

**Building Information - Troy City (44925) - Troy High**

Program Type	Classroom Facilities Assistance Program (CFAP) - Regular
Setting	Small City
Assessment Name	Troy High School (37598) FINAL
Assessment Date (on-site; non-EEA)	2016-08-09
Kitchen Type	Full Kitchen
Cost Set:	2016
Building Name	Troy High
Building IRN	37598
Building Address	151 Staunton Road
Building City	Troy
Building Zipcode	45373
Building Phone	(937) 332.6710
Acreage	49.54
Current Grades:	9-12
Teaching Stations	73
Number of Floors	3
Student Capacity	1105
Current Enrollment	1369
Enrollment Date	2016-08-09
Enrollment Date is the date in which the current enrollment was taken.	
Number of Classrooms	65
Historical Register	<b>NO</b>
Building's Principal	Ms. Katherine Weaver
Building Type	High

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North elevation photo:



East elevation photo:



South elevation photo:



West elevation photo:



#### GENERAL DESCRIPTION

**237,430** Total Existing Square Footage  
**1958,1958,2006** Building Dates  
**9-12** Grades  
**1,369** Current Enrollment  
**73** Teaching Stations  
**49.54** Site Acreage

Troy High School, which is not on the National Register of Historic Buildings, and originally constructed in 1958 is a three story, 237,430 square foot brick and stone school building located in a small town residential setting, on a school and community campus consisting of athletic facilities, parks, and community pool. The existing facility features a conventionally partitioned design, and does not utilize modular buildings. The structure of the overall facility contains brick veneer on load bearing masonry wall type exterior wall construction, with load bearing masonry wall type wall construction in the interior. The base floor system of the overall facility is concrete slab on grade. The second and third floor system consists of metal form deck on steel joist type construction. The roof structure of the 1958 Original Construction consists of tectum deck on steel joist, wood deck on steel joist, or cast in place concrete type construction. The roof structure of the 2006 Addition is steel deck on steel joist type construction. The roofing system of the 1958 Original Construction consists of a modified bitumen system by Tremco installed between 2003 and 2008, and an EPDM system installed between 2014 and 2016. The roofing system of the 2006 Addition consists of a modified bitumen system by Tremco that was installed in 2006. The ventilation system of the building is inadequate to meet the needs of the users. Typical Classrooms in the 1958 Original Construction are undersized in terms of the current standards established by the State of Ohio. Classrooms in the 2006 Addition are adequately sized. Physical Education and Student Dining spaces consist of a 21,891 SF Primary Gymnasium with 11,613 SF Auxiliary Gymnasium and separate Student Dining. The electrical system for the facility is generally inadequate. The facility is equipped with a non-compliant security system. The building has a non-compliant automatic fire alarm system. The facility is not equipped with a compliant automated fire suppression system. The building contains asbestos. The overall building is compliant with ADA accessibility requirements. The school is located on a 49.54 acre site shared with Troy Junior High School, Board Offices, and Bus Maintenance Garage, adjacent to residential properties, school athletic facilities, and other community properties. The property and athletic facilities are partially fenced for security. Access onto the site is unrestricted. Site circulation is fair. There is dedicated space for school buses to load and unload on the site. Parking for staff, visitors and community events is inadequate. Several areas of the 1958 Original Construction went through renovations during the construction of the 2006 Addition consisting of but not limited to reconfiguring the layout of walls and replacement of finishes.

*No Significant Findings*

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**Building Construction Information - Troy City (44925) - Troy High (37598)**

<b>Name</b>	<b>Year</b>	<b>Handicapped Access</b>	<b>Floors</b>	<b>Square Feet</b>	<b>Non OSDM Addition</b>
Auditorium Fixed Seating Area	1958	no	1	4,784	yes
Original Construction	1958	no	3	178,182	no
Gymnasium and Classroom Addition	2006	yes	2	54,464	no

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Building Component Information - Troy City (44925) - Troy High (37598)

Addition	Auditorium Fixed Seating	Corridors	Agricultural Education Lab	Primary Gymnasium	Media Center	Vocational Space	Student Dining	Kitchen	Natatorium	Indoor Tracks	Adult Education	Board Offices	Outside Agencies	Auxiliary Gymnasium
Auditorium Fixed Seating Area (1958)	4784													
Original Construction (1958)		27902			6246		6071	4669						11613
Gymnasium and Classroom Addition (2006)		7213		21891										
Total	4,784	35,115	0	21,891	6,246	0	6,071	4,669	0	0	0	0	0	11,613
<b>Master Planning Considerations</b>	There are no readily evident conditions that might significantly effect master planning with regard to the site. Building expansion is not recommended due to the size of the site, other shared facilities on the site, parking inefficiencies, and adjacent residential properties within close proximity to the school. Railroad tracks are located to the northwest of the site, which may be distracting. No trains were noticed or observed during the physical assessment.													

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# Existing CT Programs for Assessment

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Program Type	Program Name	Related Space	Square Feet
No Records Found			

## Legend:

Not in current design manual

In current design manual but missing from assessment

Building Summary - Troy High (37598)

<b>District:</b> Troy City				<b>County:</b> Miami		<b>Area:</b> West Central Ohio (2)				
<b>Name:</b> Troy High				<b>Contact:</b> Ms. Katherine Weaver						
<b>Address:</b> 151 Staunton Road Troy, OH 45373				<b>Phone:</b> (937) 332.6710						
<b>Bldg. IRN:</b> 37598				<b>Date Prepared:</b> 2016-08-09		<b>By:</b> Julie Apt				
				<b>Date Revised:</b> 2016-12-11		<b>By:</b> Bernie Merritt				
Current Grades	9-12	Acreage:	49.54	<b>CEFPI Appraisal Summary</b>						
Proposed Grades	N/A	Teaching Stations:	73							
Current Enrollment	1369	Classrooms:	65							
Projected Enrollment	N/A									
<b>Addition</b>	<b>Date</b>	<b>HA</b>	<b>Number of Floors</b>	<b>Current Square Feet</b>	<b>Section</b>	<b>Points Possible</b>	<b>Points Earned</b>	<b>Percentage</b>	<b>Rating</b>	<b>Category</b>
<u>Original Construction</u>	1958	no	3	178,182	1.0 <u>The School Site</u>	100	81	81%	Satisfactory	
<u>Auditorium Fixed Seating Area</u>	1958	no	1	4,784	2.0 <u>Structural and Mechanical Features</u>	200	133	67%	Borderline	
<u>Gymnasium and Classroom Addition</u>	2006	yes	2	54,464	3.0 <u>Plant Maintainability</u>	100	64	64%	Borderline	
<b>Total</b>				<b>237,430</b>	4.0 <u>Building Safety and Security</u>	200	120	60%	Borderline	
					5.0 <u>Educational Adequacy</u>	200	144	72%	Satisfactory	
					6.0 <u>Environment for Education</u>	200	132	66%	Borderline	
					<u>LEED Observations</u>	—	—	—	—	
					<u>Commentary</u>	—	—	—	—	
					<b>Total</b>	<b>1000</b>	<b>674</b>	<b>67%</b>	<b>Borderline</b>	
<u>Enhanced Environmental Hazards Assessment Cost Estimates</u>										
<b>C=Under Contract</b>										
<b>Renovation Cost Factor</b>										
<b>Cost to Renovate (Cost Factor applied)</b>										
<b>97.49%</b>										
<b>\$37,282,207.27</b>										
<i>The Replacement Cost Per SF and the Renovate/Replace ratio are only provided when this summary is requested from a Master Plan.</i>										
<b>FACILITY ASSESSMENT</b>				<b>Rating</b>	<b>Dollar Assessment</b>					
Cost Set: 2016										
A.	<u>Heating System</u>			3	\$8,101,111.60					
B.	<u>Roofing</u>			3	\$2,018,110.80					
C.	<u>Ventilation / Air Conditioning</u>			2	\$5,000.00					
D.	<u>Electrical Systems</u>			3	\$3,853,488.90					
E.	<u>Plumbing and Fixtures</u>			3	\$1,465,024.00					
F.	<u>Windows</u>			3	\$806,387.00					
G.	<u>Structure: Foundation</u>			2	\$5,404.00					
H.	<u>Structure: Walls and Chimneys</u>			2	\$247,934.50					
I.	<u>Structure: Floors and Roofs</u>			1	\$0.00					
J.	<u>General Finishes</u>			3	\$6,040,458.70					
K.	<u>Interior Lighting</u>			3	\$1,187,150.00					
L.	<u>Security Systems</u>			3	\$676,675.50					
M.	<u>Emergency/Egress Lighting</u>			3	\$237,430.00					
N.	<u>Fire Alarm</u>			3	\$356,145.00					
O.	<u>Handicapped Access</u>			3	\$127,107.40					
P.	<u>Site Condition</u>			2	\$1,041,043.94					
Q.	<u>Sewage System</u>			1	\$0.00					
R.	<u>Water Supply</u>			1	\$0.00					
S.	<u>Exterior Doors</u>			3	\$88,500.00					
T.	<u>Hazardous Material</u>			3	\$1,743,351.60					
U.	<u>Life Safety</u>			3	\$821,776.00					
V.	<u>Loose Furnishings</u>			2	\$534,546.00					
W.	<u>Technology</u>			3	\$1,377,094.00					
X.	<u>Construction Contingency / Non-Construction Cost</u>			-	\$7,508,344.62					
<b>Total</b>					<b>\$38,242,083.56</b>					

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Original Construction (1958) Summary

<b>District:</b> Troy City				<b>County:</b> Miami		<b>Area:</b> West Central Ohio (2)				
<b>Name:</b> Troy High				<b>Contact:</b> Ms. Katherine Weaver						
<b>Address:</b> 151 Staunton Road Troy, OH 45373				<b>Phone:</b> (937) 332.6710						
<b>Bldg. IRN:</b> 37598				<b>Date Prepared:</b> 2016-08-09		<b>By:</b> Julie Apt				
				<b>Date Revised:</b> 2016-12-11		<b>By:</b> Bernie Merritt				
Current Grades	9-12	Acreage:	49.54	<b>CEFPI Appraisal Summary</b>						
Proposed Grades	N/A	Teaching Stations:	73							
Current Enrollment	1369	Classrooms:	65							
Projected Enrollment	N/A									
<b>Addition</b>	<b>Date</b>	<b>HA</b>	<b>Number of Floors</b>	<b>Current Square Feet</b>	<b>Section</b>	<b>Points Possible</b>	<b>Points Earned</b>	<b>Percentage</b>	<b>Rating</b>	<b>Category</b>
<b>Original Construction</b>	<b>1958</b>	<b>no</b>	<b>3</b>	<b>178,182</b>	<b>1.0 The School Site</b>	100	81	81%	Satisfactory	
<b>Auditorium Fixed Seating Area</b>	1958	no	1	4,784	<b>2.0 Structural and Mechanical Features</b>	200	133	67%	Borderline	
<b>Gymnasium and Classroom Addition</b>	2006	yes	2	54,464	<b>3.0 Plant Maintainability</b>	100	64	64%	Borderline	
<b>Total</b>				<b>237,430</b>	<b>4.0 Building Safety and Security</b>	200	120	60%	Borderline	
					<b>5.0 Educational Adequacy</b>	200	144	72%	Satisfactory	
					<b>6.0 Environment for Education</b>	200	132	66%	Borderline	
					<b>LEED Observations</b>	—	—	—	—	
					<b>Commentary</b>	—	—	—	—	
					<b>Total</b>	1000	674	67%	Borderline	
					<b>Enhanced Environmental Hazards Assessment Cost Estimates</b>					
					<b>C=Under Contract</b>					
					Renovation Cost Factor					97.49%
					Cost to Renovate (Cost Factor applied)					\$30,315,420.77
					<i>The Replacement Cost Per SF and the Renovate/Replace ratio are only provided when this summary is requested from a Master Plan.</i>					
<b>FACILITY ASSESSMENT</b>				<b>Rating</b>	<b>Dollar Assessment</b>					
Cost Set: 2016										
A.	Heating System			3	\$6,079,569.84					
B.	Roofing			3	\$1,041,671.00					
C.	Ventilation / Air Conditioning			2	\$5,000.00					
D.	Electrical Systems			3	\$2,891,893.86					
E.	Plumbing and Fixtures			3	\$1,415,424.00					
F.	Windows			3	\$806,387.00					
G.	Structure: Foundation			2	\$5,404.00					
H.	Structure: Walls and Chimneys			2	\$158,441.50					
I.	Structure: Floors and Roofs			1	\$0.00					
J.	General Finishes			3	\$5,777,637.70					
K.	Interior Lighting			3	\$890,910.00					
L.	Security Systems			3	\$507,818.70					
M.	Emergency/Egress Lighting			3	\$178,182.00					
N.	Fire Alarm			3	\$267,273.00					
O.	Handicapped Access			3	\$84,881.40					
P.	Site Condition			2	\$848,110.60					
Q.	Sewage System			1	\$0.00					
R.	Water Supply			1	\$0.00					
S.	Exterior Doors			3	\$88,500.00					
T.	Hazardous Material			3	\$1,743,351.60					
U.	Life Safety			3	\$632,182.40					
V.	Loose Furnishings			2	\$534,546.00					
W.	Technology			3	\$1,033,455.60					
X.	Construction Contingency / Non-Construction Cost			-	\$6,105,288.37					
<b>Total</b>					<b>\$31,095,928.57</b>					

Auditorium Fixed Seating Area (1958) Summary

<b>District:</b> Troy City		<b>County:</b> Miami		<b>Area:</b> West Central Ohio (2)	
<b>Name:</b> Troy High		<b>Contact:</b> Ms. Katherine Weaver			
<b>Address:</b> 151 Staunton Road Troy, OH 45373		<b>Phone:</b> (937) 332.6710			
<b>Bldg. IRN:</b> 37598		<b>Date Prepared:</b> 2016-08-09		<b>By:</b> Julie Apt	
		<b>Date Revised:</b> 2016-12-11		<b>By:</b> Bernie Merritt	

Current Grades	9-12	Acreage:	49.54	<b>CEFPI Appraisal Summary</b>	
Proposed Grades	N/A	Teaching Stations:	73		
Current Enrollment	1369	Classrooms:	65		
Projected Enrollment	N/A				
<b>Addition</b>	<b>Date</b>	<b>HA</b>	<b>Number of Floors</b>	<b>Current Square Feet</b>	
<u>Original Construction</u>	1958	no	3	178,182	
<b>Auditorium Fixed Seating Area</b>	<b>1958</b>	<b>no</b>	<b>1</b>	<b>4,784</b>	
<u>Gymnasium and Classroom Addition</u>	2006	yes	2	54,464	
<b>Total</b>				<b>237,430</b>	

*HA =	Handicapped Access
*Rating =1	Satisfactory
=2	Needs Repair
=3	Needs Replacement
*Const P/S =	Present/Scheduled Construction

FACILITY ASSESSMENT		Rating	Dollar Assessment	C
Cost Set: 2016				
A.	<u>Heating System</u>	3	\$163,230.08	-
B.	<u>Roofing</u>	3	\$0.00	-
C.	<u>Ventilation / Air Conditioning</u>	2	\$0.00	-
D.	<u>Electrical Systems</u>	3	\$77,644.32	-
E.	<u>Plumbing and Fixtures</u>	3	\$0.00	-
F.	<u>Windows</u>	3	\$0.00	-
G.	<u>Structure: Foundation</u>	2	\$0.00	-
H.	<u>Structure: Walls and Chimneys</u>	2	\$0.00	-
I.	<u>Structure: Floors and Roofs</u>	1	\$0.00	-
J.	<u>General Finishes</u>	3	\$0.00	-
K.	<u>Interior Lighting</u>	3	\$23,920.00	-
L.	<u>Security Systems</u>	3	\$13,634.40	-
M.	<u>Emergency/Egress Lighting</u>	3	\$4,784.00	-
N.	<u>Fire Alarm</u>	3	\$7,176.00	-
O.	<u>Handicapped Access</u>	3	\$0.00	-
P.	<u>Site Condition</u>	2	\$0.00	-
Q.	<u>Sewage System</u>	1	\$0.00	-
R.	<u>Water Supply</u>	1	\$0.00	-
S.	<u>Exterior Doors</u>	3	\$0.00	-
T.	<u>Hazardous Material</u>	3	\$0.00	-
U.	<u>Life Safety</u>	3	\$15,308.80	-
V.	<u>Loose Furnishings</u>	2	\$0.00	-
W.	<u>Technology</u>	3	\$27,747.20	-
- X.	<u>Construction Contingency / Non-Construction Cost</u>	-	\$81,461.56	-
<b>Total</b>			<b>\$414,906.36</b>	

Section	Points Possible	Points Earned	Percentage	Rating	Category
<u>Cover Sheet</u>	—	—	—	—	—
1.0 <u>The School Site</u>	100	81	81%	Satisfactory	
2.0 <u>Structural and Mechanical Features</u>	200	133	67%	Borderline	
3.0 <u>Plant Maintainability</u>	100	64	64%	Borderline	
4.0 <u>Building Safety and Security</u>	200	120	60%	Borderline	
5.0 <u>Educational Adequacy</u>	200	144	72%	Satisfactory	
6.0 <u>Environment for Education</u>	200	132	66%	Borderline	
<u>LEED Observations</u>	—	—	—	—	—
<u>Commentary</u>	—	—	—	—	—
<b>Total</b>	<b>1000</b>	<b>674</b>	<b>67%</b>	<b>Borderline</b>	

<u>Enhanced Environmental Hazards Assessment Cost Estimates</u>	
<u>C=Under Contract</u>	
Renovation Cost Factor	97.49%
Cost to Renovate (Cost Factor applied)	\$404,492.22

*The Replacement Cost Per SF and the Renovate/Replace ratio are only provided when this summary is requested from a Master Plan.*



Gymnasium and Classroom Addition (2006) Summary

<b>District:</b> Troy City				<b>County:</b> Miami		<b>Area:</b> West Central Ohio (2)	
<b>Name:</b> Troy High				<b>Contact:</b> Ms. Katherine Weaver			
<b>Address:</b> 151 Staunton Road Troy, OH 45373				<b>Phone:</b> (937) 332.6710			
<b>Bldg. IRN:</b> 37598				<b>Date Prepared:</b> 2016-08-09		<b>By:</b> Julie Apt	
				<b>Date Revised:</b> 2016-12-11		<b>By:</b> Bernie Merritt	
Current Grades		9-12	Acreage:		49.54		
Proposed Grades		N/A	Teaching Stations:		73		
Current Enrollment		1369	Classrooms:		65		
Projected Enrollment		N/A					
<b>Addition</b>		<b>Date</b>	<b>HA</b>	<b>Number of Floors</b>	<b>Current Square Feet</b>		
<u>Original Construction</u>		1958	no	3	178,182		
<u>Auditorium Fixed Seating Area</u>		1958	no	1	4,784		
<b>Gymnasium and Classroom Addition</b>		<b>2006</b>	<b>yes</b>	<b>2</b>	<b>54,464</b>		
<b>Total</b>					<b>237,430</b>		
		<b>*HA</b>	=	Handicapped Access			
		<b>*Rating</b>	=1	Satisfactory			
			=2	Needs Repair			
			=3	Needs Replacement			
		<b>*Const P/S</b>	=	Present/Scheduled Construction			
<b>FACILITY ASSESSMENT</b> Cost Set: 2016				<b>Rating</b>	<b>Dollar Assessment</b>		
A. <u>Heating System</u>				3	\$1,858,311.68		
B. <u>Roofing</u>				3	\$976,439.80		
C. <u>Ventilation / Air Conditioning</u>				2	\$0.00		
D. <u>Electrical Systems</u>				3	\$883,950.72		
E. <u>Plumbing and Fixtures</u>				3	\$49,600.00		
F. <u>Windows</u>				3	\$0.00		
G. <u>Structure: Foundation</u>				2	\$0.00		
H. <u>Structure: Walls and Chimneys</u>				2	\$89,493.00		
I. <u>Structure: Floors and Roofs</u>				1	\$0.00		
J. <u>General Finishes</u>				3	\$262,821.00		
K. <u>Interior Lighting</u>				3	\$272,320.00		
L. <u>Security Systems</u>				3	\$155,222.40		
M. <u>Emergency/Egress Lighting</u>				3	\$54,464.00		
N. <u>Fire Alarm</u>				3	\$81,696.00		
O. <u>Handicapped Access</u>				3	\$42,226.00		
P. <u>Site Condition</u>				2	\$192,933.34		
Q. <u>Sewage System</u>				1	\$0.00		
R. <u>Water Supply</u>				1	\$0.00		
S. <u>Exterior Doors</u>				3	\$0.00		
T. <u>Hazardous Material</u>				3	\$0.00		
U. <u>Life Safety</u>				3	\$174,284.80		
V. <u>Loose Furnishings</u>				2	\$0.00		
W. <u>Technology</u>				3	\$315,891.20		
- X. <u>Construction Contingency / Non-Construction Cost</u>				-	\$1,321,594.69		
<b>Total</b>					<b>\$6,731,248.63</b>		
<b>CEFPI Appraisal Summary</b>							
<b>Section</b>		<b>Points Possible</b>	<b>Points Earned</b>	<b>Percentage</b>	<b>Rating</b>	<b>Category</b>	
<u>Cover Sheet</u>		—	—	—		—	
1.0 <u>The School Site</u>		100	81	81%		Satisfactory	
2.0 <u>Structural and Mechanical Features</u>		200	133	67%		Borderline	
3.0 <u>Plant Maintainability</u>		100	64	64%		Borderline	
4.0 <u>Building Safety and Security</u>		200	120	60%		Borderline	
5.0 <u>Educational Adequacy</u>		200	144	72%		Satisfactory	
6.0 <u>Environment for Education</u>		200	132	66%		Borderline	
<u>LEED Observations</u>		—	—	—		—	
<u>Commentary</u>		—	—	—		—	
<b>Total</b>		<b>1000</b>	<b>674</b>	<b>67%</b>		<b>Borderline</b>	
<b>Enhanced Environmental Hazards Assessment Cost Estimates</b>							
<b>C=Under Contract</b>							
<b>Renovation Cost Factor</b>				97.49%			
<b>Cost to Renovate (Cost Factor applied)</b>				\$6,562,294.29			
<i>The Replacement Cost Per SF and the Renovate/Replace ratio are only provided when this summary is requested from a Master Plan.</i>							

A. Heating System

**Description:** The existing system for the 1958 Original Construction is a natural gas fired heated boiler type system, installed in 1958, and is in fair condition. The systems in the 1958 Auditorium Fixed Seating Area and 2006 Addition is an extension of that found in the 1958 Original Construction. 2-pipe vs. 4-pipe designations are not applicable in this facility, as no central air conditioning is provided. The (3) heated water boilers were manufactured by Titusville, were installed in 1958, and are in fair condition. Heating water is distributed to terminal units consisting of unit ventilators, fin tubes, cabinet heaters, unit heaters, air handlers, and roof top units. Some terminal equipment, specifically the roof top units, are electric fired. The terminal equipment is original to each addition and is in fair condition. The system does not appear to comply with the 15 CFM per person fresh air requirements of the Ohio Building Code mechanical code and Ohio School Design Manual. The pneumatic and DDC type system temperature controls are original to each addition with recent upgrades and are in fair condition. The system does not feature individual temperature controls in all spaces required by the OSDM. The overall system does not feature any central energy recovery systems. The facility is not equipped with louvered interior doors to facilitate Corridor utilization as return air plenums. The existing system is ducted, but the ductwork cannot be integrated into a possible future system due to arrangement, air volume, and routing of existing ductwork. The overall heating system is evaluated as being in safe but inefficient working order, and long term life expectancy of the existing system is not anticipated. The structure is not equipped with central air conditioning. The site does not contain underground fuel tanks.

**Rating:** 3 Needs Replacement

**Recommendations:** Provide new overall heating, ventilating, and air conditioning system to achieve compliance with Ohio Building Code and Ohio School Design Manual standards. Replace existing ductwork to facilitate efficient exchange of conditioned air.

Item	Cost	Unit	Whole Building	Auditorium Fixed Seating Area (1958) 4,784 ft²	Original Construction (1958) 178,182 ft²	Gymnasium and Classroom Addition (2006) 54,464 ft²	Sum	Comments
HVAC System Replacement:	\$26.12	sq.ft. (of entire building addition)		Required	Required	Required	\$6,201,671.60	(includes demo of existing system and reconfiguration of piping layout and new controls, air conditioning)
Convert To Ducted System	\$8.00	sq.ft. (of entire building addition)		Required	Required	Required	\$1,899,440.00	(includes costs for vert. & horz. chases, cut openings, soffits, etc. Must be used in addition to HVAC System Replacement if the existing HVAC system is non-ducted)
<b>Sum:</b>			\$8,101,111.60	\$163,230.08	\$6,079,569.84	\$1,858,311.68		



Natural Gas Fired Heated Water Boilers



Unit Heater

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B. Roofing

**Description:** The roof over portions of the Original Construction is a modified bitumen system by Tremco that was installed in phases between 2003 through 2008, is under a 15-year warranty, and is in fair to poor condition. There are District reports of current leaking. Blisters form in the roofing system and burst. Burst blisters adjacent to seams cause leaks. Signs of past leaking were observed during the physical assessment. The roof over the other portions of the Original Construction is an EPDM system by Firestone that was installed in phases between 2014 through 2016, is under a 20-year warranty, and is in good condition. Access to the roof was gained by access hatches, access ladders, and an access door that are in fair condition. Some low roof areas were not accessible. Fall safety protection cages are not required for most ladders, and are not provided. One ladder does require a safety protection cage, but is not provided. The roof over the 2006 Gymnasium & Classroom Addition is a modified bitumen system by Tremco that was installed in 2006, is under a 20-year warranty, and is in poor condition. There are District reports of current leaking. Blisters form in the roofing system and burst. Burst blisters adjacent to seams cause leaks. Signs of past leaking were observed during the physical assessment. Access to the roof was gained by access hatch and access ladder that are in good condition. Fall safety protection cages are required, have been provided, and are compliant, in good condition. There were observations of standing water on the roof. Metal cap flashings and copings are in fair to poor condition. Roof storm drainage is addressed through a system of gutters and downspouts, roof drains, and through-wall scuppers, which are properly located, and in fair to poor condition. The roof is equipped with overflow roof drains, though not in sufficient quantities. No problems requiring attention were encountered with any roof penetrations. There is a covered walkway attached to this structure. The 2006 Gymnasium & Classroom Addition has a covered walkway leading from the parking lot to the main entrance, made of standing seam metal, and in good condition.

**Rating:** 3 Needs Replacement

**Recommendations:** The roof over the Tremco portions of the Original Construction and the 2006 Gymnasium & Classroom Addition requires replacement to meet Ohio School Design Manual guidelines due to condition and age of system and projected lifecycle. The flashing and / or coping over the Tremco portions of the Original Construction and 2006 Gymnasium & Classroom Addition require replacement due to condition and age of system and projected lifecycle. Due to existing conditions gutters and downspouts require replacement at portions of the Original Construction. Due to existing conditions three roof drains require replacement in the Original Construction. Provide five overflow drains for required areas in the Original Construction. Provide a safety protection cage for one ladder in the Original Construction. Provide five ladders for inaccessible low roof areas in the Original Construction. Install insulation in areas where the roof is being replaced throughout the overall facility.

Item	Cost	Unit	Whole Building	Auditorium Fixed Seating Area (1958) 4,784 ft <sup>2</sup>	Original Construction (1958) 178,182 ft <sup>2</sup>	Gymnasium and Classroom Addition (2006) 54,464 ft <sup>2</sup>	Sum	Comments
Built-up Asphalt:	\$13.20	sq.ft. (Qty)			56,421 Required	56,098 Required	\$1,485,250.80	
Repair/replace cap flashing and coping:	\$18.40	ln.ft.			3,161 Required	1,634 Required	\$88,228.00	
Gutters/Downspouts	\$13.10	ln.ft.			823 Required		\$10,781.30	
Remove/replace existing roof Drains and Sump:	\$1,200.00	each			3 Required		\$3,600.00	
Overflow Roof Drains and Piping:	\$2,500.00	each			5 Required		\$12,500.00	
Roof Insulation:	\$3.20	sq.ft. (Qty)			56,421 Required	56,098 Required	\$360,060.80	(non-tapered insulation for use in areas without drainage problems)
Roof Insulation:	\$4.70	sq.ft. (Qty)			5,642 Required	5,610 Required	\$52,884.40	(tapered insulation for limited area use to correct ponding)
<b>Other:</b> Fall Safety Protection Cage	\$60.00	ln.ft.			24 Required		\$1,440.00	Provide new safety protection cage for existing ladder.
<b>Other:</b> New roof access ladder	\$63.50	ln.ft.			53 Required		\$3,365.50	Provide new ladder for inaccessible areas.
<b>Sum:</b>			\$2,018,110.80	\$0.00	\$1,041,671.00	\$976,439.80		



Typical Tremco Roofing



Typical EPDM Roofing

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C. Ventilation / Air Conditioning

**Description:** The overall facility is not equipped with a central air conditioning system. Window units are present in multiple locations in the overall facility. Isolated room systems consisting of ducted packaged and split roof top HVAC units (with condensing units pad-mounted on the ground and roof) are located in the multiple locations throughout the overall facility. The ventilation system in the overall facility consists of unit ventilators, original to each addition and in fair condition, providing fresh air to Classrooms and air handlers, original to each addition and in fair condition, providing fresh air to other miscellaneous spaces such as the Gymnasium, Media Center, and Student Dining. Relief air venting is provided by unit ventilators, transfer grilles to corridors, central relief fans, and air handlers. The ventilation system does not appear to meet the Ohio Building Code 15 CFM per occupant fresh air requirement. The overall system is not compliant with Ohio Building Code and Ohio School Design Manual requirements. Dust collection systems are not required in this facility. The Art program is equipped with a kiln and the kiln ventilation system is inadequate. General building exhaust systems for Restrooms, Storage Rooms, Art Rooms, and Custodial Closets do not appear to be inadequately placed, and in fair condition.

**Rating:** 2 Needs Repair

**Recommendations:** Provide an air conditioning system to meet with Ohio Building Code and Ohio School Design Manual requirements. Replace general building exhaust systems located in Restrooms, Storage Rooms, Art Rooms, and Custodial Closets. Pricing included in Item A. Provide the Art program with a kiln ventilation system to meet Ohio Building Code and Ohio School Design Manual requirements.

Item	Cost	Unit	Whole Building	Auditorium Fixed Seating Area (1958) 4,784 ft <sup>2</sup>	Original Construction (1958) 178,182 ft <sup>2</sup>	Gymnasium and Classroom Addition (2006) 54,464 ft <sup>2</sup>	Sum	Comments
Kiln Exhaust System:	\$5,000.00	each			1 Required		\$5,000.00	
<b>Sum:</b>			\$5,000.00	\$0.00	\$5,000.00	\$0.00		



Ducted Split HVAC Condensing Units



Packaged Roof Top Unit

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D. Electrical Systems

**Description:** The electrical system provided to the 1958 Original Construction is a 208Y/120 volts, 2,000 amp, 3 phase and 4 wire system installed in 1958 with upgrades in 1974, and is in fair condition. The system in the 1958 Auditorium Fixed Seating Area and 2006 Addition is an extension of that found in the 1958 Original Construction. Power is provided to the school by multiple utility owned, pad-mounted transformers located outside the Weight Room and Auxiliary Gymnasium, and are in fair condition. The Square D panel systems, original to each addition, are in fair condition, and for the most part cannot be expanded to add additional capacity. The Classrooms are not equipped with adequate electrical outlets. The typical Classroom contains (7) general purpose outlets, (0) dedicated outlets for each Classroom computer, and (1) dedicated outlet for each Classroom television. Some Classrooms are equipped with as many as (8) general purpose outlets, while others are equipped with as few as (6) general purpose outlets. There are not any spaces that have no electrical outlets. The Corridors appear to be equipped with adequate electrical outlets for servicing. Adequate GFI protected exterior outlets are not provided around the perimeter of the building. The facility is not equipped with an emergency generator. Adequate lightning protection safeguards do not appear to be provided. Stage lighting power system including control panel, breakers, and dimmers is inadequately provided, in fair condition and does not meet OSDM requirements. The overall electrical system does not fully meet Ohio School Design Manual requirements in supporting the current needs of the school, and will be inadequate to meet the facility's future needs.

**Rating:** 3 Needs Replacement

**Recommendations:** The entire electrical system requires replacement to meet Ohio School Design Manual guidelines for overall capacity and due to age, condition, lack of OSDM-required features, and to accommodate the addition of an air conditioning system. Provide an emergency generator, with funding included in the electrical system replacement. Provide adequate lightning protection safeguards in the overall facility, including associated grounding system, with funding included in the electrical system replacement. Provide control panel, dimmers, and breakers to support the Stage lighting system, with funding included in the electrical system replacement.

Item	Cost	Unit	Whole Building	Auditorium Fixed Seating Area (1958)	Original Construction (1958)	Gymnasium and Classroom Addition (2006)	Sum	Comments
System Replacement:	\$16.23	sq.ft. (of entire building addition)		4,784 ft <sup>2</sup>	178,182 ft <sup>2</sup>	54,464 ft <sup>2</sup>		
Sum:			\$3,853,488.90	\$77,644.32	\$2,891,893.86	\$883,950.72		(Includes demo of existing system. Includes generator for life safety systems. Does not include telephone or data or equipment) (Use items below ONLY when the entire system is NOT being replaced)



Main Electrical Distribution Panel



Pad Mounted Transformers

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## E. Plumbing and Fixtures

Description:	<p>The service entrance is equipped with a reduced pressure back flow preventer in good condition. A water treatment system is provided and is in good condition. The domestic water supply piping in the 1958 Original Construction is reported to be mostly galvanized steel with limited copper. The galvanized steel is original to the building. The galvanized steel is in fair condition and the copper is in good condition. The facility is systematically replacing the galvanized steel with copper as needed. The domestic water supply piping in the 2006 Addition is reported to be copper, is original to the Addition and is in good condition. The waste piping in the 1958 Original Construction is reported to be mostly cast iron with limited PVC. The cast iron is original to the building. The cast iron is in fair condition and the PVC is in good condition. The facility is systematically replacing the cast iron with PVC as needed. The facility is equipped with 2 gas water heaters which are in good condition, with 4 separate 91 - gallon storage tanks which are in good condition. The school contains 7 Large Group Restrooms for boys, 6 Large Group Restrooms for girls, 3 Locker Room Restrooms for boys, 3 Locker Room Restrooms for girls, 0 Restrooms associated with specialty Classrooms, and 11 Restrooms for staff. Boys' Large Group Restrooms contain 4 ADA and 8 non-ADA floor mounted flush valve toilets, 3 ADA and 2 non-ADA wall mounted flush valve toilets, 4 ADA and 26 non-ADA wall mounted flush valve urinals, 0 ADA and 5 floor mounted flush valve urinals as well as 3 ADA and 10 non-ADA wall mounted lavatories and 2 ADA and 0 non-ADA 4 station modular lavatories. Girls' Large Group Restrooms contain 3 ADA and 17 non-ADA floor mounted flush valve toilets, 4 ADA and 21 non-ADA wall mounted flush valve toilets, as well as 2 ADA and 10 non-ADA wall mounted lavatories and 3 ADA and 0 non-ADA 4 station modular lavatories. Boys' Locker Room Restrooms contain 2 ADA and 2 non-ADA wall mounted flush valve toilets, 0 ADA and 2 non-ADA floor mounted flush valve toilets, 3 ADA and 5 non-ADA wall mounted flush valve urinals, 1 ADA and 0 non-ADA 2 station modular lavatories and 2 ADA and 0 non-ADA 4 station modular lavatories, as well as 2 ADA and 13 non-ADA showers. Girls' Locker Room Restrooms contain 2 ADA and 3 non-ADA wall mounted flush valve toilets, 0 ADA and 2 non-ADA floor mounted flush valve toilets, as well as 0 ADA and 2 non-ADA wall mounted lavatories and 2 ADA and 0 non-ADA 4 station modular lavatories, as well as 2 ADA and 20 non-ADA showers. Staff Restrooms contain 3 ADA and 0 non-ADA wall mounted flush valve toilets, 2 ADA and 8 non-ADA floor mounted flush valve toilets, 0 ADA and 0 non-ADA wall or floor mounted urinals, as well as 6 ADA and 7 non-ADA wall mounted lavatories and 2 ADA and 1 non-ADA shower. Condition of fixtures is good to fair. The facility is equipped with 0 ADA and 1 non-ADA drinking fountain, as well as 28 ADA and 3 non-ADA electric water coolers and 0 ADA and 1 non-ADA floor mounted electric water cooler, in good to fair condition. High School Special Education Classrooms are not equipped with ADA or non-ADA sink mounted type drinking fountains. Special Education Classroom is not equipped with the required Restroom facilities. The Special Education Classrooms are located within close proximity to Restrooms in the Corridor. Kitchen is equipped with the required Restroom and the fixtures are in fair condition. Heath Clinic is equipped with the required Restroom and the fixtures are in good condition. Due to existing grade configuration, Kindergarten / Pre-K Classroom Restroom considerations are not relevant. Kitchen fixtures consist of 1 hand wash sink, 1 rinse sink, 1 triple compartment sink, 2 double compartment sinks, 3 rinse sinks with disposals, and 1 commercial dishwasher, which are in fair condition due to age. The Kitchen is equipped with a satisfactory grease interceptor which is in good condition. The Kitchen is provided the required 140 degree hot water supply via 1 gas water heater in good condition, with 2 separate 91 - gallon storage tanks in good condition. The school does not meet the OBC requirements for fixtures. Relative to LEED requirements, the school is not equipped with low flow type fixtures. Per OBC and OSDM requirements this facility should be equipped with 42 toilets, 16 urinals, 42 lavatories, 3 Classroom sink mounted drinking fountains, and 16 electric water coolers. Observations revealed that the school is currently equipped with 88 toilets, 43 urinals, 78 lavatories, 0 Classroom sink mounted drinking fountains, 1 drinking fountain and 32 electric water coolers. ADA requirements are met for fixtures and drinking fountains with the exception of 1 urinal (see Item O). Custodial Closets are properly located and are adequately provided with required service sinks or floor drain sinks which are in good condition. Science Classrooms are mostly equipped with required utility sink, gas / compressed air connections, and safety shower / eyewash in good condition. Biology and Chemistry Classrooms are not equipped with acid waste systems and neutralization tanks. Adequate exterior wall hydrants are mostly provided. In addition, in the 2006 Addition, 2 interior wall hydrants were observed.</p>
Rating:	3 Needs Replacement
Recommendations:	<p>In 1958 Original Construction, replace the remaining galvanized steel domestic water piping and the remaining cast iron waste piping due to age and condition. Due to age and condition and to facilitate the school's compliance with OBC and OSFC fixture requirements, in the 1958 Original Construction, replace 15 toilets, 10 lavatories (include ADA compliant faucets), 5 urinals and 9 electric water coolers. Due to age, condition, LEED, OBC and OSFC, replace 235 faucets and valves throughout the overall facility. Provide 3 in Classroom sinks with deck mounted drinking fountains. Provide 1 gas/compressed air connection and 1 emergency shower. Provide 8 point of use acid waste and neutralization tanks. All fixtures, whether new or replaced, to be mounted at ADA compliant heights. Provide 4 additional wall hydrants in the 2006 Addition. See Item O for replacement of fixtures related to ADA requirements, as well as reconfiguration of toilet stalls in Boys and Girls Locker Rooms in the 1958 Original Construction, 2 Staff Restrooms and 1 Staff Restroom in the Kitchen. Funding for fixtures and equipment replacement in Kitchen is provided for in Item J.</p>

Item	Cost	Unit	Whole Building	Auditorium Fixed Seating Area (1958) 4,784 ft <sup>2</sup>	Original Construction (1958) 178,182 ft <sup>2</sup>	Gymnasium and Classroom Addition (2006) 54,464 ft <sup>2</sup>	Sum	Comments
Domestic Supply Piping:	\$3.50	sq.ft. (of entire building addition)					\$623,637.00	(remove / replace)
Sanitary Waste Piping:	\$3.50	sq.ft. (of entire building addition)					\$623,637.00	(remove / replace)
Toilet:	\$1,500.00	unit			15 Required		\$22,500.00	(remove / replace) See Item O
Urinal:	\$1,500.00	unit			5 Required		\$7,500.00	(remove / replace)
Sink:	\$1,500.00	unit			10 Required		\$15,000.00	(remove / replace)
Electric water cooler:	\$3,000.00	unit			9 Required		\$27,000.00	(double ADA)
Replace faucets and flush valves	\$500.00	per unit			163 Required	72 Required	\$117,500.00	(average cost to remove/replace)
<b>Other:</b> Classroom Sink with Deck Mounted Drinking Fountain	\$3,800.00	each			3 Required		\$11,400.00	Provide new classroom sink with deck mounted drinking fountain. Includes fixture, demolition, supply piping, drains and wall/floor repair.
<b>Other:</b> Exterior Wall Hydrant	\$1,400.00	each				4 Required	\$5,600.00	Provide additional exterior wall hydrants.
<b>Other:</b> Gas/Compressed Air Connections	\$750.00	each			1 Required		\$750.00	Provide a compressed air/gas connection.
<b>Other:</b> New Emergency Shower	\$2,500.00	each			1 Required		\$2,500.00	Provide new emergency shower. Includes demolition, supply piping, drains and wall/floor repair.
<b>Other:</b> Under Counter Point of Use Acid Neutralization 5 Gallon Tank	\$1,000.00	per unit				8 Required	\$8,000.00	Provide a point of use under counter 5 gallon neutralization tank at each instructors demonstration/prep station.
<b>Sum:</b>			\$1,465,024.00	\$0.00	\$1,415,424.00	\$49,600.00		



Emergency Shower and Eyewash-2006 Addition



Large Group Restroom-Boys-2006 Addition

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F. Windows

**Description:** The Original Construction is equipped with thermally broken aluminum frame windows with insulated glazing type window system, which was installed at an unknown date, and is in fair to poor condition. The window system features operable windows throughout the building, and operable windows not equipped with opening limiters and insect screens. Window system seals are in fair to poor condition, with no or minimal air and water infiltration being experienced. Window system hardware is in fair to poor condition. The window system features surface mounted blinds, which are in fair condition, or no blinds. This facility is not equipped with any curtain wall systems. This facility does not feature any glass block windows. The 2006 Gymnasium & Classroom Addition is equipped with thermally broken aluminum frame windows with insulated glazing type window system, which was installed in 2006, and is in good condition. The window system features operable windows throughout the building, and operable windows are not equipped with opening limiters, but do have insect screens in good condition. Window system seals are in good condition, with no air and water infiltration being experienced. Window system hardware is in good condition. The window system features integral blinds, which are in good condition. This facility is not equipped with any curtain wall systems. This facility does not feature any glass block windows. The exterior doors in the Original Construction are equipped with aluminum sidelights and transoms with single pane glazing, in poor condition. Exterior door vision panels are single pane glazing. The exterior doors in the 2006 Gymnasium & Classroom Addition are equipped with thermally broken aluminum frame sidelights and transoms with tempered insulated glazing, in good condition. Exterior door vision panels are tempered insulated glazing. The school does not contain any skylights. The 2006 Gymnasium & Classroom Addition does contain four translucent panel type clerestories, and clerestory windows are in good condition. Interior glass is OSDM-compliant. Window security grilles are not provided for ground floor windows. There is not a Greenhouse associated with this school.

**Rating:** 3 Needs Replacement

**Recommendations:** Replace the existing window system in the Original Construction with a new insulated window system to match existing insulated system and comply with Ohio School Design Manual requirements. Replace window transoms and sidelights at exterior doors of the Original Construction. Caulk perimeter of window panels to remain in the Original Construction. Exterior door vision panel replacement is addressed in Item S in exterior door replacement scope.

Item	Cost	Unit	Whole Building	Auditorium Fixed Seating Area (1958)	Original Construction (1958)	Gymnasium and Classroom Addition (2006)	Sum	Comments
				4,784 ft <sup>2</sup>	178,182 ft <sup>2</sup>	54,464 ft <sup>2</sup>		
Insulated Glass/Panels:	\$60.00	Sq.ft. (Qty)			13,365 Required		\$801,900.00	(includes blinds)
<b>Other:</b> Recaulk Perimeter Window Joints	\$3.50	ln.ft.			1,282 Required		\$4,487.00	Caulk perimeter of windows to remain.
<b>Sum:</b>			\$806,387.00	\$0.00	\$806,387.00	\$0.00		



Typical Aluminum Windows of the Original Construction



Typical Windows with Integral Blinds in the 2006 Gymnasium & Classroom Addition

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G. Structure: Foundation

**Description:** The Original Construction is equipped with concrete foundation walls on concrete footings, which displayed no locations of significant differential settlement, cracking, or leaking, and are in good to fair condition. Areas of minor cracking and spalling were observed through the Original Construction. The 2006 Gymnasium & Classroom Addition is equipped with concrete masonry unit foundation walls on concrete footings, which displayed no locations of significant differential settlement, cracking, or leaking, and are in good condition. No significant issues related to foundation cracking or spalling were encountered. The District reports that there has been minor past leaking in the Mechanical Room basement below the Kitchen. No grading or site drainage deficiencies were noted around the perimeter of the structure that are contributing or could contribute to foundation / wall structural deterioration.

**Rating:** 2 Needs Repair

**Recommendations:** Repair areas of cracking and spalling through the Original Construction.

Item	Cost	Unit	Whole Building	Auditorium Fixed Seating Area (1958) 4,784 ft <sup>2</sup>	Original Construction (1958) 178,182 ft <sup>2</sup>	Gymnasium and Classroom Addition (2006) 54,464 ft <sup>2</sup>	Sum	Comments
<b>Other: Foundation repair</b>	\$28.00	sq.ft. (Qty)			193 Required		\$5,404.00	Repair minor foundation cracking and spalling.
<b>Sum:</b>			\$5,404.00	\$0.00	\$5,404.00	\$0.00		



Minor Foundation Repair



Typical Foundation

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H. Structure: Walls and Chimneys

**Description:** The Original Construction has a brick veneer on load bearing masonry wall system, which displayed very few locations of deterioration, and is in good condition. The exterior masonry appears to have appropriately spaced and adequately caulked control joints in fair condition. Control joints are not provided at lintel locations, at doors and windows, building corners, and wall offsets though they are not needed. The school does have sufficient expansion joints, and they are in fair condition. The 2006 Gymnasium & Classroom Addition has a brick veneer on load bearing masonry wall system, which displayed no locations of deterioration, and is in good condition. The exterior masonry appears to have appropriately spaced and adequately caulked control joints in fair condition. Control joints are provided at lintel locations, at doors and windows, building corners, and wall offsets and are in fair condition. The school does have sufficient expansion joints, and they are in fair condition. Exterior walls in the Original Construction are inadequately insulated. Brick veneer masonry walls are not cavity walls. Exterior walls in the 2006 Gymnasium & Classroom Addition are adequately insulated. Brick veneer masonry walls are cavity walls. Weep holes and vents are not provided or required in the Original Construction. In the 2006 Gymnasium & Classroom Addition, weep holes are provided in sufficient quantity at lintels, below sills, and the base of masonry cavity walls, and are in good condition. Weep holes are not rope type weeps. Vents are provided in sufficient quantity. The exterior masonry of the Original Construction has not been cleaned and sealed in recent years, but shows no evidence of mortar deterioration. Architectural exterior accent materials consist of stone, which is in fair condition. Exterior building fenestration in the Original Construction represents 23.06% of the exterior surfaces. The exterior masonry of the 2006 Gymnasium & Classroom Addition has not yet needed to be cleaned and sealed, showing no evidence of mortar deterioration. Architectural exterior accent materials consist of split-faced block, ground-face block, and stone, which are in good condition. Exterior building fenestration in the 2006 Gymnasium & Classroom Addition represents 12.79% of the exterior surfaces. Many classrooms in the Original Construction have unit ventilators which will be removed. Masonry infill will be required. Interior Corridor and demising walls of the Original Construction are concrete masonry units, glazed block, and plaster partition walls, project full height from floor to bottom of deck, and are in good to fair condition. Interior masonry appears to have adequately spaced and caulked control joints in good condition. Interior soffits are of plaster type construction, and in good condition. Interior Corridor and demising walls of the 2006 Gymnasium & Classroom Addition are concrete masonry units, project full height from floor to bottom of deck, and are in good condition. Interior masonry appears to have adequately spaced and caulked control joints in good condition. Interior soffits are of metal stud and gypsum board type construction, and in good condition. The window sills of the Original Construction are stone, and are in good condition. The window sills of the 2006 Gymnasium & Classroom Addition contain are stone at the Gymnasium and an element of the aluminum window system in Classroom Addition, and are in good condition. The exterior lintels are steel, and are in good to fair condition. Chimneys are in good condition. Canopies over entrances are concrete, plaster, and metal type construction, and are in good condition. Exterior soffits are of concrete type construction, and in good condition. The school is provided with a covered concrete conventional loading dock to facilitate the receipt of product, supplies, and foodstuffs, 75 square feet in size and featuring conventional man doors. The dock itself is in fair condition, and is equipped with bumper pads in poor condition.

**Rating:** 2 Needs Repair

**Recommendations:** Provide minor tuckpointing in all areas of mortar deterioration as required in the Original Construction. Provide masonry cleaning and sealing as required through the overall facility. Recaulk existing control and expansion joints through the overall facility. Exterior wall insulation deficiencies are addressed in Item J. Infill masonry openings from removed unit ventilators. Replace the loading dock bumper pads.

Item	Cost	Unit	Whole Building	Auditorium Fixed Seating Area (1958) 4,784 ft <sup>2</sup>	Original Construction (1958) 178,182 ft <sup>2</sup>	Gymnasium and Classroom Addition (2006) 54,464 ft <sup>2</sup>	Sum	Comments
Tuckpointing:	\$5.25	sq.ft. (Qty)			36 Required		\$189.00	(wall surface)
Exterior Masonry Cleaning:	\$1.50	sq.ft. (Qty)			48,981 Required	32,858 Required	\$122,758.50	(wall surface)
Exterior Masonry Sealing:	\$1.00	sq.ft. (Qty)			48,981 Required	32,858 Required	\$81,839.00	(wall surface)
Exterior Caulking:	\$5.50	sq.ft.			100 Required	1,336 Required	\$7,898.00	(removing and replacing)
<b>Other:</b> Masonry Infill	\$27.00	sq.ft. (Qty)			1,282 Required		\$34,614.00	Provide masonry infill in locations of unit ventilators to be removed.
<b>Other:</b> Replace Dock Bumpers	\$212.00	each			3 Required		\$636.00	Replace loading dock bumpers.
<b>Sum:</b>			\$247,934.50	\$0.00	\$158,441.50	\$89,493.00		



Stone Accent at Entrance



Exterior Facade of the 2006 Gymnasium & Classroom Addition

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I. Structure: Floors and Roofs

**Description:** The floor construction of the base floor of the overall facility is concrete slab on grade type construction, and is in good to fair condition. There is no crawl space. There is a small Mechanical Room basement under the Kitchen of the Original Construction. The floor construction of the second floor of the Original Construction and the Classrooms of the 2006 Gymnasium & Classroom Addition is metal form deck on steel joist type construction, and is in good to fair condition. The floor construction of the second floor of the Gymnasium portion of the Gymnasium & Classroom Addition has precast concrete planks with concrete topping type construction, and is in good condition. Ceiling to structural deck spaces are sufficient to accommodate HVAC, electrical, and plumbing scopes of work in required renovations. Dropping the ceiling heights in some locations may be required. The roof construction over portions of the Original Construction is tectum deck on steel joist type construction, and is in fair condition. The roof construction over portions of the Original Construction is wood deck on steel joist type construction, and is in fair condition. The roof construction over the Exterior Storage of the Original Construction is cast-in-place concrete type construction, and is in fair condition. The roof construction of the 2006 Gymnasium & Classroom Addition is steel deck on steel joist type construction, and is in good condition.

**Rating:** 1 Satisfactory

**Recommendations:** Existing conditions require no renovation or replacement at the present time.

Item	Cost	Unit	Whole Building	Auditorium Fixed Seating Area (1958)	Original Construction (1958)	Gymnasium and Classroom Addition (2006)	Sum	Comments
				4,784 ft²	178,182 ft²	54,464 ft²		
Sum:			\$0.00	\$0.00	\$0.00	\$0.00		



Steel Joist Structure of the Original Construction



Steel Structure of the 2006 Gymnasium & Classroom Addition

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## J. General Finishes

**Description:** The 1958 Original Construction features conventionally partitioned Classrooms with VAT or carpet type flooring, exposed, or acoustical tile and gypsum type ceilings, as well as glazed block and painted block type wall finishes, and they are in fair condition. The 1958 Original Construction has Corridors with terrazzo, VAT, marmoleum, sealed concrete, or walk-off carpet type flooring, acoustical tile or painted plaster type ceilings, as well as painted block, glazed block, and painted plaster type wall finishes, and they are in fair condition. The 1958 Original Construction has Restrooms with terrazzo or sealed concrete type flooring, painted plaster or acoustical tile type ceilings, as well as glazed block or painted block type wall finishes, and they are in fair condition. Toilet partitions are metal or plastic, and are in good to fair condition. The 2006 Addition features conventionally partitioned Science Classrooms with marmoleum type flooring, acoustical tile type ceilings, as well as painted block type wall finishes, and they are in good to fair condition. The 2006 Addition has Corridors with marmoleum or terrazzo type flooring, exposed and acoustical tile type ceilings, as well as painted block, glazed block, and stone type wall finishes, and they are in good to fair condition. The 2006 Addition does not have group Restrooms. A portion of the 1958 Original Construction that was renovated in 2006 includes group Restrooms with sealed concrete type flooring, acoustical tile type ceilings, as well as painted block type wall finishes, and they are in good to fair condition. Toilet partitions in these Restrooms are plastic, and are in good condition. Classroom casework in the 1958 Original Construction is either a wood type construction with plastic laminate tops or miscellaneous metal shelving units. Casework is typically inadequately provided, and in fair to poor condition. The typical Classroom contains 10 lineal feet of casework, and Classroom casework provided ranges from 0 to 20 feet. Classrooms in the 1958 Original Construction are provided adequate chalkboards, markerboards, and tackboards which are in fair to poor condition. Classroom casework in the 2006 Addition is wood type construction with resin tops, is adequately provided, and in good to fair condition. The typical Classroom contains 50 lineal feet of casework, and Classroom casework provided ranges from 40 to 50 feet. Classrooms in the 2006 Addition are provided adequate chalkboards, markerboards, and tackboards which are in good to fair condition. The lockers, located in the Corridors, are adequately provided, and in fair condition. The Art program is equipped with two kilns in fair to poor condition, and existing kiln ventilation is inadequate. The 1958 Addition is equipped with wood louvered and non-louvered interior doors that are flush mounted partially recessed with and without proper ADA hardware, and range from good to poor condition. Doors in the renovated portion of the 1958 Original Construction are in good to fair condition, while doors in the rest of the facility are in fair to poor condition. Doors with glass are either tempered or provided with metal mesh for safety. The 2006 Addition is equipped with wood non-louvered interior doors that are recessed with proper ADA hardware and clearances, and in good to fair condition. The Primary Gymnasium space has wood type flooring, exposed type ceilings, as well as glazed block and painted block type wall finishes, and they are in good condition. Wood Gymnasium flooring has been well maintained, will accommodate multiple future sandings and refinishings, and is rated at an early stage of its product lifecycle. Primary Gymnasium seating consists of both plastic telescoping and concrete fixed stands in good condition. Primary Gymnasium basketball backboards are an electrically operated type, and are in good condition. The Auxiliary Gymnasium space has rubberized type flooring, exposed type ceilings, as well as glazed block and painted block type wall finishes, and they are in fair to poor condition. Gymnasium telescoping stands are a wood, plastic, and metal type construction in good to fair condition. Gymnasium basketball backboards are an electrically operated type, and are in good to fair condition. The Media Center, located in the 1958 Original Construction, has carpet type flooring, acoustical tile type ceilings, as well as wood, painted block, and painted gypsum type wall finishes, and they are in fair condition. Student Dining, located in the 1958 Original Construction, has VAT type flooring, acoustical tile or painted gypsum type ceilings, as well as glazed block and painted block type wall finishes, and they are in fair condition. OSDM-required fixed equipment for Stage is adequately provided, and in fair condition. Existing Primary and Auxiliary Gymnasium, Student Dining, and Media Center spaces are inadequately provided with appropriate sound attenuation acoustical surface treatments. Existing Auditorium and Music spaces are adequately provided with appropriate sound attenuation acoustical surface treatments. The existing Kitchen is full service, is slightly undersized based on current enrollment, and the existing Kitchen equipment, installed over 20 years ago, is in fair to poor condition. The Kitchen hood is in poor condition, and is equipped with the required UL 300 compliant wet chemical fire suppression system. The required 6" overhang on all three exposed sides of the cooking equipment is provided by the hood. Kitchen hood exhaust ductwork is of proper construction, material, insulation, and installed as required by the OSDM and OBCMC. One Walk-in cooler and one Walk-in freezer is located within the Kitchen spaces, and is in fair to poor condition. One Walk-in freezer is located on the building's exterior, and is accessed by a door directly outside of the Kitchen Loading area, and is in fair condition. The Kitchen equipment at this facility services and supplements the rest of the entire districts elementary schools, excluding the Junior High School.

**Rating:** 3 Needs Replacement

**Recommendations:** Provide complete replacement of finishes and casework in the 1958 Original Construction, excluding renovated areas in 2006, due to age, condition and installation of systems outlined in Items A, C, D, E, I, K, L, M, N, T, U, and W. Provide for the replacement of interior doors in the 1958 Original Construction due to age and condition. Provide for the replacement of Kitchen equipment due to age and condition. Provide for the replacement of walk-in cooler and freezers due to age and condition. Provide for the replacement of the Kitchen hood due to age and condition. Provide for replacement or Art program kilns due to age and condition, with funding for proper exhaust provided in Item C. Provide for Stage equipment allowances due to age. Provide for additional wall insulation. Provide for terrazzo flooring repair due to age and condition. Provide for the replacement of toilet accessories. Provide for appropriate sound attenuation acoustical surface treatments in the Primary and Auxiliary Gymnasium, Student Dining, and Media Center. Remove Corridor transfer grilles, fill voids, and coordinate with adjacent finishes. Provide for the replacement of Hard Plaster, Gypsum Board, and Laboratory Counter tops due to work in Item T. Funding for the replacement of resilient flooring and acoustical ceiling tile due to work in item T is provided for in Complete Replacement of Finishes.

Item	Cost	Unit	Whole Building	Auditorium Fixed Seating Area (1958) 4,784 ft <sup>2</sup>	Original Construction (1958) 178,182 ft <sup>2</sup>	Gymnasium and Classroom Addition (2006) 54,464 ft <sup>2</sup>	Sum	Comments
Door, Frame, and Hardware:	\$1,300.00	each			394 Required		\$512,200.00	(non-ADA)
Terrazzo Floor Repair	\$25.00	sq.ft. (Qty)			300 Required		\$7,500.00	(floor area affected; max. area to be 300 sf)
Art Program Kiln:	\$2,750.00	each			2 Required		\$5,500.00	
Additional Wall Insulation	\$6.00	sq.ft. (Qty)			48,981 Required	32,858 Required	\$491,034.00	(includes the furring out of the existing walls, insulation and abuse resistant GWB)
Hard Plaster Replacement	\$9.00	sq.ft. (Qty)			102,926 Required		\$926,334.00	(Hazardous Material Replacement Cost - See T.)
Gypsum Board Replacement	\$4.00	sq.ft. (Qty)			11,070 Required		\$44,280.00	(Hazardous Material Replacement Cost - See T.)
Laboratory Table / Countertop Replacement	\$150.00	ln.ft.			16 Required		\$2,400.00	(Hazardous Material Replacement Cost - See T.)
Walk-in Coolers/Freezers:	\$29,818.00	per unit			3 Required		\$89,454.00	
Kitchen Exhaust Hood:	\$56,000.00	per unit			1 Required		\$56,000.00	(includes fans, exhaust & ductwork)
Total Kitchen Equipment Replacement:	\$190.00	sq.ft. (Qty)			4,669 Required		\$887,110.00	(square footage based upon only existing area of food preparation, serving, kitchen storage areas and walk-ins. Includes demolition and removal of existing kitchen equipment)
<b>Other:</b> Complete Replacement of Finishes and Casework (High):	\$17.70	sq.ft. (Qty)			158,903 Required		\$2,812,583.10	(high school, per building area, with removal of existing) Exclude portions of 2006 renovation.
<b>Other:</b> Sound Control	\$3.00	sq.ft. (Qty)			23,930 Required	21,891 Required	\$137,463.00	Provide for appropriate sound attenuation acoustical surface treatments in the Primary and Auxiliary Gymnasium, Student Dining, and Media Center.
<b>Other:</b> Stage Equipment	\$33,700.00	allowance			Required		\$33,700.00	Provide an allowance for Stage Equipment due to age and condition.
<b>Other:</b> Toilet Accessory Replacement	\$0.20	sq.ft. (Qty)			158,903 Required		\$31,780.60	(per building area) Exclude portions of 2006 renovation.
<b>Other:</b> Transfer Grilles	\$48.00	sq.ft. (Qty)			65 Required		\$3,120.00	Remove Corridor transfer grilles, fill voids, and coordinate with adjacent finishes.
<b>Sum:</b>			\$6,040,458.70	\$0.00	\$5,777,637.70	\$262,821.00		



Kitchen Hood



Typical Corridor Finishes

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K. Interior Lighting

**Description:** The typical Classrooms in the overall facility are equipped with T-8 1x4 surface mount/suspended and T-8 2x4 lay-in direct fluorescent fixture type lighting, with dual level switching. Classroom fixtures are in fair condition, providing an average illumination of 55 FC, thus complying with the 40 FC recommended by the OSDM. The typical Corridors in the overall facility are equipped with T-8 2x4 lay-in direct and T-8 1x4 surface mount fluorescent fixture type lighting, with single level switching. Corridor fixtures are in fair condition, providing an average illumination of 17 FC, thus complying with the 15 FC recommended by the OSDM. The Primary Gymnasium spaces are equipped with T-8 2x4 surface mount fluorescent fixture type lighting, in fair condition, providing an average illumination of 48 FC, which is less than the 50 FC recommended by the OSDM. The Auxiliary Gymnasium spaces are equipped with T-8 2x4 surface mount fluorescent fixture type lighting, in fair condition, providing an average illumination of 41 FC, which is less than the 50 FC recommended by the OSDM. The Media Center is equipped with T-8 2x4 lay-in direct fluorescent fixture type lighting, in fair condition, providing an average illumination of 61 FC, thus complying with the 30 FC recommended by the OSDM. The Student Dining spaces are equipped with T-8 2x4 surface mount fluorescent fixture type lighting, in fair condition, providing an average illumination of 39 FC, which is less than the 50 FC recommended by the OSDM. The Kitchen spaces are equipped with T-8 2x4 surface mount fluorescent fixture type lighting, with single level switching. Kitchen fixtures are in fair condition, providing an average illumination of 49 FC, which is less than the 50 FC recommended by the OSDM. The Service Areas in the overall facility are equipped with T-8 1x4 suspended and surface mount fluorescent fixture type lighting, in fair condition, providing inadequate illumination based on OSDM requirements. The typical Administrative spaces in the overall facility are equipped with pendant incandescent and T-8 2x4 lay-in direct fluorescent fixture type lighting, in fair condition, providing inadequate illumination based on OSDM requirements. The overall lighting systems of the facility are not fully compliant with Ohio School Design Manual requirements due to age and condition, utilization of incandescent, inadequate lighting levels, and lack of multi-level switching.

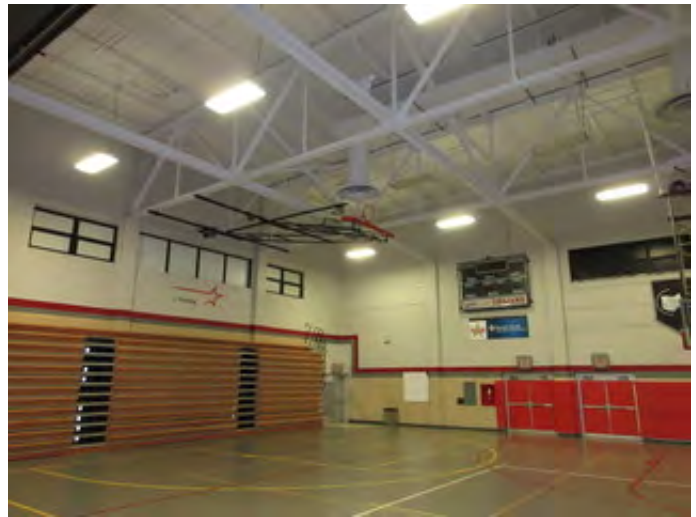
**Rating:** 3 Needs Replacement

**Recommendations:** Provide complete replacement of lighting system due to age, condition, lighting levels, lack of multilevel switching, utilization of incandescent, and installation of systems outlined in Items A, C, J, and U.

Item	Cost	Unit	Whole Building	Auditorium Fixed Seating Area (1958) 4,784 ft <sup>2</sup>	Original Construction (1958) 178,182 ft <sup>2</sup>	Gymnasium and Classroom Addition (2006) 54,464 ft <sup>2</sup>	Sum	Comments
Complete Building Lighting Replacement	\$5.00	sq.ft. (of entire building addition)		Required	Required	Required	\$1,187,150.00	Includes demo of existing fixtures
Sum:			\$1,187,150.00	\$23,920.00	\$890,910.00	\$272,320.00		



Media Center Fluorescent Light Fixtures



Auxiliary Gymnasium Fluorescent Light Fixtures

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L. Security Systems

**Description:** The overall facility contains a Sonitrol motion detector, CCTV, door contact type security system in fair condition. Motion detectors are inadequately provided in main entries, central gathering areas, offices, main Corridors, and spaces where 6 or more computers are located. Exterior doors are inadequately equipped with door contacts. An automatic visitor control system is provided. Compliant color CCTV cameras are inadequately provided at main entry areas, parking lots, central gathering areas, and main Corridors. CCTV is monitored in Administrative Area with the use of a LCD monitor. A compliant computer controlled access control system integrating alarms and video signals, with appropriate UPS backup, is not provided. The system is equipped with card / biometric readers. The security system is not adequately provided throughout, and the system is not fully compliant with Ohio School Design Manual guidelines. There are no playground fencing issues requiring attention. The exterior site lighting system is equipped with surface mounted incandescent and HID high pressure sodium entry lights in fair condition. Pedestrian walkways are illuminated by pole mounted HID high pressure sodium fixtures in fair condition. Parking and bus pick-up / drop off areas are illuminated by pole mounted HID high pressure sodium fixtures in fair condition. The exterior site lighting system provides inadequate illumination due to insufficient fixture capacity and sparse placement of fixtures.

**Rating:** 3 Needs Replacement

**Recommendations:** Provide complete replacement of security system to meet Ohio School Design Manual guidelines. Provide complete replacement of exterior site lighting system to meet Ohio School Design Manual guidelines.

Item	Cost	Unit	Whole Building	Auditorium Fixed Seating Area (1958)	Original Construction (1958)	Gymnasium and Classroom Addition (2006)	Sum	Comments
				4,784 ft <sup>2</sup>	178,182 ft <sup>2</sup>	54,464 ft <sup>2</sup>		
Security System:	\$1.85	sq.ft. (of entire building addition)		Required	Required	Required	\$439,245.50	(complete, area of building)
Exterior Site Lighting:	\$1.00	sq.ft. (of entire building addition)		Required	Required	Required	\$237,430.00	(complete, area of building)
Sum:			\$676,675.50	\$13,634.40	\$507,818.70	\$155,222.40		



Security System Visitor Control System



Security System CCTV Camera

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M. Emergency/Egress Lighting

**Description:** The overall facility is inadequately equipped with an emergency egress lighting system consisting of non-compliant non-illuminated, red faced, and plastic construction exit signs, as well as OSDM compliant red lettered and LED illuminated exit signs, and the system is in fair condition. The facility is inadequately equipped with emergency egress floodlighting (which consists mainly of emergency egress lighting attached to exit signs), but is also equipped with some recessed fluorescent lighting used as emergency egress lighting, and the system is in fair condition. The system is not provided with appropriate battery backup or emergency generator on separate circuits. The system is not adequately provided throughout, and does not meet Ohio School Design Manual and Ohio Building Code requirements.

**Rating:** 3 Needs Replacement

**Recommendations:** Provide complete replacement of emergency / egress lighting system to meet Ohio School Design Manual and Ohio Building Code guidelines.

Item	Cost	Unit	Whole Building	Auditorium Fixed Seating Area (1958)	Original Construction (1958)	Gymnasium and Classroom Addition (2006)	Sum	Comments
Emergency/Egress Lighting:	\$1.00	sq.ft. (of entire building addition)		4,784 ft <sup>2</sup>	178,182 ft <sup>2</sup>	54,464 ft <sup>2</sup>		
Sum:			\$237,430.00	\$4,784.00	\$178,182.00	\$54,464.00		(complete, area of building)



Exit Sign



Exit Sign

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N. Fire Alarm

**Description:** The overall facility is equipped with a Simplex and Securtron non-addressable type fire alarm system, installed in 1958 with upgrades in 2006, and in fair condition, consisting of manual pull stations, bells, and audible horn and strobe indicating devices. The system is automatic, but is not monitored by a third party. The system is not equipped with sufficient audible horn and strobe indicating devices, smoke detectors, and heat sensors. The system is not equipped with any flow switches and tamper switches. The systems thus will not support future fire suppression systems. The systems are not adequately provided throughout, and does not have additional zone capabilities. The systems are not fully compliant with Ohio Building Code, NFPA, and Ohio School Design Manual requirements.

**Rating:** 3 Needs Replacement

**Recommendations:** Provide complete replacement of fire alarm systems to meet OBC, NFPA, and Ohio School Design Manual guidelines.

Item	Cost	Unit	Whole Building	Auditorium Fixed Seating Area (1958)	Original Construction (1958)	Gymnasium and Classroom Addition (2006)	Sum	Comments
Fire Alarm System:	\$1.50	sq.ft. (of entire building addition)		4,784 ft <sup>2</sup>	178,182 ft <sup>2</sup>	54,464 ft <sup>2</sup>		
Sum:			\$356,145.00	\$7,176.00	\$267,273.00	\$81,696.00	\$356,145.00	(complete new system, including removal of existing)



Fire Alarm System Audible Horn and Visual Strobe Indicating Device



Fire Alarm System Manual Pull Station

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O. Handicapped Access

**Description:** At the site, there is an accessible route provided from the public right-of-way, the accessible parking areas, and from the passenger unloading zone to the main entrance of the school. There is an accessible route connecting all or most areas of the site. The exterior entrances are ADA accessible. Access from the parking / drop-off area to the building entries is not compromised by steps or steep ramps. Adequate handicap parking is provided. Exterior doors are equipped with ADA hardware. Building entrances should be equipped with 2 ADA power assist doors and 4 are provided, which are in good condition. No playground issues were considered due to existing grade configuration. On the interior of the building, space allowances and reach ranges are mostly compliant. There is an accessible route through the building which does include protruding objects. Electric water coolers are not recessed, but due to wide hallways, do not impede the traffic flow. Ground and floor surfaces are compliant. Ramps and stairs do meet all ADA requirements, with the exception of handrails. Elevation changes within the overall facility are facilitated by 5 compliant stairwells in good condition, with the exception of the handrails, 1 compliant set of steps in good condition and 2 compliant lifts which are in good condition. This multistory building has a compliant elevator that accesses every floor and is in good condition. Access to the Stage is facilitated by a Corridor at Stage level. Interior doors are both recessed and not recessed. Doors which are not recessed open all the way and do not impede the traffic flow. Doors are provided adequate clearances and are not provided with ADA-compliant hardware in the 1958 Original Construction and are provided with ADA-compliant hardware in the 2006 Addition. 16 ADA-compliant toilets are required, and 23 are currently provided. 16 ADA-compliant Restroom lavatories are required, and 38 are currently provided. 8 ADA-compliant Science Classroom lab sinks are required, and 4 are currently provided. 8 ADA-compliant urinals are required, and 7 are currently provided. 6 ADA-compliant showers are required, and 6 are currently provided. 8 ADA-compliant electric water coolers are required, and 28 are currently provided. Toilet partitions are metal and plastic and do provide appropriate ADA clearances. ADA-compliant accessories are adequately provided and mounted. Mirrors do meet ADA requirements for mounting heights. Science Classrooms are mostly compliant with ADA requirements due to 4 Classrooms not having ADA compliant lab workstations. Health Clinic Restroom is compliant with ADA requirements. The Special Education Classroom does not have an in Classroom Restroom, but is located in close proximity to a Restroom, which is ADA compliant, in the Corridor. ADA signage is provided in the interior, but not the exterior of the 1958 Original Construction. ADA signage is provided on both the interior and the exterior of the 2006 Addition.

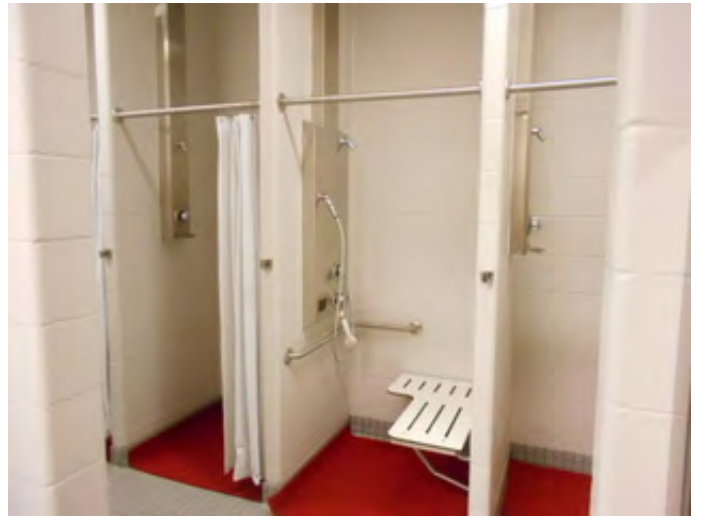
**Rating:** 3 Needs Replacement

**Recommendations:** To facilitate the school's meeting of ADA requirements, throughout the overall facility: Provide ADA-compliant signage on the exterior of the 1958 Original Construction. Remount a total of 3 urinals in the 1958 Original Construction. Replace 1 lavatory in the Girl's Locker Room in the 1958 Addition. Provide 1 ADA compliant shower per Girl's and Boy's Locker Room in the 1958 Addition. Replace 1 lavatory faucet in the Health Clinic. Reconfigure a total of 2 toilet compartments (1 per Boys and Girls Locker Rooms in the 1958 Original Construction) to provide a fully ADA compliant toilet compartment; includes 2 toilets, 2 full sets of accessories, grab bars and partitions. Reconfigure and enlarge 2 existing Staff Restrooms and 1 Staff Restroom in the Kitchen in the 1958 Original Construction, to include 3 toilets, 3 lavatories and 3 full sets of accessories including grab bars. Provide one set of grab bars in the Girls Restroom in the 1958 Original Construction. All fixtures, whether new or replaced, to be mounted at correct ADA compliant heights. Provide 26 ADA compliant pipe wrap throughout the overall facility. Provide 4 ADA compliant lab workstations in the 2006 Addition. Funding for replacement of door hardware in the 1958 Original Construction, is provided for in Item J with the complete replacement of doors. Funding for replacement of handrails in the 1958 Original Construction, is provided for in Item U. Funding for electric water cooler replacement and fixtures not covered in Item O, is provided for in Item E. Funding for replacement of toilets and lavatories to be mounted at ADA compliant heights is provided for in Item E.

Item	Cost	Unit	Whole Building	Auditorium Fixed Seating Area (1958) 4,784 ft <sup>2</sup>	Original Construction (1958) 178,182 ft <sup>2</sup>	Gymnasium and Classroom Addition (2006) 54,464 ft <sup>2</sup>	Sum	Comments
Signage:	\$0.20	sq.ft. (of entire building addition)			Required		\$35,636.40	(per building area)
Toilet/Urinals/Sinks:	\$1,500.00	unit			1 Required		\$1,500.00	(replacement ADA)
Provide ADA Shower:	\$3,000.00	each			2 Required		\$6,000.00	(includes fixtures, walls, floor drain, and supply line of an existing locker room)
<b>Other:</b> ADA Compliant Lab Workstation	\$10,519.00	per unit				4 Required	\$42,076.00	Provide ADA compliant lab workstation. Includes sink with faucet/gas/compressed air combination, demolition, supply lines, drains, floor repair
<b>Other:</b> ADA Pipe Wrap	\$50.00	each			23 Required	3 Required	\$1,300.00	Provide ADA compliant pipe wrap insulation on all wall mounted lavatories.
<b>Other:</b> Grab bars	\$345.00	each			1 Required		\$345.00	Provide set of grab bars. Includes demolition, blocking, wall repair and grab bars.
<b>Other:</b> Lavatory Faucet	\$250.00	each			1 Required		\$250.00	Provide new ADA compliant lavatory faucet.
<b>Other:</b> Reconfigure Toilet Room for ADA Compliance	\$10,000.00	per restroom			3 Required		\$30,000.00	Reconfigure and enlarge existing Toilet Room to meet ADA requirements. Includes fixtures, walls, door and hardware, supply lines and full set of accessories including grab bars.
<b>Other:</b> Reconfigure Toilet Stall to meet ADA Compliance	\$3,500.00	per restroom			2 Required		\$7,000.00	Reconfigure toilet compartment to provide ADA compliant stall. Includes fixture, accessories, grab bars, partitions, demolition and floor/wall repair.
<b>Other:</b> Remount existing urinal	\$1,000.00	per restroom			3 Required		\$3,000.00	Remount existing urinal to ADA compliant height. Includes demolition, rough in and wall repair.
<b>Sum:</b>			\$127,107.40	\$0.00	\$84,881.40	\$42,226.00		



ADA Compliant Lab Workstation-2006 Addition



ADA Compliant Shower in Locker Room

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P. Site Condition

**Description:** The 49.54 acre generally flat and partially sloped site is located in a small town residential setting with moderate tree, shrub, and floral type landscaping. The site is shared with Troy Junior High School, Board Offices, and Bus Maintenance Garage, adjacent to residential properties, school athletic facilities, and other community properties. Outbuildings include a small storage shed, an athletic concessions building, and a 20' x 30' storage garage. There are no apparent problems with erosion or ponding. The site is bordered by moderately and heavily traveled city streets. Multiple entrances onto the site facilitate proper separation of bus and other vehicular traffic, and one way bus traffic is provided. A bus loop is provided for student loading and unloading. Staff, visitor, and student parking is facilitated by multiple asphalt parking lots in fair condition, containing 406 parking places, which does not provide adequate parking for staff members, visitors, students, and the disabled. Additional parking is provided at the adjacent Troy Junior High School which contributes to High School parking requirements, although additional parking spots are still required. The site and parking lot drainage design, consisting of catch basins, storm sewers, and a detention basin, provides adequate evacuation of storm water, and no problems with parking lot ponding were observed. Concrete curbs in fair condition are appropriately placed. Concrete sidewalks are properly sloped, are located to provide a logical flow of pedestrian traffic, and are in fair condition. Two separate trash pick-up and service drive pavement areas appear heavy duty, and are in fair condition. One area is equipped with a concrete pad area for dumpsters, which is in good condition, and one area is not equipped with a concrete pad area for dumpsters. Exterior concrete steps in good to fair condition are appropriately located at several building entrances, and at several sidewalks leading down the sloped part of the site to the property edge. One concrete stairwell leads into the Kitchen Mechanical Room in the basement. No exterior concrete ramps are provided. Steel handrails in fair condition are inadequately provided at exterior concrete steps. Site fencing is not provided around the entire site, but the tennis courts and Bus Maintenance Garage is completely fenced for security and separation from vehicular traffic. The fence is a steel wire mesh type, and in fair condition. Due to existing grade configuration, no playground considerations are relevant. The athletic facilities immediately on the site are comprised of practice football, baseball, and soccer fields as well as tennis courts, and they are in good condition. Other athletic facilities are located across adjacent streets and consist of baseball and softball fields, as well as a football field, track, and grandstands. These off-site facilities do not contain Classrooms, and were not closely observed during the time of this assessment. Site features are suitable for outdoor instruction, which is enhanced through the District's provision of tables and benches. There are no readily evident conditions that might significantly effect master planning with regard to the site. Building expansion is not recommended due to the size of the site, other shared facilities on the site, parking inefficiencies, and adjacent residential properties within close proximity to the school. Railroad tracks are located to the northwest of the site, which may be distracting. No trains were noticed or observed during the physical assessment.

**Rating:** 2 Needs Repair

**Recommendations:** Provide additional parking spaces to meet OSDM guidelines, including adequate provisions for the disabled. Provide allowances for unforeseen site circumstances. Provide for the replacement of heavy duty asphalt paving due to condition. Provide for the replacement of light duty asphalt paving due to condition. Funding for adequate provisions for disabled parking spaces is provided in parking lot asphalt replacement. Provide for a new concrete dumpster pad. Provide for the replacement of concrete curbs due to condition. Provide for the replacement of concrete sidewalks due to condition. Provide for replacement or repair of concrete steps due to condition. Provide for exterior steel handrails where required by the OBC and OSDM standards.

Item	Cost	Unit	Whole Building	Auditorium Fixed Seating Area (1958) 4,784 ft <sup>2</sup>	Original Construction (1958) 178,182 ft <sup>2</sup>	Gymnasium and Classroom Addition (2006) 54,464 ft <sup>2</sup>	Sum	Comments
New Asphalt Paving (heavy duty):	\$27.80	sq. yard			6,869 Required	2,052 Required	\$248,003.80	
New Asphalt Paving (light duty):	\$25.80	sq. yard			15,832 Required	4,729 Required	\$530,473.80	
Additional Parking Spaces Required for High	\$462.00	per student			67 Required	20 Required	\$40,194.00	(\$1,100 per parking space; 0.42 spaces per high school student. Parking space includes parking lot drive space.)
Concrete Curb:	\$18.00	n.ft.			201 Required	60 Required	\$4,698.00	(new)
Concrete Sidewalk:	\$4.69	sq.ft. (Qty)			220 Required	66 Required	\$1,341.34	(5 inch exterior slab)
Exterior Hand / Guard Rails:	\$43.00	n.ft.			177 Required	54 Required	\$9,933.00	
Replace Concrete Steps:	\$32.00	sq.ft. (Qty)			96 Required	29 Required	\$4,000.00	
Provide Concrete Dumpster Pad:	\$2,400.00	each			1 Required		\$2,400.00	(for two dumpsters)
Base Sitework Allowance for Unforeseen Circumstances	\$50,000.00	allowance			Required		\$50,000.00	Include this and one of the next two. (Applies for whole building, so only <b>one</b> addition should have this item)
Sitework Allowance for Unforeseen Circumstances for buildings 100,000 SF or larger	\$150,000.00	allowance			Required		\$150,000.00	Include this one <b>or</b> the previous. (Applies for whole building, so only <b>one</b> addition should have this item)
<b>Sum:</b>			\$1,041,043.94	\$0.00	\$848,110.60	\$192,933.34		



Concrete Steps, Sidewalk, and Handrails



Bus Loop

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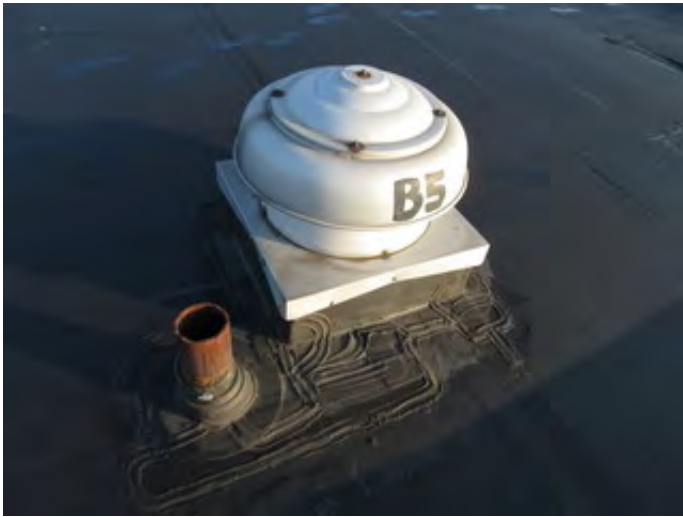
Q. Sewage System

Description: The sanitary sewer system is tied in to the city system, and is in fair condition. No significant system deficiencies were reported by the school district or noted during the physical assessment.

Rating: 1 Satisfactory

Recommendations: Existing conditions require no renovation or replacement at the present time.

Item	Cost	Unit	Whole Building	Auditorium Fixed Seating Area (1958)	Original Construction (1958)	Gymnasium and Classroom Addition (2006)	Sum	Comments
				4,784 ft <sup>2</sup>	178,182 ft <sup>2</sup>	54,464 ft <sup>2</sup>		
Sum:			\$0.00	\$0.00	\$0.00	\$0.00		



Waste Vent Piping



Waste Vent Piping

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R. Water Supply

**Description:** The domestic water supply system is tied in to the municipal system, features 4" service and water meter, and is in fair condition. The District was not able to provide water supply flow test data. The existing domestic water service appears to meet the facility's current needs. The facility is not equipped with an automated fire suppression system, and the existing water supply will not provide adequate support for a future system. The domestic water service is not equipped with a water booster pump, and none is required. The system does not provide adequate pressure and capacity for the future needs of the school.

**Rating:** 1 Satisfactory

**Recommendations:** Provide a new city water supply line of adequate capacity to support the existing needs of the facility, as well as a future automated fire suppression system. Funding provided in Item U.

Item	Cost	Unit	Whole Building	Auditorium Fixed Seating Area (1958)	Original Construction (1958)	Gymnasium and Classroom Addition (2006)	Sum	Comments
				4,784 ft <sup>2</sup>	178,182 ft <sup>2</sup>	54,464 ft <sup>2</sup>		
<b>Sum:</b>			\$0.00	\$0.00	\$0.00	\$0.00		



Incoming Domestic Water Service Line



Incoming Domestic Water Service Meter

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S. Exterior Doors

**Description:** Typical exterior doors in the Original Construction are hollow metal type construction, installed on hollow metal frames, and in fair to poor condition. Typical exterior doors feature single glazed vision panels, and appropriate hardware. Typical exterior doors in the 2006 Gymnasium & Classroom Addition are aluminum type construction, installed on aluminum frames, and in good condition. Typical exterior doors feature insulated vision panels, and appropriate hardware. Entrance doors in the Original Construction are aluminum type construction, installed on aluminum frames, and in poor condition. Entrance doors feature single glazed vision panels, transoms, sidelights, and appropriate hardware. Entrance doors in the 2006 Gymnasium & Classroom Addition are aluminum type construction, installed on aluminum frames, and in good condition. Entrance doors feature insulated glass vision panels, transoms, sidelights, and appropriate hardware. The facility is equipped with one roof access door, which is in fair condition. The overhead door is steel type in poor condition.

**Rating:** 3 Needs Replacement

**Recommendations:** Replace the exterior doors in the Original Construction as required, due to poor condition. Replace all of the entrance doors in the Original Construction, due to poor condition. Replacement of single glazed transoms and sidelights is addressed in Item F. Replace existing roof access doors.

Item	Cost	Unit	Whole Building	Auditorium Fixed Seating Area (1958) 4,784 ft²	Original Construction (1958) 178,182 ft²	Gymnasium and Classroom Addition (2006) 54,464 ft²	Sum	Comments
Door Leaf/Frame and Hardware:	\$2,000.00	per leaf			43 Required		\$86,000.00	(includes removal of existing)
Overhead doors and hardware:	\$2,500.00	per leaf			1 Required		\$2,500.00	(8 x 10 sectional, manual operation)
<b>Sum:</b>			\$88,500.00	\$0.00	\$88,500.00	\$0.00		



Typical Exterior Door



Entrance Doors of the Original Construction

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T. Hazardous Material

**Description:** The School District provided the AHERA three year reinspection reports, prepared by Westech Environmental Solutions, and dated 2013, documenting known and assumed locations of asbestos and other hazardous materials. Hard Plaster, Carpet mastic, Gymnasium Floor Mastic, Marmoleum Floor Mastic, Cove Base Mastic, Vinyl asbestos floor tile and mastic, 12x12 Ceiling Tile and Mastic (above newer ceilings), Chalk Board Mastic, Laboratory Desktops, Window Components, Fire Doors, Pipe insulation, Boiler Components, Sink Undercoating, Gypsum Board, Cement Board, Duct Insulation, and a Stage Curtain containing hazardous materials are located in the 1958 Original Construction in fair to poor condition. These materials were described in the report and open to observation and found to be in both friable and non-friable condition moderate to light damage. There are no underground storage tanks on the site. Due to the construction date, there is a potential for lead based paint. Fluorescent lighting will require special disposal.

**Rating:** 3 Needs Replacement

**Recommendations:** Remove all hazardous materials, inclusive of asbestos-containing materials in the 1958 Original Construction, as noted in the attached Environmental Hazards Assessment. Provide for removal of fire doors including all interior solid core doors. Provide for the testing of paint that has the potential of being lead-based. Provide for disposal of fluorescent lighting.

Item	Cost	Unit	Whole Building	Auditorium Fixed Seating Area (1958) 4,784 ft²	Original Construction (1958) 178,182 ft²	Gymnasium and Classroom Addition (2006) 54,464 ft²	Sum	Comments
<i>Environmental Hazards Form</i>					<b>EHA Form</b>		—	
Breeching Insulation Removal	\$10.00	sq.ft. (Qty)			300 Required		\$3,000.00	
Duct Insulation Removal	\$8.00	sq.ft. (Qty)			50 Required		\$400.00	
Estimated Cost For Abatement Contractor to Perform Lead Mock-Ups	\$1.00	per unit			5,000 Required		\$5,000.00	
Special Engineering Fees for LBP Mock-Ups	\$1.00	per unit			5,000 Required		\$5,000.00	
Fluorescent Lamps & Ballasts Recycling/Incineration	\$0.10	sq.ft. (Qty)			142,546 Required		\$14,254.60	
Pipe Insulation Removal	\$10.00	in.ft.			6,000 Required		\$60,000.00	
Dismantling of Boiler/Furnace/Incinerator	\$2,000.00	each			4 Required		\$8,000.00	
Hard Plaster Removal	\$7.00	sq.ft. (Qty)			102,926 Required		\$720,482.00	See J
Gypsum Board Removal	\$6.00	sq.ft. (Qty)			11,070 Required		\$66,420.00	See J
Acoustical Panel/Tile Ceiling Removal	\$3.00	sq.ft. (Qty)			48,592 Required		\$145,776.00	See J
Laboratory Table/Counter Top Removal	\$100.00	each			2 Required		\$200.00	See J
Cement Board Removal	\$5.00	sq.ft. (Qty)			676 Required		\$3,380.00	
Light (Reflector) Fixture Removal	\$50.00	each			30 Required		\$1,500.00	See K
Fire Door Removal	\$100.00	each			350 Required		\$35,000.00	See S
Door and Window Panel Removal	\$100.00	each			485 Required		\$48,500.00	See J & F
Non-ACM Ceiling/Wall Removal (for access)	\$2.00	sq.ft. (Qty)			48,592 Required		\$97,184.00	See J
Window Component (Compound, Tape, or Caulk) - Reno & Demo	\$300.00	each			485 Required		\$145,500.00	
Resilient Flooring Removal, Including Mastic	\$3.00	sq.ft. (Qty)			100,105 Required		\$300,315.00	See J
Carpet Mastic Removal	\$2.00	sq.ft. (Qty)			9,980 Required		\$19,960.00	
Sink Undercoating Removal	\$100.00	each			29 Required		\$2,900.00	
<b>Other:</b> Chalk Board Mastic Removal	\$1.00	sq.ft. (Qty)			12,000 Required		\$12,000.00	Chalk Board Mastic Removal
<b>Other:</b> Cove Base Mastic Removal	\$2.00	sq.ft. (Qty)			6,550 Required		\$13,100.00	Cove Base Mastic Removal
<b>Other:</b> Marmoleum Mastic Removal	\$3.00	sq.ft. (Qty)			11,160 Required		\$33,480.00	Marmoleum Mastic Removal
<b>Other:</b> Stage Curtain Removal	\$1.00	sq.ft. (Qty)			2,000 Required		\$2,000.00	Stage Curtain Removal
<b>Sum:</b>			\$1,743,351.60	\$0.00	\$1,743,351.60	\$0.00		



Mud Pipe Insulation



VAT Flooring

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U. Life Safety

**Description:** The overall facility is not equipped with a compliant automated fire suppression system. The majority of Exit Corridors are situated such that dead-end Corridors are not present. There is 1 dead-end Corridor located at Rooms 106, 108 and 110. The facility features 1 interior stair tower in the 1958 Original Construction, which is not protected by a compliant two hour fire enclosure and 1 interior stair tower in the 2006 Addition, which is protected by a compliant two hour fire enclosure. The facility does not have any exterior stairways from intermediate floors. Guardrails in the 1958 Original Construction are constructed in a ladder effect and do not extend past the top and bottom stair risers as required by the Ohio Building Code. Guardrails in the 2006 Addition are attached to wall structures and do extend past the top and bottom risers as required by the Ohio Building Code. The Kitchen hood is in poor condition due to age, and is equipped with the required UL 300 compliant wet chemical fire suppression system. The required 6" overhang of the cooking equipment is provided by the hood. Kitchen hood exhaust ductwork is of proper construction, material and insulation and is installed as required by the OSDM and OBCMC. The cooking equipment is interlocked to shut down in the event of discharge of the fire suppression system. Fire extinguishers are provided in sufficient quantity. Existing fire extinguishers are adequately spaced. The facility is not equipped with an emergency generator. The existing water supply is provided by a tie-in to the municipal system and is insufficient to meet the future fire suppression needs of the school. Rooms with a capacity greater than 50 occupants are equipped with adequate egress.

**Rating:** 3 Needs Replacement

**Recommendations:** Provide new automated fire suppression system to meet Ohio School Design Manual guidelines. Provide increased water service of a capacity sufficient to support the fire suppression system, funding included in fire suppression funding. Provide new emergency generator, with funding provided via complete replacement of electrical system in Item D. Provide new handrails at all interior stairways in the 1958 Original Construction. Provide fire-rated enclosure around 1 existing stair tower in the 1958 Original Construction. Provide a new exterior exit door at dead-end Corridor at Rooms 106, 108 and 110. Funding for replacement of Kitchen hood is provided for in Item J.

Item	Cost	Unit	Whole Building	Auditorium Fixed Seating Area (1958) 4,784 ft <sup>2</sup>	Original Construction (1958) 178,182 ft <sup>2</sup>	Gymnasium and Classroom Addition (2006) 54,464 ft <sup>2</sup>	Sum	Comments
Sprinkler / Fire Suppression System:	\$3.20	sq.ft. (Qty)		4,784 Required	178,182 Required	54,464 Required	\$759,776.00	(includes increase of service piping, if required)
Interior Stairwell Closure:	\$5,000.00	per level			2 Required		\$10,000.00	(includes associated doors, door frames and hardware)
Handrails:	\$5,000.00	per level			10 Required		\$50,000.00	
<b>Other:</b> Provide new fire-rated door, frame and hardware.	\$2,000.00	per leaf			1 Required		\$2,000.00	Provide new exterior exit door.
<b>Sum:</b>			\$821,776.00	\$15,308.80	\$632,182.40	\$174,284.80		



Compliant Enclosed Stair Tower-2006 Addition



Compliant Fire Extinguisher

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V. Loose Furnishings

**Description:** The typical Classroom furniture in the 1958 Original Construction is mismatched, and in generally fair condition, consisting of student desks & chairs, teacher desks & chairs, desk height file cabinets, reading tables, computer workstations, bookcases, and wastebaskets. The facility's furniture and loose equipment were evaluated in item 6.17 in the CEFPI section of this report, and on a scale of 1 to 10 the 1958 Original Construction received a rating of 6 due to observed conditions, and due to the fact that it lacks some of the Design Manual required elements. The typical Classroom furniture in the 2006 Addition is of consistent design, and in generally good condition, consisting of student desks & chairs, teacher desks & chairs, lab height stools, and wastebaskets. Overall storage for the 2006 Addition is provided by casework. The facility's furniture and loose equipment were evaluated in item 6.17 in the CEFPI section of this report, and on a scale of 1 to 10 the 2006 Addition received a rating of 9 due to observed conditions, and due to the fact that follows most of the Design Manual required elements.

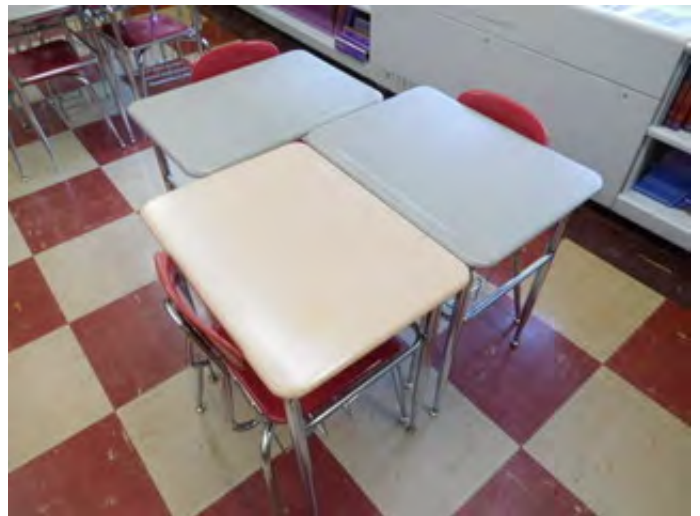
**Rating:** 2 Needs Repair

**Recommendations:** Provide for replacement of outdated or inadequate furnishings in the 1958 Original Construction.

Item	Cost	Unit	Whole Building	Auditorium Fixed Seating Area (1958)	Original Construction (1958)	Gymnasium and Classroom Addition (2006)	Sum	Comments
CEFPI Rating	\$3.00	sq.ft. (of entire building addition)		4,784 ft <sup>2</sup>	178,182 ft <sup>2</sup>	54,464 ft <sup>2</sup>		
6					Required		\$534,546.00	
Sum:			\$534,546.00	\$0.00	\$534,546.00	\$0.00		



Typical Teacher Desk and Chair



Typical Student Desk and Chair

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## W. Technology

**Description:** The typical Classroom is equipped with the required one data port for teacher use, one voice port with a digitally based phone system, one cable port and monitor, and a 2-way PA system that can be initiated by either party to meet Ohio School Design Manual requirements. The typical Classroom is not fully equipped with the required four technology data ports for student use to meet Ohio School Design Manual requirements. The facility is equipped with a centralized clock system. Specialized electrical / sound system requirements of Gymnasium, Stage, Student Dining, and Music spaces appear to be inadequately provided, and in fair condition. OSDM-compliant computer network infrastructure does not appear to be provided. The facility does contain a media distribution center, and provides Computer Labs for use by students. Elevators are equipped with telephones.

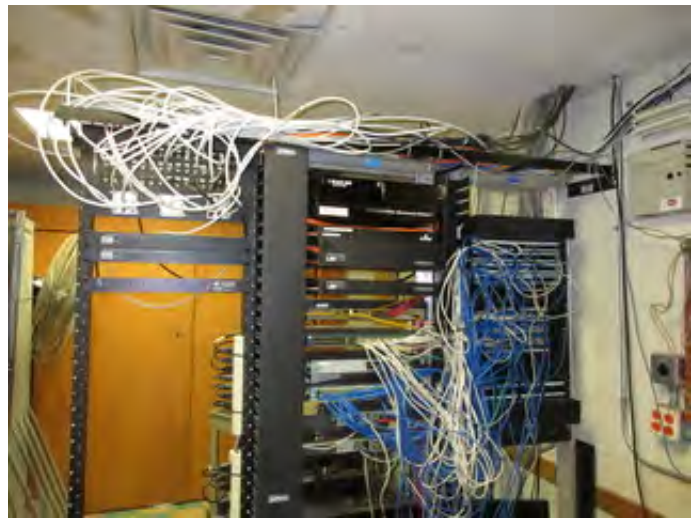
**Rating:** 3 Needs Replacement

**Recommendations:** Provide complete replacement of technology systems to meet Ohio School Design Manual requirements.

Item	Cost	Unit	Whole Building	Auditorium Fixed Seating Area (1958)	Original Construction (1958)	Gymnasium and Classroom Addition (2006)	Sum	Comments
				4,784 ft <sup>2</sup>	178,182 ft <sup>2</sup>	54,464 ft <sup>2</sup>		
HS portion of building with total SF > 200,400	\$5.80	sq.ft. (Qty)		4,784 Required	178,182 Required	54,464 Required	\$1,377,094.00	
<b>Sum:</b>			\$1,377,094.00	\$27,747.20	\$1,033,455.60	\$315,891.20		



IT Classroom Projector



IT Data Rack

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X. Construction Contingency / Non-Construction Cost

<b>Renovation Costs (A-W)</b>		<b>\$30,733,738.94</b>
7.00%	Construction Contingency	\$2,151,361.73
<b>Subtotal</b>		<b>\$32,885,100.67</b>
16.29%	Non-Construction Costs	\$5,356,982.90
<b>Total Project</b>		<b>\$38,242,083.56</b>

Construction Contingency	\$2,151,361.73
Non-Construction Costs	\$5,356,982.90
<b>Total for X.</b>	<b>\$7,508,344.62</b>

<b>Non-Construction Costs Breakdown</b>		
Land Survey	0.03%	\$9,865.53
Soil Borings / Phase I Envir. Report	0.10%	\$32,885.10
Agency Approval Fees (Bldg. Code)	0.25%	\$82,212.75
Construction Testing	0.40%	\$131,540.40
Printing - Bid Documents	0.15%	\$49,327.65
Advertising for Bids	0.02%	\$6,577.02
Builder's Risk Insurance	0.12%	\$39,462.12
Design Professional's Compensation	7.50%	\$2,466,382.55
CM Compensation	6.00%	\$1,973,106.04
Commissioning	0.60%	\$197,310.60
Non-Construction Contingency (includes partnering and mediation services)	1.12%	\$368,313.13
<b>Total Non-Construction Costs</b>	<b>16.29%</b>	<b>\$5,356,982.90</b>

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School Facility Appraisal

**Name of Appraiser** Bernie Merritt **Date of Appraisal** 2016-08-09  
**Building Name** Troy High  
**Street Address** 151 Staunton Road  
**City/Town, State, Zip Code** Troy, OH 45373  
**Telephone Number(s)** (937) 332.6710  
**School District** Troy City

**Setting:** Small City  
 Site-Acreage 49.54  
 Grades Housed 9-12  
 Number of Teaching Stations 73  
 Student Enrollment 1369  
 Dates of Construction 1958,1958,2006

Building Square Footage 237,430  
 Student Capacity 1,105  
 Number of Floors 3

**Energy Sources:**  Fuel Oil  Gas  Electric  Solar  
**Air Conditioning:**  Roof Top  Windows Units  Central  Room Units  
**Heating:**  Central  Roof Top  Individual Unit  Forced Air  
 Hot Water  Steam

**Type of Construction**  
 Load bearing masonry  
 Steel frame  
 Concrete frame  
 Wood  
 Steel Joists

**Exterior Surfacing**  
 Brick  
 Stucco  
 Metal  
 Wood  
 Stone

**Floor Construction**  
 Wood Joists  
 Steel Joists  
 Slab on grade  
 Structural slab

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# 1.0 The School Site

## School Facility Appraisal

			Points Allocated	Points
1.1		<b>Site is large enough</b> to meet educational needs as defined by state and local requirements	25	20
<i>The site is 49.54 acres compared to 49 acres required by the OSDM. The site is also shared with the District Offices, Troy High School, and District Bus Garages.</i>				
1.2		<b>Site is easily accessible</b> and conveniently located for the present and future population	20	20
<i>The School is centrally located within the School District, and is easily accessible. The site is accessible from city streets that are suitable for buses, cars, and service vehicles. Three entry points are provided into the site, with appropriate separation of car and bus traffic.</i>				
1.3		<b>Location</b> is removed from undesirable business, industry, traffic, and natural hazards	10	7
<i>The site is adjacent to residential and community uses, as well as a railroad track to the northwest.</i>				
1.4		Site is <b>well landscaped and developed</b> to meet educational needs	10	8
<i>The site is moderately landscaped with mature shade trees, ornamental trees, and shrubs which define the property and emphasize the building entrance. Lawn areas where mowing is required do not exceed 3:1 slope.</i>				
1.5	ES	Well equipped <b>playgrounds are separated</b> from streets and parking areas	10	7
	MS	Well equipped <b>athletic and intermural areas are separated</b> from streets and parking		
	HS	Well equipped <b>athletic areas</b> are adequate with sufficient solid-surface parking		
<i>Athletic facilities include multi-purpose practice fields and tennis courts, as well as other athletic facilities across adjacent streets, which are provided with adequate solid surface parking.</i>				
1.6		<b>Topography</b> is varied enough to provide desirable appearance and without steep inclines	5	4
<i>The site is gently sloped to provided positive drainage across most of the site, with a slightly steeper slope along south end of the site. A flat area is provided to accommodate buildings, perimeter walks, vehicular circulation, parking areas, outdoor play areas, and physical education spaces, and is desirable.</i>				
1.7		Site has stable, well drained <b>soil free of erosion</b>	5	4
<i>Soils appear to be stable and well drained, and no erosion was observed.</i>				
1.8		Site is suitable for <b>special instructional needs</b> , e.g., outdoor learning	5	4
<i>The site has been developed to accommodate outdoor learning, including benches and tables to facilitate instruction.</i>				
1.9		<b>Pedestrian services</b> include adequate sidewalk with designated crosswalks, curb cuts, and correct slopes	5	4
<i>Sidewalks are adequately provided to accommodate safe pedestrian circulation including designated crosswalks, curb cuts, and correct slopes.</i>				
1.10	ES/MS	Sufficient <b>on-site, solid surface parking</b> for faculty and staff is provided	5	3
	HS	Sufficient <b>on-site, solid surface parking</b> is provided for faculty, students, staff and community		
<i>Parking for faculty, staff, community and student parking is not adequately provided, and is located on asphalt pavement in fair condition.</i>				
<b>TOTAL - The School Site</b>			<b>100</b>	<b>81</b>

## 2.0 Structural and Mechanical Features

### School Facility Appraisal

Structural		Points Allocated	Points
2.1	Structure meets all <b>barrier-free</b> requirements both externally and internally <i>Entire building meets most ADA requirements with the exception of signage and Restrooms .</i>	15	12
2.2	<b>Roofs</b> appear sound, have positive drainage, and are weather tight <i>The roofs over portions of the building are in good condition. The roofs over other portions are in fair condition, but require replacement due to age of the system.</i>	15	12
2.3	<b>Foundations</b> are strong and stable with no observable cracks <i>Foundations are in good to fair condition with observable cracks.</i>	10	9
2.4	<b>Exterior and interior walls</b> have sufficient expansion joints and are free of deterioration <i>Exterior and interior walls are in good condition, have sufficient control and expansion joints, and are free from deterioration.</i>	10	9
2.5	<b>Entrances and exits</b> are located so as to permit efficient student traffic flow <i>Exits are properly located to allow safe egress from the building.</i>	10	8
2.6	<b>Building "envelope"</b> generally provides for energy conservation (see criteria) <i>Building envelope meets minimum energy conservation requirements.</i>	10	6
2.7	Structure is <b>free of friable asbestos</b> and <b>toxic materials</b> <i>The building is reported to contain asbestos and other hazardous materials.</i>	10	4
2.8	Interior walls permit sufficient <b>flexibility</b> for a variety of class sizes <i>Interior walls throughout the facility are fixed walls and are not flexible, but a variety of Classroom sizes have been provided throughout the facility.</i>	10	7
Mechanical/Electrical		Points Allocated	Points
2.9	<b>Adequate light sources</b> are well maintained, and properly placed and are not subject to overheating <i>Light sources are improperly placed and provide inadequate lighting in some areas. Fixtures are well maintained in most areas. Light fixtures do not appear to be subject to overheating.</i>	15	6
2.10	<b>Internal water supply</b> is adequate with sufficient pressure to meet health and safety requirements <i>Internal water supply will not support a future fire suppression system, but is adequate for current requirements.</i>	15	6
2.11	Each teaching/learning area has adequate convenient <b>wall outlets</b> , phone and computer cabling for technology applications <i>Classrooms have an inadequate number of outlets and data jacks for technology applications.</i>	15	2

2.12	<b>Electrical controls</b> are safely protected with <b>disconnect switches</b> easily accessible <i>Disconnect switches are provided in required easily accessible locations to allow for safe servicing of equipment.</i>	10	8
2.13	<b>Drinking fountains</b> are adequate in number and placement, and are properly maintained including provisions for the disabled <i>Drinking fountains are adequate in number and placement, and meet ADA requirements. Drinking fountains are properly maintained.</i>	10	9
2.14	Number and size of <b>restrooms meet requirements</b> <i>The number and size of Restrooms meet requirements.</i>	10	9
2.15	<b>Drainage systems</b> are properly maintained and meet requirements <i>Drainage systems exhibit some signs of past leakage and repairs.</i>	10	8
2.16	<b>Fire alarms, smoke detectors, and sprinkler systems</b> are properly maintained and meet requirements <i>The facility is not sprinkled. Fire alarm systems are not provided with all required devices. Smoke detectors are inadequately provided.</i>	10	6
2.17	<b>Intercommunication system</b> consists of a central unit that allows dependable <b>two-way communication</b> between the office and instructional areas <i>The central intercommunication system provides reliable communication between the Administration area and all teaching/learning areas.</i>	10	8
2.18	<b>Exterior water supply</b> is sufficient and available for normal usage <i>Exterior wall hydrants are adequately provided around the exterior of the facility, with the exception of the 2006 Addition.</i>	5	4
<b>TOTAL - Structural and Mechanical Features</b>		<b>200</b>	<b>133</b>

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### 3.0 Plant Maintainability

School Facility Appraisal

		Points Allocated	Points
3.1	<b>Windows, doors, and walls</b> are of material and finish requiring minimum maintenance <i>Exterior materials and finishes for doors, windows and walls are durable and require minimal maintenance.</i>	15	12
3.2	<b>Floor surfaces</b> throughout the building require minimum care <i>Flooring throughout the facility consists of marmoleum, VAT, wood, terrazzo, sealed concrete, carpet tile, walk-off carpet, which is somewhat well maintained throughout the facility, but show signs of wear.</i>	15	9
3.3	<b>Ceilings and walls</b> throughout the building, including service areas, are easily cleaned and resistant to stain <i>Acoustical tile ceilings are not easily cleaned or resistant to stain. Painted block and glazed block is easily cleaned and resistant to stain. Plaster and drywall type finishes are not easily cleaned and resistant to stain.</i>	10	6
3.4	<b>Built-in equipment</b> is designed and constructed for ease of maintenance <i>Classroom casework in the 1958 Original Construction is either a wood type construction with plastic laminate tops or miscellaneous metal shelving units, in fair to poor condition. Classroom casework in the 2006 Addition is wood type construction with resin tops, is adequately provided, and in good to fair condition.</i>	10	6
3.5	<b>Finishes and hardware</b> , with compatible keying system, are of durable quality <i>Door hardware varies throughout the facility, and does not meet ADA requirements.</i>	10	4
3.6	<b>Restroom fixtures</b> are wall mounted and of quality finish <i>Fixtures are floor and wall mounted and are of good to fair quality.</i>	10	7
3.7	Adequate <b>custodial storage space</b> with water and drain is accessible throughout the building <i>Custodial storage space is adequately located throughout the facility, including provisions for water and drains.</i>	10	10
3.8	Adequate <b>electrical outlets and power</b> , to permit routine cleaning, are available in every area <i>Electrical outlets are adequately provided in Corridors and allow for convenient routine cleaning.</i>	10	8
3.9	<b>Outdoor light fixtures, electrical outlets</b> , equipment, and other fixtures are accessible for repair and replacement <i>Outdoor light fixtures are provided inadequately, but are accessible for repair and replacement. Electrical outlets are inadequately provided around the exterior of the facility.</i>	10	2
<b>TOTAL - Plant Maintainability</b>		<b>100</b>	<b>64</b>

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## 4.0 Building Safety and Security

### School Facility Appraisal

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Site Safety		Points Allocated	Points
4.1	<b>Student loading areas</b> are segregated from other vehicular traffic and pedestrian walkways <i>Student loading is separated from vehicular traffic and pedestrian walkways.</i>	15	12
4.2	<b>Walkways</b> , both on and offsite, are available for safety of pedestrians <i>Walkways are adequately provided both on and off-site for pedestrian safety.</i>	10	8
4.3	<b>Access streets</b> have sufficient signals and signs to permit safe entrance to and exit from school area <i>School signs and signals are located as required on adjacent access streets.</i>	5	4
4.4	<b>Vehicular entrances and exits</b> permit safe traffic flow <i>Buses and other vehicular traffic use separate entrance and exit points to the site, allowing for safe vehicular traffic flow.</i>	5	4
4.5	ES <b>Playground equipment</b> is free from hazard MS Location and types of <b>intramural equipment</b> are free from hazard HS <b>Athletic field equipment</b> is properly located and is free from hazard <i>Athletic field equipment is properly located and is free from hazard.</i>	5	4

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Building Safety		Points Allocated	Points
4.6	<b>The heating unit(s)</b> is located away from student occupied areas <i>Heating boilers are located in rooms that are not accessible by students. Unit ventilators are located in the Classrooms and other learning areas.</i>	20	10
4.7	Multi-story buildings have at least <b>two stairways</b> for student egress <i>The building does have 2 stairways; 1 stairway is enclosed and is fully ADA and OBC compliant and 1 stairway is not enclosed and is not fully ADA and OBC compliant.</i>	15	7
4.8	<b>Exterior doors</b> open outward and are equipped with panic hardware <i>Exterior doors open in the direction of travel and are equipped with panic hardware.</i>	10	8
4.9	<b>Emergency lighting</b> is provided throughout the entire building with exit signs on separate electrical circuits <i>Emergency light fixtures and exit signs are not on separate circuits and are inadequately provided.</i>	10	4
4.10	<b>Classroom doors</b> are recessed and open outward <i>Classroom doors are both recessed and not recessed from the Corridor. Doors open outward, but do not impede traffic flow in the Corridors.</i>	10	8

4.11	<b>Building security systems</b> are provided to assure uninterrupted operation of the educational program <i>Security systems are inadequately provided and are in fair condition.</i>	10	2
4.12	<b>Flooring</b> (including ramps and stairways) is maintained in a non-slip condition <i>Terrazzo and VCT flooring has been well maintained throughout the facility.</i>	5	4
4.13	<b>Stair risers</b> (interior and exterior) do not exceed 6 1/2 inches and range in number from 3 - 16 <i>Stair treads and risers are properly designed and meet requirements. Stair risers do not exceed 7 inches permitted by the OBC.</i>	5	4
4.14	<b>Glass</b> is properly located and protected with wire or safety material to prevent accidental student injury <i>Glass at door transoms and sidelights is tempered for safety.</i>	5	3
4.15	<b>Fixed Projections</b> in the traffic areas do not extend more than eight inches from the corridor wall <i>Drinking fountains and electric water coolers are not recessed in the Corridor wall. Corridors are wide enough so that non-recessed fixture does not impede traffic flow in Corridors.</i>	5	4
4.16	<b>Traffic areas</b> terminate at an exit or a stairway leading to an egress <i>Exits are properly located to allow safe egress from the building. Entry and exit points to the building have been adequately provided. Corridor and building layout does provide an efficient means of circulation throughout the building. A dead end Corridor is located at the Corridor near Rooms 106, 108, 110. One stair tower is not enclosed in the 1958 Original Construction and 1 stair tower is enclosed in the 2006 Addition.</i>	5	3

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**Emergency Safety**

		Points Allocated	Points
4.17	Adequate <b>fire safety equipment</b> is properly located <i>The facility is not sprinkled. Fire alarm devices are not provided adequately. Fire extinguishers appear to be adequately provided.</i>	15	4
4.18	There are at least <b>two independent exits</b> from any point in the building <i>Multiple exits are provided from Corridors throughout the facility. A dead end Corridor is located at the Corridor near Rooms 106, 108, and 110.</i>	15	11
4.19	<b>Fire-resistant materials</b> are used throughout the structure <i>The structure is a masonry load bearing system with steel joist and concrete deck. Interior walls are masonry. Finishes comply with OBBC requirements.</i>	15	12
4.20	Automatic and manual <b>emergency alarm system</b> with a distinctive sound and flashing light is provided <i>The fire alarm is provided with manual and automatic actuation, but is not adequately provided with visual indicating devices.</i>	15	4
<b>TOTAL - Building Safety and Security</b>		<b>200</b>	<b>120</b>

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## 5.0 Educational Adequacy

### School Facility Appraisal

<b>Academic Learning Space</b>	Points Allocated	Points
<p>5.1                    <b>Size of academic learning areas</b> meets desirable standards</p> <p><i>The average Classroom is 770 SF compared to 900 SF required by the OSDM.</i></p>	25	12
<p>5.2                    <b>Classroom space</b> permits arrangements for small group activity</p> <p><i>Most undersized Classrooms do not allow sufficient space for effective small group activities. Some Classrooms are large enough to allow effective small group activity spaces.</i></p>	15	10
<p>5.3                    <b>Location of academic learning areas</b> is near related educational activities and away from disruptive noise</p> <p><i>The Primary Gymnasium and Music program are properly isolated from the academic learning areas to reduce distractions. The Auxiliary Gymnasium is located adjacent to some academic learning areas, which can be distracting.</i></p>	10	7
<p>5.4                    <b>Personal space</b> in the classroom away from group instruction allows privacy time for individual students</p> <p><i>Most undersized Classrooms do not permit privacy time for individual students. Some Classrooms are large enough to allow privacy time for individual students.</i></p>	10	7
<p>5.5                    <b>Storage for student materials</b> is adequate</p> <p><i>Lockers, located in the Corridor, are adequately provided for student storage.</i></p>	10	8
<p>5.6                    <b>Storage for teacher materials</b> is adequate</p> <p><i>Casework in the 1958 Original Construction is inadequately provided for storage of teacher materials. Casework in the 2006 Addition is adequately provided for storage of teacher materials. Some Classrooms contain dedicated storage rooms.</i></p>	10	6

<b>Special Learning Space</b>	Points Allocated	Points
<p>5.7                    <b>Size of special learning area(s)</b> meets standards</p> <p><i>The Special Education Classroom areas total 1,705 SF compared to 900 SF recommended in the OSDM. Special Education areas are appropriately sized, and meet standards.</i></p>	15	12
<p>5.8                    <b>Design of specialized learning area(s)</b> is compatible with instructional need</p> <p><i>Special Education spaces are properly designed to meet instructional needs.</i></p>	10	8
<p>5.9                    <b>Library/Resource/Media Center</b> provides appropriate and attractive space</p> <p><i>The Media Center is 6,246 SF compared to 4,792 SF recommended in the OSDM. The Media Center is somewhat attractive space, including natural light and sufficient book storage space.</i></p>	10	8
<p>5.10                  <b>Gymnasium (or covered P.E. area)</b> adequately serves physical education instruction</p> <p><i>The Primary Gymnasium is 21,891 SF compared to 10,000-20,000 SF recommended in the OSDM. The Auxiliary Gymnasium is 11,613 SF compared to 7,000 SF recommended in the OSDM. The Gymnasium spaces are adequately sized and equipped for physical education instruction.</i></p>	5	5



5.11	ES	<b>Pre-kindergarten and kindergarten space</b> is appropriate for age of students and nature of instruction	10	8
	MS/HS	<b>Science</b> program is provided sufficient space and equipment <i>Science Classrooms are appropriately sized and equipped for effective science instruction.</i>		
5.12		<b>Music Program</b> is provided adequate sound treated space	5	4
		<i>Two Music Rooms total 6,509 SF compared to 1,800-3,000 SF recommended in the OSDM. The Music Rooms are designed appropriately, including acoustic panels on walls and ceilings.</i>		
5.13		<b>Space for art</b> is appropriate for special instruction, supplies, and equipment	5	4
		<i>Two Art Rooms total 5,246 SF compared to 1,200 SF recommended in the OSDM. The Art Rooms are appropriately designed for instruction and includes sufficient space for storage of supplies and equipment.</i>		

**School Facility Appraisal**

Points Allocated      Points

5.14		<b>Space for technology education</b> permits use of state-of-the-art equipment	5	4
		<i>The facility is provided with Computer Labs for student use.</i>		
5.15		Space for <b>small groups and remedial instruction</b> is provided adjacent to classrooms	5	3
		<i>Work rooms are provided adjacent to some Classrooms for small groups and remedial instruction.</i>		
5.16		<b>Storage for student and teacher material</b> is adequate	5	3
		<i>Lockers have been adequately provided for storage of student materials. Casework is not adequately provided for storage of teacher materials in the 1958 Original Construction.</i>		

**Support Space**

Points Allocated      Points

5.17		<b>Teacher's lounge and work areas</b> reflect teachers as professionals	10	8
		<i>The Teacher's Lounge is 693 SF compared to 450-900 SF, for 8-24 staff, recommended in the OSDM. The Teacher's Lounge does reflect a professional environment and includes adequate work space for preparation of teacher materials.</i>		
5.18		<b>Cafeteria/Kitchen</b> is attractive with sufficient space for seating/dining, delivery, storage, and food preparation	10	8
		<i>The Student Dining space is 6,071 SF compared to 3,000 SF recommended in the OSDM. The Kitchen space is 4,669 SF compared to 4,792 SF recommended in the OSDM.</i>		
5.19		<b>Administrative offices</b> provided are consistent in appearance and function with the maturity of the students served	5	4
		<i>Administrative Offices are adequately provided for High School students. The Administrative Offices are located in two separate areas. One area is original to the facility and the other was included in, and expanded during the 2006 renovation and additions.</i>		
5.20		<b>Counselor's office</b> insures privacy and sufficient storage	5	3
		<i>Two Counselor Offices total 262 SF with a 234 SF Conference Room, compared to 120 SF, plus 100 SF for Storage and 200 SF for Conference, recommended in the OSDM. The space provided for the Counselor does not insure privacy, and lacks sufficient storage space.</i>		
5.21		<b>Clinic</b> is near administrative offices and is equipped to meet requirements	5	4
		<i>The Clinic is 573 SF compared to 370 SF recommended in the OSDM. The Clinic is located within the Administrative Offices and is provided with required equipment.</i>		

5.22	<b>Suitable reception space</b> is available for students, teachers, and visitors	5	4
	<i>Two Reception spaces consists of approximately 747 SF for one and another 864 SF for another compared to 200-400 SF recommended by the OSDM.</i>		
5.23	<b>Administrative personnel</b> are provided <b>sufficient work space and privacy</b>	5	4
	<i>One Administrative area consists of approximately 3,100 SF for the principal, assistant principal, secretary, Conference Room, Storage, Copy Room, Guidance areas, and Restroom, compared to 2,600 SF recommended by the OSDM. The other Administrative area consists of approximately 2,465 SF for a principal, assistant principal, secretary, Copy Room, Conference Room, and athletic director.</i>		
<b>TOTAL - Educational Adequacy</b>		<b>200</b>	<b>144</b>

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## 6.0 Environment for Education

### School Facility Appraisal

Exterior Environment		Points Allocated	Points
6.1	Overall <b>design is aesthetically pleasing</b> to age of students <i>The building is a traditional design with classical detailing, which is aesthetically pleasing.</i>	15	12
6.2	Site and building are <b>well landscaped</b> <i>The site is moderately landscaped with mature shade trees, ornamental trees, and shrubs which define the property and emphasize the building entrance. Lawn areas where mowing is required do not exceed 3:1 slope.</i>	10	8
6.3	<b>Exterior noise and poor environment</b> do not disrupt learning <i>The site is adjacent to residential and community uses, as well as a railroad track to the northwest.</i>	10	6
6.4	<b>Entrances and walkways are sheltered</b> from sun and inclement weather <i>The main entrance to the School is partially sheltered.</i>	10	8
6.5	<b>Building materials</b> provide attractive color and texture <i>Exterior building materials consist of brick and stone, which does provide an attractive color and texture. Interior building materials consist of glazed block and plaster which does provide an attractive color and texture.</i>	5	4

Interior Environment		Points Allocated	Points
6.6	<b>Color schemes, building materials, and decor</b> provide an impetus to learning <i>Overall building design and materials reflect a classical, historic era, which enhances learning</i>	20	12
6.7	<b>Year around comfortable temperature and humidity</b> are provided throughout the building <i>The facility is not air conditioned to provide year-round temperature and humidity control.</i>	15	2
6.8	<b>Ventilating system</b> provides adequate quiet circulation of clean air and meets 15cfm VBC requirement <i>The ventilating systems provide the required volume of ventilation air to the spaces. Ventilation systems introduce excessive noise into the teaching and learning areas.</i>	15	10
6.9	<b>Lighting system</b> provides proper intensity, diffusion, and distribution of illumination <i>The lighting system does not provide proper intensity in some areas. Location of lighting fixtures provides uneven distribution of illumination. Diffusion of illumination is adequately provided by the light fixture lenses.</i>	15	6
6.10	<b>Drinking fountains and restroom facilities</b> are conveniently located <i>Drinking fountains and Restroom facilities are conveniently located.</i>	15	14
6.11	<b>Communication among students</b> is enhanced by commons area(s) for socialization <i>There are areas for students to gather in the Student Dining area, Auditorium, and Gymnasiums, as well as a small gathering areas at the entrances to the school.</i>	10	8

6.12	<b>Traffic flow</b> is aided by appropriate foyers and corridors	10	8
	<i>Corridors and Foyers are adequately designed for efficient traffic flow. Classroom doorways are not recessed, but do not impede traffic flow. Entry and exit points to the building have been adequately provided. Corridor and building layout does provide an efficient means of circulation throughout the building.</i>		
6.13	<b>Areas for students to interact</b> are suitable to the age group	10	8
	<i>There are areas for students to gather in the Student Dining area, Auditorium, and Gymnasiums, as well as a small gathering areas at the entrances to the school.</i>		
6.14	<b>Large group areas are designed</b> for effective management of students	10	8
	<i>The Gymnasiums and Auditorium are adequately designed to manage large groups of students.</i>		
6.15	<b>Acoustical treatment</b> of ceilings, walls, and floors provides effective sound control	10	6
	<i>The Music Spaces have been adequately designed and provided with effective sound control measures. No acoustical treatment has been provided in the Gymnasiums, Media Center, and Student Dining.</i>		
6.16	<b>Window design</b> contributes to a pleasant environment	10	6
	<i>The windows are fairly well designed to contribute to a pleasant environment.</i>		
6.17	<b>Furniture and equipment</b> provide a pleasing atmosphere	10	6
	<i>Classroom furniture in the 2006 Addition is consistent in design and in good condition. The 2006 Addition would receive a rating of 9, while the 1958 Original Construction Classroom furniture is mismatched, and in generally fair condition.</i>		
<b>TOTAL - Environment for Education</b>		<b>200</b>	<b>132</b>

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# LEED Observation Notes

<b>School District:</b>	Troy City
<b>County:</b>	Miami
<b>School District IRN:</b>	44925
<b>Building:</b>	Troy High
<b>Building IRN:</b>	37598

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## Sustainable Sites

*Construction process can have a harmful effect on local ecology, especially when buildings are build on productive agricultural, wildlife or open areas. Several measures can be take however to prevent the impact on undeveloped lands or to improve previously contaminated sites. Appropriate location reduces the need for private transportation and helps to prevent an increase in air pollution. Developing buildings in urban areas and on brownfield sites instead of greenfield locations has economical and environmental benefits. Controlling stormwater runoff and erosion can prevent the worsening of water quality in receiving bodies of water and the impact on aquatic life. Once the building is constructed, it's important to decrease heat island effects and reduce the light pollution on the site.*

(source: LEED Reference Guide, 2001:9)

The amount of asphalt is a negligible contribution to the heat island effect for non-roofs (see SS Credit 7.1). Open space is effectively maximized at this urban site (see SS Credit 5.2). The size of the parking area does not exceed the amount required with 406 spaces provided and 575 spaces required (see SS Credit 4.4). Utilizing the existing amount of asphalt by re-striping the lot to achieve the required parking and providing softer landscape elements including grasses, shrubs and flora, would contribute to a reduction in the heat island effect. Some of the roof surfaces have high reflectance and low thermal emittance, which helps mitigate the heat island effect.

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## Water Efficiency

*In the US ca. 340 billion gallons of fresh water are withdrawn daily from surface sources, 65% of which is discharged later after use. Water is also withdrawn from underground aquifers The excessive usage of water results in the current water deficit, estimated at 3,700 billion gallons. Water efficiency measures in commercial buildings can reduce water usage by at least 30%. Low-flow fixtures, sensors or using non potable water for landscape irrigation, toilet flushing and building systems are just some of available strategies. Not only do they result in environmental savings, but also bring about financial benefits, related to lower water use fees, lower sewage volumes to treat and energy use reductions.*

(source: LEED Reference Guide, 2001:65)

Currently there are no overall facility measures to reduce wastewater or water usage. The site is in an urban area with limited areas of grass, deciduous trees, conifers, shrubs and area of flora. The overall facility does not contain water-efficient fixtures or appliances to meet LEED requirements. Battery operated or electrical flush sensors on the fixtures could provide reduced water use. Use of non-potable water on landscape is another area where reduced water usage could be utilized

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## Energy & Atmosphere

*Buildings in the US account for more than 30% of the total energy use and for approximately 60% of electricity. 75% of energy is derived from the burning of fossil fuels, which releases CO2 into the Atmosphere and contributes to global warming. Moreover, coal fired electric utilities release nitrogen oxides and sulfur dioxide, where the former contribute to smog and the latter to acid rain. Other types of energy production are not less harmful. Burning of natural gas produces nitrogen oxides and greenhouse gases as well, nuclear power creates nuclear wastes, while hydroelectric generating plants disrupt natural water flows. Luckily there are several practices that can reduce energy consumption and are environmentally and economically beneficial. Not only will they reduce the air pollution and mitigate global warming thanks to being less dependent on power plants, but also they will reduce operational costs and will quickly pay back. In order to make the most of those practices, it's important to adopt a holistic approach to the building's energy load and integrate different energy saving strategies.*

(source: LEED Reference Guide, 2001:93)

The overall facility is equipped with HVAC equipment that, due to age, condition, and inefficiency, does not provide appropriate energy controls or recovery to meet LEED requirements. Most equipment in the overall facility is natural gas fired, but could be updated to electric fired. The District does not produce their own energy or buy energy credits to meet LEED requirements. The site is such that some measure of solar panel installation could be accomplished. By replacing all light switches in the facility with sensor switches, the school would see a reduction in the energy usage and, subsequently, a cost savings as well.

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## Material & Resources

*The steps related to process building materials, such as extraction, processing and transportation are not environmentally natural, as they pollute the air, water and use natural resources. Construction and demolition wastes account for 40% of the solid waste stream in the US. Reusing existing documents is one of the best strategies to reduce solid wastes volumes and prevents them from ending up at landfills. It also reduces habitat disturbance and minimizes the need for the surrounding infrastructure. While using new materials one should take into account different material sources. Salvaged materials provide savings on material costs, recycled content material minimizes waste products and local materials reduce the environmental impact of transportation. Finally, using rapidly renewable materials and certified wood decreases the consumption of natural resources. Recycling and reusing construction waste is another strategy to be taken into consideration in sustainable design.*

(source: LEED Reference Guide, 2001:167)

The facility provides storage and collection of recyclables (see MR Prerequisite 1). By providing containers designated for the collection of paper, plastic and glass bottles and cans reduces the solid waste impact on the environment and is a simple way to achieve LEED credits.

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## Indoor Environmental Quality

*As we spend a big majority of our time indoors, the emphasis should be put on optimal indoor environmental quality strategies while (re)designing a building . Otherwise, a poor IEQ will have adverse effects on occupants' health, productivity and quality of life. IEQ strategies such as ventilation effectiveness and control of contaminants or a building flush-out prior to occupancy can reduce potential liability, increase the market value of the building but can also result in a significantly higher productivity (16%). Other strategies involve automatic sensors and controls, introducing fresh air to the building or providing lots of daylighting views.*

(source: LEED Reference Guide, 2001:215)

Corridors and Classrooms feature hard, easy to clean surfaces, but do not provide acoustical measure other than ceiling tile (see EQ Credit 9). The overall facility is equipped with HVAC equipment that, due to age, condition, and inefficiency, does not provide appropriate indoor air quality or controls to meet LEED requirements. Existing site and building layout, along with existing window opening sizes, may make achieving LEED credits for this section difficult and costly.

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## Innovation & Design Process

*This category is aimed at recognizing projects that implemented innovative building features and sustainable building knowledge, and whose strategy or measure results exceeded those which are required by the LEED Rating System. Expertise in sustainable design is the key element of the innovative design and construction process.*

(source: LEED Reference Guide, 2001:271)

This facility does not implement innovative building features or sustainable building knowledge which is needed to exceed results that are required by the LEED Rating System.

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**Justification for Allocation of Points**

Building Name and Level: **Troy High**

**9-12**

**Building features that clearly exceed criteria:**

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

**Building features that are non-existent or very inadequate:**

1. The facility is reported to contain asbestos.
2. The facility is not equipped with an automated fire suppression system.
3. The facility is not equipped with a compliant security system.
- 4.
- 5.
- 6.

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# Environmental Hazards Assessment Cost Estimates

<b>Owner:</b>	Troy City
<b>Facility:</b>	Troy High
<b>Date of Initial Assessment:</b>	Aug 9, 2016
<b>Date of Assessment Update:</b>	Dec 11, 2016
<b>Cost Set:</b>	2016

<b>District IRN:</b>	44925
<b>Building IRN:</b>	37598
<b>Firm:</b>	SBDP

**Scope remains unchanged after cost updates.**

Building Addition	Addition Area (sf)	Total of Environmental Hazards Assessment Cost Estimates	
		Renovation	Demolition
1958 Auditorium Fixed Seating Area	4,784	\$60,580.00	\$0.00
1958 Original Construction	178,182	\$1,682,771.60	\$1,672,771.60
2006 Gymnasium and Classroom Addition	54,464	\$0.00	\$0.00
<b>Total</b>	<b>237,430</b>	<b>\$1,743,351.60</b>	<b>\$1,672,771.60</b>
Total with Regional Cost Factor (97.49%)	—	\$1,699,593.47	\$1,630,785.03
Regional Total with Soft Costs & Contingency	—	\$2,114,809.26	\$2,029,190.71

**Environmental Hazards - Troy City (44925) - Troy High (37598) - Original Construction**

Owner: Troy City Bldg. IRN: 37598  
 Facility: Troy High BuildingAdd: Original Construction  
 Date On-Site: Consultant Name:

A. Asbestos Containing Material (ACM)		AFM=Asbestos Free Material		
ACM Found	Status	Quantity	Unit Cost	Estimated Cost
1. Boiler/Furnace Insulation Removal	Not Present	0	\$10.00	\$0.00
2. Breeching Insulation Removal	Reported Asbestos-Containing Material	300	\$10.00	\$3,000.00
3. Tank Insulation Removal	Not Present	0	\$8.00	\$0.00
4. Duct Insulation Removal	Reported Asbestos-Containing Material	50	\$8.00	\$400.00
5. Pipe Insulation Removal	Reported Asbestos-Containing Material	6000	\$10.00	\$60,000.00
6. Pipe Fitting Insulation Removal	Not Present	0	\$20.00	\$0.00
7. Pipe Insulation Removal (Crawlspace/Tunnel)	Not Present	0	\$12.00	\$0.00
8. Pipe Fitting Insulation Removal (Crawlspace/Tunnel)	Not Present	0	\$30.00	\$0.00
9. Pipe Insulation Removal (Hidden in Walls/Ceilings)	Not Present	0	\$15.00	\$0.00
10. Dismantling of Boiler/Furnace/Incinerator	Reported Asbestos-Containing Material	4	\$2,000.00	\$8,000.00
11. Flexible Duct Connection Removal	Not Present	0	\$100.00	\$0.00
12. Acoustical Plaster Removal	Not Present	0	\$7.00	\$0.00
13. Fireproofing Removal	Not Present	0	\$25.00	\$0.00
14. Hard Plaster Removal	Reported Asbestos-Containing Material	102926	\$7.00	\$720,482.00
15. Gypsum Board Removal	Reported Asbestos-Containing Material	11070	\$6.00	\$66,420.00
16. Acoustical Panel/Tile Ceiling Removal	Reported Asbestos-Containing Material	48592	\$3.00	\$145,776.00
17. Laboratory Table/Counter Top Removal	Reported Asbestos-Containing Material	2	\$100.00	\$200.00
18. Cement Board Removal	Reported Asbestos-Containing Material	676	\$5.00	\$3,380.00
19. Electric Cord Insulation Removal	Not Present	0	\$1.00	\$0.00
20. Light (Reflector) Fixture Removal	Reported Asbestos-Containing Material	30	\$50.00	\$1,500.00
21. Sheet Flooring with Friable Backer Removal	Not Present	0	\$4.00	\$0.00
22. Fire Door Removal	Reported Asbestos-Containing Material	350	\$100.00	\$35,000.00
23. Door and Window Panel Removal	Reported Asbestos-Containing Material	485	\$100.00	\$48,500.00
24. Decontamination of Crawlspace/Chase/Tunnel	Not Present	0	\$3.00	\$0.00
25. Soil Removal	Not Present	0	\$150.00	\$0.00
26. Non-ACM Ceiling/Wall Removal (for access)	Assumed Asbestos-Containing Material	48592	\$2.00	\$97,184.00
27. Window Component (Compound, Tape, or Caulk) - Reno & Demo	Reported Asbestos-Containing Material	485	\$300.00	\$145,500.00
28. Window Component (Compound, Tape, or Caulk) - Reno Only	Not Present	0	\$300.00	\$0.00
29. Resilient Flooring Removal, Including Mastic	Reported Asbestos-Containing Material	100105	\$3.00	\$300,315.00
30. Carpet Mastic Removal	Reported Asbestos-Containing Material	9980	\$2.00	\$19,960.00
31. Carpet Removal (over RFC)	Not Present	0	\$1.00	\$0.00
32. Acoustical Tile Mastic Removal	Not Present	0	\$3.00	\$0.00
33. Sink Undercoating Removal	Reported Asbestos-Containing Material	29	\$100.00	\$2,900.00
34. Roofing Removal	Not Present	0	\$2.00	\$0.00
35. (Sum of Lines 1-34)	<b>Total Asb. Hazard Abatement Cost for Renovation Work</b>			\$1,658,517.00
36. (Sum of Lines 1-34)	<b>Total Asb. Hazard Abatement Cost for Demolition Work</b>			\$1,658,517.00

B. Removal Of Underground Storage Tanks <input checked="" type="checkbox"/> None Reported				
Tank No.	Location	Age	Product Stored	Est.Rem.Cost
1. (Sum of Lines 1-0)			<b>Total Cost For Removal Of Underground Storage Tanks</b>	\$0.00

C. Lead-Based Paint (LBP) - Renovation Only <input type="checkbox"/> Addition Constructed after 1980	
1. Estimated Cost For Abatement Contractor to Perform Lead Mock-Ups	\$5,000.00
2. Special Engineering Fees for LBP Mock-Ups	\$5,000.00
3. (Sum of Lines 1-2)	<b>Total Cost for Lead-Based Paint Mock-Ups</b> \$10,000.00

D. Fluorescent Lamps & Ballasts Recycling/Incineration <input type="checkbox"/> Not Applicable			
Area Of Building Addition	Square Feet w/Fluorescent Lamps & Ballasts	Unit Cost	Total Cost
1. 178182		\$0.10	\$14,254.60

E. Other Environmental Hazards/Remarks <input checked="" type="checkbox"/> None Reported		
Description		Cost Estimate
1. (Sum of Lines 1-0)	<b>Total Cost for Other Environmental Hazards - Renovation</b>	\$0.00
2. (Sum of Lines 1-0)	<b>Total Cost for Other Environmental Hazards - Demolition</b>	\$0.00

F. Environmental Hazards Assessment Cost Estimate Summaries		
1. A35, B1, C3, D1, and E1	<b>Total Cost for Env. Hazards Work - Renovation</b>	\$1,682,771.60
2. A36, B1, D1, and E2	<b>Total Cost for Env. Hazards Work - Demolition</b>	\$1,672,771.60

- \* INSPECTION ASSUMPTIONS for Reported/Assumed Asbestos-Free Materials (Rep/Asm AFM):
- a. Unless reported otherwise by the District, materials installed after 1980 are assumed to be asbestos-free.
  - b. Unless reported otherwise by the District, small quantities (less than 1,000 square feet) of the following materials are assumed to be asbestos free: hard plaster, acoustical plaster and gypsum board systems; acoustical panels and tiles; fireproofing; 12"x12" floor tile and mastic.
  - c. Unless reported otherwise by the District, all roofing materials are assumed to be asbestos-free.

THESE MATERIALS SHOULD BE PROPERLY SAMPLED AND ANALYZED FOR ASBESTOS PRIOR TO DISTURBING THEM.