**$ 11,995,000**	**$ 52,500**

Existing Conditions Assessment –

Education Center

February 23, 2018

Table of Contents

EXISTING CONDITIONS ASSESSMENT –

EDUCATION CENTER

February 23, 2018

1.0 EXISTING CONDITIONS – SITE AND ARCHITECTURAL

MAIN ENTRANCE

This assessment describes the existing site and architectural systems for the Education Center in Erie, Pennsylvania.

Constructed: 1969

Renovations/Additions: No major renovations or additions

Site Area: 6.70 Acres

Building Area: 31,748 S.F.

1.1 SITE

Paving. The parking areas and roadways are in good condition

Sidewalks. The concrete sidewalks are in good condition

Storm Water and Drainage. There doesn't appear to be any issues and no mention was made of any

The yards and plantings. Snow covered

RUSTED CEILING GRID AND SINGLE PANE WINDOWS IN ROTUNDA

1.2 ARCHITECTURAL

Summary

The building was originally constructed in 1969 and has not had any major renovations or additions. It houses the district administrative offices, boardroom, print room and storage. It was noted that the departments and offices with the building often change and the physical layout of the building often does not fit the needs perfectly

GUARDRAIL AND HANDRAIL NOT UP TO CURRENT CODE

Exterior

The brick, metal trim and windows are in good condition. The storefront glazing system at the rotunda is single pane glass.

Roof

EPDM 20-year warranty, expires December 2018, 32,000 S.F.

CRACKED MASONRY IN STAIRWELL

NON-ADA TOILET STALL

DAMAGED DOOR ON LOWER LEVEL

Interiors

First Floor

Vestibule. The security vestibule is ADA accessible.

Corridors. The carpet, ceramic tile wainscot, and 2 X 4 lay-in ceiling are in good condition. There are several areas where the ceiling grids are rusting.

Stairs. The finishes are in very good condition, but the handrails and guiderails are not ADA compliant, not Building Code compliant. There is cracking in the concrete block on the stair landing.

Toilet Rooms. The ceramic tile finishes, and the plumbing fixtures are in excellent condition. However, the toilet facilities are not ADA compliant.

Offices. The finishes are in very good condition.

Lower Level. This area is used for printing and storage. There is a new truck dock leveler. Note: The egress travel distance from the print room to the closest at grade exit exceeds current building codes.

1.3 ACCESSIBILITY ISSUES

Note – A further accessibility study of the facility would be required to evaluate these and other related ADA requirements.

- Toilet accessibility
- Stair railing

1.4 POSSIBLE IMPROVEMENTS

- Insulated glazing at rotunda
- Toilet renovations to comply with ADA
- Replace guardrails and handrails
- Relocate print room to meet egress requirements or provide an area of refuge

2.0 EXISTING CONDITIONS – PLUMBING / FIRE PROTECTION / MECHANICAL SYSTEMS

HEATING BOILERS

AIR COOLED CHILLER

HOT AND CHILLED WATER PUMPS

AIR HANDLING UNIT

This assessment describes the existing mechanical, electrical, plumbing, and fire protection systems for the Millcreek School District education center in Erie, Pennsylvania. The existing building is a single story (31,748 square foot) and was constructed in 1969.

2.1 HVAC SYSTEM

2.1.1 Central Heating

The building is heated by 2 high efficiency gas fired hot water boilers that were installed in 2011. The boilers mainly appear to be in fair to good condition.

2.1.2 Central Cooling

The building is provided with chilled water from an air cooled chiller located in the mechanical room, this chiller appears to be in good condition and was installed in 2011.

2.1.3 Hot Water Pumps and Distribution

Hot water is distributed through the building by two primary pumps that appear to be in fair condition. The piping is original to the building, no reported issues with this system.

2.1.4 Chilled Water Pumps and Distribution

Chilled water is distributed through the building by two pumps that appear to be in fair condition. The piping is original to the building, no reported issues with this system.

2.1.5 Air Distribution

Basement – indoor air handling units with air distribution ductwork located at the ceiling structure. The air handler appears to be in fair condition. The basement has a radon removal system which consists of an exhaust fan at one end of the room and supply air at the other end and distributed throughout. The radon system should be changed to an underfloor system.

First floor – The first floor is served by central station air handlers with hot water and hilled water coils and a multitude of split systems equivalent to Mitsubishi wall and ceiling cassette style systems. These systems appear to be in fair to poor condition.

Main Data Center – The room is served by a dedicated "Liebert" air conditioning unit which appears to be in good condition.

DATA CENTER UNIT

2.1.6 Temperature Controls

The building has a pneumatic and electronic temperature control system throughout. When the building undergoes a renovation the system should be changed to an electronic control system.

2.2 PLUMBING SYSTEMS

2.2.1 Existing Plumbing System

The building is serviced by a 1 1/2" domestic water service main. The piping for water distribution in the building is primarily copper piping and is in good condition.

DOMESTIC WATER HEATER

2.2.2 Domestic Water Heating

One electric fired water heater serves the building and appears to be in good condition.

2.2.3 Plumbing Fixtures and Trim

Water closets, urinals, lavatories and faucets appear to be in fair condition.

2.2.4 Sanitary and Storm

Sanitary and storm piping has no reported issues.

2.3 FIRE PROTECTION SYSTEM

The building is served by a limited fire protection system.

3.0 EXISTING CONDITIONS ELECTRICAL SYSTEMS

3.1 ELECTRIC SERVICE

The Education Center is currently supplied electric service by Penelec from a pad mounted utility owned transformer that is fed from overhead utility lines along the side of the site. The service drops underground and extends under the parking lot to the transformer located next to the building. The utility service appears to have adequate capacity to serve the facility as no issues have occurred with the utility service or pad mounted transformer. This service was upgraded with renovations that occurred to the building in 2014.

3.2 ELECTRICAL DISTRIBUTION

1600A GE MAIN SWITCHBOARD

The pad mounted transformer serves a 1600 amp, 120/208 volt switchboard located on the lower level of the building. The main switchboard, manufactured by General Electric, is in great condition and has several spaces available for future needs.

Several branch panelboards exist throughout the facility, some old original ITE panels and several new panels added as needs arose. The ITE panels are in poor condition, parts are not easily available and should be considered for replacement for reliability and availability of replacement parts.

3.3 EMERGENCY POWER

KOHLER 33KW EMERGENCY BACK-UP POWER GENERATOR

There is one emergency generator located in the utility plant that provides back-up power to the facility. The generator is 33kw, 120/208 volt, 3 phase, natural gas fired, was manufactured by Kohler and appears to be in good condition. The generator is located in the lower level of the building in the boiler room and is ducted directly to the exterior for venting. The generator is tested weekly and serviced once a year and appears to be in fair operating condition. The generator should continue to be maintained yearly and tested for operation.

There is one automatic transfer switch located next to the generator that transfers loads to emergency power upon loss of normal service. The transfer switch appears to be in good condition, and should be maintained and tested

regularly. Although the one transfer switch was acceptable at the time of installation, current codes require the facility to have two automatic transfer switches, one designated to serve life safety type loads and one to serve optional stand-by equipment.

The generator currently provides back-up power to life safety egress lighting in the building and also to the boilers, hot water pumps and boiler controls. This provides freeze protection to the building should there be a loss of power during below freezing temperatures. In addition, the district data center is located in the building with a UPS backed up by the generator and a conference room in the basement has emergency power to be used as a district shelter should the need arise.

3.4 LIGHTING

The majority of the lighting fixtures utilize T8 fluorescent lamping which are inefficient based on current lamping technologies. Consideration should be given to replacement of the older fixtures with new LED type fixtures designed for LED technology that provide optimal performance, the ability to dim fixtures to provide only the required light levels for the task and to provide the most energy savings.

Site lighting consists of metal halide floodlights mounted on the building and pole mounted flood lights in parking areas.

Lighting control within the building is primarily accomplished by manual lighting switches located at entrances to rooms or areas. Providing automatic lighting controls for non-critical and non-life safety lighting would provide additional energy savings. Any upgrades to LED type fixtures should be provided with dimming controls to allow occupants to set light levels based on needs and tasks to be performed to realize maximum energy savings and provide the most visual comfort along with automatic controls to turn lights off when not needed.

3.5 EMERGENCY FIXTURES

Emergency lighting exists throughout the building's egress paths, assembly spaces, equipment rooms, and stairwells and utilizes designated lighting fixtures supplied from the emergency electrical system. The emergency fixtures are

directly connected to the emergency lighting circuits supplied from the emergency generator.

Directional illuminated exit signs exist in corridors; however, illuminated exits should be added in the boardroom.

3.6 FIRE ALARM SYSTEMS

An addressable FCI fire alarm system presently provides fire alarm protection to the building with the main panel being located on the first floor. Addressable initiating devices (pull stations, smoke detectors, sprinkler system tamper and flow switches, and duct detectors) are located throughout the building. Fire alarm notification appliances (horns and strobes) are also located throughout the building.

3.7 TELEPHONE/DATA CABLING

The facility houses the main data center for the district with the district servers, equipment racks, and connections to each building. A dedicated UPS provides backup power to the data center. The room has a raised floor for cabling and air distribution and is cooled by one 25 ton Liebert cooling unit.

Data cabling from the closet to workstations is category 6 cabling with outlets located at designated staff workstations, conference and board rooms, and to wireless access points located in the ceilings throughout the space. The cabling meets current standards and internet access meets the needs of the facility.

An MDF closet to serve the building telecommunication connections is located in the basement.

The current phone system is a Cisco phone system and consists of category 3 telephone cabling wired to punchdown blocks located in the data closets. A central phone switch connects the phones to the utility access to outside lines.

3.8 SECURITY

Currently there is a Kerri access control system that provides for authorized access to designated entrances of the facility. Card access is located at three entrances to the building to allow authorized access.

3.9 PUBLIC ADDRESS SYSTEM

A Dukane public address system exists in the building with a master control cabinet located in a data closet on the first floor. There are speakers for paging within the facility.

A local sound amplification system exists in the board room for use during meetings with recessed ceiling speakers and microphones at the board member table.

3.10 CATV/AV DISTRIBUTION SYSTEM

A CATV cable distribution system exists to distribute TV signal from local cable TV company to the board room and conference room.

3.11 LIGHTNING PROTECTION SYSTEM

No lightning protection exists on the school and no issues have been indicated due to lightning.

Education Center

February 8, 2019 Age: 1969

Approx. SF: 31,748

Description	Existing Conditions	Age of Asset	Remaining Life Expectancy	Recommendations	Short Term 1-3 years	Mid Term 3-5 years	Long Term 5-10 years	Projects Upgrades	Maintenance Operations
					3	2	1		0
Architectural									
Windows and doors at Rotunda	the existing windows and doors are single pane glass			Repace system with an insulated glazing system				$30.00 SF	
Stair guardrail / handrail	the guardrails and the handrails in the stairs do not meet current building codes			modify or replace the guardrails and handrails				$100.00 LF	
ADA toilet facilities	Current toilet facilities do not meet ADA standards			Revise existing building components and structure to meet current building codes				$250.00 SF	
Print room egress	the current print room location is too far from an exit door to grade			Add an Area of Refuge in the stairwell or relocate the print room.	$2,500				
Roofing issues	The roofing warranty expires in December.	1998		District to consider sealing the roofing to add a 10 year warranty.					X
Mechanical									
Hot water heating pumps	The four existing hot water heating pumps are original to the building.	40+ years	0 years	Replace existing hot water pumps with new.		$20,000.00			
Air Hnadling Unit in Basement	The air handling unit is in fair condition	40+ years	0 years	Replace the existing air handling unit due to its age .		$15,000			
Radon system	The basement is ventilated to mitigate radon gas.			Provide a underslab radon mitigation system.					$5,000
Electrical									
Emergency Generator	The existing emergency generator is a 33kw natural gas generator manufactured by Kohler connected to the distrbution system via one automatic transfer switch which provides back-up power to egress lighting and select equipment. The generator is in good condition.	Unknown		Maintenance existing generator, change all fluids yearly and provide regular testing to ensure proper operation.					$2,500
Branch Panelboards	Several old ITE panelboards exist within the facility and are original to the building construction	48 years	0 years	The orignal ITE panelboards are old and replacement breakers and parts are hard to obtain and costly. It is recommended that these panelboards be replaced. Eight were observed but an exact quantity needs verified	30,000				
Totals					**$ 2,500**	**$ 35,000**	**$ -**	**$ -**	**$ 2,500**

Facilities Assessment

Learning Center

Prepared for:
Millcreek Township School District

Prepared by:
Stantec

February 23, 2018

Table of Contents

1.0 EXISTING CONDITIONS – SITE AND ARCHITECTURAL

UNUSED MAIN ENTRANCE

This assessment describes the existing site and architectural systems for the Learning Center in Erie, Pennsylvania.

Constructed: 1956

Renovations/Additions: there is evidence of a major addition, but the date is unknown.

Site Area: 13.4 acres

Building Area: 34,030 sf

PDE Capacity: 500

SOUTH EXIT – NON ADA

1.1 SITE

Paving. Snow covered at time of walk-thru.

Sidewalks. The stoops and sidewalks visible at the time of the walk-thru were in good shape.

Storm Water and Drainage. No mention was made of any issues.

The yards and plantings. Snow covered at time of walk-thru.

SOUTHWEST ENTRANCE - NON ADA

1.2 ARCHITECTURAL

Summary

The building was originally constructed in 1956. There have been renovations to the finishes and replacement of the windows, but the dates of the improvements are not available. Approximately half the building is currently being leased to the 'Sara A. Reed Children's Center'. The other half is unoccupied.

EXISTING ADMINISTRATION

Exterior

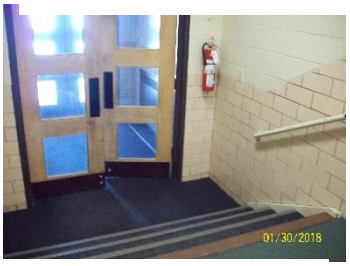
The brick aluminum windows and metal siding are in good condition. There is a mixture of aluminum exterior doors and painted steel exterior doors. The painted steel doors have extensive surface rust.

CURRENT ADMINISTRATION OFFICE

CAFETERIA – GYM - STAGE

CAFETERIA SERVING LINE

OCCUPIED CORRIDOR



NON-ADA EGRESS EXIT

Interiors

Vestibule/Lobby. The existing vestibule and lobby on the East side of the building is not currently being used. The finishes are in very good condition. However, the entrance doors and adjacent window system are the original aluminum frames with single pane windows.

The entrance that is currently being used does have a small vestibule but does not have an ADA access to grade.

Administration/Nurse. The existing admin and nurse area on the East side of the building are not currently being used. The reception desk and finishes are in good condition in the Admin. The finishes in the nurse's area have issues with floor tile being patched and translucent panels in the ceiling with heavy rush staining.

The current admin is in a converted classroom. Near the Southwest entrance. The finishes and casework are in very good condition.

Library. The existing library on the Northeast corner of the building was previously repurposed. It was divided up into smaller rooms. It is currently unused. The finishes are in good condition. There is some wooden shelving in the library and adjoining work room that is in good condition.

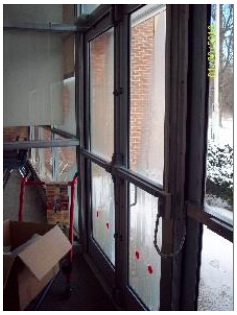
Cafeteria/Gymnasium. The cafeteria also functions as the gym. The V.C.T. floor, painted walls and 2 x 4 lay-in ceiling are in fair condition. There are sound absorbing panels on the wall and one basketball backstop on the North end. There is currently a low wall built along the exterior to protect the wrestling team from hitting the windows.

Kitchen. The full prep kitchen finishes and equipment are in good shape. The serving lines are at the North end of the cafeteria.

Stage. The stage is at the South end of the cafeteria. It has a projection screen. There is no curtain. There is no ADA access to the stage.

Corridors. The corridors are carpeted with a glazed tile or ceramic tile wainscot, painted walls and 2 x 4 lay-in ceiling. The finishes are in good condition with some small areas of ceiling water damage. The south entrance, southwest entrance and northwest entrance do not have ADA accessible entrances.

RUSTED ENTRY DOORS



SINGLE PANE GLAZING

NON-ADA TOILETS

LIBRARY SHELVING

LIBRARY WORKROOM

Toilet Rooms. While the finishes are in good condition, they are dated. The toilet fixtures are not ADA accessible and the partitions are damaged.

Classrooms. (The classrooms in the occupied area were inaccessible due to the fact that they were occupied with students.)

The classroom finishes were in fair condition. There are some rooms with carpet and others with V.C.T. It appeared that many rooms have the original 1' x 2' ceiling tile. The casework is old, and the rooms have chalkboards.

1.3 ACCESSIBILITY ISSUES

Note – A further accessibility study of the facility would be required to evaluate these and other related ADA requirements.

- Door Hardware
- Toilet Rooms and Fixtures
- Stage Access
- (3) Entrances/Exits
- Drinking Fountains

1.4 POSSIBLE IMPROVEMENTS

- Replace damaged doors
- Replace casework
- Replace chalkboards with whiteboards
- Security entrance
- New Ceilings to replace areas of existing

EXISTING CLASSROOM

EXISTING CLASSROOM

2.0 EXISTING CONDITIONS – PLUMBING / FIRE PROTECTION / MECHANICAL SYSTEMS

This assessment describes the existing mechanical, electrical, plumbing, and fire protection systems for the Millcreek Learning Center in Erie, Pennsylvania. The existing school is 1 story (34,030 square foot) and was constructed in 1956. Limited renovations were performed in 2007.

2.1 HVAC SYSTEM

2.1.1 Central Heating

The school is heated by two gas fired Weil McLain steam boilers which were installed in 2007 and appear to be in good condition.

BOILERS

2.1.2 Central Cooling

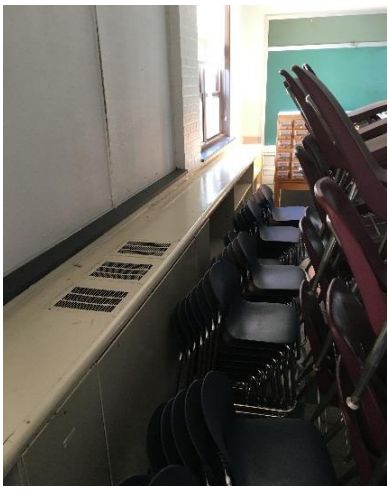
The school has no central cooling system.

2.1.3 Steam Distribution

The Learning Center utilizes 5 PSI steam piping in tunnels to distribute steam throughout the building to the heating equipment. No issues are reported with the piping although it is probably original to the building.

2.1.4 Air Distribution

Classrooms, Gym/ Cafe. Unit ventilators provide heating and ventilation to the classrooms and the gym/ cafe. The units appear to be original to the building and are in poor condition.



UNIT VENTILATOR

Admin area, Kitchen, Faculty rooms, Corridors. Heated with cabinet unit heaters. The units appear to be original to the building and are in poor condition. A window AC unit is present in the admin area for use as-needed.

CABINET UNIT HEATER

ADMIN WINDOW UNIT

KITCHEN HEATER

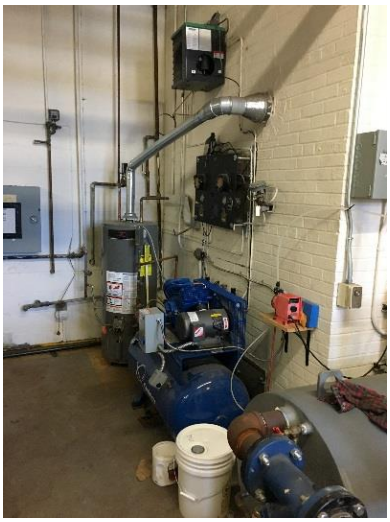
Library. Heated with cabinet unit heaters and fin-tube. The units appear to be original to the building and are in poor condition.

LIBRARY

LIBRARY

TOILET ROOM HEATER

Toilet rooms. Heated with cabinet unit heaters. The units appear to be original to the building and are in poor condition. Toilet exhaust fan for the Boy's room is not functioning and requires repair or replacement immediately.



AIR COMPRESSOR

2.1.5 HVAC Instrumentation and Controls

The Learning Center utilizes a pneumatic controls system. The air compressor for the system was replaced in the 2007 renovation.

2.2 PLUMBING SYSTEMS

2.2.1 Existing Plumbing System

Municipal water service from street serves the building via a pipe tunnel. The piping in the building has no reported issues.

2.2.2 Domestic Water Heating and Service

A newer Ruud gas-fired water serves the building from the boiler room, utilizing a circulation pump. The water heater is in good condition.

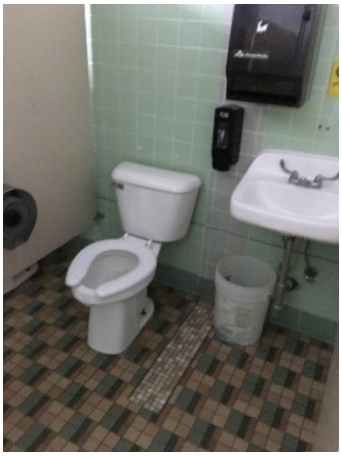
WATER HEATER

2.2.3 Natural Gas

The building is served by a 4" service from the street and has no reported issues.

2.2.4 Plumbing Fixtures and Trim

Water closets, urinals, lavatories, and faucets appear to be in fair condition.



PLUMBING FIXTURES

2.2.5 Sanitary and Storm

Sanitary and storm piping has no reported issues.

2.3 FIRE PROTECTION SYSTEM

The building does not have a fire protection system.

PLUMBING FIXTURES

3.0 EXISTING CONDITIONS ELECTRICAL SYSTEMS

WESTINGHOUSE MAIN SERVICE PANEL

ORIGINAL LEONARD ELECTRIC SERVICE PANEL

ORIGINAL LEONARD ELECTRIC BRANCH PANEL

3.1 ELECTRIC SERVICE

The Learning Center is currently supplied electric service by Penelec from a 3000kVA pad mounted utility owned transformer that is fed from overhead utility lines along the side of the site. The service drops underground and extends under the parking lot to the transformer located next to the building. The utility service appears to have adequate capacity to serve the facility as no issues have occurred with the utility service or pad mounted transformer. This service was upgraded with renovations that occurred to the building in 2014.

3.2 ELECTRICAL DISTRIBUTION

The pad mounted transformer serves a 800 amp, 120/208 volt switchboard located in a main electrical room. The main switchboard was manufactured by Westinghouse, was installed in 1992 and is in good condition.

Next to the main switchboard is the original main service panel that was installed in 1956 when the building was constructed. The panel was manufactured by Leonard Electric which is no longer in business. Five branch circuit panels were observed throughout the facility that were original to the building construction and also manufactured by Leonard Electric. These panels are in poor condition and maintenance is difficult and costly. Consideration should be given to replacing the panels.

3.3 EMERGENCY POWER

KOHLER 15KW EMERGENCY GENERATOR

There is one emergency generator located in the mechanical equipment room that provides back-up power to the facility. The generator is 15kW, 120/208 volt, 3 phase, natural gas fired, and was manufactured by Kohler. The generator is tested weekly and serviced once a year and appears to be in fair operating condition. The generator should continue to be maintained yearly and although functioning and in fair condition, should any major issues be determined, consideration should be for replacement and capacity increased to handle any additional loads as required by the district.

There is one automatic transfer switch located next to the generator that transfers loads to emergency power upon loss of normal service. The transfer switch appears to be in fair condition, and should be maintained and tested regularly. Although the one transfer switch was acceptable at the time of installation, current codes require the facility to have two automatic transfer switches, one designated to serve life safety type loads and one to serve optional stand-by equipment. When the generator is replaced, the transfer switch should be replaced with two transfer switches and life safety and optional loads separated on their own distribution systems.

The generator currently provides back-up power to life safety egress lighting in the building and also to a boiler, hot water pump, boiler controls, and the fire alarm panel.

3.4 LIGHTING

The majority of the lighting fixtures utilize T8 fluorescent lamping which are inefficient based on current lamping technologies. Several classrooms have pendant mounted direct/indirect linear fixtures and several have been upgraded to 2x4 T8 recessed parabolic fixtures. Consideration should be given to replacement of the older fixtures with new LED type fixtures designed for LED technology that provide optimal performance, the ability to dim fixtures to provide only the required light levels for the task and to provide the most energy savings. See Executive Summary, Section 2.6 Classroom Lighting.

Site lighting consists of metal halide floodlights and wallpacks mounted on the building, along with a few high pressure sodium cobra-head fixtures mounted on the utility

wood poles along the edge of the parking lot. Consideration should be as fixtures need replaced to install LED type fixtures for energy savings, reduced maintenance costs and for optimal light performance. The site lighting is currently controlled by time clocks and these should be maintained to provide light at needed times only.

Lighting control within the building is primarily accomplished by manual lighting switches located at entrances to rooms or areas. Providing automatic lighting controls for non-critical and non-life safety lighting would provide additional energy savings. It was observed at our walkthrough of the facility that many rooms were unoccupied with the lighting on at full brightness. Installing occupancy sensors in select locations will provide energy savings by turning lights off when the space is not utilized. Any upgrades to LED type fixtures should be provided with dimming controls to allow occupants to set light levels based on needs and tasks to be performed to realize maximum energy savings and provide the most visual comfort.

3.5 EMERGENCY FIXTURES

Emergency lighting exists throughout the building's egress paths, assembly spaces, equipment rooms, and stairwells and utilizes designated lighting fixtures supplied from the emergency electrical system. The emergency fixtures are directly connected to the emergency lighting circuits supplied from the emergency generator.

Directional illuminated exit signs exist in corridors and large assembly spaces to indicate direction of egress; however, several partitions have been added in the corridors that do not have proper exit signage.

3.6 FIRE ALARM SYSTEMS

FCI FIRE ALARM CONTROL PANEL

An FCI fire alarm system presently provides fire alarm protection to the building with the main panel being located in the boiler room. The panel is an older zone system with zones of annunciation. There are pull stations at the exits and smoke detectors in the kitchen that indicate a fire alarm. There are horn/strobes in corridors and egress paths. There are no notification devices in the classrooms and occupied spaces.

Consideration should be given to upgrading the fire alarm system with new devices to meet current standards.

3.7 TELEPHONE/DATA CABLING

The facility has a central data network closet that houses patch panels and server equipment. Data cabling from the closets to workstations is category 6 cabling with outlets located at designated staff and teacher locations, select student locations, computer labs and to wireless access points located in the ceilings throughout the space. The cabling meets current standards and internet access meets the needs of the facility.

The current phone system is a Cisco phone system that was installed in the 2014 renovations and consists of category 3 telephone cabling wired to punchdown blocks located in the data closets. A central phone switch connects the phones to the utility access to outside lines.

3.8 SECURITY

Currently there is a Kerri access control system that provides for authorized access to designated entrances of the facility. The building is locked down once students are in school and authorized access only is permitted.

There are no CCTV cameras at the facility for video monitoring.

3.9 PUBLIC ADDRESS SYSTEM

A Rauland public address system exists in the building with a master control cabinet located in the administration office. There are call-in stations with recessed ceiling speakers for communication back to the administration suite. Speakers exist in public areas and corridors for paging and class change tones. The system is not currently in operation and would need serviced for operation.

The system includes a master clock system with analog clocks in classroom and other educational spaces tied to the central controller for time correction.

Local sound system speakers exist in the multi-purpose room for sound amplification during events held in those spaces; however, the control equipment cabinet has been removed.

3.10 CATV/AV DISTRIBUTION SYSTEM

A CATV cable distribution system exists throughout the building to distribute TV signal from local cable TV company.

3.11 LIGHTNING PROTECTION SYSTEM

No Lightning protection exists on the school and no issues have been indicated due to lightning.

Learning Center

February 8, 2019 Age: 1956, renovations/additions: 1989, 2014

Approx. SF: 34,030

Description	Existing Conditions	Age of Asset	Remaining Life Expectancy	Recommendations	Short Term 1-3 years	Mid Term 3-5 years	Long Term 5-10 years	Projects Upgrades	Maintenance Operations
					3	2	1		0
Architectural									
Door Hardware	The existing door hardware is not ADA compliant			Replace current hardware with ADA lever Hardware				$300.00 / SET	
Toilet rooms and fixtures	The existing toilets are not ADA compliant			Renovate toilets to update fixtures and be ADA compliant				$250.00 SF	
ADA stage access	The is no Ada acces to stage			Add an ADA chair lift				$10,000	
Egress exits not to grade	3 egress exits from the building have a step to the grade level			Add concrete landing and ramp to the exterior				$100.00 SF +$100.00 LF RAILING	
Drinking fountains	Drinking fountains are not at ADA height			Revise fixture and mounting height				$1,500 / UNIT	
Damaged doors	Several doors are damaged or rusting			Replace or repair doors				$750.00 / DOOR	
Casework	Much of the casework is original and needs to be replaced			Replace casework - this can a room by room evaulation				$400.00 LF	
Chalkboards	Chalkboards are not equivilant to the markerboards used throughout the district			Replace chalkboards with markerboards				$2.00 SF	
Security entrance	The currently used entrance does not have a security desk			Add security desk				$250.00 SF	
Ceilings	Several rooms have original or damaged ceilings			Replace exisitng ceilings with new 2x4 suspended ceiling system				$4.00 SF	
Mechanical									
classroom unit ventilators		40+ years	0 years	The unit ventilaors are at the end of their expected useful lives and should be replaced. The cost to replace is without adding air conditioning.		$110,000.00			
Option 1 - Add air conditioning to existing classrooms	existing unit ventilators are in various condition states and are overall in fair condition.	40+ years	0 years	Replace the existing unit ventilators with new DX thru wall unit ventilators with steam heating coil.				$700,000	
Option - 2 Add air conditioning to existing classrooms	existing unit ventilators are in various condition states and are overall in fair condition.	40+ years	0 years	New four pipe unit ventilators with hot water heating coil and chilled water cooling coil, add new water chiller, convert existing steam boiler to hot water heating boilers.				$ 900,000	
Boilers	The existing gas fired steam heating boilers are in good condition	10 years	20 years	Regualr maintenance will have these boilers operating for many more years.					$1,000
HVAC /plumbing systems upgrades	These systems are aged and in fair condition.	40+ years	0 years	The mechanical systems should be upgraded because they havbe outlived there usefull service life.				$ 1,362,000	

Learning Center

February 8, 2019 Age: 1956, renovations/additions: 1989, 2014

Approx. SF: 34,030

Description	Existing Conditions	Age of Asset	Remaining Life Expectancy	Recommendations	Short Term 1-3 years	Mid Term 3-5 years	Long Term 5-10 years	Projects Upgrades	Maintenance Operations
					3	2	1		0
Electrical									
Emergency Generator	The existing emergency generator is a 15kw natural gas generator manufactured by Kohler connected to the distrbution system via one automatic transfer switch which provides back-up power to egress lighting and select equipment.	Unknown	5 years	Maintenance existing generator, change all fluids yearly and provide regular testing to ensure proper operation.					$2,500
Emergency Generator	The existing emergency generator is a 15kw natural gas generator manufactured by Kohler connected to the distrbution system via one automatic transfer switch which provides back-up power to egress lighting and select HVAC equipment	Unknown	5 years	Plans should be considered for replacement of existing generator to maintain reliability and to be brought up to current codes. Generator should be upgraded to 30kw to allow connection of additional equipment			$75,000		
Fire Alarm System	The existing fire alarm system is a older zoned fire alarm system manufactured by FCI. The system is functioning and adequately provides fire alarm coverage to the facility however newer addressable technology provides additional protection.	Unknown	5-10 years	Consideration should be given in the future to replace the exsitng system with current technoloy in an addressable fire alarm system. Current devices provide coverage and notification to the facility but in some locations in egress paths does not meet current codes and notification devices are not located in classrooms and other occupied spaces.			$78,000		
Classroom Lighting Fixture Replacement	Existing classroom and large goup instruction lighting fixtures are primarily fluorescent fixtures in variuos styles with T8 lamps and electronic ballasts.	27 years		Fixtures are various types and have T8 lamps and electronic ballasts. Consideration should be given to replace existing fixtures with new LED technolgy for optimal energy savings, better lighting performance and reduced maintenance costs. Cost is indicated to replace classroom lighting with LED dimmable lights with occupancy sensor control.				$84,000	
Corridor exit signs.	Exits from the building have singnage however many interior partitions have been added that do not have proper signage.			Add exit signs in coridors to meet current code requirements.	$6,000				
Totals					**$ 6,000**	**$ 110,000**	**$ 153,000**	**$ 3,056,000**	**$ 3,500**

Facilities Assessment

Bus Garage, Food Warehouse, and Wash Bay

Prepared for:
Millcreek Township School District

Prepared by:
Stantec

February 23, 2018

Table of Contents

1.0 EXISTING CONDITIONS – SITE AND ARCHITECTURAL

BUS GARAGE AND WASH BAY

CRACKED CMU AT SOUTHWEST CORNER

CRACKED CMU AT GARAGE PEIRS

This assessment describes the existing site and architectural systems for the Millcreek Township School District Bus Garage and Food Warehouse in Erie, Pennsylvania.

Constructed: 1969

Renovations/Additions: Unknown

Roof: Built up Roofing – EPDM, both types are out of warranty

Building Area: 7,300 SF.

1.1 SITE

Paving. The asphalt paving in front of the door openings is cracked and failing.

Storm Water and Drainage. The interior of the garage is unpaved, and several large puddles were observed.

1.2 ARCHITECTURAL

Summary

The building was originally constructed as a bus garage with an enclosed wash bay. The garage can park 38 busses. The food warehouse was added at an unknown date.

Exterior

The exterior of the bus garage is tired. The concrete block is cracked in several areas. Structural review was requested, and the update is below per Mike Brennan, structural engineer.

Design codes have undergone revisions since this building was designed and constructed, therefore we performed a review to determine the current design basis lateral loading. It can be concluded that the structure is adequate for normal service loading, but it is not acceptable for the design basis wind load (115 mph) or a design basis seismic event.

Unreinforced CMU is typically not preferred in lateral force resisting systems in modern building codes. Current practice

CRACKED PAVING AT GARAGE DOORS

UNPAVED GARAGE FLOOR

FOOD WAREHOUSE – GUARDRAIL NEEDED AROUND TRUCK RAMP

is to install rebar in the cores and fill them to create ductility. In the absence of rebar, it is common to see the type of cracking that is evidenced at Millcreek.

We understand that the structure has adequately performed its function since 1969, however it is prudent to begin evaluations to provide a code compliant structure.

The exterior of the food warehouse is in good condition.

Roof – Two Roofing Systems

Two roofing systems- built-up roofing and EPDM. Both systems are out of warranty.

Interior

Bus garage – exposed unpainted structure and gravel floor.

Food Warehouse

The interior is clean, and the finishes are in good condition.

1.3 ACCESSIBILITY ISSUES

Note – A further accessibility study of the facility would be required to evaluate these and other related ADA requirements.

1.4 POSSIBLE IMPROVEMENTS

- Repaving with heavy duty paving in front of the garage doors.
- Repair and repaint the exterior.
- Add a guardrail around the loading dock ramp in the food warehouse.

2.0 EXISTING CONDITIONS – PLUMBING / FIRE PROTECTION / MECHANICAL SYSTEMS

This assessment describes the existing mechanical, electrical, plumbing, and fire protection systems for the Millcreek Township School District B Bus Garage and Food Warehouse in Erie, Pennsylvania.

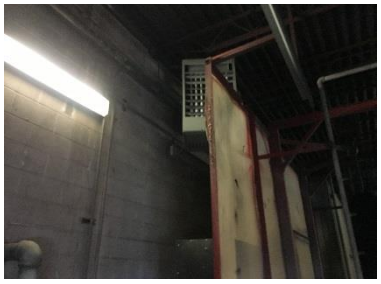
2.1 GAS SERVICE

The Maintenance Building utilizes natural gas for heating.

2.2 HEATING PLANT

There is no central heating plant.

INFRARED HEATING



GAS FIRED UNIT HEATER

2.3 AIR DISTRIBUTION SYSTEMS

The warehouse is heating by an infrared heating system, "CoRay-Vac" and this system appears to be in good condition. There is a through the wall propeller exhaust fan for summer ventilation.

Radiant heating in the floor of the warehouse.

Existing horizontal gas fired unit heaters appear to be in good condition.

2.4 HVAC INSTRUMENTATION AND CONTROLS

Standalone controls.

2.5 DOMESTIC WATER SERVICES

No domestic water service.

3.0 EXISTING CONDITIONS ELECTRICAL SYSTEMS

3.1 ELECTRIC SERVICE

The Bus Garage and Food Warehouse Building is currently supplied electric service from the Administration Center. Two underground feeders extend to the bus garage and the food warehouse.

BUS GARAGE SERVICE PANEL

3.2 ELECTRICAL DISTRIBUTION

The original service from the Administration Center feeds a 175 amp, 120/208 volt panel in the bus garage. This panel is old, in poor condition, and feeds several other panels and disconnects. There are two older sub-panels in the garage that are also in poor condition. These panels should be replaced and located in a room separate from the bus garage for protection and for ease of maintenance.

There are two sub-panels located in the maintenance shop. These panels are in fair condition and should be refed with dedicated feeders from a new service panel.

PUSHMATIC PANEL IN WAREHOUSE

There are two sub-panels in the warehouse. One is an old Pushmatic panel with breakers that are no longer available; the other is a small sub-panel with limited capacity. These panels should be replaced with one new panel for reliability.

At the food storage area, a Square D load center, 200 amp, 120/208 volts was installed to feed the freezers, refrigerators, and condensing units. A dedicated 200 amp service was provided from the Administration Center. This panel and service are in good condition and should be maintained.

3.3 EMERGENCY POWER

There is no emergency power in the building.

3.4 LIGHTING

Lighting fixtures in the bus garage and food warehouse areas are T8 industrial fixtures and are in fair condition and only provide minimal levels of light. In the wash bay, T8 watertight industrial fixtures were installed and are in good condition. Manual switches control all lighting.

3.5 EMERGENCY FIXTURES

Battery powered egress lighting fixtures are located to illuminate the shop area and the food warehouse during a power failure.

3.6 FIRE ALARM SYSTEMS

There is no fire alarm system in the building.

3.7 LIGHTNING PROTECTION SYSTEM

No Lightning protection exists on the school and no issues have been indicated due to lightning.

Bus Garage - Food Warehouse - Wash Bay

February 8, 2019 Age: 1969 (Bus Garage and Wash Bay)

Approx. SF: 7,300

Description	Existing Conditions	Age of Asset	Remaining Life Expectancy	Recommendations	Short Term 1-3 years	Mid Term 3-5 years	Long Term 5-10 years	Projects Upgrades	Maintenance Operations
					3	2	1		0
Architectural									
Structural concerns with the cracked concrete block	Existing concrete block is cracked, this weakens the structural integrity of the building			Requires further structural review	XXXXXX				
Paving at garage door approaches	Existing asphalt paving is cracked			Remove and replace paving with heavy duty paving or a concrete pad				$50.00 SF	
Guardrail at interior truck ramp and loading dock	The existing edge of the recessed truck ramp has no fall protection			Install a 42" guardrail. The area at the truck loading can be a gate.				$100.00 LF	
Paint the exterior	The exterior looks tired and dirty.			Prep and paint exterior. Recommend painting the inside of the washbay to keep the moisture out of the block.				$2.00 SF	
Roofing issues	Built-up roofing and EPDM systems are out of warranty.			District to evaluate condition.					X
Mechanical									
Gas fired unit heaters	Existing horizontal unit heaters in the wash bay are in fair condition			With continued maintenance these heaters should stay in operational condition					$100
Electrical									
Branch Panelboards	Two old panelboads exist in the bus garage and two old panels exist in the warhouse. Newer panels have been added in the shop and at the food storage area.	Unknown	1 year	The old panels in the bus garage and the warehouse should be replaced. The main service panel in the bus garage should be relocated to an area that provides protection and ease of maintenance. New feeders should be extended to the warehouse and to the existing panels in the shop.	$40,000				
Totals					**$ 40,000**	**$ -**	**$ -**	**$ -**	**$ 100**

Facilities Assessment

Bus Repair Garage

Prepared for:
Millcreek Township School District

Prepared by:
Stantec

February 23, 2018

Table of Contents

FACILITIES ASSESSMENT

BUS REPAIR GARAGE

February 23, 2018

1.0 EXISTING CONDITIONS – SITE AND ARCHITECTURAL

This assessment describes the existing site and architectural systems for the Millcreek Township School District Bus Garage Maintenance Building in Erie, Pennsylvania.

Part of Education Center Campus.

Constructed: 1957

Building Area: 2,000 SF.

Roof: out of warranty

WEST WALL - UNDERSIZED GARAGE DOORS AND CRACKED MASONRY

WEST WALL - CRACKED MASONRY

SINGLE PANE WINDOWS WITH RUSTING FRAMES

1.1 SITE

Paving. The parking and road ways are in good condition.

Storm Water and Drainage. There doesn't appear to be any issues and none were mentioned.

1.2 ARCHITECTURAL

Summary

The building was originally constructed in 1957 with several renovations and additions. It functions as a 4-bay bus repair garage with offices, storage and employee facilities. One portion of the one-story addition was used as transportation offices but is now empty.

Exterior

The exterior is tired and dirty. There are several large, single pane windows that have rusting frames. The West wall has cracked concrete block around the two car garage doors.

It was mentioned that the two garage doors on the West wall need to be replaced with taller doors to accommodate the new, taller busses.

Roof –

Out of warranty. 2,000 S.F.

REPAIR BAYS

ABANDONED OFFICE SPACE

1.3 ACCESSIBLITY ISSUES

Note – A further accessibility study of the facility would be required to evaluate these and other related ADA requirements.

- Toilet facilities are not accessible.

1.4 POSSIBLE IMPROVEMENTS

- Repair and repaint the exterior.
- Replace exterior windows.
- Replace garage doors with taller garage doors.
- ADA accessible toilets

2.0 EXISTING CONDITIONS – PLUMBING / FIRE PROTECTION / MECHANICAL SYSTEMS

This assessment describes the existing mechanical, electrical, plumbing, and fire protection systems for the Millcreek Township School District Bus Garage Maintenance Building in Erie, Pennsylvania.

BOILER AND WATER HEATER

2.1 GAS SERVICE

The Maintenance Building utilizes gas for heating.

Heating plant

There is a gas fired hot water boiler that serves the offices in the service garage, this boiler is in the process of being replaced.

air distribution systems

There is a gas fired furnace with a cooling coil that serves some office areas, there no outside air connection for ventilation air to these spaces.

Gas fired unit heaters to heat the bus bays appear to be in good condition.

GAS FIRED FURNACE

2.2 HVAC INSTRUMENTATION AND CONTROLS

Stand-alone controls for the boiler and furnace.

2.3 DOMESTIC WATER SERVICES

Gas fired water heater in the mechanical room provides hot water for the facility. This unit appears to be in fair condition.

3.0 `EXISTING CONDITIONS ELECTRICAL SYSTEMS

3.1 ELECTRIC SERVICE

The Bus Garage Maintenance Building is currently supplied electric service from the Administration Center. An underground feeder extends into the maintenance building.

3.2 ELECTRICAL DISTRIBUTION

The feeder serves a 200 amp, 120/208 volt main panel located on the wall in the shop area. The panel is a Cutler Hammer panel with no space for additional loads. The panel is in fair condition and appears to adequately serve the facility. Service to the food warehouse extends through bus garage.

3.3 EMERGENCY POWER

There is no emergency power in the building.

3.4 LIGHTING

Lighting fixtures are T8 industrial with wire guards and are controlled by manual switches.

3.5 FIRE ALARM SYSTEMS

There is no fire alarm system in the building.

3.6 LIGHTNING PROTECTION SYSTEM

No Lightning protection exists on the building and no issues have been indicated due to lightning.

Bus Repair Garage

February 8, 2019 Age: 1957

Aprrox. SF: 2000

Description	Existing Conditions	Age of Asset	Remaining Life Expectancy	Recommendations	Short Term 1-3 years	Mid Term 3-5 years	Long Term 5-10 years	Projects Upgrades	Maintenance Operations
					3	2	1		0
Architectural									
Repair and repaint exterior	The exterior is tired and dirty			Repair cracked concrete block and repaint the exterior				$2.00 SF	
Replace exterior windows	Original windows are single pane and the frames are rusting			Replace windows with thermally insulated glazing and aluminum frames				$30.00 SF	
Replace garage doors with taller garage doors	The current doors do not accomadate the new, taller busses			Replace doors, this will require structural modifications to the exisitng concrete block wall				$7,000 / DOOR	
provide ADA accessible toilets	The current toilets are not ADA compliant			Renovate the existing toilets to meet ADA requirements.				$250.00 SF	
Roofing	The roofing is out of warranty			District to evaluate options					X
Mechanical									
Heating and cooling of the offices	Residential syle gas furnace with cooling capability and no outside air connection for ventilation			Replace the furnace with a commercial unit with outside air capability when renovations take place.				$15,000	
Electrical									
Totals					$ -	$ -	$ -	$ 15,000	$ -

Facilities Assessment

Maintenance Building

Prepared for:
Millcreek Township School District

Prepared by:
Stantec

February 23, 2018

Table of Contents

1.0 EXISTING CONDITIONS – SITE AND ARCHITECTURAL

MAIN ENTRY – STAINING EVIDENT ON BLOCK

RUSTED ENTRY DOOR AND FRAME

RUSTED INTERIOR ENTRY DOOR AND FRAME

NON-ACCESSIBLE KITCHENETTE

This assessment describes the existing site and architectural systems for the Maintenance in Erie, Pennsylvania.

Constructed: 1994

Renovations/Additions: No major renovations or additions.

Site Area: Part of the Education Center Campus

Building Area: 12,660 SF.

1.1 SITE

Paving. The parking areas and the roadways are in good condition.

Storm Water and Drainage. There doesn't appear to be an issues and no mention was made of any.

1.2 ARCHITECTURAL

Summary

The building was originally constructed in 1994 with no major renovations taking place.

Exterior

The splitface CMU metal trim and aluminum windows are in good condition. There is some surface dirt and/or staining on the splitface block that maybe able to be removed. There is also some rusting occurring on the door and sidelights and the garage doors.

Roof

EPDM. Installed 1994. Out of warranty – recoat soon.

Interiors

The finishes are in good condition. There is an ADA accessible toilet and shower. The interior stair railing is not ADA.

HANDRAIL NEEDED AT LOADING DOCK STEPS

HANDRAIL DOES NOT MEET ADA REQUIREMENTS

STAINING ON BLOCK

1.3 ACCESSIBILITY ISSUES

Note – A further accessibility study of the facility would be required to evaluate these and other related ADA requirements.

Interior handrail does not meet ADA requirements.

1.4 POSSIBLE IMPROVEMENTS

- Clean the exterior
- Paint and repair entry doors
- Replace interior handrail
- Add railing at loading dock steps

2.0 EXISTING CONDITIONS – PLUMBING / FIRE PROTECTION / MECHANICAL SYSTEMS

This assessment describes the existing mechanical, electrical, plumbing, and fire protection systems for the Millcreek Township School District Maintenance Building in Erie, Pennsylvania.

2.1 GAS SERVICE

The Maintenance Building utilizes natural gas for heating.

2.2 HEATING PLANT

There is no central heating plant for this building.

TRUCK BAY HEATER

GAS FIRED FURNACE

2.3 AIR DISTRIBUTION SYSTEMS

The office areas of the building is heated and cooled by a gas fired DX rooftop unit which is approximately 24 years old and is in fair condition. The unit is at the end of its' useful life and should be replaced.

The truck bays are heated by gas fired horizontal unit heaters which appear to be in fair condition.

The plumbing, electrical and HVAC shops are heated by a gas fired furnace located in the washroom. The dryer is vented to the maintenance garage, should be vented to the outdoors.

There is no combustion air into the water heater room.

The building has a radon exhaust system.

2.4 HVAC INSTRUMENTATION AND CONTROLS

There is no central control system for this building. If an upgrade is done to HVAC systems the building should be put on the central DDC system.

GAS FIRED WATER HEATER

2.5 DOMESTIC WATER SERVICES

The building water is heated by a RUUD gas fired water heater, this heater appears to be in good condition.

3.0 EXISTING CONDITIONS ELECTRICAL SYSTEMS

3.1 ELECTRIC SERVICE

The Maintenance Building is currently supplied electric service from the Administration Center. An underground feeder extends into the maintenance building.

GE MAIN SERVICE PANEL

3.2 ELECTRICAL DISTRIBUTION

The feeder serves a 600 amp, 120/208 volt main panel located in an electrical closet. The panel was manufactured by GE, is in good condition, and appears to have adequate capacity to serve the building loads. There are five branch panelboards, all manufactured by GE, in good condition, which provide power to branch circuits needed in the building.

3.3 EMERGENCY POWER

There is no emergency power in the building.

3.4 LIGHTING

The majority of the lighting fixtures are original to the building when constructed in 1994 and utilize T8 fluorescent lamping which are inefficient based on current lamping technologies. Consideration should be given to replacement of the older fixtures with new LED type fixtures designed for LED technology that provide optimal performance, the ability to dim fixtures to provide only the required light levels for the task and to provide the most energy savings.

Site lighting consists of metal halide wallpacks mounted on the building and recessed in canopies at entrances.

Lighting control within the building is primarily accomplished by manual lighting switches located at entrances to rooms or areas. Providing automatic lighting controls for non-critical and non-life safety lighting would provide additional energy savings. It was observed at our walkthrough of the facility that many rooms were unoccupied with the lighting on at full brightness. Installing occupancy sensors in select locations will provide energy savings by turning lights off

when the space is not utilized. Any upgrades to LED type fixtures should be provided with dimming controls to allow occupants to set light levels based on needs and tasks to be performed to realize maximum energy savings and provide the most visual comfort.

3.5 EMERGENCY FIXTURES

Battery powered egress lighting fixtures are located to illuminate egress paths during a power failure. Exit signs contain integral batteries for illumination during a power failure.

3.6 FIRE ALARM SYSTEMS

There is no fire alarm system in the building.

3.7 TELEPHONE/DATA CABLING

The building has a network rack located in an IDF closet that is connected to the Administration Center via a fiber optic cable. Data cabling from the rack to workstations is category 5. The cabling meets current standards and internet access meets the needs of the facility.

The current phone system is a Cisco phone system and consists of category 3 telephone cabling wired to punchdown blocks located in the data closets. The phone lines extend from service in the Administration Center.

3.8 LIGHTNING PROTECTION SYSTEM

No Lightning protection exists on the building and no issues have been indicated due to lightning.

Maintenance Building

February 8, 2019 Age: 1994

Approx. SF: 12,660

Description	Existing Conditions	Age of Asset	Remaining Life Expectancy	Recommendations	Short Term 1-3 years	Mid Term 3-5 years	Long Term 5-10 years	Projects Upgrades	Maintenance Operations
					3	2	1		0
Architectural									
Exterior is dirty	The exterior split face block is stained and/or dirty			Wash the exterior					X
Entry doors are rusting	The main entry and vestibule doors and frames are rusted			Prep and paint the doors and frames					X
interior handrail	The current handrail does not meet current codes			Replace handrail				$100.00 LF	
Counter height at reception area	The current counter height does not meet ADA criteria			Revise an area of the counter to be 34" above the floor				$400.00 LF	
Handrail at loading dock steps	There is no handrail at the loading dock steps			Add a handrail (can be removable)				$100.00 LF	
Roofing	EPDM out of warrranty	1994		District to evaluate re-coating.					X
Mechanical									
Rooftop air handler	The existing rooftop air handling unit with gas heat and DX cooling is reported to be in poor condition.	24 years	0 years	Replace the existing rooftopp unit with a new high efficiency gas fired variable air volume roof top unit.	$120,000				
Electrical									
Totals					**$ 120,000**	**$ -**	**$ -**	**$ -**	**$ -**

Facilities Assessment

Transportation Center

Report Description

Prepared for:
Millcreek Township School District

Prepared by:
Stantec

February 23, 2018

Table of Contents

FACILITIES ASSESSMENT

TRANSPORTATION CENTER

February 23, 2018

1.0 EXISTING CONDITIONS – SITE AND ARCHITECTURAL

FRONT ENTRY

INTERIOR

INTERIOR

This assessment describes the existing site and architectural systems for the Millcreek Township School District Transportation Center in Erie, Pennsylvania.

Part of Education Center Campus

Constructed: 1945

Building Area: 2400 SF

Roof: Shingles, installed 2012

1.1 SITE

Paving. The parking and roadway are in good condition.

Storm Water and Drainage. At the time of our walkthrough, the gutters were frozen and overflowing.

1.2 ARCHITECTURAL

Summary

The building was originally a bus garage but has recently been converted into office space for the transportation contractor.

Exterior

The garage door openings have been infilled with T1-11 siding. This siding is showing signs of deterioration, as well as the deteriorating siding on the front door enclosure.

Roof

1,600 S.F. Shingles installed in 2012.

Interiors

The interior finishes are in fair condition, ADA accessibility clearances and equipment are lacking.

NON-ADA TOILET

FUEL PUMPS

1.3 ACCESSIBLITY ISSUES

Note – A further accessibility study of the facility would be required to evaluate these and other related ADA requirements.

- ADA Clearances at doors
- Toilets are not ADA accessible
- Kitchenette is not ADA accessible

1.4 POSSIBLE IMPROVEMENTS

- New siding and front entry.
- ADA upgrades.
- Replace the building

2.0 EXISTING CONDITIONS – PLUMBING / FIRE PROTECTION / MECHANICAL SYSTEMS

This assessment describes the existing mechanical, electrical, plumbing, and fire protection systems for the Millcreek Township School District Transportation Center - Bus Station in Erie, Pennsylvania.

2.1 GAS SERVICE

The transportation center utilizes natural gas for heating and water heating.

2.2 HEATING PLANT

There is no central heating plant.

2.3 AIR DISTRIBUTION SYSTEMS

There is a gas fired furnace with a cooling coil for air conditioning. This unit appears to be in good condition.

GAS FIRED FURNACE

2.4 HVAC INSTRUMENTATION AND CONTROLS

This building has stand alone controls.

domestic water services

Gas fired "RUUD" water heater that appears to be in good condition.

GAS FIRED WATER HEATER

3.0 EXISTING CONDITIONS ELECTRICAL SYSTEMS

3.1 ELECTRIC SERVICE

The Transportation Center - Bus Station is currently supplied electric service from the Administration Center. An underground feeder extends into the transportation center.

3.2 ELECTRICAL DISTRIBUTION

The feeder serves a 200 amp, 120/208 volt main panel in a service closet. The panel was manufactured by Siemens, has additional space and is in fair condition. There is a sub-panel, Square D load center to provide additional branch circuits.

3.3 EMERGENCY POWER

There is no emergency power in the building.

3.4 LIGHTING

Lighting fixtures are 2x4 recessed fixtures with T8 lamps and prismatic lens. Recessed compact fluorescent downlights provide lighting in corridor and at entrance.

3.5 EMERGENCY FIXTURES

Battery powered egress lighting fixtures are located to illuminate egress paths during a power failure. Exit signs are non-illuminated.

3.6 FIRE ALARM SYSTEMS

There is no fire alarm system in the building.

3.7 TELEPHONE/DATA CABLING

A fiber optic cable and multi-pair telephone cable extend from the Administration center to provide telephone and network connections for staff in the transportation center. There are phones and network connections at each staff workstation.

3.8 LIGHTNING PROTECTION SYSTEM

No Lightning protection exists on the building and no issues have been indicated due to lightning.

Transportation Center

February 8, 2019 Age: 1945

Approx. SF: 2,400

Description	Existing Conditions	Age of Asset	Remaining Life Expectancy	Recommendations	Short Term 1-3 years	Mid Term 3-5 years	Long Term 5-10 years	Projects Upgrades	Maintenance Operations
					3	2	1		0
Architectural									
ADA clearance at doors	Door clearances on the ush and pull sides of the doors are narrow			Renovate the door openings and adjacent walls to incorporate proper clearance				$250.00 SF	
ADA clearance at toilet rooms	Toilet facilities do not meet current ADA requirements.			Renovate the toilet rooms to incorporate proper clearance and fixtures				$250.00 SF	
ADA clearance at kitchenette	Kitchenette do not meet current ADA requirements.			Renovate the kitchenette to incorporate proper clearance and fixtures				$400.00 LF	
Siding is deteriorating	Existing siding is deteriorating.			Remove existing siding and replace with a more weather resistant siding.				$40.00 SF	
Mechanical									
Residential gas furnace	The existing furnace does not have outside air for ventilation.			Replace existing furnace with a new unit that includes outside air for ventilation.				$12,000	
Electrical									
Totals					$ -	$ -	$ -	$ 12,000	$ -

Facilities Assessment

West Warehouse

Report Description

Prepared for:
Millcreek Township School District

Prepared by:
Stantec

February 23, 2018

Table of Contents

1.0 EXISTING CONDITIONS – SITE AND ARCHITECTURAL

EAST ELEVATION

INTERIOR

This assessment describes the existing site and architectural systems for the Millcreek Township School District West Warehouse in Erie, Pennsylvania.

Part of Education Center Campus

Constructed: 1994

Renovations/Additions:

Building Area: 6000 SF

1.1 SITE

Paving. The paving and roadways are in good condition.

Storm Water and Drainage. No issues noticed, and none mentioned. The area was snow covered during our visit.

1.2 ARCHITECTURAL

Summary

The building was originally constructed in 1994. It is a metal framed "Butler" Building. It is in good condition.

1.3 ACCESSIBILITY ISSUES

Note – A further accessibility study of the facility would be required to evaluate these and other related ADA requirements.

1.4 POSSIBLE IMPROVEMENTS

- Repaint the man door to stop the rust.
- Replace dented metal siding and repaint building.

2.0 EXISTING CONDITIONS – PLUMBING / FIRE PROTECTION / MECHANICAL SYSTEMS

This assessment describes the existing mechanical, electrical, plumbing, and fire protection systems for the Millcreek Township School District West Warehouse in Erie, Pennsylvania.

2.1 GAS SERVICE

The Building utilizes natural gas for heating.

2.2 HEATING PLANT

There is no central heating plant in this building.

2.3 AIR DISTRIBUTION SYSTEMS

The building is heated by horizontal gas fired unit heaters, these units appear to be in good condition.

UNIT HEATER

2.4 HVAC INSTRUMENTATION AND CONTROLS

Stand-alone controls for the unit heaters.

2.5 DOMESTIC WATER SERVICES

There is a 4" water main that comes in here for fire protection.

4" WATER MAIN

3.0 EXISTING CONDITIONS ELECTRICAL SYSTEMS

3.1 ELECTRIC SERVICE

The West Warehouse is currently supplied electric service from the Administration Center, via an underground feeder that extends into the warehouse.

3.2 ELECTRICAL DISTRIBUTION

The feeder serves a 200 amp 120/208 volt main panel located on the wall in the warehouse. The panel was manufactured by GE, has additional space, is in good condition, and adequately serves loads in the building.

3.3 EMERGENCY POWER

There is no emergency power in the building.

3.4 LIGHTING

Lighting fixtures are T8 industrial with wire guard in the warehouse and metal halide wallpacks on the exterior. Manual switches are located at the entry to control the lights.

3.5 EMERGENCY FIXTURES

Battery powered egress lighting fixtures are located in the warehouse for illumination during a power failure.

3.6 FIRE ALARM SYSTEMS

There is no fire alarm system in the building.

3.7 SECURITY

Card access is provided at the main entry connected to the district security system for authorized access to the warehouse.

3.8 LIGHTNING PROTECTION SYSTEM

No Lightning protection exists in the building and no issues have been indicated due to lightning.

West Warehouse

February 8, 2019 Age: 1994

Approx. SF: 6,000

Description	Existing Conditions	Age of Asset	Remaining Life Expectancy	Recommendations	Short Term 1-3 years	Mid Term 3-5 years	Long Term 5-10 years	Projects Upgrades	Maintenance Operations
					3	2	1		0
Architectural									
Repaint the man door				Repair man door to stop the deterioration				$2.00 SF	
Improve the exterior appearance	Some metal panels are dented and discolored			Replace the dented panels and paint the entire exterior.				$3.00 SF	
Mechanical									
Electrical									
Totals					$ -	$ -	$ -	$ -	$ -