

Building Information - Shaker Heights City SD (44750) - Onaway Elem

Program Type	Classroom Facilities Assistance Program (CFAP) - Regular
Setting	Urban
Assessment Name	Copy of Assessment Report automatically generated for Kelton Waller
Assessment Date	2014-04-30
Cost Set:	2014
Building Name	Onaway Elem
Building IRN	28647
Building Address	3115 Woodbury Rd
Building City	Shaker Heights
Building Zipcode	44120
Building Phone	(216) 295-4080
Acreage	22.00
Current Grades:	K-4
Teaching Stations	31
Number of Floors	3
Student Capacity	477
Current Enrollment	428
Enrollment Date	2014-04-30
Enrollment Date is the date in which the current enrollment was taken.	
Number of Classrooms	22
Historical Register	NO
Building's Principal	Amy Davis
Building Type	Elementary

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North elevation photo:



East elevation photo:



South elevation photo:



West elevation photo:



GENERAL DESCRIPTION

59,639 Total Existing Square Footage
1922,1991 Building Dates
K-4 Grades
428 Current Enrollment
31 Teaching Stations
22.00 Site Acreage

The 59,639 sq. ft. building is situated on a 22 acre site that is shared with Woodbury Elementary and the district office building. The floors are framed with a combination of poured structural concrete and concrete pan joists. The original 1922 building and 1991 addition are clad with reddish brown brick and punctuated with regularly spaced rectangular window openings having keystone arches and stone lintels. The recently replaced windows reflect the original divided lights and have interior wood finish with white painted frames on the exterior. The Renaissance style main entrance is framed by stone pilasters and an arched transom over the door. Original sloped roof portions of the building are covered with slate. Most flat roof areas are covered with built-up systems that have been subsequently coated with a liquid applied reflective material. The boilers and air handling units are controlled with DDC controls and the rest of the controls are pneumatic and in fair to poor condition due to the equipment age. Generally, all the equipment has been well maintained. Each ventilator in the new wing has an outside air grille at the exterior wall. Overall, the ventilators and the air handling unit for the 1991 section of the building may provide the required outside air delivery to meet OBC mechanical code. The 1922 section of the building does not meet the outside air requirements. The DDC controls were added two years ago under an energy performance contract. The staff indicates they turn off the boilers on mild temperature days to avoid over heating the school, but generally they try to leave the controls enabled. The steam or two-pipe system does not provide a capacity for simultaneous heating and cooling operation which is not compliant with the OSDM requirements. The staff indicated that the site does not contain underground fuel tanks. The main power enters the building underground to a locked transformer vault. The transformers are owned by the utility. The service described is leaving the transformer vault to serve the building. The electrical system in the overall facility has two power feeds; one 3 phase and one single phase. The 3 phase electrical gear is 240V, 3 phase, 3 wire, 225 amp gear with two 240V, 3 phase, 3 wire, 200 amp disconnects. The single phase has two disconnects for the Original Building 240V, 1 phase, 400 amp and the Addition 240V, 1 phase, 400 amp. Each power feed has a DDC power recording device to track the power used. The electrical gear appears to be at least 25 years old, assuming it was installed during the building addition. The main disconnects for this service are a little confusing. Recommend labeling to make system safe. The original building, the electrical system appears to be in fair to poor condition with no extra capacity on the main panel. Additional outlets have been added to the classrooms, but the classrooms are still not equipped with adequate electrical outlets. Adequate GFI protected exterior outlets are not provided around the perimeter of the building. There is no lightning protection. The overall electrical system does not meet OSDM requirements in supporting the current needs of the school and will be inadequate to meet the facility's future needs. The system provides adequate pressure and capacity for the facility's needs. There is an automatic fire suppression system for the Basement only, computer room and small library area. This area was once a storage room. The existing water supply system will not provide adequate support for a future fire suppression system.

No Significant Findings

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Building Construction Information - Shaker Heights City SD (44750) - Onaway Elem (28647)

Name	Year	Handicapped Access	Floors	Square Feet
Original Building	1922	yes	3	39,017
Addition	1991	yes	3	20,622

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Building Component Information - Shaker Heights City SD (44750) - Onaway Elem (28647)

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
Original Building (1922)		7286		3350	1416			285						
Addition (1991)		4449					2047							
Total	0	11,735	0	3,350	1,416	0	2,047	285	0	0	0	0	0	0
Master Planning Considerations														

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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 - Onaway Elem (28647)

District: Shaker Heights City SD				County: Cuyahoga		Area: Northeastern Ohio (8)	
Name: Onaway Elem				Contact: Amy Davis			
Address: 3115 Woodbury Rd Shaker Heights, OH 44120				Phone: (216) 295-4080			
Bldg. IRN: 28647				Date Prepared: 2014-04-30		By: Kelton Waller	
				Date Revised: 2014-06-27		By: Kelton Waller	
Current Grades		K-4	Acreage:		22.00		
Proposed Grades		N/A	Teaching Stations:		31		
Current Enrollment		428	Classrooms:		22		
Projected Enrollment		N/A					
Addition		Date	HA	Number of Floors	Current Square Feet		
<u>Original Building</u>		1922	yes	3	39,017		
<u>Addition</u>		1991	yes	3	20,622		
Total					59,639		
*HA		=	Handicapped Access				
*Rating		=	1 Satisfactory				
		=	2 Needs Repair				
		=	3 Needs Replacement				
*Const P/S		=	Present/Scheduled Construction				
CEFPI Appraisal Summary							
				Section	Points Possible	Points Earned	Percentage Rating Category
				<u>Cover Sheet</u>	—	—	—
				1.0 <u>The School Site</u>	100	92	92% Excellent
				2.0 <u>Structural and Mechanical Features</u>	200	150	75% Satisfactory
				3.0 <u>Plant Maintainability</u>	100	83	83% Satisfactory
				4.0 <u>Building Safety and Security</u>	200	146	73% Satisfactory
				5.0 <u>Educational Adequacy</u>	200	159	80% Satisfactory
				6.0 <u>Environment for Education</u>	200	136	68% Borderline
				<u>LEED Observations</u>	—	—	—
				<u>Commentary</u>	—	—	—
				Total	1000	766	77% Satisfactory
Enhanced Environmental Hazards Assessment Cost Estimates							
FACILITY ASSESSMENT				Rating	Dollar	Assessment	
Cost Set: 2014							
A.	<u>Heating System</u>			3	\$2,034,882.68	-	
B.	<u>Roofing</u>			3	\$243,546.80	-	
C.	<u>Ventilation / Air Conditioning</u>			1	\$0.00	-	
D.	<u>Electrical Systems</u>			3	\$967,940.97	-	
E.	<u>Plumbing and Fixtures</u>			3	\$293,559.50	-	
F.	<u>Windows</u>			1	\$0.00	-	
G.	<u>Structure: Foundation</u>			3	\$56,320.00	-	
H.	<u>Structure: Walls and Chimneys</u>			2	\$77,362.50	-	
I.	<u>Structure: Floors and Roofs</u>			1	\$0.00	-	
J.	<u>General Finishes</u>			3	\$623,560.30	-	
K.	<u>Interior Lighting</u>			3	\$298,195.00	-	
L.	<u>Security Systems</u>			3	\$169,971.15	-	
M.	<u>Emergency/Egress Lighting</u>			3	\$59,639.00	-	
N.	<u>Fire Alarm</u>			3	\$89,458.50	-	
O.	<u>Handicapped Access</u>			2	\$59,927.80	-	
P.	<u>Site Condition</u>			3	\$197,353.50	-	
Q.	<u>Sewage System</u>			1	\$0.00	-	
R.	<u>Water Supply</u>			3	\$12,000.00	-	
S.	<u>Exterior Doors</u>			1	\$0.00	-	
T.	<u>Hazardous Material</u>			1	\$0.00	-	
U.	<u>Life Safety</u>			3	\$242,809.60	-	
V.	<u>Loose Furnishings</u>			2	\$178,917.00	-	
W.	<u>Technology</u>			3	\$686,444.89	-	
X.	<u>Construction Contingency / Non-Construction Cost</u>			1	\$1,537,127.40	-	
Total					\$7,829,016.59		
						C=Under Contract	
						Renovation Cost Factor	
						103.76%	
						Cost to Renovate (Cost Factor applied)	
						\$8,123,387.62	
<i>The Replacement Cost Per SF and the Renovate/Replace ratio are only provided when this summary is requested from a Master Plan.</i>							

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Original Building (1922) Summary

District: Shaker Heights City SD				County: Cuyahoga		Area: Northeastern Ohio (8)	
Name: Onaway Elem				Contact: Amy Davis			
Address: 3115 Woodbury Rd Shaker Heights, OH 44120				Phone: (216) 295-4080			
Bldg. IRN: 28647				Date Prepared: 2014-04-30		By: Kelton Waller	
				Date Revised: 2014-06-27		By: Kelton Waller	
Current Grades		K-4	Acreage:		22.00		
Proposed Grades		N/A	Teaching Stations:		31		
Current Enrollment		428	Classrooms:		22		
Projected Enrollment		N/A					
Addition		Date	HA	Number of Floors	Current Square Feet		
Original Building		1922	yes	3	39,017		
Addition		1991	yes	3	20,622		
Total					59,639		
*HA =		Handicapped Access					
*Rating =		1 Satisfactory					
		=2 Needs Repair					
		=3 Needs Replacement					
*Const P/S =		Present/Scheduled Construction					
CEFPI Appraisal Summary							
				Section	Points Possible	Points Earned	Percentage Rating Category
				<u>Cover Sheet</u>	—	—	—
				1.0 <u>The School Site</u>	100	92	92% Excellent
				2.0 <u>Structural and Mechanical Features</u>	200	150	75% Satisfactory
				3.0 <u>Plant Maintainability</u>	100	83	83% Satisfactory
				4.0 <u>Building Safety and Security</u>	200	146	73% Satisfactory
				5.0 <u>Educational Adequacy</u>	200	159	80% Satisfactory
				6.0 <u>Environment for Education</u>	200	136	68% Borderline
				<u>LEED Observations</u>	—	—	—
				<u>Commentary</u>	—	—	—
				Total	1000	766	77% Satisfactory
Enhanced Environmental Hazards Assessment Cost Estimates							
FACILITY ASSESSMENT				Rating	Dollar Assessment		
Cost Set: 2014					C		
A.	<u>Heating System</u>			3	\$1,331,260.04 -		
B.	<u>Roofing</u>			3	\$243,546.80 -		
C.	<u>Ventilation / Air Conditioning</u>			1	\$0.00 -		
D.	<u>Electrical Systems</u>			3	\$633,245.91 -		
E.	<u>Plumbing and Fixtures</u>			3	\$279,559.50 -		
F.	<u>Windows</u>			1	\$0.00 -		
G.	<u>Structure: Foundation</u>			3	\$56,320.00 -		
H.	<u>Structure: Walls and Chimneys</u>			2	\$77,362.50 -		
I.	<u>Structure: Floors and Roofs</u>			1	\$0.00 -		
J.	<u>General Finishes</u>			3	\$620,370.30 -		
K.	<u>Interior Lighting</u>			3	\$195,085.00 -		
L.	<u>Security Systems</u>			3	\$111,198.45 -		
M.	<u>Emergency/Egress Lighting</u>			3	\$39,017.00 -		
N.	<u>Fire Alarm</u>			3	\$58,525.50 -		
O.	<u>Handicapped Access</u>			2	\$55,803.40 -		
P.	<u>Site Condition</u>			3	\$166,420.50 -		
Q.	<u>Sewage System</u>			1	\$0.00 -		
R.	<u>Water Supply</u>			3	\$12,000.00 -		
S.	<u>Exterior Doors</u>			1	\$0.00 -		
T.	<u>Hazardous Material</u>			1	\$0.00 -		
U.	<u>Life Safety</u>			3	\$176,819.20 -		
V.	<u>Loose Furnishings</u>			2	\$117,051.00 -		
W.	<u>Technology</u>			3	\$449,085.67 -		
X.	<u>Construction Contingency / Non-Construction Cost</u>			1	\$1,129,332.34 -		
Total					\$5,752,003.11		
					C=Under Contract		
					Renovation Cost Factor		
					103.76%		
					Cost to Renovate (Cost Factor applied)		
					\$5,968,278.42		
<i>The Replacement Cost Per SF and the Renovate/Replace ratio are only provided when this summary is requested from a Master Plan.</i>							

Addition (1991) Summary

District: Shaker Heights City SD				County: Cuyahoga		Area: Northeastern Ohio (8)	
Name: Onaway Elem				Contact: Amy Davis			
Address: 3115 Woodbury Rd Shaker Heights, OH 44120				Phone: (216) 295-4080			
Bldg. IRN: 28647				Date Prepared: 2014-04-30		By: Kelton Waller	
				Date Revised: 2014-06-27		By: Kelton Waller	
Current Grades		K-4	Acreage:		22.00		
Proposed Grades		N/A	Teaching Stations:		31		
Current Enrollment		428	Classrooms:		22		
Projected Enrollment		N/A					
Addition		Date	HA	Number of Floors	Current Square Feet		
<u>Original Building</u>		1922	yes	3	39,017		
Addition		1991	yes	3	20,622		
Total					59,639		
*HA =		Handicapped Access					
*Rating =		1 Satisfactory					
		=2 Needs Repair					
		=3 Needs Replacement					
*Const P/S =		Present/Scheduled Construction					
CEFPI Appraisal Summary							
				Section	Points Possible	Points Earned	Percentage Rating Category
				<u>Cover Sheet</u>	—	—	—
				1.0 <u>The School Site</u>	100	92	92% Excellent
				2.0 <u>Structural and Mechanical Features</u>	200	150	75% Satisfactory
				3.0 <u>Plant Maintainability</u>	100	83	83% Satisfactory
				4.0 <u>Building Safety and Security</u>	200	146	73% Satisfactory
				5.0 <u>Educational Adequacy</u>	200	159	80% Satisfactory
				6.0 <u>Environment for Education</u>	200	136	68% Borderline
				<u>LEED Observations</u>	—	—	—
				<u>Commentary</u>	—	—	—
				Total	1000	766	77% Satisfactory
Enhanced Environmental Hazards Assessment Cost Estimates							
FACILITY ASSESSMENT				Rating	Dollar Assessment		
Cost Set: 2014							
	A.	<u>Heating System</u>		3	\$703,622.64 -		
	B.	<u>Roofing</u>		3	\$0.00 -		
	C.	<u>Ventilation / Air Conditioning</u>		1	\$0.00 -		
	D.	<u>Electrical Systems</u>		3	\$334,695.06 -		
	E.	<u>Plumbing and Fixtures</u>		3	\$14,000.00 -		
	F.	<u>Windows</u>		1	\$0.00 -		
	G.	<u>Structure: Foundation</u>		3	\$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	\$3,190.00 -		
	K.	<u>Interior Lighting</u>		3	\$103,110.00 -		
	L.	<u>Security Systems</u>		3	\$58,772.70 -		
	M.	<u>Emergency/Egress Lighting</u>		3	\$20,622.00 -		
	N.	<u>Fire Alarm</u>		3	\$30,933.00 -		
	O.	<u>Handicapped Access</u>		2	\$4,124.40 -		
	P.	<u>Site Condition</u>		3	\$30,933.00 -		
	Q.	<u>Sewage System</u>		1	\$0.00 -		
	R.	<u>Water Supply</u>		3	\$0.00 -		
	S.	<u>Exterior Doors</u>		1	\$0.00 -		
	T.	<u>Hazardous Material</u>		1	\$0.00 -		
	U.	<u>Life Safety</u>		3	\$65,990.40 -		
	V.	<u>Loose Furnishings</u>		2	\$61,866.00 -		
	W.	<u>Technology</u>		3	\$237,359.22 -		
	X.	<u>Construction Contingency / Non-Construction Cost</u>		1	\$407,795.07 -		
Total					\$2,077,013.49		
				C=	Under Contract		
				Renovation Cost Factor			
				Cost to Renovate (Cost Factor applied)			
				103.76%			
				\$2,155,109.19			
<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 building consists of three Weil-McLain steam boiler at 1690 MBH each installed in 2001. The boilers appear to be in satisfactory condition. The older part of the building, 1922, is all steam heat to fin tube or radiators, or air handling units with steam coils. The 1923 building central ventilation fans were not functioning at the time of the visit. However, the staff indicated the largest ventilation fan that is ducted to each classroom did have the motor/belt replaced. This ventilation system also has a steam heating coil that has not functioned for several years, so the fan only operates in less than freezing temperatures. There is a tube and shell steam to hot water heat exchanger in the mechanical room with two heating water building pumps that serve the unit ventilators and air handling units in the 1991 section of the building. The one pump was replaced in 2012 and the other pump was replaced in 2013 and both are in good condition. There is normal corrosion on the heat exchanger due to age. The boilers and air handling units are controlled with DDC controls and the rest of the controls are pneumatic and in fair to poor condition due to the equipment age. Generally, all the equipment has been well maintained. Each ventilator in the new wing has an outside air grilled at the exterior wall. Overall, the ventilators and the air handling unit for the 1991 section of the building may provide the required outside air delivery to meet OBC mechanical code. The 1923 section of the building does not meet the outside air requirements. The DDC controls were added two years ago under an energy performance contract. The staff indicates they turn off the boilers on mild temperature days to avoid over heating the school, but generally they try to leave the controls enabled. The steam or two-pipe system does not provide a capacity for simultaneous heating and cooling operation which is not compliant with the OSDM requirements. The staff indicated that the site does not contain underground fuel tanks.

Rating: 3 Needs Replacement

Recommendations: Provide a new overall heating ventilating and air conditioning system to achieve compliance with OBC and OSDM standards. Convert to ducted system to facilitate efficient exchange of conditioned air. Provide new DDC temperature controls with the new system. The new ducted system will likely require architectural soffits to accommodate the installation of the ductwork.

Item	Cost	Unit	Whole Building	Original Building (1922)	Addition (1991)	Sum	Comments
HVAC System Replacement:	\$26.12	sq.ft.		39,017 ft ²	20,622 ft ²	\$1,557,770.68	(includes demo of existing system and reconfiguration of piping layout and new controls, air conditioning)
Convert To Ducted System	\$8.00	sq.ft.		Required	Required	\$477,112.00	(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)
Sum:			\$2,034,882.68	\$1,331,260.04	\$703,622.64		



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B. Roofing

Description: Low sloped area of the roof are covered by built-up roofing and a reflective top coat. The built-up roof has passed its expected service life. Pitched roofs are covered with original shingles. The outside edge of the pitched roof drains to metal lined box gutters. The interior edges of the roof drain on to the low-sloped roof which is served by area roof drains. The gutters and downspouts are original to the building and have exceeded their expected service life. Numerous replaced, damaged, and missing shingles were observed on the original pitched roof. Several repairs have been made to the low-slope roof where slate shingles have fallen and damaged the built-up roofing. The roof over the original building is accessed via a manually operated hatch accessed by a ladder from the second floor.

Rating: 3 Needs Replacement

Recommendations: Provide new asphalt shingle roof over the pitched roof areas of the 1922 building. Replace the built-up roof and provide new overflow drains. Provide new flashings around stacks and dormers at the pitched roofs as necessary to replace damaged areas of flashing. Provide new gutters and downspouts around the original 1922 building.

Item	Cost	Unit	Whole Building	Original Building (1922)	Addition (1991)	Sum	Comments
Asphalt Shingle with Ventilated Nail Base	\$8.20	sq.ft. (Qty)		16,267 Required	39,017 ft ²		
Built-up Asphalt:	\$13.20	sq.ft. (Qty)		4,606 Required	20,622 ft ²		
Repair/replace cap flashing and coping:	\$18.40	ln.ft.		50 Required		\$920.00	
Gutters/Downspouts	\$13.10	ln.ft.		900 Required		\$11,790.00	
Overflow Roof Drains and Piping:	\$2,500.00	each		6 Required		\$15,000.00	
Roof Insulation:	\$4.70	sq.ft. (Qty)		4,606 Required		\$21,648.20	(tapered insulation for limited area use to correct ponding)
Sum:			\$243,546.80	\$243,546.80	\$0.00		



Damaged and replaced slate tile



Damaged and replaced slate near valley

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C. Ventilation / Air Conditioning

Description: There is no central air conditioning for this building. The 1989 addition Multipurpose Room and hallways are served by Air Handling units with hot water heat and Dx cooling. There are a few window air conditioning units for offices in the new addition and the original building. The ventilation system in the 1989 addition may meet the fresh air requirements, but the 1923 building does not meet the OBC fresh air requirements. The overall system is not compliant with Ohio School Design Manual requirements. The general building exhaust systems located in the restrooms are functional and in satisfactory condition.

Rating: 1 Satisfactory

Recommendations: Provide an air conditioning system to meet OBC and OSDM requirements. Pricing included in Item A.

Item	Cost	Unit	Whole Building	Original Building (1922)	Addition (1991)	Sum	Comments
				39,017 ft ²	20,622 ft ²		
Sum:			\$0.00	\$0.00	\$0.00		



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D. Electrical Systems

Description: The main power enters the building underground to a locked transformer vault. The transformers are owned by the utility. The service described is leaving the transformer vault to serve the building. The electrical system in the overall facility has two power feeds; one 3 phase and one single phase. The 3 phase electrical gear is 240V, 3 phase, 3 wire, 225 amp gear with two 240V, 3 phase, 3 wire, 200 amp disconnects. The single phase has are two disconnects for the Original Building 240V, 1 phase, 400 amp and the Addition 240V, 1 phase, 400 amp. Each power feed has a DDC power recording device to track the power used. The electrical gear appears to be as least 25 years old, assuming it was installed during the building addition. The main disconnects for this service are a little confusing. Recommend labeling to make system safe. The original building, the electrical system appears to be in fair to poor condition with no extra capacity on the main panel. Additional outlets have been added to the classrooms, but the classrooms are still not equipped with adequate electrical outlets. Adequate GFI protected exterior outlets are not provided around the perimeter of the building. There is no lightning protection. The overall electrical system does not meet OSDM 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 due to poor condition and age.

Item	Cost	Unit	Whole Building	Original Building (1922)	Addition (1991)	Sum	Comments
System Replacement:	\$16.23	sq.ft.		39,017 ft ²	20,622 ft ²	\$967,940.97	(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)
Sum:			\$967,940.97	\$633,245.91	\$334,695.06		



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E. Plumbing and Fixtures

Description: The 4" domestic water supply piping in the original building is galvanized piping at the building entrance. The water piping in the building is estimated to be 75% galvanized and 25% copper in fair condition. There is a pressure reducing valve on the water service line but there is no backflow preventer. The pressure reducing valve appears to be in poor condition. There were no water pressure issues indicated by the staff. A water treatment system is not required for the domestic water system. There is a small water softener for the boiler water make-up. A 2013, Lockinvar 75.1 MBH water heater with storage tank provides the domestic hot water for the main building. The recirculation pump was replaced this year. There are no electronic sensor faucets and flush valves in the building. All of the toilets are floor mounted. The plumbing fixtures are generally in good condition. The school contains 5 restrooms for boys, 5 restrooms for girls, and 5 restrooms for the staff. The second floor of the addition 1 boys ADA restroom and 1 girls ADA restrooms. There are 23 LAVs, 3 ADA LAVs, 42 toilets, 3 ADA toilets, 15 urinals and 1 ADA urinals. There are 18 classroom sinks; the sink is in good condition, the faucet is in fair to poor condition. The LAVs have metering faucets in fair to poor condition and showing age. There are 5 electric water coolers in the school in generally good condition. There is no kitchen in this school.

Rating: 3 Needs Replacement

Recommendations: Provide new low flow fixtures with low flow faucets and flush valves with sensors, to meet OSFC requirements. The boys and girls restroom LAV's will be replaced with a two station modular lavatory. Replace all of the galvanized piping and the electric water coolers. Replace all of the classroom sink faucets.

Item	Cost	Unit	Whole Building	Original Building (1922) 39,017 ft²	Addition (1991) 20,622 ft²	Sum	Comments
Back Flow Preventer:	\$5,000.00	unit		1 Required		\$5,000.00	
Domestic Supply Piping:	\$3.50	sq.ft.		Required		\$136,559.50	(remove / replace)
Toilet:	\$1,500.00	unit		42 Required		\$63,000.00	(remove / replace) See Item O
Urinal:	\$1,500.00	unit		15 Required		\$22,500.00	(remove / replace)
Electric water cooler:	\$3,000.00	unit		3 Required	2 Required	\$15,000.00	(double ADA)
Replace faucets and flush valves	\$500.00	per unit		12 Required	6 Required	\$9,000.00	(average cost to remove/replace)
Two Station Modular Lavatory	\$3,000.00	unit		10 Required		\$30,000.00	(remove / replace)
Other: Add frostproof hose bibbs on exterior of building.	\$1,000.00	each		3 Required	2 Required	\$5,000.00	Cost includes fixture and 100 ft of piping.
Other: Lavatory	\$1,500.00	unit		3 Required	2 Required	\$7,500.00	Replace LAV in faculty restroom
Sum:			\$293,559.50	\$279,559.50	\$14,000.00		



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F. Windows

Description: New double paned aluminum clad wood windows with false muntins were installed less than 10 years ago as part of a district-wide upgrade. No integral blinds are provided.

Rating: 1 Satisfactory

Recommendations: No work is recommended at this time.

Item	Cost	Unit	Whole Building	Original Building (1922)	Addition (1991)	Sum	Comments
				39,017 ft ²	20,622 ft ²		
Sum:			\$0.00	\$0.00	\$0.00		



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G. Structure: Foundation

Description: While the building is not visible at its footings, the basement of the 1991 wing reveals cracks in the floor, walls and ceilings which are potentially from differential settlement. Additionally, maintenance personnel reported that water breaches the basement walls.

Rating: 3 Needs Replacement

Recommendations: Provide sump pumps and foundation drain tile system to evacuate ground water from around the 1922 building.

Item	Cost	Unit	Whole Building	Original Building (1922)	Addition (1991)	Sum	Comments
				39,017 ft ²	20,622 ft ²		
Waterproofing Membrane:	\$7.00	sq.ft. (Qty)		6,400 Required		\$44,800.00	(include excavation and backfill)
Drainage Tile Systems / Foundation Drainage:	\$18.00	ln.ft.		640 Required		\$11,520.00	(include excavation and backfill)
Sum:			\$56,320.00	\$56,320.00	\$0.00		



Cracking is present over this door frame in the basement.



Evidence of water breach is seen at this basement wall.

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H. Structure: Walls and Chimneys

- Description:** Load bearing masonry walls are present throughout the building. Exterior walls are brick clad. Brick clad stacks are present around the roof. Cracking and mortar degradation is present with most of them.
- Rating:** 2 Needs Repair
- Recommendations:** Repair cracks, mortar washout at the chimneys. Apply a masonry sealer to these items. Install control joints as necessary to prevent future cracks.

Item	Cost	Unit	Whole Building	Original Building (1922)	Addition (1991)	Sum	Comments
				39,017 ft ²	20,622 ft ²		
Tuckpointing:	\$5.25	sq.ft. (Qty)		150 Required		\$787.50	(wall surface)
Exterior Masonry Cleaning:	\$1.50	sq.ft. (Qty)		28,230 Required	0 Required	\$42,345.00	(wall surface)
Exterior Masonry Sealing:	\$1.00	sq.ft. (Qty)		28,230 Required	0 Required	\$28,230.00	(wall surface)
Install Control Joints	\$60.00	ln.ft.		100 Required		\$6,000.00	
Sum:			\$77,362.50	\$77,362.50	\$0.00		



Cracks and mortar wash-out are visible on this chimney



Flashing is damaged at this dormer

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I. Structure: Floors and Roofs

Description: Floors in the 1922 building are poured structural concrete slabs. The 1991 addition floors have metal deck and bar joist construction. The pitched roof areas are constructed of wood planked deck over wood rafters. Roof structure was not observable for the low-sloped areas of the building. Some evidence of moisture was observed on the wood roof structure. New roofing and repairs to the stacks should prevent further water breach.

Rating: 1 Satisfactory

Recommendations: No work is recommended at this time.

Item	Cost	Unit	Whole Building	Original Building (1922)	Addition (1991)	Sum	Comments
				39,017 ft ²	20,622 ft ²		
Sum:			\$0.00	\$0.00	\$0.00		



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J. General Finishes

Description: The original building has tan ceramic tile corridor floors with wood in limited areas, plaster walls with brick wainscot, and 12" acoustic tile ceilings. Classrooms have carpeting or original hard wood floors. The 1991 addition have VCT flooring, painted CMU walls with glazed CMU wainscot and suspended acoustic ceilings. The 1991 addition also has restrooms with ADA compliant fixtures, accessories, and partitions. New ceilings will be required throughout the building as a part of life safety and mechanical upgrades. The kitchen is not used as meals are prepared off-site and delivered. A variety of equipment is provided for physical education. The kiln for art education is performing sufficiently.

Rating: 3 Needs Replacement

Recommendations: Provide new finishes throughout the original building as most finish materials have passed their expected service life.

Item	Cost	Unit	Whole Building	Original Building (1922)	Addition (1991)	Sum	Comments
Acoustic Ceiling:	\$2.90	sq.ft. (Qty)		39,017 ft²	20,622 ft²	\$3,190.00	(partial finish - drop in/standard 2 x 4 ceiling tile per area)
Complete Replacement of Finishes and Casework (Elementary):	\$15.90	sq.ft.		Required		\$620,370.30	(elementary, per building area, with removal of existing)
Sum:			\$623,560.30	\$620,370.30	\$3,190.00		



1922 Corridor



1991 Corridor

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K. Interior Lighting

Description: The florescent lighting is a mixture of recessed with acrylic lense, surface mounted with acrylic wrap around lense and pendent mounted with acrylic lense. The gym fixtures are high bay forescent fixtures. In 2012, the ballast and lamps have been upgraded to electronic energy efficient ballast and T8 lamps in the 1991 wing and new fixtures were provided for the 1923 Building. The lighting is in good condition. 1991 Classroom lighting level is 60 FC, 1923 classroom lighting level is 38 FC, the Corridor lighting level is 24 FC, the Gym is 48 FC and the Library is 72 FC. The classrooms have dual level lighting controls. (One row of lights per switch.) There are occupancy sensors everywhere except in the corridors, Gym and Library for lighting control. There are no dimming controls in the building except for the stage lighting controls.

Rating: 3 Needs Replacement

Recommendations: Provide complete replacement of lighting system due to the installation of ducted HVAC systems and fire suppression systems.

Item	Cost	Unit	Whole Building	Original Building (1922)	Addition (1991)	Sum	Comments
Complete Building Lighting Replacement	\$5.00	sq.ft.		39,017 ft ²	20,622 ft ²		
				Required	Required	\$298,195.00	Includes demo of existing fixtures
Sum:			\$298,195.00	\$195,085.00	\$103,110.00		



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L. Security Systems

Description: The security system consists of 1 exterior mounted camera located at the building entrance. . There is 1 interior camera on the inside of the entrance door. There are 3 key card entry doors. The front door is monitored with 2 way communication and a buzzer for visitors. It is also one of the key card entrance doors. The cameras report to computer screens located in the office. DVRs record locally the feedback from the cameras. There is no remote monitoring of the video system. The interior hallways have motion sensors tied to the security system. The exterior lighting consists of building mounted lighting and provides coverage for the building entrances. There are a few parking lot pole mounted lights for site lighting that provide additional lighting coverage. The system is not compliant with OSFC design manual guidelines.

Rating: 3 Needs Replacement

Recommendations: Provide new security system to meet OSFC design manual guidelines and upgrade the exterior lighting.

Item	Cost	Unit	Whole Building	Original Building (1922)	Addition (1991)	Sum	Comments
Security System:	\$1.85	sq.ft.		39,017 ft ²	20,622 ft ²		
Exterior Site Lighting:	\$1.00	sq.ft.		Required	Required		(complete, area of building)
Sum:			\$169,971.15	\$111,198.45	\$58,772.70		



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M. Emergency/Egress Lighting

Description: AThe overall facility is equipped with emergency egress lighting system consisting of a LED exit signs and emergency lighting with battery packs. The emergency lights are less than 3 years old. The system is adequately provided throughout, and is compliant with OSFC design manual guidelines.

Rating: 3 Needs Replacement

Recommendations: Provide a complete replacement of emergency egress lighting due to installation of systems outlined in J, K, and U.

Item	Cost	Unit	Whole Building	Original Building (1922)	Addition (1991)	Sum	Comments
				39,017 ft²	20,622 ft²		
Emergency/Egress Lighting:	\$1.00	sq.ft.		Required	Required	\$59,639.00	(complete, area of building)
Sum:			\$59,639.00	\$39,017.00	\$20,622.00		



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N. Fire Alarm

Description: The Radionics fire alarm control panel was replaced 2-3 years ago. The system has sufficient horns, strobes and pull stations. The system provides adequate coverage for the facility with required smoke detectors and duct detectors. The system appears to be non-addressable. This system is remotely monitored. The fire alarm system is not fully compliant with NFPA and OSFC standards. It is not likely that the current system would accommodate the addition of a fire suppression system.

Rating: 3 Needs Replacement

Recommendations: Replacement of the system will be required when the work in C - Upgrading the ventilation and air conditioning. At that time, the devices would be replaced and added to with addressable devices.

Item	Cost	Unit	Whole Building	Original Building (1922)	Addition (1991)	Sum	Comments
				39,017 ft ²	20,622 ft ²		
Fire Alarm System:	\$1.50	sq.ft.		Required	Required	\$89,458.50	(complete new system, including removal of existing)
Sum:			\$89,458.50	\$58,525.50	\$30,933.00		



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O. Handicapped Access

Description: The building is equipped with an elevator. Completely accessible restrooms and drinking fountains are provided in the 1991 addition. Lever type hardware is provide in the 1991 wing but not in the original building. No means of wheelchair access to the stage is provided.

Rating: 2 Needs Repair

Recommendations: Provide a wheelchair lift to access the stage. Provide new lever type hardware in the original building. Provide high contrast signage with embossed braille.

Item	Cost	Unit	Whole Building	Original Building (1922)	Addition (1991)	Sum	Comments
				39,017 ft ²	20,622 ft ²		
Handicapped Hardware:	\$350.00	set		60 Required		\$21,000.00	(includes installation / hardware only)
Signage:	\$0.20	sq.ft.		Required	Required	\$11,927.80	(per building area)
Lifts:	\$15,000.00	unit		1 Required		\$15,000.00	(complete)
Electric Water Coolers:	\$3,000.00	unit		4 Required		\$12,000.00	(new double ADA)
Sum:			\$59,927.80	\$55,803.40	\$4,124.40		



Replace with lever type hardware



Non-accessible drinking fountain in original 1922 building.

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P. Site Condition

Description: Overall the site is in good condition. Sidewalks are in tact and parking lots are without driving or tripping hazard. Adequate parking is provided for staff. There is no separation between bus drop and drop-off from other vehicles. Adequate playground equipment is provided and observed to be free from hazard. The parking lot has only 60 of the OSDM recommended 76 spaces for a school of this size. A concrete dumpster pad is provided. However it is not large enough to capter the weight at the truck axles.

Rating: 3 Needs Replacement

Recommendations: Provide a clear delineation between bus circulation and circulation for other vehicles. Provide a new concrete dumpster pad large enough for trash removal vehicles.

Item	Cost	Unit	Whole Building	Original Building (1922)	Addition (1991)	Sum	Comments
Additional Parking Spaces Required for Elementary	\$121.00	per student		39,017 ft ²	20,622 ft ²		
Bus Drop-Off for Elementary	\$110.00	per student		95 Required			400 Required
Provide Concrete Dumpster Pad:	\$2,400.00	each		1 Required			
Base Sitework Allowance for Unforeseen Circumstances	\$50,000.00	allowance		Required			
Sitework Allowance for Unforeseen Circumstances for buildings between 0 SF and 100,000 SF	\$1.50	sq.ft.		Required	Required		
Sum:			\$197,353.50	\$166,420.50	\$30,933.00		



No vehicular drop-off



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Q. Sewage System

Description: AThe sanitary sewer system drains to the city sewer system. The main sanitary sewer was replaced in the last 5 years. There are no issues with this system. There is a new storm sump pump with a high water alarm that replaced the old system with tree roots.

Rating: 1 Satisfactory

Recommendations: No recommendations at this time.

Item	Cost	Unit	Whole Building	Original Building (1922)	Addition (1991)	Sum	Comments
				39,017 ft ²	20,622 ft ²		
Sum:			\$0.00	\$0.00	\$0.00		

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R. Water Supply

Description: The 4" domestic water supply piping in the original building is galvanized piping, and is located next to the steam coil, in the outside intake area for the 1923 Building ventilation fan. It appears that this pipe may have the potential to freeze if the fan is in operation during outside air temperatures below freezing. The isolation valves in this system no longer hold tight. If there is a leak, the entire building water system must be shut down. The water piping in the building is estimated to be 75% galvanized and 25% copper. There is a pressure reducing valve on the water service but there is no backflow preventer. The corrosion on the pressure reducing valve indicates it is close to the end of its useful life. The system provides adequate pressure and capacity for the facility's needs. There is an automatic fire suppression system for the Basement only, computer room and small library area. This area was once a storage room. The existing water supply system will not provide adequate support for a future fire suppression system.

Rating: 3 Needs Replacement

Recommendations: Replace water main to meet the sprinkler requirements and install a backflow preventer.

Item	Cost	Unit	Whole Building	Original Building (1922)	Addition (1991)	Sum	Comments
				39,017 ft ²	20,622 ft ²		
Domestic Water Main	\$40.00	in.ft.		300 Required		\$12,000.00	(new)
Sum:			\$12,000.00	\$12,000.00	\$0.00		



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S. Exterior Doors

Description: New doors were installed as a part of a district wide window replacement less than 10 years ago. The insulated doors were observed 1/2 glazed and fully glazed with false muntins and flush type. All exterior doors are performing well.

Rating: 1 Satisfactory

Recommendations: No work is recommended at this time.

Item	Cost	Unit	Whole Building	Original Building (1922)	Addition (1991)	Sum	Comments
				39,017 ft ²	20,622 ft ²		
Sum:			\$0.00	\$0.00	\$0.00		



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T. Hazardous Material

Description: Environmental assessment data not available at time of report.

Rating: 1 Satisfactory

Recommendations: No work is recommended at this time.

Item	Cost	Unit	Whole Building	Original Building (1922)	Addition (1991)	Sum	Comments
				39,017 ft ²	20,622 ft ²		
Sum:			\$0.00	\$0.00	\$0.00		

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U. Life Safety

Description: The facility is not equipped with an automated fire suppression system. There is no kitchen in this facility. The facility is NOT equipped with an emergency generator.

Rating: 3 Needs Replacement

Recommendations: Provide a new automated fire suppression system to meet OSDM guidelines. Sprinkler system should cover entire building and attic. Provide increased water service of a capacity sufficient to support the fire suppression system, funding included in Water Service Section R for new water service for fire suppression. Provide an emergency generator as part of electrical systems renovation. (See Electrical)

Item	Cost	Unit	Whole Building	Original Building (1922)	Addition (1991)	Sum	Comments
				39,017 ft²	20,622 ft²		
Sprinkler / Fire Suppression System:	\$3.20	sq.ft. (Qty)		55,256 Required	20,622 Required	\$242,809.60	(includes increase of service piping, if required)
Sum:			\$242,809.60	\$176,819.20	\$65,990.40		

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V. Loose Furnishings

Description: Desks, chairs and tables throughout the building continue to perform well. However, the design is somewhat dated. Maintenance personnel indicate that ongoing repairs do occur.

Rating: 2 Needs Repair

Recommendations: Replace furniture items as they fall out of repair.

Item	Cost	Unit	Whole Building	Original Building (1922)	Addition (1991)	Sum	Comments
CEFPI Rating	6	\$3.00/sq.ft.		39,017 ft ²	20,622 ft ²		
Sum:			\$178,917.00	\$117,051.00	Required	\$178,917.00	



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W. Technology

Description: The typical classroom is equipped with 2 data ports total (1 data, 1 VOIP, CAT 5 wire). Each classroom has a dedicated wireless access point (CAT 6E wire). Each classroom has phone capable of calling the office. The phone is used system is used by the office to contact the classrooms. There is a projector and audio system in every classroom. The coax cable system in every classroom is not being replaced as it fails, as it is rarely used. Fiber is used to connect the data closets and there are 5 data closets in the High School. All data closets have color coded wires based on the service district wide. The school has a PA system, and the PA system can be used in each classroom to contact the office, however this system is not used. This system meets the OSDM requirements. The facility is not equipped with a centralized clock system. Specialized electrical /sound requirements for auditorium are adequately provided. The facility has 1 computer labs for use by the students.

Rating: 3 Needs Replacement

Recommendations: The technology systems to meet OSDM requirements however will require replacement with the replacement of the HVAC and Fire Suppression system.

Item	Cost	Unit	Whole Building	Original Building (1922)	Addition (1991)	Sum	Comments
ES portion of building with total SF 50,000 to 69,360	\$11.51	sq.ft. (Qty)		39,017 ft ²	20,622 ft ²		
				39,017 Required	20,622 Required	\$686,444.89	
Sum:			\$686,444.89	\$449,085.67	\$237,359.22		



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X. Construction Contingency / Non-Construction Cost

Renovation Costs (A-W)		\$6,291,889.19
7.00%	Construction Contingency	\$440,432.24
Subtotal		\$6,732,321.43
16.29%	Non-Construction Costs	\$1,096,695.16
Total Project		\$7,829,016.59

Construction Contingency	\$440,432.24
Non-Construction Costs	\$1,096,695.16
Total for X.	\$1,537,127.40

Non-Construction Costs Breakdown		
Land Survey	0.03%	\$2,019.70
Soil Borings / Phase I Envir. Report	0.10%	\$6,732.32
Agency Approval Fees (Bldg. Code)	0.25%	\$16,830.80
Construction Testing	0.40%	\$26,929.29
Printing - Bid Documents	0.15%	\$10,098.48
Advertising for Bids	0.02%	\$1,346.46
Builder's Risk Insurance	0.12%	\$8,078.79
Design Professional's Compensation	7.50%	\$504,924.11
CM Compensation	6.00%	\$403,939.29
Commissioning	0.60%	\$40,393.93
Non-Construction Contingency (includes partnering and mediation services)	1.12%	\$75,402.00
Total Non-Construction Costs	16.29%	\$1,096,695.16

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School Facility Appraisal

Name of Appraiser Kelton Waller **Date of Appraisal** 2014-04-30
Building Name Onaway Elem
Street Address 3115 Woodbury Rd
City/Town, State, Zip Code Shaker Heights, OH 44120
Telephone Number(s) (216) 295-4080
School District Shaker Heights City SD

Setting: Urban

Site-Acreage	22.00	Building Square Footage	59,639
Grades Housed	K-4	Student Capacity	477
Number of Teaching Stations	31	Number of Floors	3
Student Enrollment	428		
Dates of Construction	1922,1991		

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	Site is large enough to meet educational needs as defined by state and local requirements <i>The 22 acre site is shared with another elementary school and the district offices. Onaway is wedged between the Woodbury school, a track and tennis courts. The building's location on the site prevents it from directly using most of the site.</i>	25	18
1.2	Site is easily accessible and conveniently located for the present and future population <i>The site is easily reached via a number of adjacent streets and is in a well accessed part of Shaker Heights.</i>	20	20
1.3	Location is removed from undesirable business, industry, traffic, and natural hazards <i>Undesirable elements were not observed.</i>	10	10
1.4	Site is well landscaped and developed to meet educational needs <i>The site overall is landscaped well. Onaway's portion of the site has green space, plantings and trees on the south and west sides.</i>	10	10
1.5	ES Well equipped playgrounds are separated from streets and parking areas MS Well equipped athletic and intermural areas are separated from streets and parking HS Well equipped athletic areas are adequate with sufficient solid-surface parking <i>Playgrounds were observed to be hazard free.</i>	10	10
1.6	Topography is varied enough to provide desirable appearance and without steep inclines <i>The site is relatively flat, but has enough slope to drain.</i>	5	4
1.7	Site has stable, well drained soil free of erosion <i>The site has only isolated ponding and does not display signs of erosion.</i>	5	5
1.8	Site is suitable for special instructional needs , e.g., outdoor learning <i>Seating areas and tables for outdoor activities were observed.</i>	5	5
1.9	Pedestrian services include adequate sidewalk with designated crosswalks, curb cuts, and correct slopes <i>Appropriately sloped pedestrian provisions were observed around the site.</i>	5	5
1.10	ES/MS Sufficient on-site, solid surface parking for faculty and staff is provided HS Sufficient on-site, solid surface parking is provided for faculty, students, staff and community <i>The site provided two small, but adequate parking lots for staff on each side of the building.</i>	5	5
TOTAL - The School Site		100	92

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2.0 Structural and Mechanical Features

School Facility Appraisal

Structural		Points Allocated	Points
2.1	Structure meets all barrier-free requirements both externally and internally <i>The 1991 wing has an elevator which access all floors as well as ADA compliant restrooms. The building lacks ADA door hardware, signage, and a lift to the stage.</i>	15	11
2.2	Roofs appear sound, have positive drainage, and are weather tight <i>Roofs continue to perform reasonably well. However most of the roofing materials on the original building have passed their expected service life.</i>	15	12
2.3	Foundations are strong and stable with no observable cracks <i>Cracks from potential differential settlement were observed in the basement connector. Further movement is not anticipated.</i>	10	6
2.4	Exterior and interior walls have sufficient expansion joints and are free of deterioration <i>Expansion joints though located in the 1991, still allow cracks to happen in the CMU. None were observed in the original building.</i>	10	4
2.5	Entrances and exits are located so as to permit efficient student traffic flow <i>Portals to and from the building are located at corridors for efficient flow.</i>	10	10
2.6	Building "envelope" generally provides for energy conservation (see criteria) <i>The original building has no insulation in the walls. Newly installed windows appear to be thermally glazed.</i>	10	7
2.7	Structure is free of friable asbestos and toxic materials <i>This information was not available at the time of assessment.</i>	10	10
2.8	Interior walls permit sufficient flexibility for a variety of class sizes <i>Some rooms have retractable partitions to facilitate variable class sizes and configurations.</i>	10	9
Mechanical/Electrical		Points Allocated	Points
2.9	Adequate light sources are well maintained, and properly placed and are not subject to overheating <i>The majority of the areas have adequate light sources, and the lighting is maintained and not subject to overheating.</i>	15	13
2.10	Internal water supply is adequate with sufficient pressure to meet health and safety requirements <i>The internal water supply has sufficient pressure.</i>	15	15
2.11	Each teaching/learning area has adequate convenient wall outlets , phone and computer cabling for technology applications <i>There are not enough wall outlets to support the computer/technology equipment.</i>	15	5
2.12	Electrical controls are safely protected with disconnect switches easily accessible	10	7

Disconnect switches are easily accessible and there are no provisions for the disabled.

2.13	Drinking fountains are adequate in number and placement, and are properly maintained including provisions for the disabled	10	10
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Drinking fountains are well maintained and there are provisions for the disabled.

2.14	Number and size of restrooms meet requirements	10	8
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The number of fixtures more than doubles OSDM recommendations and the number of restrooms is adequate. Size of restrooms are not adequate for ADA access and wheelchair turn-around.

2.15	Drainage systems are properly maintained and meet requirements	10	10
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The drainage systems were reported to be in good condition and meet the requirements.

2.16	Fire alarms, smoke detectors, and sprinkler systems are properly maintained and meet requirements	10	1
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There is no sprinkler system and the fire alarm system does not meet the meet NFPA and OSFC requirements.

2.17	Intercommunication system consists of a central unit that allows dependable two-way communication between the office and instructional areas	10	10
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The phone in each classroom provides two way communication to the office.

2.18	Exterior water supply is sufficient and available for normal usage	5	2
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There are only a few hose bibs for the exterior of the building, which is not adequate.

TOTAL - Structural and Mechanical Features	200	150
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3.0 Plant Maintainability

School Facility Appraisal

		Points Allocated	Points
3.1	Windows, doors, and walls are of material and finish requiring minimum maintenance <i>Windows are constructed of hard, dimensionally stable wood and aluminum cladding. Most interior doors are wood while exterior doors are steel or aluminum. Walls are masonry with brick veneer on the exterior.</i>	15	15
3.2	Floor surfaces throughout the building require minimum care <i>Ceramic tile in the corridor and wood floors in the classroom and gymnasium are stripped and refinished annually/semi-annually.</i>	15	11
3.3	Ceilings and walls throughout the building, including service areas, are easily cleaned and resistant to stain <i>Plaster, brick, painted and glazed cmu surfaces around the building are able to resist most staining agents. 12" acoustic tile in the original building will not clean easily if stained.</i>	10	7
3.4	Built-in equipment is designed and constructed for ease of maintenance <i>Cabinets and book shelves have performed for decades and will continue to do so.</i>	10	10
3.5	Finishes and hardware , with compatible keying system, are of durable quality <i>Hardware finishes in the original building vary in condition. Only a few keys are required for school-wide access.</i>	10	7
3.6	Restroom fixtures are wall mounted and of quality finish <i>Most of the fixtures are wall mounted with the exception of toilets in the original building. All fixtures are porcelain.</i>	10	8
3.7	Adequate custodial storage space with water and drain is accessible throughout the building <i>Closets with mop sink and storage are provided for custodial activities.</i>	10	10
3.8	Adequate electrical outlets and power , to permit routine cleaning, are available in every area <i>Outlets are mostly adequate to facilitate routine cleaning with ease.</i>	10	8
3.9	Outdoor light fixtures, electrical outlets , equipment, and other fixtures are accessible for repair and replacement <i>Not all fixtures and equipment are easily accessible.</i>	10	7
TOTAL - Plant Maintainability		100	83

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4.0 Building Safety and Security

School Facility Appraisal

Site Safety		Points Allocated	Points
4.1	Student loading areas are segregated from other vehicular traffic and pedestrian walkways <i>Both buses and cars utilize curb side embarking and disembarking.</i>	15	5
4.2	Walkways , both on and offsite, are available for safety of pedestrians <i>Paved walks are provided both on and offsite.</i>	10	10
4.3	Access streets have sufficient signals and signs to permit safe entrance to and exit from school area <i>Signs are provided but signals are not.</i>	5	2
4.4	Vehicular entrances and exits permit safe traffic flow <i>Adequate easily navigated drives are provided to and from parking areas.</i>	5	5
4.5	ES Playground equipment is free from hazard MS Location and types of intramural equipment are free from hazard HS Athletic field equipment is properly located and is free from hazard <i>Hazardous conditions were not noted with the play ground.</i>	5	5
Building Safety		Points Allocated	Points
4.6	The heating unit(s) is located away from student occupied areas <i>Heating units are in student occupied areas.</i>	20	10
4.7	Multi-story buildings have at least two stairways for student egress <i>Four stairways are provided.</i>	15	15
4.8	Exterior doors open outward and are equipped with panic hardware <i>Exterior doors open in the direction of egress and have panic hardware.</i>	10	10
4.9	Emergency lighting is provided throughout the entire building with exit signs on separate electrical circuits <i>There is adequate coverage of emergency lighting. It is likely that the emergency lighting is not on a separate circuit.</i>	10	5
4.10	Classroom doors are recessed and open outward <i>Classroom doors open outward but are not recessed.</i>	10	4
4.11	Building security systems are provided to assure uninterrupted operation of the educational program <i>The building security system is adequate and does meet OSFC requirements.</i>	10	10

4.12	Flooring (including ramps and stairways) is maintained in a non-slip condition <i>Non-skid surfaces are provided for stair and ramps.</i>	5	5
4.13	Stair risers (interior and exterior) do not exceed 6 1/2 inches and range in number from 3 - 16 <i>Risers exceed 6 1/2", but the number of risers in a flight never exceeds 16.</i>	5	3
4.14	Glass is properly located and protected with wire or safety material to prevent accidental student injury <i>Safety provisions in glass were observed only at egress stair doors. Classroom and office doors and sidelights have not safety precautions.</i>	5	1
4.15	Fixed Projections in the traffic areas do not extend more than eight inches from the corridor wall <i>Fixed projections do not exceed 8".</i>	5	5
4.16	Traffic areas terminate at an exit or a stairway leading to an egress <i>Egress is provided at or near the ends of all corridors.</i>	5	5

Emergency Safety

Points Allocated

Points

4.17	Adequate fire safety equipment is properly located <i>Extinguishers are located near exits. Hoses are no longer provided in stand pipe cabinets.</i>	15	15
4.18	There are at least two independent exits from any point in the building <i>All points in the building are served by at least 2 exists.</i>	15	15
4.19	Fire-resistant materials are used throughout the structure <i>Walls throughout the building are masonry. Floors throughout the original building are concrete. However, floors in the 1991 addition are steel deck and bar joist without any fire proofing.</i>	15	11
4.20	Automatic and manual emergency alarm system with a distinctive sound and flashing light is provided <i>The emergency fire alarm system is up to date and provides adequate coverage for the facility.</i>	15	5

TOTAL - Building Safety and Security

200

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5.0 Educational Adequacy

School Facility Appraisal

Academic Learning Space		Points Allocated	Points
5.1	<p>Size of academic learning areas meets desirable standards</p> <p><i>Classroom sizes (avg 900 sq. ft) in the 1991 wing are sized more congruently with OSDM than classrooms in the original (700-800 sq. ft) building.</i></p>	25	19
5.2	<p>Classroom space permits arrangements for small group activity</p> <p><i>Classrooms in the 1991 wing are large enough to accommodate different furniture layouts.</i></p>	15	11
5.3	<p>Location of academic learning areas is near related educational activities and away from disruptive noise</p> <p><i>Disruptive elements were not observed in the vicinity of the classrooms.</i></p>	10	10
5.4	<p>Personal space in the classroom away from group instruction allows privacy time for individual students</p> <p><i>Classrooms in the original building aren't large enough to establish privacy for individuals or small groups of students.</i></p>	10	6
5.5	<p>Storage for student materials is adequate</p> <p><i>Students are provided lockers in the original building and cubbies in the 1991 addition.</i></p>	10	10
5.6	<p>Storage for teacher materials is adequate</p> <p><i>Teacher storage is more consistently provided in the 1991 wing than in the original building.</i></p>	10	6

Special Learning Space		Points Allocated	Points
5.7	<p>Size of special learning area(s) meets standards</p> <p><i>Large ample classrooms are provided for special education in the basement of the 1991 wing.</i></p>	15	15
5.8	<p>Design of specialized learning area(s) is compatible with instructional need</p> <p><i>The spaces are designed to meet instructional need.</i></p>	10	8
5.9	<p>Library/Resource/Media Center provides appropriate and attractive space</p> <p><i>The library is about 1,200 sq. ft., but the design does not engage with the users.</i></p>	10	6
5.10	<p>Gymnasium (or covered P.E. area) adequately serves physical education instruction</p> <p><i>A gymnasium is provided with 400 sq. ft. of storage.</i></p>	5	5
5.11	<p>ES Pre-kindergarten and kindergarten space is appropriate for age of students and nature of instruction</p> <p>MS/HS Science program is provided sufficient space and equipment</p> <p><i>The Pre-K/K spaces are just over 900 sq. ft. which is less than OSDM recommended 1200.</i></p>	10	10

5.12	Music Program is provided adequate sound treated space <i>The music room is less than 800 sq. ft. No dedicated storage is provided.</i>	5	2
5.13	Space for art is appropriate for special instruction, supplies, and equipment <i>The art room is almost 1,000 sq. ft. but students are sat at long banquet tables, the kiln room is remote and storage is inadequate.</i>	5	2

School Facility Appraisal

		Points Allocated	Points
5.14	Space for technology education permits use of state-of-the-art equipment <i>The computer room is compatible for current and future technology education.</i>	5	5
5.15	Space for small groups and remedial instruction is provided adjacent to classrooms <i>Small groups and individual student needs are tended to in the corridor as these spaces are not provided adequately.</i>	5	5
5.16	Storage for student and teacher material is adequate <i>Students are provided lockers and cubbies. Teacher storage areas are inconsistently provided.</i>	5	3

Support Space

		Points Allocated	Points
5.17	Teacher's lounge and work areas reflect teachers as professionals <i>The lounge and work areas are consistent with the professionalism of the educators.</i>	10	10
5.18	Cafeteria/Kitchen is attractive with sufficient space for seating/dining, delivery, storage, and food preparation <i>Cafeteria supports activities related to dining. Food is not prepared here.</i>	10	10
5.19	Administrative offices provided are consistent in appearance and function with the maturity of the students served <i>The design of administrative offices does not relate to the age of the students served.</i>	5	2
5.20	Counselor's office insures privacy and sufficient storage <i>The counselor's office is insufficiently sized for meeting and storage of files.</i>	5	2
5.21	Clinic is near administrative offices and is equipped to meet requirements <i>The clinic is adjacent to administrative offices.</i>	5	5
5.22	Suitable reception space is available for students, teachers, and visitors <i>Reception space is comingled with that of the administrative assistants.</i>	5	2
5.23	Administrative personnel are provided sufficient work space and privacy <i>The principal has an office which yields privacy and adequate storage space.</i>	5	5

TOTAL - Educational Adequacy

200

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6.0 Environment for Education

School Facility Appraisal

Exterior Environment	Points Allocated	Points
6.1 Overall design is aesthetically pleasing to age of students <i>The Renaissance pilaster framed entrance and Georgian style masonry design do not relate to this age group.</i>	15	3
6.2 Site and building are well landscaped <i>Green space is provided on the south and west sides of the building. Plantings and shade trees are provided.</i>	10	8
6.3 Exterior noise and poor environment do not disrupt learning <i>These types of disruption were not observed near the site.</i>	10	10
6.4 Entrances and walkways are sheltered from sun and inclement weather <i>Exterior shelter is not provided.</i>	10	0
6.5 Building materials provide attractive color and texture <i>The Renaissance stone pilaster framed entrance and Georgian style brick masonry design do not relate to this age group.</i>	5	3

Interior Environment	Points Allocated	Points
6.6 Color schemes, building materials, and decor provide an impetus to learning <i>The original building is mostly white with tan ceramic and brick wainscot. The 1991 addition has much more color light and design interest in the corridor and learning areas.</i>	20	14
6.7 Year around comfortable temperature and humidity are provided throughout the building <i>Building wide consistent temperature is difficult to achieve given the age and type of mechanical devices.</i>	15	5
6.8 Ventilating system provides adequate quiet circulation of clean air and meets 15cfm VBC requirement <i>The ventilation system is not adequate and does not provide the required ventilation.</i>	15	6
6.9 Lighting system provides proper intensity, diffusion, and distribution of illumination <i>The lighting system meets the illumination requirements for some of the spaces (approx 50%), but does not meet the requirements for all of the spaces. Applies to classrooms also.</i>	15	8
6.10 Drinking fountains and restroom facilities are conveniently located <i>Drinking fountains are located with appropriate location and frequency.</i>	15	15
6.11 Communication among students is enhanced by commons area(s) for socialization <i>The cafeteria serves as the commons for socialization.</i>	10	10

6.12	Traffic flow is aided by appropriate foyers and corridors <i>Foyers and corridors allow traffic to move efficiently and safely.</i>	10	10
6.13	Areas for students to interact are suitable to the age group <i>The cafeteria effectively serves this purpose.</i>	10	10
6.14	Large group areas are designed for effective management of students <i>The cafeteria and gymnasium both have multiple means of egress.</i>	10	10
6.15	Acoustical treatment of ceilings, walls, and floors provides effective sound control <i>Some classrooms have carpet. The original building has 12" acoustic tile and the 1991 addition has suspended acoustic tile. Other acoustic treatments were not observed outside of the music room.</i>	10	6
6.16	Window design contributes to a pleasant environment <i>The new windows support the traditional design approach of the building exterior and allow for high levels of natural light.</i>	10	10
6.17	Furniture and equipment provide a pleasing atmosphere <i>Maintenance personnel indicate that while the chairs typically hold, regular repairs do occur.</i>	10	8
TOTAL - Environment for Education		200	136

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LEED Observation Notes

School District:	Shaker Heights City SD
County:	Cuyahoga
School District IRN:	44750
Building:	Onaway Elem
Building IRN:	28647

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)

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)

Most of the fixtures are original construction and are not low flow fixtures. Replacement of the fixtures will meet this requirement. The use of non-potable water for toilet flushing would be possible, but costly in this existing building.

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)

There is some flat roof area where photovoltaic solar collector panels for possible on-site electrical generation. Replacement of the HVAC system would increase the efficiency, but ultimately use more energy when the outside air ventilation is increased to meet the code requirements.

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)

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)

The replacement of the HVAC system will increase the IEQ to meet the requirements.

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)

Justification for Allocation of Points

Building Name and Level: **Onaway Elem**

K-4

Building features that clearly exceed criteria:

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

Building features that are non-existent or very inadequate:

1. On-site provisions for student drop-off are minimal. Buses use the same circulation path as staff parking when dropping of students. Students arriving via vehicle are dropped off adjacent to the public right-of-way.
- 2.
- 3.
- 4.
- 5.
- 6.

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Environmental Hazards Assessment Cost Estimates

Owner:	Shaker Heights City SD
Facility:	Onaway Elem
Date of Initial Assessment:	Apr 30, 2014
Date of Assessment Update:	Jun 27, 2014
Cost Set:	2014

District IRN:	44750
Building IRN:	28647
Firm:	Hardlines Design Company

Scope remains unchanged after cost updates.

Building Addition	Addition Area (sf)	Total of Environmental Hazards Assessment Cost Estimates	
		Renovation	Demolition
1922 Original Building	39,017	\$0.00	\$0.00
1991 Addition	20,622	\$0.00	\$0.00
Total	59,639	\$0.00	\$0.00
Total with Regional Cost Factor (103.76%)	—	\$0.00	\$0.00
Regional Total with Soft Costs & Contingency	—	\$0.00	\$0.00

