

# Southeast Local School District

## District Facility Study

### **Includes:**

High School

Middle School

Elementary School

Bus Maintenance Building

District Offices

Prepared By:



May 24, 2022

**May 26, 2022**

## **Southeast Local School District – Facility Study**

### **Executive Summary**

The purpose of this facility assessment is to evaluate the overall condition of the facilities, components and systems to develop a renovation/improvement priority list and budget so that the Southeast School Board and Administration can determine an appropriate course of action and timeframe. The facilities include Southeast Local School District High School, Middle School, Elementary School, Bus Garage and Board Office facilities.

In order to provide a complete evaluation of the Southeast Local School District's architectural building components, HVAC, Plumbing, Electrical and Technology systems (MEPT), BSHM's team of architects and engineers worked closely with district personnel to identify existing building components and MEPT system conditions, potential deficiencies and prioritize necessary and desired improvements to suit the future needs of the district. The architectural building component and MEPT systems evaluation was comprised of a variety of tasks which are divided into several phases of work that include data gathering, organizing, evaluation/analysis and documentation.

Comprehensive data gathering exercises were performed to document the existing architectural and MEPT systems to facilitate the Architect/Engineer's understanding of existing components and systems in service throughout the building. This step allowed for pertinent architectural and MEPT systems information to be obtained during site surveys of the existing building, review of existing documentation and interviews of school district staff that are most familiar with the building and its operation.

Site surveys (walk-throughs) of the existing facility were carried out to visually inspect and document specific details of the current architectural building component and MEPT systems and their operational status. Photographic documentation was taken during the site surveys to assist in the analysis process and also used to illustrate findings and recommendations contained in the final report documents.

In addition to visual inspections of the facility, a review of existing architectural building component and MEPT systems documentation was performed to gain a better understanding of the facility. Examples of documentation which were reviewed include, but are not limited to, existing blueprints, specifications, operation and maintenance manuals, maintenance records, utility bills, etc. provided that such documents were available upon request from the district.

Internal information from District individuals who supplied valuable insight regarding the existing facility and future needs was also important to the assessment process. Interviews with

representatives of the district, such as facilities, maintenance, administrative personnel or others that are most familiar with the building was requested by BSHM to ensure that any known issues, pertinent needs and building operation and maintenance procedures were identified and were able to be substantiated in the overall evaluation with additional research.

Once all pertinent data was obtained, the BSHM team organized all information by major building component and system and subsequently evaluated each item. Major building components and systems were evaluated with regard to age, condition, capacity, size, efficiency and the ability of the component or systems to accommodate current and future use. A summarized description of each component and system followed by an evaluation and recommended action with a potential replacement/upgrade cost is provided in this final report document.

# Southeast Schools - High School Assessment

## Building Summary – Southeast High School

<b>District: Southeast Local School District</b> <b>Name: Southeast High School</b> <b>Address: 8423 Tallmadge Road</b> <b>Ravenna, OH 44266</b> <b>Contact: Josh Herndon – Principal</b> <b>Phone: 330-654-1960</b>					<b>Date Prepared: May 2022</b> <b>By: BSHM Architects &amp; MacMillan and Company, LLC</b>	
Acreage:		40 Acre			Note #1	
Parking Spaces:						
	Date	HA	Number of Floors	Sq. Ft.		
Original Building	1968	Partial	1	89,390		
Addition #1	2005	Partial	1	38,866		
<b>Total</b>				128,256		
<b>Note 1:</b> Includes 3,229 SF of Mech basement area						
	Rating	1	Satisfactory			
		2	Needs Repair			
		3	Needs Replacement			
	Const P/S	=	Present/Scheduled Construction			
FACILITY ASSESSMENT			RATING	COST		
A.	Heating System		3	\$2,043,000		
B.	Roofing		3	\$2,573,165		
C.	Ventilation / Air Conditioning		3	\$815,000		
D.	Electrical Systems		1	\$0		
E.	Plumbing and Fixtures		3	\$130,000		
F.	Windows		2	\$7,800		
G.	Structure: Foundation		1	\$0		
H.	Structure: Walls and Chimneys		2	\$1,054,533		
I.	Structure: Floors and Roofs		1	\$0		
J.	General Finishes		3	\$1,347,600		
K.	Interior Lighting		3	\$769,536		
L.	Security System		1	\$160,320		
M.	Emergency/Egress Lighting		3	\$5,000		
N.	Fire Alarm		2	\$500		
O.	Handicapped Access		2	\$38,400		
P.	Site Condition		2	\$185,981		
Q.	Sewage System		NA	\$0		
R.	Fire Suppression		1	\$0		
S.	Exterior Doors		2	\$8,900		
T.	Hazardous Material		NA	\$0		
U.	Life Safety		1	\$0		
V.	Loose Furnishings		NA	\$0		
W.	Technology		3	\$50,000		
X.	Construction Contingency/Non-Construction Cost			\$1,654,152		
	<b>Total</b>			<b>\$10,843,887</b>		

## A. Heating System

**Description:** The building is heated by a hot water heating system. Heating hot water is generated by three gas-fired boilers and two heating hot water circulating pumps located in the central boiler room. Heating hot water is distributed to equipment via an insulated piping system located either above the ceilings or in utility tunnels under the floor.

Heating is provided to the classrooms and corridors via vertical or horizontal unit ventilators or fan coil units. Each classroom has temperature control that is independent from other classrooms.

Heating is provided to the student dining and stage via two single-zone indoor air handling units. The air handling units are located in adjacent storage rooms and are suspended above the floor. Supply air is distributed to the dining area and stage with ductwork and diffusers.

Heating is provided to the gymnasium via two single-zone indoor air handling units. The air handling units are suspended above the floor exposed in the gymnasium. Supply air is distributed to the space with ductwork and diffusers.

Two variable air volume indoor air handling units are located in an upper level mechanical room near the gymnasium. One air handling unit serves the music rooms and related offices. One air handling unit serves the main offices. Temperature control for each space is provided by fan powered VAV (variable air volume) boxes located above the ceilings. The VAV boxes include hot water heating coils.

Make-up air for the kitchen exhaust hoods is provided by a gas-fired rooftop make-up air unit. A single exhaust fan provides exhaust for the kitchen hood.

The science lab has three fume hoods. Each hood has a dedicated rooftop exhaust fan.

The HVAC system is controlled by a central Building Automation System (BAS). The BAS was upgraded within the past year. The local installer was contacted to discuss the work performed as part of that upgrade. All the BAS software and equipment are up to date.

**Rating:** 3 – Needs replaced.

**Recommendations:** All the equipment and related piping and ductwork described above was installed as part of the high school addition and renovation project in 2003/2004. Recommendations for replacement or upgrades within the next 5 years are as follows:

1. Ductwork: No deficiencies were observed. There are no recommended upgrades or repairs.
2. Piping system: No deficiencies were observed. There are no recommended upgrades or repairs.
3. Boiler plant: The boilers and pumps are nearing 20 years old. The expected service life of this equipment is 20-25 years.
  - a. The heating water pumps have surface rust on the casing, indicating previous leaks that have been repaired. The motors will eventually failure. Replacement of the pumps is recommended as the pumps are nearing the end of their expected service life. The replacement pumps should be variable speed pumps to reduce energy use and related costs.
  - b. The boiler burners are nearing the end of their expected service life. The remaining service life of the internal heat exchanger of the boilers may exceed 5+ years. It is recommended to plan for the replacement of the all the boilers within the next 5 years. The replacement boilers should be of higher efficiency (87% vs. current 80% efficiency). This will reduce natural gas costs related to heating by approximately 8%.
4. Unit Ventilators (UV) and Fan Coil Units (FCU): The UVs and FCUs have an expected service life of approximately 20 years. Over the next 5 years, repairs will become more frequent and costly. Examples of failures that will occur are fan and motor failures, bearing noises, and water leaks. It is recommended to plan for replacement of all the UVs and FCUs within the next 5 years. As units are replaced, the associated 3-way control valves should be replaced with 2-way control valves to allow for variable flow control and reduced pump energy use.
5. Air Handling Units (AHU): The exterior casing of the AHUs are in good condition. Failure of the casing is not expected within the next 5 years. Potential failure over the next 5 years include the following AHU components: fans, related variable frequency drives, and possibly the heating and cooling coils. Recommendation for replacements over the next 5 years include the following:
  - a. Variable Frequency Drives.
  - b. Fans: The fan and fan motors should be replaced at the time when the fans or motors fail.
  - c. Coils: With proper water treatment, the heating and cooling coils will most likely have a remaining service life over 5 years. Replacement within the next 5 years is not recommended.
  - d. The associated 3-way control valves on each air handling unit should be replaced to allow for variable flow control and reduced pump energy use
6. Kitchen Hood make-up air unit and exhaust fan: Equipment is currently in good condition. There are no recommendations for upgrades or repairs.
7. Science Lab hood exhaust fans: The existing fans are in poor condition. Replacement is recommended.
8. Building Automation System:
  - a. Control modifications as required to support the equipment replacement described above.
  - b. Control modifications to improve energy efficiency are recommended. Modifications include the following:
    - i. Controls to allow for variable speed heating hot water pumping strategies.

Item	Cost	Unit	Quantity	Sum	Comments
Boiler Plant Improvements	\$750,000	LS	1	\$750,000	
Unit Ventilator and Fan Coil Unit Replacement	\$875,000	LS	1	\$875,000	
Air Handling Unit Improvements	\$400,000	LS	1	\$400,000	Complete replacement of components may not be required.
Science Lab Hood Exhaust Fan Replacement	1	LS	1	\$18,000	
Related Building Automation System					Included in each item above.
Sum				\$2,043,000	

## B. Roofing

**Description:** The original building has an EPDM system installed approximately 17 years ago and recent leaks have been reported. There are various roof sectors that have small areas of ponding water due to lack of positive roof slope/ drainage. Roof drainage is provided via internal roof drains. While no emergency roof drains have been provided, the low roof edge does provide for emergency overflow. In several areas, roof repairs and patches were apparent. It is our understanding that the district will be undertaking a project in the summer of 2022 to provide new flashing and building edge repair.

The building addition has a sloped asphalt shingle roof installed approximately 17 years ago. Due to the slope and location of the roof, close observation was not conducted. Roof drainage is provided using gutters and downspouts which are tied to a subsurface drainage system. The gutters and downspouts appear to be in good but weathered condition. In some areas it appears that the gutters are not draining properly which is causing staining of the masonry below.

**Rating:** 3 Needs Replacement

**Recommendations:** With the typical EPDM roof system life expectancy being 20 years, the District should anticipate a roof replacement project in the next 2 to 4 years. While the replacement and repair of roof edge and flashing should extend the life of the roof, the roof membrane and attachment to the substrate may occur. The roof replacement project should utilize a tapered insulation to create positive roof slope/ drainage. The roof replacement should also include the installation of additional roof drains and emergency roof drain overflows in areas without access to a low roof edge

With the typical Asphalt shingle roof life expectancy being 20 years, the district should anticipate replacement of this system as well. Degradation of the granular surface occurs over time and could lead to water infiltration. It should be noted that at the time of roof replacement, the gutters should be inspected for damage and possible replacement. Subsurface drain lines should be inspected and cleaned, and the slope of all downspouts should be inspected and adjusted to provide for positive drainage to downspouts

Item	Cost	Unit	Quantity	Sum	Comments
Roof Replacement - EPDM	\$23.50	Sq. Ft.	104,390	\$2,453,165	Does not include replacement of gutters and downspouts
Roof Replacement – Asphalt Shingle System	\$8.00	Sq. Ft.	15,000	\$120,000	
Roof Replacement – Standing Seam Option	\$24.90	Sq. Ft.	15,000	\$373,500	
Sum				\$2,573,165	With Asphalt Shingle Roof

## C. Ventilation / Air Conditioning

**Description:** Cooling and ventilation is provided to all spaces with either unit ventilators or indoor air handling units as described in the Heating section of this report. Chilled water is provided to each unit ventilator and air handling unit for cooling.

Each unit ventilator and air handling unit have an outdoor air intake duct routed to the outdoors to bring in outdoor air for the ventilation of the spaces per code. The air handling units include energy recovery wheels for improved efficiency during the heating and cooling modes.

Chilled water is generated by two split system air-cooled chillers. Each chiller includes an indoor evaporator section and outdoor condensing unit. Refrigerant piping is routed between the respective indoor and outdoor sections. Each indoor evaporator section includes a dedicated primary pump. Two secondary pumps are used to distribute chilled water to equipment through

an insulated piping system located either above the ceilings or in utility tunnels under the floor. Both outdoor chiller sections had either the compressors replaced or repaired in the past two years.

Rating: 3 – Needs replaced

Recommendations: All the equipment and related piping and ductwork described above was installed as part of the high school addition and renovation project in 2003/2004. Recommendations for replacement or upgrades within the next 5 years are as follows:

1. Ductwork: No deficiencies were observed. There are no recommended upgrades or repairs.
2. Piping system: No deficiencies were observed. There are no recommended upgrades or repairs.
3. Chilled water equipment: The chillers and pumps are nearing 20 years old. The expected service life of this equipment is 20-25 years.
  - a. Replacement of all four pumps is recommended as the pumps are nearing the end of their expected service life. The replacement pumps should be variable speed pumps to reduce energy use and related costs.
  - b. Replacement of both chillers is recommended. The chillers have already had significant repairs. Failure of components will only increase over time. New chillers will have energy improvements that will reduce energy costs related to cooling.
4. Building Automation System:
  - a. Control modifications to support the recommendations above.
  - b. BAS modifications related to cooling and ventilation, to reduce energy costs, include the following:
    - i. Add controls to modulate the ventilation rate and total airflow in the gymnasium and dining area based on occupancy.
    - ii. Add controls and related piping modifications to allow for variable speed chilled water pumping strategies.

Refer to the Heating section of this report for recommendations related to the replacement of the unit ventilators and air handling units

Item	Cost	Unit	Quantity	Sum	Comments
Chillers and Pumps Replacement	\$700,000	Lump Sum	1	\$700,000	
Building Automation System	\$115,000	Lump Sum	1	\$115,000	
Sum				\$815,000	

## D. Electrical Systems

Description: The existing structure is currently served by a single 480/277V metered service from the utility company through a utility-owned 1000kva pad-mounted transformer. The main electrical room has the service-entrance switchgear with a 3,000 amp bolted pressure switch. All of the service equipment and electrical distribution panels were installed in 2004 and are in very good condition. Most of the branch circuit panelboards were replaced in 2004 and are in very good condition. There are several branch circuit panelboards that are original to the building but appear to be in working order. 120V convenience receptacles are intermittently located throughout the building. Most devices appear to be original to the building and in working order.

The emergency electrical distribution system was upgraded in 2004 and primarily feeds emergency lights, exit signs, well pumps, data networks, fire alarm system, and security system. All panels and transfer switch appear to be in very good condition. The generator housing is showing signs of weathering and rust but the generator appears to be in good working condition.

The building currently has a single automatic transfer switch that feeds both life safety loads and critical loads. Current electrical codes require complete separation of life safety and critical/optional standby loads with separate transfer switches, distribution panels, and wiring. The current system is existing to remain and codes do not require that legacy systems be upgraded to current standards. When the time comes to replace the generator and/or transfer switch, the systems should be separated at that time.

Rating: 1 No replacements are recommended at this time. The generator should continue to follow the recommended maintenance schedule with weekly starts and annual testing under load.

## E. Plumbing and Fixtures

Description: The primary source of water for the building is supplied by an outdoor well and pump located on the high school site. A back-up well and pump is located indoors in the high school basement. The water system does not include the level of filtration and water treatment that is used at the middle school and elementary school. The indoor well has a high concentration of iron, which is one of the reasons it is only used for back-up. The outdoor well be recently cleaned and the pump was replaced.

Domestic hot water is generated by a water heater that includes two water heaters and a single hot water storage tank and related pumps. The storage tank should remain in good condition for another 10+ years if the tank is maintained with anode rod replacement every 2 years. The water heaters and pumps are nearing the end of their expected service life. The failures related to the water heaters will most likely include control failure and leaks in the heat exchangers.

Domestic cold and hot water is distributed to fixtures via an insulated copper piping system. A recirculating hot water piping system is used to maintain heating hot water temperature in the hot water piping throughout the building. The piping system appears to be in good condition. Where piping was observed, there was no evidence of leaks.

Plumbing fixtures in toilet rooms were checked at random to get a sample of the condition of the fixtures. No immediate repair or replacement needs were observed. The following equipment is heavily used and nearing the end of the expected service life of the equipment: lavatory faucets, flush valves for water closets and urinals.

Natural gas is provided to the building from the gas utility main at the street. No deficiencies were observed.

Emergency showers and/or eyewashes were reviewed in two locations. The equipment is served directly from the cold water piping. Per standards from ANSI, the equipment should be served by tempered water. The tempered water will allow a person to use the shower or eyewash for a longer period of time than equipment served by cold water only.

In one of the science labs, the natural gas to the lab passes through a manual shut-off valve and electric shut-off valve located in the Prep Room. The valves shut off all the gas to the science lab. The electric shut-off valve has a switch in the Prep Room next to the valve. For improved safety, it is recommended to add an emergency push-button near the lab door to the corridor that will close the electric valve when pushed.

The underground sanitary pipe was not inspected with a camera.

Rating: 3 – Needs Replaced

Recommendations: All the equipment and related piping and ductwork described above was installed as part of the high school addition and renovation project in 2003/2004. Recommendations for replacement or upgrades within the next 5 years are as follows:

1. Domestic Water Piping systems: No deficiencies were observed. There are no recommended upgrades or repairs.
2. Domestic Water Heaters: The existing hot water storage tank should not need replacement in the next 5 years. Replacement of the gas fired water heaters is recommended.
3. Emergency showers: The cold water piping to the emergency showers and eyewashes should be modified so that the equipment is supplied with tempered water. A water mixing valve that is design specifically for emergency equipment use should be installed above the ceiling on the branch piping to the equipment. The mixing valve will have both hot and cold water connections.
4. Emergency gas shut-off: A wall mounted bush-button controlling an electric gas shut-off valve should be installed in the science lab.
5. Plumbing fixture faucets and flush valves: These items will need replacement over time. A single replacement of all this equipment is not required. Planning and budgets should be made to replace all these items as they fail.

Item	Cost	Unit	Quantity	Sum	Comments
Domestic Water Heater Replacement	\$90,000	Lump Sum	1	\$90,000	
Emergency Shower Modifications	\$7,500	Lump Sum	1	\$7,500	
Emergency Gas Shut-off	\$2,500	Lump Sum	1	\$2,500	
Misc. faucet and flush valve replacements	\$30,000	Lump Sum	1	\$30,000	Complete replacement may not be necessary.
Sum				\$130,000	

## F. Windows

Description: The windows appear to have been replaced in 2005 with thermally broken multi pane insulated panel windows. The windows in general are in good condition and provide adequate insulation properties. Inclusion of integral blinds provides for light control.

Sealant at the exterior perimeter of the windows appears to be original to the 2005 replacement and is 17 years old. The sealant has lost some of elasticity and has begun cracking and pulling away from the substrate in some areas.

Rating: 2 - Needs Repair

Recommendations: Replace all exterior window sealant.

Item	Cost	Unit	Quantity	Sum	Comments
Window Sealant – Remove and Replace	\$65	EA	120	\$7,800	Does not include curtain walls and exterior control joints
Sum				\$7,800	

### G. Structure: Foundations

Description: The building structural system consists of exterior load bearing masonry walls on traditional strip concrete footings and interior steel columns on traditional concrete column pads. There are no signs of differential settlement or masonry wall cracks.

Rating: 1 - Satisfactory

### H. Structure: Walls and Chimneys

Description: The building exterior utilizes a brick veneer on a masonry bearing wall system that is in overall good condition with the exception of various broken or chipped brick at selected locations (the majority of the broken/chipped brick are located at the west end of the building at the industrial arts wing). The spalling of the brick may be caused by the paint coating that was applied to the brick during the 2005 renovation. While we do not know the specific product used, the use of a non-breathable coating that traps moisture and moisture vapor in the face of the brick could account for the spalling of the brick. Exterior masonry control joints are visible and show signs of deterioration. The brick on the upper portion of the student dining is showing cracking at the corners and appears to be shifting in the lintels above the larger mechanical grills and windows. This area does not have adequate control joints which may account for the cracking. In several locations adjacent to concrete walks, the mortar has deteriorated from the use of salt in these locations. The majority of the building's door and window caulking joints are showing signs of deterioration. The building's brick and veneer show signs of dirt accumulation and staining from the gutters. The interior walls are of painted concrete masonry units and are in overall good condition. There are several locations where cracking is apparent but do not appear to be structural in nature.

Note – A separate masonry assessment was conducted by Taylor Consulting Group. Their report has been included for reference as Appendix A

Rating: 2 - Needs Repair

Recommendations: Selected replacement of broken brick veneer, recaulking of building joints, wash entire brick veneer, provide control joints in the Upper student dining area, and repair mortar joints at sidewalks are recommended. It is also recommended that after washing, it would be necessary to either reapply the paint coating on the brick areas, or remove all paint and apply a breathable coating.

Item	Cost	Unit	Quantity	Sum	Comments
Façade Repair Penthouse	\$253,000	Lump Sum	1	\$253,000	
Façade Repair - 1954	\$428,000	Lump Sum	1	\$428,000	
Façade Repair - Additions	\$207,615	Lump Sum	1	\$207,615	
Façade Repair - 2002	\$165,918	Lump Sum	1	\$165,918	
Sum				\$1,054,533	

### I. Structure: Floors and Roofs

Description: The exterior and selected interior walls are masonry bearing with steel joist supporting elevated metal deck w/concrete topping and/or metal roof deck with insulation. The Main Gymnasium utilizes deep steel joists as major members with standard depth as intermediate beams and a tectum/bulb tee roof structure. The student dining area utilizes an open web steel joists and metal deck roof structure. There were no observations or reports of masonry bearing cracks/deterioration or floor or roof deflection.

Rating: 1 - Satisfactory

Recommendations: No repairs or work is needed at this time

## J. General Finishes

**Description:** The floor finish floor in classrooms is resilient tile. The floor finish floor in offices is a mixture of carpeting and resilient tile. The Library floor finish floor is carpeting. The floor finish in all corridors is resilient tile. The floor finish in all public restrooms is ceramic tile. The floor finish in the gymnasium and cafeteria is a wood sports floor. The ceiling in classrooms, offices, corridors and restrooms is suspended acoustical lay-in tile. The ceiling in the AG Ed is exposed painted metal deck. Classroom walls are a mixture of painted masonry block (exterior walls) and metal stud with plaster finish (interior walls). Corridor walls are glazed block and painted CMU. Family & Consumer Science rooms have a significant amount of original wood casework that is in extremely poor condition. Science Lab casework appears to be in good condition, with the exception of the Chemistry Lab, which appears to have original 1960's era casework and fume hoods. Interior doors are non-rated solid-core wood doors equipped with standard mortised locksets. The student lockers are full height lockers painted metal style. The kitchen contains the standard walk in coolers/freezers, up-right refrigeration, chest-type freezers, serving lines with electric warmers, bake and convection ovens, gas range/griddle, steamer, mixer, milk cooler, prep sinks, and microwave. There is a separate dish return/wash area with an automated dish washer. A majority of the floor finishes were replaced in the 2005 renovation. VCT is in good condition. Carpeted areas in high traffic spaces in significantly worn. Wood gym and cafeteria floors finish is worn and chipping, although the wood appears to be in good condition. Acoustic ceiling tiles are in good condition, although some isolated areas need cleaning / replacement. Restroom toilet partitions are solid plastic and are showing wear. Sink counters in the toilet rooms are plastic laminate over wood and are deteriorated. Gym wall pads are of an undetermined age, however, the vinyl coverings are showing wear and the interior foam does not provide as much protection. While this is not an immediate item to address, they should be replaced in the near future

**Rating:** 3 Needs Replacement

**Recommendations:** Replacement of all carpet. Refinish and repaint gymnasium floor and cafeteria floor. Casework in Both Family and Consumer Sciences and the Chemistry lab should be replaced with updated cabinetry. Fume hood in the Chemistry lab should be replaced depending on curriculum and use. Sink counters in the toilet rooms should be replaced.

Item	Cost	Unit	Quantity	Sum	Comments
Replace Carpet	\$50	Sq. Yd.	10,000	\$500,000	
Refinish Gym Floors	\$3.00	S.F.	10,600	\$31,800	
Refinish Cafeteria Floor	\$2.50	S.F.	5,200	\$13,000	
Replace Chemistry casework	\$165,000	Lump Sum	1	\$165,000	
Replace toilet room counters	\$8,000	Lump Sum	1	\$8,0000	
Replace Fam and Cons casework	\$120,000	Lump Sum	1	\$120,000	
Sum				\$1,347,600	

## K. Interior Lighting

**Description:** Interior lighting throughout the building consists of a mixture of suspended and lay-in type fluorescent fixtures with acrylic prismatic lenses. All lighting appears to be from the 2004 upgrade. The existing fluorescent fixtures contain T8 lamps. The gymnasium has metal halide lamps. The metal halide lamps are at various stages of lamp depreciation, causes significant color variation and light output loss.

The stage and theatrical lighting systems are controlled through a Strand dimmer rack. The stage and theatrical lighting systems are in good working order.

**Rating:** 3 - Replacement Recommended

**Recommendation** It is recommended that interior lighting fixtures (with the exception of the stage and theatrical lighting systems) be replaced and upgraded to with LED fixtures on a one-for-one basis. It is recommended that lighting control system(s) be installed in accordance with current Ohio Building Code and applicable ASHRAE and/or IECC energy conservation requirements with occupancy sensors in classrooms.

Item	Cost	Unit	Quantity	Sum	Comments
Interior LED Upgrade with Occupancy Sensors in Classrooms	\$6	Sq. Ft.	128,256	\$769,536	

#### L. Security Systems

**Description:** Door access control systems are currently out for bids and due for replacement. Camera system has been updated periodically over the past several years as funds have been available, however, this has created a piecemeal system that has a wide variety of resolutions, and periodic issues.

**Rating:** 3 – Replacement Recommended

**Recommendation:** Replacement of security cameras and Server for security system is recommended. Providing a district wide system which provides for high resolution and integrating all district buildings would provide for higher reliability and functionality, and would reduce upkeep costs over the next several years.

Item	Cost	Unit	Quantity	Sum	Comments
Upgrade to surveillance system	\$1.25	SF	128,256	\$160,320	

#### M. Emergency/Egress Lighting

**Description:** Internally lit ceiling and wall mounted exit signs are located throughout the corridors and at exterior doors to define the paths of egress travel. Exit signs are fed from a life safety branch circuit backed up by the generator, so no battery packs are used. The majority of the exit lights appear to be incandescent sources.

Emergency lighting uses normal fixtures with Generator Transfer Devices to provide backup power in the even of a power failure. The current emergency fixtures are T8 fluorescent fixtures.

**Rating:** 3 - Replacement Recommended

**Recommendation:** It is recommended that the incandescent exit lights be replaced with new AC-only LED fixtures. Incandescent exit signs use approximately 15 times the power of current LED exit signs (10W vs 0.62W) and are illuminated 24/7. The life of typical LED exit signs is 10 years.

The cost of replacing the existing T8 fixtures with new LED fixtures is covered in the Interior Lighting section.

Item	Cost	Unit	Quantity	Sum	Comments
Interior LED Exit Light Upgrade	\$5,000	LS	1	\$5,000	Units replaced one-for-one with all existing branch circuit wiring to remain

#### N. Fire Alarm

**Description:** The building is equipped with a Fire Alarm system that was installed in 2004. The system incorporates audio/visual notification in all areas with manual pull stations at all exits. The air handlers have duct smoke detectors. The fire alarm system appears to be in good working order. The age of the backup batteries should be reviewed and replaced as recommended by the manufacturer.

**Rating:** 2 – Replacement of batteries is Recommended

Item	Cost	Unit	Quantity	Sum	Comments
Fire Alarm Battery Replacement	\$500	LS	1	\$500	

## O. Handicapped Access

**Description:** Entrances appear to conform with Accessibility requirements. Parking spaces have been designated and allocated adjacent to the main entrance. It should be noted that a number of doors do not appear to provide adequate pull side clearance. Where doors are recessed and a closer has been provided, 18" clear is required with no more than an 8" recess. Several areas do not appear to provide this clearance. Toilet rooms appear to be in compliance, providing adequate accessible urinal / toilets. Adequate Access has not been provided in Science classrooms. While counter heights are in conformance, under counter clearance has not been provided at sinks.

**Rating:** 2 - Repair Recommended

**Recommendation:** While some of the identified issues would be grandfathered into conformance due to the age of the facility, it is our recommendation that accessibility issues be addressed where it is technically feasible. Where doors can be replaced, and swings reversed to provide pull side clearance, these should be addressed. In areas where under counter clearance has not been provided, we recommend these be adjusted accordingly.

Item	Cost	Unit	Quantity	Sum	Comments
Replace Door / adjust frame	\$1500	EA	24	\$36,000	
Adjust Base Cabinets	\$600	S.F.	4	\$2,400	
Sum				\$38,400	

## P. Site Condition

**Description:** The building sits on an approximately 40 acre site which is contiguous with the Elementary School. The site appears to drain adequately using slope and area drains, both in paved and grassy areas. Concrete walks and curbs appear to be in reasonable condition, with some small areas of chipped curbs which we believe is attributed to snow plows. Paved access road in front of the building and front parking area near the stadium are severely deteriorated. There are signs of cracking throughout this section and numerous potholes and some patched areas. The paved area to the west and south of the building appear to have been replaced recently, but could benefit from being sealed to extend the life of the paving.

**Rating:** 2 – Needs Repair

**Recommendations:** In areas where pavement has recently been replaced, provide a seal coat and restripe. In areas where the pavement is cracking and has been repaired previously, Mill off Top wear course, repair all soft / damaged areas, and provide new top / wear coat.

Item	Cost	Unit	Quantity	Sum	Comments
Seal existing paving and restripe	\$2.50	S.Y.	10,825	\$27,063	
Mill, repair, and repave	\$10.50	S.Y.	15,315	\$158,918	
Sum				\$185,981	

## Q. Sewage System

**Description:** The sewer system tie into an owner provided wastewater treatment plant. This system has not been reviewed.

## R. Fire Suppression

Description: The building is protected by a wet piping sprinkler system. The source of water for the system is from the fire pump and storage tank near the elementary school. Refer to the elementary school report for review of this equipment

Rating: 1 - Satisfactory

Recommendations: There are no recommendations for replacement or equipment.

## S. Exterior Doors

Description: Exterior doors at main entrances are aluminum frame storefront or curtain wall systems. In these locations, the doors and adjacent glazing appear to be in good condition. Sealant at the perimeter of these units appears to be losing elasticity and showing some cracking. Exterior doors at secondary and service entrances are hollow metal with hollow metal frame. In these locations some rusting and deterioration has been noted at the base of the frames and doors.

Rating: 2 – Needs Repair

Recommendations: Sealant at perimeter of all exterior doors should be replaced. Weather stripping and seals should be replaced as they are at the end of their service life. At hollow metal doors and frames, repair should be attempted for the frames and door bottoms. At the time of repair, full analysis of the stability of the door and frame should be assessed for possible replacement.

Item	Cost	Unit	Quantity	Sum	Comments
Replace Perimeter sealant	\$4500	LS	1	\$4,500	
Repair frames / doors	\$400	EA	11	\$4,400	
Sum				\$8,900	

## T. Hazardous Material

Not Assessed – it is our understanding that in accordance with the Schools Maintained AHERA Reports, there are no existing hazardous materials currently in this building

## U. Life Safety

Description: The building is equipped with an automatic sprinkler system. The kitchen exhaust hood does have a compliant UL 300 chemical fire suppression system. The building has fire extinguishers in sufficient quantity and adequately located. The building has an emergency generator – refer to electrical. Refer to Handicap Access for ADA compliance.

Rating: 1 – Satisfactory (refer to other sections as noted)

## V. Loose Furnishings

Not assessed

## W. Technology

Description: Fiber optic and telephone services enter the building and are housed along the walls in the main Telecom Room. Classrooms contain a mixture of flat panel LCD and legacy type TVs or video. Most classrooms contain ceiling mounted projectors and document cameras. There are clocks in each classroom but no central master clock system. A Bogen public address (PA) system with speakers located within each classroom is present and the district is experiencing operational problems in several buildings.

Rating: 3 – Replacement of PA system recommended

Recommendations: It is recommended that the existing Bogen PA system be replaced at this time. All other technology system are operational and fit the current needs of the district.

Item	Cost	Unit	Quantity	Sum	Comments
PA System Replacement	\$50,000	LS	1	\$50,000	Replace the PA system head-end components. All wiring and devices in classrooms are existing to remain.

X. Construction Contingency/ Non-Construction Cost

A Construction Contingency and Non Construction Cost line Item equaling 18% has been added



Roofing at High School



Spalling and Cracking Brick at High School



Lavatory Counters in Toilet Rooms



Existing Science Casework in Chemistry Lab



Gymnasium Floor



Parking Adjacent to Stadium

# Southeast Schools - Middle School Assessment

## Building Summary – Southeast Middle School

<b>District:</b> Southeast Local School District <b>Name:</b> Southeast Middle School <b>Address:</b> 8540 Tallmadge Road Ravenna, OH 44266 <b>Contact:</b> Craig Nettleton – Principal <b>Phone:</b> 330-654-1950					<b>Date Prepared:</b> May 2022 <b>By:</b> BSHM Architects & MacMillan and Company, LLC	
Acreage:		56.21 Acre			Note #1	
Parking Spaces:						
	Date		Number of Floors	Sq. Ft.		
Original Building	2005		2	80,548		
<b>Total</b>					80,548	
<b>Note 1:</b> Includes 6,216 SF of Mechanical Mezzanine space						
	Rating	1	Satisfactory			
		2	Needs Repair			
		3	Needs Replacement			
	Const P/S	=	Present/Scheduled Construction			
FACILITY ASSESSMENT			RATING	COST		
A.	Heating System		3	\$1,175,000		
B.	Roofing		1	\$0		
C.	Ventilation / Air Conditioning		3	\$515,000		
D.	Electrical Systems		1	\$0		
E.	Plumbing and Fixtures		3	\$147,500		
F.	Windows		2	\$22,050		
G.	Structure: Foundation		1	\$0		
H.	Structure: Walls and Chimneys		2	\$22,000		
I.	Structure: Floors and Roofs		2	\$28,500		
J.	General Finishes		3	\$152,745		
K.	Interior Lighting		3	\$769,536		
L.	Security System		3	\$100,685		
M.	Emergency/Egress Lighting		3	\$5,000		
N.	Fire Alarm		2	\$500		
O.	Handicapped Access		2	\$4,800		
P.	Site Condition		2	\$170,401		
Q.	Sewage System		NA	\$0		
R.	Fire Suppression		1	\$0		
S.	Exterior Doors		2	\$8,900		
T.	Hazardous Material		NA	\$0		
U.	Life Safety		1	\$0		
V.	Loose Furnishings		NA	\$0		
W.	Technology		3	\$50,000		
X.	Construction Contingency/Non-Construction Cost			\$571,071		
	Total			<b>\$3,743,688</b>		

## A. Heating System

**Description:** The building is heated by a hot water heating system. Heating hot water is generated by two gas-fired boilers and two heating hot water circulating pumps located in the central boiler room. Heating hot water is distributed to equipment via an insulated piping system located either above the ceilings or in utility tunnels under the floor.

Heating is provided to the classrooms via fan powered variable air volume (VAV) terminal units as described below. Each classroom has temperature control that is independent from other classrooms.

An upper level mechanical room near the gymnasium and student dining includes five indoor air handling units. The type of units and the areas served are as follows:

1. Single zone air handling unit: provides heating to the gymnasium.
2. Single zone air handling unit: provides heating to the student dining and stage.
3. Variable air volume air handling unit: provides heating to the music rooms.
4. 100% outdoor air unit: provides heating to the kitchen and make-up air for the kitchen hoods.
5. Variable air volume air handling unit: provides heating to the locker rooms.

The air handling unit for the locker room is part of a VVT (variable volume and temperature) system. The VVT system provides the same temperature airflow to each space at the same time. Temperature control is provided to each zone by zone-dampers to reduce or increase airflow to each zone. The VVT system is appropriate for the locker room area where all the rooms are interior spaces and have similar heating and cooling requirements at the same time. All of the units, except for the 100% outdoor air unit serving the kitchen, include energy recovery wheels. As part of a previous inspection by the OSFC, a recommendation was made to plan for the replacement of the energy recovery wheels.

Each classroom wing includes an upper level mechanical room. Each mechanical room includes two variable air volume air handling units (six air handling units total). The air handling units serve the following areas:

1. Eighth grade classrooms east.
2. Eighth grade classrooms west.
3. Seventh grade classrooms (all)
4. Administration offices.
5. Sixth grade classrooms (all)
6. Library, clinic, computer lab, offices.

For all the variable air volume systems (except for the VVT system as previously described), temperature control for each space is provided by fan powered VAV (variable air volume) boxes located above the ceilings. The VAV boxes include hot water heating coils.

The HVAC system is controlled by a central Building Automation System (BAS). The BAS was upgraded approximately 4 years ago. The BAS does not allow for remote access to the building via the internet.

**Rating:** 3 – Needs replaced.

**Recommendations:** All the equipment and related piping and ductwork described above was installed as part of the elementary school addition and renovation project in 2003/2004. Recommendations for replacement or upgrades within the next 5 years are as follows:

1. Ductwork: No deficiencies were observed. There are no recommended upgrades or repairs.
2. Piping system: No deficiencies were observed. There are no recommended upgrades or repairs.
3. Boiler plant: The boilers and pumps are nearing 20 years old. The expected service life of this equipment is 20-25 years.
  - a. The heating water pumps have surface rust on the casing, indicating previous leaks that have been repaired. The motors will eventually failure. Replacement of the pumps is recommended as the pumps are nearing the end of their expected service life. The replacement pumps should be variable speed pumps to reduce energy use and related costs.
  - b. The boiler burners are nearing the end of their expected service life. The remaining service life of the internal heat exchanger of the boilers may exceed 5+ years. It is recommended to plan for the replacement of the all the boilers within the next 5 years. The replacement boilers should be of higher efficiency (87% vs. current 80% efficiency). This will reduce natural gas costs related to heating by approximately 8%.
4. Air Handling Units (AHU): The exterior casing of the AHUs are in good condition. Failure of the casing is not expected within the next 5 years. Potential failure over the next 5 years include the following AHU components: fans, related variable frequency drives, and possibly the heating and cooling coils. Recommendation for replacements over the next 5 years include the following:
  - a. Variable Frequency Drives.
  - b. Fans: The fan and fan motors should be replaced at the time when the fans or motors fail. The need for replacement will typically become evident by noises that will be evident.
  - c. Coils: With proper water treatment, the heating and cooling coils will most likely have a remaining service life over 5 years. Replacement within the next 5 years is not recommended.
  - d. The associated 3-way control valves on each air handling unit should be replaced to allow for variable



Item	Cost	Unit	Quantity	Sum	Comments
Chillers and Pumps Replacement	\$400,000	Lump Sum	1	\$400,000	
Building Automation System	\$115,000	Lump Sum	1	\$115,000	
Sum				\$515,000	

## D. Electrical Systems

**Description:** The existing Middle School is currently served by a single 480/277V metered service from the utility company through a utility-owned 1000kva pad-mounted transformer. The main electrical room has the service-entrance switchgear with a 2,500 switchboard with two 1200A circuit breakers. All of the service equipment and electrical distribution panels were installed in 2004 and are in very good condition. Most of the branch circuit panelboards were replaced in 2004 and are in very good condition. There are several branch circuit panelboards that are original to the building but appear to be in working order. 120V convenience receptacles are intermittently located throughout the building. Most devices appear to be original to the building and in working order.

The emergency electrical distribution system was upgraded in 2004 and primarily feeds emergency lights, exit signs, well pumps, data networks, fire alarm system, and security system. All panels and transfer switch appear to be in very good condition. The generator housing is showing signs of weathering and rust but the generator appears to be in good working condition.

**Rating:** 1 – No replacements are recommended at this time. The generator should continue to follow the recommended maintenance schedule with weekly starts and annual testing under load.

## E. Plumbing and Fixtures

**Description:** The water supply for the building is supplied from a central water treatment plant and pump station located in the middle school building. The water treatment equipment and pump station in the building are well maintained and in good condition. A well and pump provides water to the water treatment plant.

Domestic hot water for the kitchen and locker rooms is generated by a water heater that includes (2) water heaters and a two (2) hot water storage tanks and related pumps. The water heaters and pumps are nearing the end of their expected service life. The failures related to the water heaters will most likely include control failure and leaks in the heat exchangers.

Domestic hot water for the three classroom wings is provided by electric water heaters located in each classroom wing mechanical room. One of the water heaters was replaced in 2017.

Domestic cold and hot water is distributed to fixtures via an insulated copper piping system. A recirculating hot water piping system is used to maintain heating hot water temperature in the hot water piping throughout the building. The piping system appears to be in good condition. Where piping was observed, there was no evidence of leaks.

Plumbing fixtures in toilet rooms were checked at random to get a sample of the condition of the fixtures. No immediate repair or replacement needs were observed. The following equipment is heavily used and nearing the end of the expected service life of the equipment: lavatory faucets, flush valves for water closets and urinals.

Natural gas is provided to the building from the gas utility main at the street. No deficiencies were observed.

A combination emergency shower/eyewash is located in a science lab. The equipment is served directly from the cold water piping. Per standards from ANSI, the equipment should be served by tempered water. The tempered water will allow a person to use the shower or eyewash for a longer period of time than equipment served by cold water only.

In the Life Skills Lab, natural gas is used for cooking ranges. Branch piping is routed directly from the gas main to the equipment. For improved safety, it is recommended to add an emergency push-button near the lab door to the corridor with an in-line electric shut-off valve in the piping to the lab. The push-button will close the electric valve when pushed.

The underground sanitary pipe was not inspected with a camera.

**Rating:** 3 – Needs Replaced

**Recommendations:** All the equipment and related piping and ductwork described above was installed as part of the high school addition and renovation project in 2003/2004. Recommendations for replacement or upgrades within the next 5 years are as follows:

1. Domestic Water Piping systems: No deficiencies were observed. There are no recommended upgrades or repairs.

2. Domestic water treatment plant and pump station: No deficiencies were observed. There are no recommended upgrades of repairs.
3. Domestic Water Heaters: The existing water heaters and hot water storage tanks should be replaced serving the locker rooms and kitchen should be replaced. The electric water heaters serving the classroom wings are readily available and should be replaced as they fail.
4. Emergency shower: The cold water piping to the emergency shower/eyewash should be modified so that the equipment is supplied with tempered water. A water mixing valve that is design specifically for emergency equipment use should be installed above the ceiling on the branch piping to the equipment. The mixing valve will have both hot and cold water connections.
5. Emergency gas shut-off: A wall mounted bush-button controlling a new electric gas shut-off valve should be installed for the Life Skills Lab.
6. Plumbing fixture faucets and flush valves: These items will need replacement over time. A single replacement of all this equipment is not required. Planning and budgets should be made to replace all these items as they fail.

Item	Cost	Unit	Quantity	Sum	Comments
Domestic Water Heater Replacement	\$110,000	Lump Sum	1	\$110,000	
Emergency Shower Modifications	\$2,500	Lump Sum	1	\$2,500	
Emergency Gas Shut-off	\$5,000	Lump Sum	1	\$5,000	
Misc. faucet and flush valve replacements	\$30,000	Lump Sum	1	\$30,000	Complete replacement may not be necessary.
Sum				\$147,500	

## F. Windows

**Description:** The windows appear to have been installed as part of the construction project in 2005. Windows appear to be thermally broken multi pane insulated panel windows. The windows in general are in good condition and provide adequate insulation properties. Inclusion of integral blinds provides for light control. Window screens on building interior have multiple penetrations.

Sealant at the exterior perimeter of the windows appears to be original to the 2005 replacement and is 17 years old. The sealant has lost some of elasticity and has begun cracking and pulling away from the substrate in some areas.

**Rating:** 2 - Needs Repair

**Recommendations:** Replace all exterior window sealant. Replace window screens

Item	Cost	Unit	Quantity	Sum	Comments
Window Sealant – Remove and Replace	\$75	EA	105	\$7,875	Does not include curtain walls and exterior control joints
Window Screens – Remove and Replace	\$135	EA	105	\$14,175	
Sum				\$22,050	

## G. Structure: Foundation

**Description:** The building structural system consists of exterior load bearing masonry walls on traditional strip concrete footings and interior steel columns on traditional concrete column pads. There are no signs of differential settlement or masonry wall cracks.

**Rating:** 1 - Satisfactory

## H. Structure: Walls and Chimneys

Description: Exterior walls are brick veneer over concrete bearing block and appear original to the 2005 construction. Several sections of the building are metal panels veneer over concrete block. In some isolated areas the metal panels have been applied over metal studs and insulation. Brick and metal panels appear to be in good condition.

Rating: 2 – Repair Recommended

Recommendations: Replace all exterior Control Joint and metal panel joint.

Item	Cost	Unit	Quantity	Sum	Comments
Control Joint Sealant – Remove and Replace	\$22,000	LS	1	\$22,000	Does not include curtain walls and windows
Sum				\$22,000	

## I. Structure: Floors and Roofs

Description: Floors are poured concrete slab at the first floor and precast concrete plank with concrete topping at the second floor. Roof system is sloped metal joists with metal deck. Both floors and roof system appear to be in good condition. In isolated area, it appears that the concrete adjacent to expansion joints is cracking, and the VCT floor finish has been compromised.

Rating: 2 – Repair Recommended

Recommendation: Replacement of expansion joints in the floor and repair of adjacent concrete is recommended.

Item	Cost	Unit	Quantity	Sum	Comments
Replace Expansion Joint and repair concrete	\$475	LF	\$28,500	\$28,500	
Sum				\$28,500	

## J. General Finishes

Description: The floor finish in classrooms is carpet and resilient tile. The floor finish in offices is a mixture of carpeting and resilient tile. Floor finishes in Labs, tech and art areas are VCT. The Library and associated spaces finish floor is carpeting. The floor finish in all corridors is resilient tile. The floor finish in all public restrooms is porcelain tile. The floor finish in the gymnasium is wood sports floor. The floor in the cafeteria is VCT.

Ceiling in classrooms, offices, corridors and restrooms is suspended acoustical lay-in tile. The ceiling in the Gymnasium and service areas is exposed structure and deck.

Building interior walls are painted CMU. The student lockers are full height lockers painted metal style. The kitchen contains the standard walk in coolers/freezers, up-right refrigeration, chest-type freezers, serving lines with electric warmers, bake and convection ovens, gas range/griddle, steamer, mixer, milk cooler, prep sinks, and microwave. There is a separate dish return/wash area with an automated dish washer.

VCT is in good condition. Carpeted areas in high traffic spaces is significantly worn. Wood gym floors finish is slightly worn and the wood appears to be in good condition. Acoustic ceiling tiles are in good condition, although some isolated areas need cleaning / replacement. Gym wall pads are of an undetermined age, however, the vinyl coverings are showing wear and the interior foam does not provide as much protection. While this is not an immediate item to address, they should be replaced in the near future

Rating: 3 - Needs Replacement

Recommendations: Replacement of all carpet and refinishing of stage floor

Item	Cost	Unit	Quantity	Sum	Comments
Replace Carpet	\$50	Sq. Yd.	3,000	\$150,000	
Refinish Stage Floor	\$3.00	S.F.	915	\$2,745	
Sum				\$152,745	

### K. Interior Lighting

Description: Interior lighting throughout the building consists of a mixture of suspended and lay-in type fluorescent fixtures with acrylic prismatic lenses. All lighting appears to be from the 2004 upgrade. The existing fluorescent fixtures contain T8 lamps with electronic ballasts. The gymnasium has metal halide lamps. The metal halide lamps are at various stages of lamp depreciation, causes significant color variation and light output loss.

The stage and theatrical lighting systems are controlled through a Strand dimmer rack. The stage and theatrical lighting systems are in good working order.

Rating: 3 – Replacement Recommended

Recommendation: It is recommended that interior lighting fixtures (with the exception of the stage and theatrical lighting systems) be replaced and upgraded to with LED fixtures on a one-for-one basis. It is recommended that lighting control system(s) be installed in accordance with current Ohio Building Code and applicable ASHRAE and/or IECC energy conservation requirements with occupancy sensors in classrooms. The existing lighting relay system that controls corridor and exterior lighting is acceptable and should remain.

Item	Cost	Unit	Quantity	Sum	Comments
Interior LED Upgrade with Occupancy Sensors in Classrooms	\$6 / SF	SF	128,256	\$769,536	

### L. Security Systems

Description: Door access control systems are currently out for bids and due for replacement. Camera system has been updated periodically over the past several years as funds have been available, however, this has created a piecemeal system that has a wide variety of resolutions, and periodic issues.

Rating: 3 – Replacement Recommended

Recommendation: Replacement of security cameras and Server for security system is recommended. Providing a district wide system which provides for high resolution and integrating all district buildings would provide for higher reliability and functionality, and would reduce upkeep costs over the next several years.

Item	Cost	Unit	Quantity	Sum	Comments
Upgrade to surveillance system	\$1.25	SF	80,548	\$100,685	

### M. Emergency/Egress Lighting

Description: Internally lit ceiling and wall mounted exit signs are located throughout the corridors and at exterior doors to define the paths of egress travel. Exit signs are fed from a life safety branch circuit backed up by the generator, so no battery packs are used. The majority of the exit lights appear to be incandescent sources.

Emergency lighting uses normal fixtures with Generator Transfer Devices to provide backup power in the event of a power failure. The current emergency fixtures are T8 fluorescent fixtures.

Rating: 3 – Replacement Recommended

Recommendation: It is recommended that the incandescent exit lights be replaced with new AC-only LED fixtures. Incandescent exit signs use approximately 15 times the power of current LED exit signs (10W vs 0.62W) and are illuminated 24/7. The life of typical LED exit signs is 10 years.

The cost of replacing the existing T8 fixtures with new LED fixtures is covered in the Interior Lighting section.

Item	Cost	Unit	Quantity	Sum	Comments
Interior LED Exit Light Upgrade	\$5,000	LS	1	\$5,000	Units replaced one-for-one with all existing branch circuit wiring to remain

#### N. Fire Alarm

Description: The building is equipped with a Fire Alarm system that was installed in 2004. The system incorporates audio/visual notification in all areas with manual pull stations at all exits. The air handlers have duct smoke detectors. The fire alarm system appears to be in good working order. The age of the backup batteries should be reviewed and replaced as recommended by the manufacturer.

Rating: 2 – Replacement of batteries is Recommended

Item	Cost	Unit	Quantity	Sum	Comments
Fire Alarm Battery Replacement	\$500	LS	1	\$500	

#### O. Handicapped Access

Description: Entrances appear to conform with Accessibility requirements. Parking spaces have been designated and allocated adjacent to the main entrance. Toilet rooms appear to be in compliance, providing adequate accessible urinal / toilets. In select areas where sinks have been provided, adequate access has not been provided. While counter heights are in conformance, under counter clearance has not been provided at sinks.

Rating: 2 - Repair Recommended

Recommendation: While some of the identified issues would be grandfathered into conformance due to the age of the facility, it is our recommendation that accessibility issues be addressed where it is technically feasible. Where doors can be replaced, and swings reversed to provide pull side clearance, these should be addressed. In areas where under counter clearance has not been provided, we recommend these be adjusted accordingly.

Item	Cost	Unit	Quantity	Sum	Comments
Adjust Base Cabinets	\$600	S.F.	8	\$4,800	
Sum				\$4,800	

#### P. Site Condition

Description: The building sits on an approximately 56 acre site. The site appears to drain adequately using slope and area drains, both in paved and grassy areas. Concrete walks and curbs appear to be in reasonable condition, with some small areas of chipped curbs which we believe is attributed to snow plows. Paved access road from Tallmadge Road to the parking area in front of the building appears to have been repaved. The parking areas and access roads around the site severely deteriorated. There are signs of cracking throughout this section and numerous potholes and some patched areas. The area seems to have been sealed, however, several areas have deteriorated beyond the ability of seal coating to provide adequate coverage. Site handrails have deteriorated. In some areas handrails are missing or have small sections missing.

Rating: 2 – Needs Repair

Recommendations: In areas where pavement has recently been replaced, provide a seal coat and restripe. In areas where the pavement is cracking and has been repaired previously, Mill off Top wear course, repair all soft / damaged areas, and provide new top / wear coat.

Item	Cost	Unit	Quantity	Sum	Comments
Seal existing paving and restripe	\$2.50	S.Y.	12,322	\$30,805	
Mill, repair, and repave	\$10.50	S.Y.	12,533	\$131,596	
Replace Handrail	\$2,000	EA	4	\$8,000	
Sum				\$170,401	

#### Q. Sewage System

Description: The sewer system ties into an owner provided wastewater treatment plant. This system has not been reviewed.

#### R. Fire Suppression

Description: The building is protected by a wet piping sprinkler system. The source of water for the system is from underground outdoor storage tanks on site and an indoor fire pump. Based on observations of the equipment, and follow-up discussion with the company that provides maintenance for this equipment (Grunau), there are no recommendation for equipment replacement or upgrade. The fire pump controller meets current codes and is operating properly. Normal maintenance and repairs on pumps and piping specialties should be expected.

Rating: 1 - Satisfactory

Recommendations: There are no recommendations for replacement or equipment.

#### S. Exterior Doors

Description: Exterior doors at main entrances are aluminum frame storefront or curtain wall systems. In these locations, the doors and adjacent glazing appear to be in good condition. Sealant at the perimeter of these units appears to be losing elasticity and showing some cracking. Exterior doors at secondary and service entrances are hollow metal with hollow metal frame. In these locations some rusting and deterioration has been noted at the base of the frames and doors.

Rating: 2 – Needs Repair

Recommendations: Sealant at perimeter of all exterior doors should be replaced. Weather stripping and seals should be replaced as they are at the end of their service life. At hollow metal doors and frames, repair should be attempted for the frames and door bottoms. At the time of repair, full analysis of the stability of the door and frame should be assessed for possible replacement.

Item	Cost	Unit	Quantity	Sum	Comments
Replace Perimeter sealant	\$6,000	LS	1	\$6,000	
Repair frames / doors	\$400	EA	8	\$4,400	
Sum				\$8,900	

#### T. Hazardous Material

Not Assessed – it is our understanding that in accordance with the Schools Maintained AHERA Reports, there are no existing hazardous materials currently in this building

U. Life Safety

Description: The building is equipped with an automatic sprinkler system. The kitchen exhaust hood does have a compliant UL 300 chemical fire suppression system. The building has fire extinguishers in sufficient quantity and adequately located. The building has an emergency generator – refer to electrical. Refer to Handicap Access for ADA compliance.

Rating: 1 – Satisfactory (refer to other sections as noted)

V. Loose Furnishings

Not assessed

W. Technology

Description: Fiber optic and telephone services enter the building and are housed in the main Telecom Room. Classrooms contain a mixture of flat panel LCD and legacy type TVs or video. Most classrooms contain ceiling mounted projectors and document cameras. There are clocks in each classroom but no central master clock system. A Bogen public address (PA) system with speakers located within each classroom is present and the district is experiencing operational problems in several buildings.

Rating: 3 - Replacement of PA system recommended

Recommendations: It is recommended that the existing Bogen PA system be replaced at this time. All other technology system are operational and fit the current needs of the district.

Item	Cost	Unit	Quantity	Sum	Comments
PA System Replacement	\$50,000	LS	1	\$50,000	Replace the PA system head-end components. All wiring and devices in classrooms are existing to remain.

X. Construction Contingency/ Non-Construction Cost

A Construction Contingency and Non Construction Cost line item equaling 18% has been added



Cracking at Expansion Joint



Sealant at Windows



Paving at Parking Lot



Handrail at Front Parking Lot

# Southeast Schools Elementary School Assessment

## Building Summary – Southeast Elementary

<b>District: Southeast Local School District</b> <b>Name: Southeast Elementary School</b> <b>Address: 8301 Tallmadge Road</b> <b>Ravenna, OH 44266</b> <b>Contact: Michelle Rentsch – Principal</b> <b>Phone: 330-654-1930</b>					<b>Date Prepared: May 2022</b> <b>By: BSHM Architects &amp; MacMillan and Company, LLC</b>	
Acreage:		33.75 Acre				
Parking Spaces:						
	Date		Number of Floors	Sq. Ft.		
Original Building	1969		1	118,719		
Building Renovation	2005		1	118,719		
<b>Total</b>				118,719		
	Rating	1	Satisfactory			
		2	Needs Repair			
		3	Needs Replacement			
	Const P/S	=	Present/Scheduled Construction			
FACILITY ASSESSMENT			RATING	COST		
A.	Heating System		3	\$1,525,000		
B.	Roofing		1	\$0		
C.	Ventilation / Air Conditioning		3	\$615,000		
D.	Electrical Systems		1	\$0		
E.	Plumbing and Fixtures		3	\$336,000		
F.	Windows		2	\$17,640		
G.	Structure: Foundation		2	\$5,760		
H.	Structure: Walls and Chimneys		2	\$170,000		
I.	Structure: Floors and Roofs		2	\$15,000		
J.	General Finishes		3	\$320,000		
K.	Interior Lighting		3	\$712,314		
L.	Security System		3	\$147,000		
M.	Emergency/Egress Lighting		3	\$5,000		
N.	Fire Alarm		2	\$500		
O.	Handicapped Access		1	\$0		
P.	Site Condition		2	\$59,400		
Q.	Sewage System		NA	\$0		
R.	Fire Suppression		1	\$0		
S.	Exterior Doors		2	\$5,300		
T.	Hazardous Material		NA	\$0		
U.	Life Safety		1	\$0		
V.	Loose Furnishings		NA	\$0		
W.	Technology		3	\$50,000		
X.	Construction Contingency/Non-Construction Cost			\$717,104		
	<b>Total</b>			<b>\$4,701,019</b>		

## A. Heating System

**Description:** The building is heated by a hot water heating system. Heating hot water is generated by two gas-fired boilers and two heating hot water circulating pumps located in the central boiler room. Heating hot water is distributed to equipment via an insulated piping system located either above the ceilings or in utility tunnels under the floor.

Heating is provided to the classrooms and corridors via vertical or horizontal unit ventilators or fan coil units. Each classroom has temperature control that is independent from other classrooms.

Heating is provided to the student dining via a single-zone indoor air handling unit. The air handling unit is located in adjacent mechanical room. Supply air is distributed to the dining with ductwork and diffusers.

Heating is provided to the gymnasium via a single-zone indoor air handling unit. The air handling unit is located in adjacent mechanical room. Supply air is distributed to the gymnasium with ductwork and diffusers.

Heating is provided to the main offices via an indoor variable air volume air handling unit. Temperature control for each space is provided by fan powered VAV (variable air volume) boxes located above the ceilings. The VAV boxes include hot water heating coils.

Make-up air for the kitchen exhaust hoods is provided by a 100% outdoor air indoor air handling unit. The unit is located in the same mechanical room as the unit for the student dining. A single exhaust fan provides exhaust for the kitchen hood.

The HVAC system is controlled by a central Building Automation System (BAS). The BAS was upgraded within the past year. The local installer was contacted to discuss the work performed as part of that upgrade. All the BAS software and equipment are up to date.

**Rating:** 3 – Needs replaced.

**Recommendations:** All the equipment and related piping and ductwork described above was installed as part of the elementary school addition and renovation project in 2003/2004. Recommendations for replacement or upgrades within the next 5 years are as follows:

1. Ductwork: No deficiencies were observed. There are no recommended upgrades or repairs.
2. Piping system: No deficiencies were observed. There are no recommended upgrades or repairs.
3. Boiler plant: The boilers and pumps are nearing 20 years old. The expected service life of this equipment is 20-25 years.
  - a. Replacement of the pumps is recommended as the pumps are nearing the end of their expected service life. The replacement pumps should be variable speed pumps to reduce energy use and related costs.
  - b. The boilers are in poor condition. The jacket was removed on one boiler for servicing during this review. The internal components of the boiler have significant corrosion. It is recommended to plan for the replacement of both boilers. Because the boiler system operates during the summer for humidity control, the replacement boilers should be of a high efficiency type (95%+ vs. current 80% efficiency). This will reduce natural gas costs.
4. Unit Ventilators (UV) and Fan Coil Units (FCU): The UVs and FCUs have an expected service life of approximately 20 years. All of the equipment will not fail at the same time. Over the next 5 years, repairs will become more frequent and costly. Examples of failures that will occur are fan and motor failures, bearing noises, and water leaks. It is recommended to plan for replacement of all the UVs and FCUs within the next 5 years. As units are replaced, the associated 3-way control valves should be replaced with 2-way control valves to allow for variable flow control and reduced pump energy use.
5. Air Handling Units (AHU): The exterior casing of the AHUs are in good condition. Failure of the casing is not expected within the next 5 years. Potential failure over the next 5 years include the following AHU components: fans, related variable frequency drives, and possibly the heating and cooling coils. Recommendation for replacements over the next 5 years include the following:
  - a. Variable Frequency Drives.
  - b. Fans: The fan and fan motors should be replaced at the time when the fans or motors fail. The need for replacement will typically become evident by noises that will be evident.
  - c. Coils: With proper water treatment, the heating and cooling coils will most likely have a remaining service life over 5 years. Replacement within the next 5 years is not recommended.
  - d. The associated 3-way control valves on each air handling unit should be replaced to allow for variable flow control and reduced pump energy use
6. Kitchen Hood make-up air unit and exhaust fan: Equipment is currently in good condition. There are no recommendations for upgrades or repairs.
7. Building Automation System:
  - a. Control modifications as required to support the equipment replacement described above.
  - b. Control modifications to improve energy efficiency are recommended. Modifications include the following:
    - i. Controls to allow for variable speed heating hot water pumping strategies.

Item	Cost	Unit	Quantity	Sum	Comments
Boiler Plant Improvements	\$475,000	LS	1	\$475,000	
Unit Ventilator and Fan Coil Unit Replacement	\$800,000	LS	1	\$800,000	
Air Handling Unit Improvements	\$250,000	LS	1	\$250,000	Complete replacement of components may not be required.
Related Building Automation System					Included in each item above.
Sum				\$1,525,000	

## B. Roofing

**Description:** The building underwent a roof replacement in 2017. The roof is a modified Bitumen roof system which is tapered to internal roof drains. A majority of the roof has a short parapet which also provide overflow scuppers instead of overflow drains. There are various roof sectors that have small areas of ponding water due to lack of positive roof slope/ drainage. Flashings appear properly sealed and in good condition

**Rating:** 1 - Satisfactory

## C. Ventilation / Air Conditioning

**Description:** Cooling and ventilation is provided to all spaces with either unit ventilators, fan coil units, or indoor air handling units as described in the Heating section of this report. Chilled water is provided to each unit for cooling.

Each unit ventilator and air handling unit have an outdoor air intake duct routed to the outdoors to bring in outdoor air for the ventilation of the spaces per code. The air handling units include energy recovery wheels for improved efficiency during the heating and cooling modes.

Chilled water is generated by one split system air-cooled chiller. The chiller includes an indoor evaporator section and outdoor condensing unit. Refrigerant piping is routed between the indoor and outdoor sections. The indoor evaporator section includes two primary pumps (for operating and stand-by). Two secondary pumps are used to distribute chilled water to equipment through an insulated piping system located above the ceilings. The outdoor chiller section had the compressors replaced or repaired in the past year or two.

**Rating:** 3 – Needs replaced

**Recommendations:** All the equipment and related piping and ductwork described above was installed as part of the high school addition and renovation project in 2003/2004. Recommendations for replacement or upgrades within the next 5 years are as follows:

1. Ductwork: No deficiencies were observed. There are no recommended upgrades or repairs.
2. Piping system: No deficiencies were observed. There are no recommended upgrades of repairs.
3. Chilled water equipment: The chillers and pumps are nearing 20 years old. The expected service life of this equipment is 20-25 years.
  - a. Replacement of all four pumps is recommended as the pumps are nearing the end of their expected service life. The replacement pumps should be variable speed pumps to reduce energy use and related costs.
  - b. Replacement of the chiller is recommended. The chiller has already had significant repairs. Failure of components will only increase over time. A new chiller will have energy improvements that will reduce energy costs related to cooling.
4. Building Automation System:
  - a. Control modifications to support the recommendations above.
  - b. BAS modifications related to cooling and ventilation, to reduce energy costs, include the following:
    - i. Add controls to modulate the ventilation rate and total airflow in the gymnasium and dining area based on occupancy.
    - ii. Add controls and related piping modifications to allow for variable speed chilled water pumping strategies.

Refer to the Heating section of this report for recommendations related to the replacement of the unit ventilators and air handling units

Item	Cost	Unit	Quantity	Sum	Comments
Chillers and Pumps Replacement	\$500,000	Lump Sum	1	\$500,000	
Building Automation System	\$115,000	Lump Sum	1	\$115,000	
Sum				\$615,000	

## D. Electrical Systems

**Description:** The existing Elementary School is currently served by a single 480/277V metered service from the utility company through a utility-owned pad-mounted transformer. The main electrical room has the service-entrance switchgear with a 2,000A main circuit breaker. All of the service equipment and electrical distribution panels were installed in 2004 and are in very good condition. Most of the branch circuit panelboards were replaced in 2004 and are in very good condition. There are several branch circuit panelboards that are original to the building but appear to be in working order. 120V convenience receptacles are intermittently located throughout the building. Most devices appear to be original to the building and in working order.

The emergency electrical distribution system was upgraded in 2004 and primarily feeds emergency lights, exit signs, well pumps, data networks, fire alarm system, and security system along with the fire pump that services the elementary school and high school. All panels and transfer switch appear to be in very good condition. The generator housing is showing signs of weathering and rust but the generator appears to be in good working condition.

The fire pump controller has a fire pump-rated automatic transfer switch and a normal power source ahead of all local disconnect switches.

The building currently has a single automatic transfer switch that feeds both life safety loads and critical loads. Current electrical codes require complete separation of life safety and critical/optional standby loads with separate transfer switches, distribution panels, and wiring. The current system is existing to remain and codes do not require that legacy systems be upgraded to current standards. When the time comes to replace the generator and/or transfer switch, the systems should be separated at that time.

**Rating:** 1 – No replacements are recommended at this time. The generator should continue to follow the recommended maintenance schedule with weekly starts and annual testing under load.

## E. Plumbing and Fixtures

**Description:** The water supply for the building is supplied from a central water treatment plant and pump station located in a building on the site of the elementary school. An underground piping main delivers water from the pump station to the elementary school. The water treatment equipment and pump station in the building are well maintained and in good condition.

Domestic hot water is generated by a water heater that includes two water heaters and a two hot water storage tanks and related pumps. One of the storage tanks is in poor condition. The exterior jacket is separated with signs of past leaks. The water heaters and pumps are nearing the end of their expected service life. The failures related to the water heaters will most likely include control failure and leaks in the heat exchangers.

Domestic cold and hot water is distributed to fixtures via an insulated copper piping system. A recirculating hot water piping system is used to maintain heating hot water temperature in the hot water piping throughout the building. The piping system appears to be in good condition. Where piping was observed, there was no evidence of leaks.

Plumbing fixtures in toilet rooms were checked at random to get a sample of the condition of the fixtures. No immediate repair or replacement needs were observed. The following equipment is heavily used and nearing the end of the expected service life of the equipment: lavatory faucets, flush valves for water closets and urinals.

Natural gas is provided to the building from the gas utility main at the street. No deficiencies were observed.

The underground sanitary pipe was not inspected with a camera. It was noted by District personnel that the sanitary mains in the original section of the building clog frequently. This is most likely due to condition of the interior surfaces of the piping causes materials in the pipe to be caught.

**Rating:** 3 – Needs Replaced

**Recommendations:** All the equipment and related piping and ductwork described above was installed as part of the high school addition and renovation project in 2003/2004. Recommendations for replacement or upgrades within the next 5 years are as follows:

1. Domestic Water Piping systems: No deficiencies were observed. There are no recommended upgrades or repairs.
2. Domestic water treatment plant and pump station: No deficiencies were observed. There are no recommended upgrades or repairs.
3. Domestic Water Heaters: The existing water heaters and hot water storage tanks should be replaced.
4. Plumbing fixture faucets and flush valves: These items will need replacement over time. A single replacement of all

- this equipment is not required. Planning and budgets should be made to replace all these items as they fail.
- Sanitary mains: To improve flow in the original underground sanitary mains, a process is available to reline the interior surface of the pipes ([www.flow-liner.com](http://www.flow-liner.com)). First the pipes will be cleaned, then the new surface applied. This process eliminates the need to excavate and repair floors to replace underground piping. Only the piping mains 3 inch and larger will have this work done, not the branch piping.

Item	Cost	Unit	Quantity	Sum	Comments
Domestic Water Heater Replacement	\$100,000	Lump Sum	1	\$100,000	
Misc. faucet and flush valve replacements	\$36,000	Lump Sum	1	\$36,000	Complete replacement may not be necessary.
Re-Line Sanitary Main in original building	\$200	L.F.	1,000	\$200,000	Complete replacement may not be necessary.
Sum				\$336,000	

## F. Windows

**Description:** The windows appear to have been installed as part of the construction project in 2005. Windows appear to be thermally broken multi pane insulated panel windows. The windows in general are in good condition and provide adequate insulation properties. Inclusion of integral blinds provides for light control. Window screens on building interior have multiple penetrations.

Sealant at the exterior perimeter of the windows appears to be original to the 2005 replacement and is 17 years old. The sealant has lost some of elasticity and has begun cracking and pulling away from the substrate in some areas.

**Rating:** 2 - Needs Repair

**Recommendations:** Replace all exterior window sealant. Replace window screens

Item	Cost	Unit	Quantity	Sum	Comments
Window Sealant – Remove and Replace	\$75	EA	84	\$6,300	Does not include curtain walls and exterior control joints
Window Screens – Remove and Replace	\$135	EA	84	\$11,340	
Sum				\$17,640	

## G. Structure: Foundation

**Description:** The building structural system consists of exterior load bearing masonry walls on traditional strip concrete footings and interior steel columns on traditional concrete column pads. In Room C-BS-6A Mech/Elec vertical cracking of the CMU was noted through the mortar joint and the CMU unit. Typically this is indicative of foundation movement. This does not appear from the drawings to be a load bearing wall. There are several locations that show cracking at wall to wall connections. These walls are not load bearing

**Rating:** 2 – Needs Repair

**Recommendations:** In areas where CMU walls are cracking, repairs should be made to stabilize the CMU and repair the joint. Further investigation should be provided in areas that indicate differential settlement to determine if movement is still occurring, or if the cracking is from early settlement of construction activities.

Item	Cost	Unit	Quantity	Sum	Comments
Repair wall crack and provide sealant	\$40	LF	144	\$5,760	Does not include curtain walls and exterior control joints
Sum				\$5,760	

## H. Structure: Walls and Chimneys

Description: The building exterior utilizes a brick veneer and cast stone upper wall section on a masonry bearing wall system that is in overall good condition with the exception of the entry canopy columns, and various broken or chipped brick at selected locations. The columns at the entry canopies have deteriorated to a point where the exposed steel support column has rusted almost completely through. This could be a serious issue and should be addressed immediately. Exterior masonry control joints are visible and show signs of deterioration. The CMU on the interior on the upper portion of the gymnasium is showing horizontal cracking at the location where the roof ties in on the exterior. The cracking can be seen in all 4 walls of this room. The building's brick and cast stone veneer show signs of dirt accumulation and staining.

Rating: 2 - Needs Repair

Recommendations: Replacement of columns and brick piers, Selected replacement of broken brick veneer, recaulking of building joints, wash entire brick and cast stone veneer. It is also recommended that additional investigation be conducted to determine the cause of the horizontal cracking inside the gymnasium.

Item	Cost	Unit	Quantity	Sum	Comments
Replacement of columns and brick	\$10,000	Ea Column	8	\$80,000	
Selected Brick Repair	\$25,000	Lump Sum	1	\$25,000	Repair of brick and mortar joints
Exterior Caulking	\$20,000	Lump Sum	1	\$20,000	
Exterior Cleaning	\$45,000	Lump Sum	1	\$45,000	
Sum				\$170,000	

## I. Structure: Floors and Roofs

Description: Floors in all locations are poured concrete slab with applied sealer or finishes. The exterior walls are masonry bearing with steel joist supporting form board and light weight gypsum slab. elevated metal deck w/concrete topping and/or metal roof deck with insulation. The Main Gymnasium and student dining utilize deep steel joists as major members and a tectum/bulb tee roof structure. Several areas were noted of cracking in the concrete floor which has caused cracking in the finishes. In the gymnasium, the top 3 courses of CMU appear to be covered with plaster. It should be noted that cracking in this plaster coating was noticed directly under the joist bearing location. It was also observed that a horizontal crack running the perimeter of the gym appears to have been repaired, but still appears to show movement. Again, further investigation should be conducted to determine the exact cause and corrective measure

Rating: 2 - Repairs

Recommendations: In locations where the floor is cracking, the VCT should be removed and the concrete repaired. It was discussed with the district that originally the building was designed as a large open space, and that block full height block walls were added at a later date. It is our understanding that when these were installed, appropriate footings were not installed. This may be the source of some of the slab cracking noted. VCT should be replaced. In the gymnasium, in locations where cracking in the plaster are apparent below the joists, further investigation should be conducted to determine the cause and appropriate repair work. In the horizontal joint in the gymnasium, again, additional investigation should be conducted

Item	Cost	Unit	Quantity	Sum	Comments
Remove / replace VCT	\$5,000	Lump Sum	1	\$5,000	Repair of brick and mortar joints
Repair concrete cracks	\$10,000	Lump Sum	1	\$10,000	Limited repair in excessively damaged areas
Repair vertical cracking at joist bearing					Conduct additional study
Repair horizontal cracking at gym					Conduct additional study
Sum				\$15,000	

## J. General Finishes

Description: The floor finish floor in classrooms is carpet. The floor finish floor in offices is a mixture of carpeting and resilient tile. The Library

floor finish floor is carpeting. The floor finish in all corridors is resilient tile. The floor finish in all public restrooms is ceramic / porcelain tile. The floor finish in the gymnasium and cafeteria is a resilient tile. The ceiling in classrooms, offices, corridors and restrooms is suspended acoustical lay-in tile. The ceiling in the music rooms is exposed painted structure. Ceiling in gymnasium and cafeteria, as well as service spaces is exposed painted structure. Classroom walls are painted masonry block. Corridor walls are painted CMU. Classroom casework appears to be from the 2005 renovation and is in fair condition.

Interior doors are non-rated solid-core wood doors equipped with standard mortised locksets and also appear to be from the 2005 renovation and are in good condition. The kitchen contains the standard walk in coolers/freezers, up-right refrigeration, chest-type freezers, serving lines with electric warmers, bake and convection ovens, gas range/griddle, steamer, mixer, milk cooler, prep sinks, and microwave. There is a separate dish return/wash area. A majority of the floor finishes were replaced in the 2005 renovation. VCT is in good condition. Carpeted areas in high traffic spaces in significantly worn. Gym VCT is in good condition. Acoustic ceiling tiles are in good condition, although some isolated areas need cleaning / replacement. Restroom toilet partitions are solid plastic and are showing wear.

Rating: 3 - Needs Replacement

Recommendations: Replacement of all carpet.

Item	Cost	Unit	Quantity	Sum	Comments
Replace Carpet	\$50	Sq. Yd.	6,400	\$320,000	
Sum				\$320,000	

## K. Interior Lighting

Description: Interior lighting throughout the building consists of a mixture of suspended and lay-in type fluorescent fixtures with acrylic prismatic lenses. All lighting appears to be from the 2004 upgrade. The existing fluorescent fixtures contain T8 lamps with electronic ballasts. The gymnasium has already been upgraded with LED lighting.

The stage and theatrical lighting systems are controlled through a Strand dimmer rack. The stage and theatrical lighting systems are in good working order.

Rating: 3 – Replacement Recommended

Recommendation: It is recommended that interior lighting fixtures (with the exception of the Gym, stage and theatrical lighting systems) be replaced and upgraded to with LED fixtures on a one-for-one basis. It is recommended that lighting control system(s) be installed in accordance with current Ohio Building Code and applicable ASHRAE and/or IECC energy conservation requirements with occupancy sensors in classrooms. The existing lighting relay system that controls corridor and exterior lighting is acceptable and should remain.

Item	Cost	Unit	Quantity	Sum	Comments
Interior LED Upgrade with Occupancy Sensors in Classrooms	\$6 / SF	SF	118,719	\$712,314	

## L. Security Systems

Description: Door access control systems are currently out for bids and due for replacement. Camera system has been updated periodically over the past several years as funds have been available, however, this has created a piecemeal system that has a wide variety of resolutions, and periodic issues.

Rating: 3 – Replacement Recommended

Recommendation: Replacement of security cameras and Server for security system is recommended. Providing a district wide system which provides for high resolution and integrating all district buildings would provide for higher reliability and functionality, and would reduce upkeep costs over the next several years.

Item	Cost	Unit	Quantity	Sum	Comments
Upgrade to surveillance system	\$1.25	SF	118,000	\$147,500	

## M. Emergency/Egress Lighting

**Description:** Internally lit ceiling and wall mounted exit signs are located throughout the corridors and at exterior doors to define the paths of egress travel. Exit signs are fed from a life safety branch circuit backed up by the generator, so no battery packs are used. The majority of the exit lights appear to be incandescent sources.

Emergency lighting uses normal fixtures with Generator Transfer Devices to provide backup power in the event of a power failure. The current emergency fixtures are T8 fluorescent fixtures.

**Rating:** 3 – Replacement Recommended

**Recommendation:** It is recommended that the incandescent exit lights be replaced with new AC-only LED fixtures. Incandescent exit signs use approximately 15 times the power of current LED exit signs (10W vs 0.62W) and are illuminated 24/7. The life of typical LED exit signs is 10 years.

The cost of replacing the existing T8 fixtures with new LED fixtures is covered in the Interior Lighting section.

Item	Cost	Unit	Quantity	Sum	Comments
Interior LED Exit Light Upgrade	\$5,000	LS	1	\$5,000	Units replaced one-for-one with all existing branch circuit wiring to remain

## N. Fire Alarm

**Description:** The building is equipped with a Fire Alarm system that was installed in 2004. The system incorporates audio/visual notification in all areas with manual pull stations at all exits. The air handlers have duct smoke detectors. The fire alarm system appears to be in good working order. The age of the backup batteries should be reviewed and replaced as recommended by the manufacturer.

**Rating:** 2 Replacement of batteries is Recommended

Item	Cost	Unit	Quantity	Sum	Comments
Fire Alarm Battery Replacement	\$500	LS	1	\$500	

## O. Handicapped Access

**Description:** Entrances appear to conform with Accessibility requirements. Parking spaces have been designated and allocated adjacent to the main entrance. Doors appear to provide adequate pull and push side clearances. Toilet rooms appear to be in compliance, providing adequate accessible urinal / toilets.

**Rating:** 1 - Satisfactory

## P. Site Condition

**Description:** The building sits on an approximately 34 acre site which is contiguous with the High School. The site appears to drain adequately using slope and area drains, both in paved and grassy areas. Concrete walks and curbs appear to be in reasonable condition, with some small areas of chipped curbs which we believe is attributed to snow plows. Paved access road in front of the building and front parking area appear to have been replaced recently, but could benefit from being sealed to extend the life of the paving. The access road adjacent to the district office and looping behind the elementary building appears to have been patched recently. There are signs of cracking throughout this section of paving, with the exception of the small area adjacent to the water supply building, which appears to have been replaced recently. Areas of concrete paving adjacent to doors and exterior walls does not

appear to have compressible filler of sealant to prevent water migration into the crack between the wall and the paving.

Rating: 2 – Needs Repair

Recommendations: In areas where pavement has recently been replaced, provide a seal coat and restripe. In areas where the pavement is cracking and has been repaired previously, Mill off Top wear course, repair all soft / damaged areas, and provide new top / wear coat. At concrete areas adjacent to buildings, clean joints and provide compressible filler and sealant.

Item	Cost	Unit	Quantity	Sum	Comments
Seal existing paving and restripe	\$2.50	S.Y.	13,700	\$34,250	
Mill, repair, and repave	\$10.50	S.Y.	2,300	\$24,150	
Clean and seal joints	\$1000	L.S.	1	\$1,000	
Sum				\$59,400	

### Q. Sewage System

Description: The sewer system ties into an owner provided wastewater treatment plant. This system has not been reviewed.

### R. Fire Suppression

Description: The building is protected by a wet piping sprinkler system. The source of water for the system is from the fire pump and storage tanks located in the water treatment building on the elementary school site. Based on observations of the equipment, and follow-up discussion with the company that provides maintenance for this equipment (Grunau), there are no recommendation for equipment replacement or upgrade. The fire pump controller meets current codes and is operating properly. Normal maintenance and repairs on pumps and piping specialties should be expected.

Rating: 1 - Satisfactory

Recommendations: There are no recommendations for replacement or equipment.

### S. Exterior Doors

Description: Exterior doors at main entrances are aluminum frame storefront or curtain wall systems. In these locations, the doors and adjacent glazing appear to be in good condition. Sealant at the perimeter of these units appears to be losing elasticity and showing some cracking. Exterior doors at secondary and service entrances are hollow metal with hollow metal frame. In these locations some rusting and deterioration has been noted at the base of the frames and doors.

Rating: 2 – Needs Repair

Recommendations: Sealant at perimeter of all exterior doors should be replaced. Weather stripping and seals should be replaced as they are at the end of their service life. At hollow metal doors and frames, repair should be attempted for the frames and door bottoms. At the time of repair, full analysis of the stability of the door and frame should be assessed for possible replacement.

Item	Cost	Unit	Quantity	Sum	Comments
Replace Perimeter sealant	\$4500	LS	1	\$4,500	
Repair frames / doors	\$400	EA	2	\$800	
Sum				\$5,300	

### T. Hazardous Material

Not Assessed – it is our understanding that in accordance with the Schools Maintained AHERA Reports, there are no existing hazardous materials currently in this building

U. Life Safety

Description: The building is equipped with an automatic sprinkler system. The kitchen exhaust hood does have a compliant UL 300 chemical fire suppression system. The building has fire extinguishers in sufficient quantity and adequately located. The building has an emergency generator – refer to electrical. Refer to Handicap Access for ADA compliance.

Rating: 1 – Satisfactory (refer to other sections as noted)

V. Loose Furnishings

Not assessed

W. Technology

Description: Fiber optic and telephone services enter the building and are housed in the main Telecom Room. Classrooms contain a mixture of flat panel LCD and legacy type TVs or video. Most classrooms contain ceiling mounted projectors and document cameras. There are clocks in each classroom but no central master clock system. A Bogen public address (PA) system with speakers located within each classroom is present and the district is experiencing operational problems in several buildings.

Rating: 3 – Replacement of PA system recommended

Recommendations: It is recommended that the existing Bogen PA system be replaced at this time. All other technology system are operational and fit the current needs of the district.

Item	Cost	Unit	Quantity	Sum	Comments
PA System Replacement	\$50,000	LS	1	\$50,000	Replace the PA system head-end components. All wiring and devices in classrooms are existing to remain.

X. Construction Contingency/ Non-Construction Cost

A Construction Contingency and Non Construction Cost line Item equaling 18% has been added



Vertical Crack in Main Electrical Room



Horizontal Crack at Gymnasium



Vertical Cracks at Gymnasium



Column Base at Entry Overhang

# Southeast Schools Bus Garage Assessment

## Building Summary – Bus Garage

<b>District:</b> Southeast Local School District <b>Name:</b> Southeast Bus Garage <b>Address:</b> Tallmadge Road <b>Ravenna, OH 44266</b> <b>Contact:</b> <b>Phone:</b> 330-654-1949					<b>Date Prepared:</b> May 2022 <b>By:</b> BSHM Architects & MacMillan and Company, LLC	
Acreage:		40 Acre (shared with High School)				
Parking Spaces:						
	Date	HA	Number of Floors	Sq. Ft.		
Original Building	1984	Partial	1.5	6,499		
<b>Total</b>				6,499		
Rating	1	Satisfactory				
	2	Needs Repair				
	3	Needs Replacement				
	Const P/S	=	Present/Scheduled Construction			
FACILITY ASSESSMENT			RATING	COST		
A.	Heating System		3 – See C	\$0		
B.	Roofing		1	\$0		
C.	Ventilation / Air Conditioning		3	\$185,000		
D.	Electrical Systems		3	\$7,500		
E.	Plumbing and Fixtures		3	\$7,000		
F.	Windows		2	\$690		
G.	Structure: Foundation		1	\$0		
H.	Structure: Walls and Chimneys		2	\$34,000		
I.	Structure: Floors and Roofs		1	\$0		
J.	General Finishes		1	\$0		
K.	Interior Lighting		3	\$15,000		
L.	Security System		3	\$8,123		
M.	Emergency/Egress Lighting		3	\$1,000		
N.	Fire Alarm		1	\$0		
O.	Handicapped Access		2	\$2,000		
P.	Site Condition		2	\$31,095		
Q.	Sewage System		NA	\$0		
R.	Fire Suppression		1	\$0		
S.	Exterior Doors		2	\$5,700		
T.	Hazardous Material		NA	\$0		
U.	Life Safety		1	\$0		
V.	Loose Furnishings		NA	\$0		
W.	Technology		1	\$0		
X.	Construction Contingency/Non-Construction Cost			\$53,479		
	<b>Total</b>			<b>\$350,587</b>		

## A. Heating System

Description: The garage area is heated by gas-fired unit heaters suspended from the roof structure. The unit heaters are approximately 30 years old.

The office area is heated by a residential type gas-fired furnace. The furnace was replaced within the past year.

Rating: 3 – Needs replaced.

Recommendations: Recommendations for replacement or upgrades within the next 5 years are as follows:

1. Provide a new heating system for the garage area as described in the Ventilation / Air Conditioning section of this report.

## B. Roofing

Description: The Roof of both building sections is an EPDM roof which has recently been replaced. No leaks have been reported

Rating: 1 – Satisfactory

## C. Ventilation / Air Conditioning

Description: The office area is cooled by a residential split system consisting of in indoor furnace (as described in the heating section of this report) with a furnace mounted cooling coil and outdoor condensing unit. The cooling coil and condensing unit are over 20 years old.

A single exhaust fan provides exhaust for the bus garage. The fan is manually operated. The exhaust system has one point of exhaust near the floor in the center of the garage. The Ohio Mechanical Code requires an exhaust system specifically designed to remove vehicle exhaust if the vehicles operate indoors during maintenance and repairs. The garage does not include an exhaust system design for this use. The existing system draws the vehicle exhaust downward into the occupied zone, in lieu of exhausting upward away from the occupants.

The former wash bay includes a heating system that is no longer functional.

Rating: 3 – Needs replaced

Recommendations: Recommendations for replacement or upgrades within the next 5 years are as follows:

1. Office Area: The existing condensing unit and cooling coil for the furnace are operating beyond the expected service life. The existing furnace should remain, and the cooling coil and condensing unit be replaced.
2. Garage Ventilation: A new ventilation system for the garage should be installed. The system will operate both automatically (based on detection of exhaust gases) and manually. A source of make-up air and heating will be provided. The new system should be part of a comprehensive heating and ventilation system installation.

Item	Cost	Unit	Quantity	Sum	Comments
Office Area Air Conditioning Replacement	\$5,000	Lump Sum	1	\$5,000	
Bus Garage Heating and Ventilating System	\$180,000	Lump Sum	1	\$180,000	
Sum				\$185,000	

## D. Electrical Systems

Description: The existing Bus Garage Building is served by a single 208/120V three-phase metered service from the utility company through a pole-mounted transformer. The service-entrance panelboard with a 200A main circuit breaker with three additional subpanels. Both the service equipment and electrical distribution panels are approximately 40 years old. The subpanel feeding the bus block heaters was installed in 2000 and is good condition.

There is no backup power source at the bus garage building.

Rating: 3 – Replacement Recommended

Recommendation: Electrical panels and circuit breakers over 30 years old should be considered for replacement. The bus block heater panel is in good condition and can remain.

Item	Cost	Unit	Quantity	Sum	Comments
Replace electrical panels over 30 years old	\$7,500	LS	1	\$7,500	

### E. Plumbing and Fixtures

Description: The water supply for the building is supplied from the high school.

Domestic hot water is generated by a residential type gas-fired water heater. The water heater is over 20 years old and is operating beyond its expected service life.

A single air compressor provides compressed air to the garage. The air compressor is nearing the end of its expected service life.

The garage area drains to an outdoor oil interceptor as required by code.

Natural gas is provided by a gas well on site. When gas pressure is low, the gas switches to utility gas.

Rating: 3 – Needs Replaced

Recommendations: Recommendations for replacement or upgrades within the next 5 years are as follows:

1. Domestic Water Heater: The existing water heater should be replaced.
2. Air Compressor: the exiting air compressor should be replaced. A new air compressor can be installed next to the existing air compressor. The two air compressors can operate in a operating/stand-by mode until the original air compressor fails.

Item	Cost	Unit	Quantity	Sum	Comments
Domestic Water Heater Replacement	\$2,000	Lump Sum	1	\$2,000	
New Air Compressor	\$5,000	Lump Sum	1	\$5,000	
Sum				\$7,000	

### F. Windows

Description: The windows appear to have been installed as part of the recent addition. Windows appear to be thermally broken multi pane insulated panel windows. The windows in general are in good condition and provide adequate insulation properties.

Sealant at the exterior perimeter of the windows appears to be original to the addition. The sealant has lost some of elasticity and has begun cracking and pulling away from the substrate in some areas.

Rating: 2 - Needs Repair

Recommendations: Replace all exterior window sealant. Replace window screens

Item	Cost	Unit	Quantity	Sum	Comments
Window Sealant – Remove and Replace	\$75	EA	2	\$150	
Window Screens – Remove and Replace	\$135	EA	4	\$540	
Sum				\$690	

**G. Structure: Foundation**

Description: The building structural system consists of exterior load bearing masonry walls on traditional strip concrete footings. The storage mezzanine appears to be cast concrete on deck and steel joists

Rating: 1 – Satisfactory

**H. Structure: Walls and Chimneys**

Description: Exterior walls appear to be load bearing block with Brick veneer. No cracking was apparent. Control joints have been installed, however, the sealant appears to have lost elasticity and is cracking. It should also be noted that corner control joints have only been installed in one location, and that control joint does not extend from base to roof.

Rating: 2 – Repair Recommended

Recommendation Control joint material should be removed and replaced. Control joints should be installed at corner locations.

Item	Cost	Unit	Quantity	Sum	Comments
Exterior Caulking	\$10,000	Lump Sum	1	\$10,000	
Cut additional control joints	\$4,000	Lump Sum	6	\$24,000	
Sum				\$34,000	

**I. Structure: Floors and Roofs**

Description Floors in all locations are poured concrete slab with applied sealer or finishes. The exterior walls are masonry bearing with steel joist. Roof structure is steel joists with metal deck. All appear to be in good condition.

Rating: 1 – Satisfactory

**J. General Finishes**

Description: The floor finish floor in the office area is carpet and quarry tile. The floor finishes in the garage portion are sealed concrete. The floor finish in all restrooms is quarry tile. The ceiling in the office area and toilet rooms is suspended acoustical lay-in tile. The ceiling in the parts storage area and main garage is exposed painted structure.

Interior doors are hollow metal and appear to be original to the addition.

Rating: 1 - Satisfactory

**K. Interior Lighting**

Description: Interior lighting throughout the building consists of suspended, surface and lay-in type fluorescent fixtures with acrylic prismatic lenses. Many of the fixtures contain T12 fluorescent bulbs with magnetic ballasts. Exit and emergency lights use incandescent lamps.

Rating: 3 – Replacement Recommended

Recommendation It is recommended that interior lighting fixtures be replaced and upgraded to with LED fixtures on a one-for-one basis. It is recommended that lighting control system(s) be installed in accordance with current Ohio Building Code and applicable ASHRAE and/or IECC energy conservation requirements with occupancy sensors in offices and meeting rooms.

Item	Cost	Unit	Quantity	Sum	Comments
Interior LED Upgrade with Occupancy Sensors in Offices and meeting rooms	\$15,000	LS	1	\$15,000	

## L. Security Systems

Description: Door access control systems are currently out for bids and due for replacement. Camera system has been updated periodically over the past several years as funds have been available, however, this has created a piecemeal system that has a wide variety of resolutions, and periodic issues. This building does not currently have access controls or camera system.

Rating: 3 – Replacement Recommended

Recommendation: Installation of security cameras and Server for security system is recommended. Providing a district wide system which provides for high resolution and integrating all district buildings would provide for higher reliability and functionality, and would reduce upkeep costs over the next several years.

Item	Cost	Unit	Quantity	Sum	Comments
Upgrade to surveillance system	\$1.25	SF	6,499	\$8,123	Camera system can be tied into High School security system. Separate server for this building is not recommended

## M. Emergency/Egress Lighting

Description: Internally lit ceiling and wall mounted exit signs are located throughout the corridors and at exterior doors to define the paths of egress travel. Exit signs have integral battery packs. The existing exit lights appear to be incandescent sources.

Rating: 3 – Replacement Recommended

Recommendation It is recommended that the incandescent exit lights be replaced with new LED fixtures with integral batteries.

Item	Cost	Unit	Quantity	Sum	Comments
Interior LED Exit Light Upgrade	\$1,000	LS	1	\$1,000	Units replaced one-for-one with all existing branch circuit wiring to remain

## N. Fire Alarm

Description: The building does not currently have a fire alarm system installed. Per the Ohio Building Code, the size and occupancy load of the bus garage does not require a fire alarm system to be installed.

Rating: 1 – No changes are required per code.

## O. Handicapped Access

Description: Entrances appear to conform with Accessibility requirements. Parking spaces have not been designated and allocated adjacent to the main entrance. Doors appear to provide adequate pull and push side clearances. Toilet rooms appear to be in compliance, providing adequate accessible urinal / toilets.

Rating: 2 - Repair Recommended

Recommendations Addition of an ADA compliant parking space and signage near the main access door should be provided.

Item	Cost	Unit	Quantity	Sum	Comments
Paint Striping and inclusion of sign	\$2,000	LS	1	\$2,000	

## P. Site Condition

Description: The building shares an approximately 40 acre site which is contiguous with the High School. The site appears to drain adequately using slope and area drains, both in paved and grassy areas. Concrete walks and curbs appear to be in reasonable condition. Paved access road in front of the building and front parking area appear to have been replaced recently, but could benefit from being sealed to extend the life of the paving. Chain link fence surrounding the site on the north side is damaged and rusting and

appears to be falling. The remainder of the chain link fence appears to be in reasonable shape. A fueling station is included within the fenced area and appears to be in an adequate storage containment.

Rating: 2 – Needs Repair

Recommendations: In areas where pavement has recently been replaced, provide a seal coat and restripe. Replace chain link fence on Northern border of enclosed area.

Item	Cost	Unit	Quantity	Sum	Comments
Seal existing paving and restripe	\$2.50	S.Y.	5,538	\$13,845	
Replace chain link fence	\$75	L.F.	230	\$17,250	
Sum				\$31,095	

### Q. Sewage System

Description: The sewer system ties into an owner provided wastewater treatment plant. This system has not been reviewed.

### R. Fire Suppression

Description: The building is not protected by a wet piping sprinkler system.

Rating: Not applicable.

Recommendations: Not applicable.

### S. Exterior Doors

Description: Exterior doors at addition aluminum frame storefront or curtain wall systems. In these locations, the doors and adjacent glazing appear to be in good condition. Sealant at the perimeter of these units appears to be losing elasticity and showing some cracking. Exterior doors at secondary and service entrances are hollow metal with hollow metal frame. In these locations some rusting and deterioration has been noted at the base of the frames and doors. The building has 4 overhead doors. Water was observed leaking under the doors to the interior. The frames on the exterior were showing signs of peeling and rust at the base.

Rating: 2 – Needs Repair

Recommendations: Sealant at perimeter of all exterior doors should be replaced. Weather stripping and seals should be replaced as they are at the end of their service life. At hollow metal doors and frames, repair should be attempted for the frames and door bottoms. At the time of repair, full analysis of the stability of the door and frame should be assessed for possible replacement.

Item	Cost	Unit	Quantity	Sum	Comments
Replace Perimeter sealant	\$1500	LS	1	\$1,500	
Repair frames / doors	\$400	EA	3	\$1,200	
Repair overhead doors and frames	\$750	EA	4	\$3,000	
Sum				\$5,700	

### T. Hazardous Material

Not Assessed – it is our understanding that in accordance with the Schools Maintained AHERA Reports, there are no existing hazardous materials currently in this building

U. Life Safety

No apparent Life Safety issues were noted

V. Loose Furnishings

Not Assessed

W. Technology

Description: Fiber optic and telephone services enter the building with connections to other school buildings.

Rating: 1 – No replacements are expected at this time.

X. Construction Contingency/ Non-Construction Cost

A Construction Contingency and Non Construction Cost line item equaling 18% has been added



Partial Height Control Joint at Corner – Full Height Control Joint approx. 20ft from Corner



Garage Door Leak During Rain Storm



Paving Condition on Site



Chain Link Fence at North Side of Site

# Southeast Schools Administration Building Assessment

## Building Summary – Southeast Schools Administration Offices

<b>District: Southeast Local School District</b> <b>Name: Administration Offices</b> <b>Address: 8245 Tallmadge Road</b> <b>Ravenna, OH 44266</b> <b>Contact: Henry Michael</b> <b>Phone: 330-654-1930</b>					<b>Date Prepared: May 2022</b> <b>By: BSHM Architects &amp; MacMillan and Company LLC</b>	
Acreage:		1 Acre				
Parking Spaces:						
	Date	HA	Number of Floors	Sq. Ft.		
Original Building	1960	Partial	2	2,148		
<b>Total</b>				2,148		
Rating	1	Satisfactory				
	2	Needs Repair				
	3	Needs Replacement				
	Const P/S	=	Present/Scheduled Construction			
FACILITY ASSESSMENT			RATING	OSFC COST		
A.	Heating System		3	\$10,000		
B.	Roofing		3	\$17,148		
C.	Ventilation / Air Conditioning		See A	\$0		
D.	Electrical Systems		1	\$0		
E.	Plumbing and Fixtures		3	\$2,000		
F.	Windows		1	\$0		
G.	Structure: Foundation		3	\$0	*1	
H.	Structure: Walls and Chimneys		1	\$0		
I.	Structure: Floors and Roofs		3	\$0	*1	
J.	General Finishes		3	\$7,500		
K.	Interior Lighting		3	\$2,000		
L.	Security System		NA	\$0		
M.	Emergency/Egress Lighting		3	\$500		
N.	Fire Alarm		2	\$1,000		
O.	Handicapped Access		1	\$0		
P.	Site Condition		1	\$0		
Q.	Sewage System		1	\$0		
R.	Fire Suppression		1	\$0		
S.	Exterior Doors		1	\$0		
T.	Hazardous Material		NA	\$0		
U.	Life Safety		2	\$3,500		
V.	Loose Furnishings		NA	\$0		
W.	Technology		1	\$0		
X.	Construction Contingency/Non-Construction Cost			\$7,856		
	<b>Total</b>			<b>\$51,505</b>		

\*1 – additional investigation required

## A. Heating System

Description: The building is heated by two systems as follows:

1. The original building is heated by an oil-fired furnace. A fuel oil storage tank is located in the basement of the building.
2. The garage area, which was renovated into offices, is heated by a split system electric heat pump.

The oil-fired furnace is operating beyond the expected service life.

The electric heat pump is in good operating condition.

Both systems provide both heating and air conditioning to the building.

Rating: 3 – Needs replaced.

Recommendations: Recommendations for replacement or upgrades within the next 5 years are as follows:

1. The oil-fired furnace should be removed and replaced. The replacement unit can be an electric heat pump similar to the newer office area. The use of an electric heat pump will eliminate the need to bring gas to the building. The new system will provide both heating and air conditioning.

Item	Cost	Unit	Quantity	Sum	Comments
Replace oil-fired furnace	\$10,000	LS	2,148iuB	\$10,000	
Sum				\$10,000	

## B. Roofing

Description: The building has an asphalt shingle roof which gutters which discharge at grade. Due to the slope and location of the roof, close observation was not conducted. Roof drainage is provided using gutters and downspouts which are tied to a subsurface drainage system. The gutters and downspouts appear to be in good but weathered condition.

Rating: 3 – Needs Replacement.

Recommendations: Refer to heating section of report.

Item	Cost	Unit	Quantity	Sum	Comments
Roof Replacement – Asphalt Shingle System	\$8.00	Sq. Ft.	2,148	\$17,148	
Sum				\$17,148	

## C. Ventilation / Air Conditioning

Description: Cooling is provided by split system units as described in the heating section of this report.

Rating: Refer to heating section of report.

Recommendations: Refer to heating section of report.

## D. Electrical Systems

Description: The existing Administration Building is served by a single 240/120V single-phase metered service from the utility company through a pole-mounted transformer. The basement has the service-entrance panelboard with a 200A main circuit breaker and there is a small subpanel on the first floor that feeds the Superintendent's office, furnace, condensing unit, and office area receptacles and lights. Both the service equipment and electrical distribution panel are in good condition.

There is no backup power source at the administration building.

Rating: 1 – No replacements are recommended at this time.

## E. Plumbing and Fixtures

Description: The water supply for the building is supplied from well on site. The well only serves the Administration Building. The water passes through a residential softener.

Domestic hot water is generated by an electric residential type water heater. The heater is operating past the expected service life and is in poor condition.

Rating: 3 – Needs Replaced

Recommendations: Recommendations for replacement or upgrades within the next 5 years are as follows:

1. Domestic Water Heater: The existing water heater should be replaced.

Item	Cost	Unit	Quantity	Sum	Comments
Domestic Water Heater Replacement	\$2,000	Lump Sum	1	\$2,000	
Sum				\$2,000	

## F. Windows

Description: The windows were installed as part of a partial renovation project in 2013. The windows appear to be residential style double hung windows with window screens. They appear to be energy efficient double pane construction and are in good condition. No leaking was reported.

Rating: 1 – No replacements are recommended at this time.

## G. Structure: Foundation

Description: The basement of the building is concrete block with wood frame walls attached on top. While the block itself appears to be in good condition, there appears to be some shifting of the block at or near grade, which is apparent from horizontal cracking in this location. Some vertical stair step cracking was also apparent in the corners of the basement as well. Cracking in the basement floor was also noted which runs laterally through a large section of the slab.

Rating: 2 – Repairs recommended.

Recommendations: Additional investigation should be conducted to determine the cause of the horizontal cracking in the block walls and floor slab. Remediation approaches and cost can be determined at that time.

## H. Structure: Walls and Chimneys

Description: The exterior walls of the building are wood studs with lap metal siding. No shifting of the walls was noted, but it should be noted that minor movement in this type of construction can be hard to detect. The condition of the siding is good, with minor damage noted in some locations. One small section of exterior wall at the entrance is stone veneer over wood studs and also appears to be in good condition. Soffits are metal soffit panels with ventilation provided.

Rating: 1 – No replacements are recommended at this time.

## I. Structure: Floors and Roofs

Description: The Floor of the main level is wood joist supported on the exterior wall and supported in its span with a wooden beams and steel jack poles. The wooden beams have lateral cracks running their length, which may be reducing their bearing capacity. The inclusion of the beams to support the floor joists may indicate that the wood floor joists are undersized for their current load.

Rating: 2 – Repairs recommended.

Recommendations Additional investigation should be conducted to determine the cause of the horizontal cracking in the block walls and floor slab. Remediation approaches and cost can be determined at that time. Replacement of the beams in the basement and analysis of the loading on the floor joists should be conducted. Cost cannot be determined at this time.

## J. General Finishes

Description: The floor finish floor in the offices and hallway areas is carpet. Floor finish on stairs and at the rear entry are VCT. Floor finishes in the bathrooms are a combination of vinyl tile and VCT. Most of the finishes have held up well, however, it should be noted that the carpet in many areas has stretched and has folds and creases that can create tripping hazards

Rating: 3 - Needs Replacement

Recommendations: Replacement of all carpet.

Item	Cost	Unit	Quantity	Sum	Comments
Replace Carpet	\$50	Sq. Yd.	155	\$7,500	
Sum				\$7,500	

## K. Interior Lighting

Description: Interior lighting throughout the building consists of surface and lay-in type fluorescent fixtures with acrylic prismatic lenses. The existing fluorescent fixtures contain T8 lamps with electronic ballasts.

Rating: 3 – Replacement Recommended

Recommendation It is recommended that interior lighting fixtures be replaced and upgraded to with LED fixtures on a one-for-one basis. It is recommended that lighting control system(s) be installed in accordance with current Ohio Building Code and applicable ASHRAE and/or IECC energy conservation requirements with occupancy sensors in offices and meeting rooms.

Item	Cost	Unit	Quantity	Sum	Comments
Interior LED Upgrade with Occupancy Sensors in Offices and meeting rooms	\$2,000	LS	1	\$2,000	

## L. Security Systems

Description Building does not currently have door access controls or security camera system. None requested by district.

## M. Emergency/Egress Lighting

Description: Internally lit ceiling and wall mounted exit signs are located throughout the corridors and at exterior doors to define the paths of egress travel. Exit signs have integral battery packs. The existing exit lights appear to be incandescent sources.

Rating: 3 – Replacement Recommended

Recommendation: It is recommended that the incandescent exit lights be replaced with new LED fixtures with integral batteries.

Item	Cost	Unit	Quantity	Sum	Comments
Interior LED Exit Light Upgrade	\$500	LS	1	\$500	Units replaced one-for-one with all existing branch circuit wiring to remain

**N. Fire Alarm**

Description: The building is equipped with a smoke detectors located in the basement storage areas. The building size and occupancy load does not require a fire alarm system to be installed. If not already done, the smoke detectors should be connected to a monitoring service to alert the fire department in the event of a fire outside of normal business hours.

Rating: 2 – Smoke detectors should be connected to a monitoring service.

Item	Cost	Unit	Quantity	Sum	Comments
Smoke detector Replacement with monitoring service	\$1,000	LS	1	\$1,000	

**O. Handicapped Access**

Description: ADA access to the main floor of the building has been provided at the lower level by means of a driveway and parking space which appear to meet current ADA legislation. ADA compliant toilet rooms have been provided at that level. No deficiencies were noted

Rating: 1 – Satisfactory.

**P. Site Condition**

Description: Site drainage is achieved by sloping of the site away from the building, which appears to be adequate. Access to the building if from the drive to the elementary school and a gravel parking lot. While it does meet code requirements because it has been grandfathered in, when the paving for the road is replaced, paving of the parking area should be considered to provide a level and stable surface to avoid tripping hazards.

Rating: 1 – Satisfactory.

**Q. Sewage System**

Description: The sewer system tie into an owner provided wastewater treatment plant. This system has not been reviewed.

**R. Fire Suppression**

Description: The building is not protected by a wet piping sprinkler system.

Not applicable.

Recommendations: Not applicable.

**S. Exterior Doors**

Description: The building Doors are a combination of Wooden residential Style and Insulated Metal Residential Style doors with wood frames. All Doors appear in good condition.

Rating: 1 - Satisfactory

Recommendations: Not applicable.

**T. Hazardous Material**

Not Assessed – it is our understanding that in accordance with the Schools Maintained AHERA Reports, there are no existing hazardous materials currently in this building

**U. Life Safety**

Description: One item of note – at the front entrance, a wooden landing has been built to meet the level of the floor at the entry. The platform is undersized and does not provide the required clearance at the door. It should also be note that the stairs do not provide a required handrail to each side as required by code.

Rating: 2 – Repairs Recommended

Recommendations: Provide adequate landing at the building egress. Provide handrails at the exterior stair

Item	Cost	Unit	Quantity	Sum	Comments
Provide landing	\$2,000	Lump Sum	1	\$2,000	
Provide handrail	\$1,500	Lump Sum	2	\$1,500	
Sum				\$3,500	

V. Loose Furnishings

Not assessed

W. Technology

Description: Fiber optic and telephone services enter the building and are housed in the basement with connections to other school buildings.

Rating: 1 – No replacements are expected at this time.

X. Construction Contingency/ Non-Construction Cost

A Construction Contingency and Non Construction Cost line Item equaling 18% has been added