

Will County School District 92 5-Year Plan and Facility Assessment

May 10, 2021





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2011 Assessment Report – List of Completed Items

Project No. 2020.115



2021 5-Year Plan and Facility Assessment

Executive Summary

In 2011, Will County School District 92 in conjunction with DLA Architects completed a 10 year long range plan and facility assessment. The purpose of this current assessment is to identify the items in that plan that were completed over the past 10 years, identify what was not completed and to develop a new 5-Year Plan for future needs and budget expenditures. The 2011 assessment apparently proved to be a valuable tool, since many of the items noted in it were completed. The intent is that this new updated assessment/plan will again be a stepping stone to address facility needs into the future.

In general, the school buildings are well kept, clean and well maintained. As stated, many of the items from the 2011 report have been completed. A summary of the major items completed at each school follows:

Walsh ES	Reed ES				
 Replaced casework in classrooms Windows replaced Doors to be replaced this summer Roof Replaced/skylights replaced Ceiling and lighting replacement Boilers replaced Gym air handler replaced Unit Ventilators in classrooms replaced Added air conditioning 	 Replaced casework in classrooms Windows replaced Doors replaced Gym floor replaced Roof Replaced/skylights replaced Ceiling and lighting replacement Boilers replaced Gym and Library air handlers replaced Unit Ventilators in classrooms replaced Added air conditioning New Fire Alarm system 				
Ludwig ES	Oak Prairie MS				
 Replaced casework in classrooms Windows replaced Doors replaced Roof Replaced/skylights replaced Ceiling and lighting replacement Boilers replaced Gym, offices air handler replaced Unit Ventilators in classrooms replaced Added air conditioning 	 Expanded parking and added 151st access drive Continual waterproofing of split-face concrete block. New mechanical system serving the Main Office. Added air conditioning to the Gym. 				

The full spreadsheet of items completed from the 2011 report is available at the end of this report.



Walsh Elementary School

Walsh Elementary School currently houses kindergarten and first grade students and student enrollment is approximately 400 students. The facility is approximately 47,000 square feet with 29 classrooms (including an Art Room, a Music Room and Library) and a Gymnasium / Lunchroom.

The original elementary school is a single-story structure that was built in 1966 with an addition that was built in 1975. The exterior wall construction is masonry (4" face brick with concrete block backup). The roof was recently replaced in 2017 with an SBS modified roof system over rigid insulation. Interior wall finishes mainly consist of painted concrete block walls and glazed block. The main corridors consist of terrazzo flooring and the classrooms have either vinyl asbestos tile or vinyl composition tile. The ceilings in the corridor are acoustical lay-in ceilings and the classrooms have an exposed tectum deck with exposed structure.



	Will County School District 92									
		5-Year Plan and Facil	ity Assessmen	t						
		Composite Summary of Site an	d Building Imp	rovements	i					
		Facility: Walsh Elementary School (Kindergarten a	nd First G	rade)					
Category	ltem No.	Item Description	Addition Remodeling Sitework	Rationale	Recomm Priority	Action Year	Cost (cost does not include fees and contingency)			
Interior	2021 W-01	Provide new site/parking lot lighting in conjuction with new or reconstruction parking lot. Lighting only.	Sitework				\$42,000			
Interior	2021 W-02	Remodel Kitchen (former locker room now being used as Kitchen)	Remodeling				\$60,000			
Exterior	2021 W-03	Provide new digital sign marquee	Sitework				\$32,000			
Exterior	2021 W-04	New Playground Equipment	Sitework				\$65,000			
Interior	W-01	Option A: Provide new more identifiable main entrance that includes better security. Office areas to be reconfigured to provide better function, security and flow.	Addition and Remodeling	-			\$1,200,000			
Exterior	W-08	Expand parking lot.	Sitework	O&M			\$110,000			
Exterior	W-09	Resurface existing parking lot and asphalt play areas.	Sitework	O&M			\$504,000			
Interior	W-10	Reconfigure toilet rooms to provide ADA stalls. At least one done	Remodeling	ADA			\$52,000			
Interior	W-11	Abatement of vinyl asbestos tile and mastic (includes asbestos inspection project fee)	Remodeling	O&M			\$182,400			
Interior	W-23	Provide fluid-applied athletic flooring in Gym in lieu of vct.	Remodeling	O&M			\$95,000			
Exterior	W-32	Improve bus drop-off area.	Sitework	O&M			Scope T.B.D.			
Interior	W-39	Refinish or replace bleachers.	Remodeling	O&M			\$65,000			
MEP	W-48	Remove existing furnace and condensing unit for main offices and install new packaged rooftop unit with 100% outdoor air economizer.	Remodeling	O&M			\$22,000			



WALSH ELEMENTARY SCHOOL - SECURED ENTRANCE DLA ARCHITECTS, LTD.

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WALSH ELEMENTARY SCHOOL- PAVEMENT DLA ARCHITECTS, LTD. 05/10/2021

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PRIORITY 2 ASPHALT PAVEMENT REPLACEMENT

PRIORITY 1 ASPHALT PAVEMENT REPLACEMENT

Walsh Elementary School – Parking Lot Photos













Will County School District 92

Walsh Elementary School

514 MacGregor Road Lockport, IL 60441

Mechanical and Electrical Systems Assessment

May 10, 2021



berg engineering consultants, ltd.

Berg Engineering Consultants, Ltd. visited the above facility in April 2021 to observe the general arrangement, operation, and past maintenance of the heating, ventilating, and air conditioning, electrical, plumbing, and fire protection systems. Listed below are our observations, comments, and suggestions. Our comments and suggestions are made with consideration to continued use as an educational facility and, offered in the interest of improving comfort and economy of operation and shall not be construed as a condemnation nor endorsement of the designs, designers or the operating personnel.

SYSTEM DESCRIPTIONS

- I. GENERAL:
 - A. The original school was built in 1966, with an addition in 1975.

II. MECHANICAL SYSTEMS:

- A. Natural Gas Service:
 - 1. The natural gas service entering the school above grade on the east side into Boiler room 40, is a 4" NPS. The gas meter array with service shut-off valve is located outside adjacent to Boiler room 40. There is a 1" NPS line connected downstream of the meter array that is routed to below grade we assume to an adjacent service building.
- B. Heating, Ventilating, and Air Conditioning Systems:
 - 1. Heating hot water / chilled water system:
 - a. Heating hot water / chilled water distribution is a 2-pipe system to the classroom unit ventilators, gymnasium air handling unit, cabinet and unit heaters, convectors, and finned tube radiation.
 - b. The central heating / cooling water plant includes two boilers, the chiller shell and tube remote evaporator, and three distribution pumps, located in Boiler room 40. The chiller air cooled condensing unit is located on the roof. Two distribution pumps are operated on a lead-lag basis for heating, and the third distribution pump is operated for cooling.
 - c. Boilers B-1 and B-2 installed in 2014 are Lochinvar model PBN2001, 85% efficiency, finned tube heat exchanger, induced draft burner, natural gas fired, hot water boilers with a capacity of 2,000 MBH input, 1,700 MBH output, and a pressure rating of 160 PSI.
 - d. Chiller C-1 installed in 2014 is a Daikin model AGZ160D, air cooled, scroll compressors, chiller with a capacity of 155.3 tons.
 - e. The two heating hot water distribution pumps P-2 and P-3 are B & G model 1510-2-1/2BB, base mount end suction separately coupled, each for 180 gpm and 66 ft head.
 - f. The chilled water distribution pump P-1 is a B & G model 1510-3BD, base mount end suction separately coupled, for 373 gpm and 66 ft head.
 - 2. Each classroom is heated, mechanically ventilated, and air conditioned using a classroom unit ventilator with heating hot water / chilled water coil. Four roof mounted corridor exhaust air fans operate for relief air when the unit ventilators are operating in occupied and economizer modes. The Daikin unit ventilators model UAVS/UAHF were installed in 2014.

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- Media Center 16 is heated, mechanically ventilated, and air conditioned using (2) classroom unit ventilators with heating hot water coil and remote roof mounted condensing unit. The condensing units are nominal 2-ton Carrier model no. 24ABC624A0030010 dated 2012.
- 4. Office 29 is heated, ventilated, and air conditioned using a furnace with cased cooling coil, and remote roof mounted condensing unit. The condensing unit is a nominal 2-1/2 ton York model no. H1DA0422906A. We could not determine the age of this unit but believe it is older than 10 years. It was not evident that a source of outdoor air for code ventilation is connected to the furnace fan system. The fan system does not have economizer operation for air conditioning using outdoor air.
- 5. Offices 1C, 1D, and 1E are each heated and air conditioned using an Amana packaged through wall air conditioner (PTAC). We will consider these PTAC units installed at time of the other major mechanical systems replacement in 2014.
- 6. The Gymnasium is heated, mechanically ventilated, air conditioned using an indoor constant volume, single zone, air handling unit with heating hot water / chilled water coil. Two roof mounted exhaust air fans operate in sequence for relief air when the air handler is operating in economizer mode. The Daikin model CAH025 air handling unit was installed in 2014.
- 7. The Computer room located in Classroom 1A is air conditioned using a ductless split system with indoor unit and remote roof mounted outdoor condensing unit. The Daikin ductless split system model FAQ24/RZR24PVJU was installed in 2014.
- 8. Toilet rooms are exhausted by roof mounted exhaust air fans.
- C. Temperature Controls:
 - 1. Temperature controls are microprocessor based direct digital temperature controls with web-based accessibility.

III. ELECTRICAL SYSTEMS:

- A. Electrical Service:
 - 1. The main electrical service is rated at 1,200 amps, 120/208 volt, three phase, four wire. The service switchboard was manufactured by Chicago Switchboard.
 - 2. A 1,200 amp distribution panel (DP) is located in the room adjacent to the boilers where power is then distributed to sub panels. There is cleaning and maintenance equipment stored in front of the panels and must be removed in order to provide the required clearances to service the panels.
 - 3. The main electrical service was upgraded from a 600 amp service to 1,200 amps in order to accommodate the air-conditioning improvements.
- B. Standby Power System:
 - 1. A 40kW Kohler generator and Automatic Transfer Switch (ATS) is installed to provide standby power to the building in the event of power outages.
 - 2. The fire alarm system is Siemens Desigo. The fire alarm system was upgraded in 2014 and appears to be expandable. BEC observed visual notification devices throughout the building to accommodate ADA requirements.
 - 3. A Keltron wireless transceiver is located at the Fire Alarm Control Panel.

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- C. Intercom and Clock:
 - 1. The intercom and clock head end equipment is a Dukane system by Carehawk. The system appears to be serviceable and in good condition.
- D. Lighting:
 - 1. The lighting fixtures in the school are fluorescent lighting and are controlled through local wall switches.

IV. PLUMBING SYSTEMS:

- A. General:
 - 1. The plumbing systems include domestic cold, hot, and hot water recirculation, sanitary waste and vent, storm water.
 - 2. The toilet room plumbing fixtures include wall mount water closets and wall mount urinals with manual flush valves, and wall hung multi-user lavatories with self-closing or sensor operated faucets. Electric water coolers located in the Corridors are single user, certain water coolers have a bottle filler.
- B. Domestic Cold Water:
 - 1. The domestic water service entering the school from below grade on the south side into Receiving 32 is a 4" NPS. The 3" NPS domestic water service to the school includes 3" water meter with remote reader and upstream service shut-off valve. There is no reduced pressure backflow preventer installed to the incoming domestic water service.
 - 2. Domestic water piping distribution is to overhead. Visible domestic water piping is copper.
- C. Domestic Hot Water:
 - 1. There are two hot water sources for the school:
 - a. The hot water source located in Janitor closet 56 serves Toilet rooms 54 and 56. There is no circulating pump at the heater location. The hot water source installed in 2006 is an electric storage tank type water heater GE model 38S06AAG, 4500 W, 240/208 V 1-phase, 38 gal.
 - b. The domestic hot water source for the remaining school located in Boiler room 40 includes a water heater and circulating pump. The water heater dated 2017 is a natural gas fired storage tank type water heater, State model SBD-70-120NE 118, 120 Mbh input, 116 gal/hr recovery, 71 gal., and a pressure rating of 160 PSI.
 - 2. Domestic water piping distribution is to overhead. Visible domestic water piping is copper.
- D. Sanitary Waste and Vent:
 - 1. Visible sanitary waste and vent piping is cast iron and copper, more recent installations are PVC.
- E. Storm Water:

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- 1. The roof drainage includes is both interior to the building, piped from the roof drains to below grade, and Gymnasium perimeter gutters with downspouts to below grade.
- 2. Visible storm water piping is cast iron.
- V. FIRE PROTECTION:
 - A. The school has one 2-1/2" sprinkler riser with control valve and flow switch for the under-stage storage fire sprinklers. The school has no other wet pipe fire sprinkler systems.

SYSTEM COMMENTS and RECOMMENDATIONS:

- VI. MECHANICAL SYSTEMS:
 - A. The heating, ventilating, and air conditioning systems appear to be in good condition and are being well maintained.
 - B. The boilers are 7 years old. These type boilers with regular maintenance, typical repairs, and proper closed hydronic system water treatment, would be expected to provide service for up to 20 years.
 - C. The air-cooled chiller is 7 years old. This commercial quality chiller with regular maintenance, typical repairs, and proper closed hydronic system water treatment, would be expected to provide service for up to 20 years.
 - D. The unit ventilators are 7 years old. These classroom unit ventilators having hydronic chilled / hot water coils, with regular maintenance, typical repairs, kept clean, with proper closed hydronic system water treatment, would be expected to provide service for up to 40 years.
 - E. The two roof mounted condensing units piped respectively to a unit ventilator for air conditioning of the Media Center are 9 years old. These condensing units have a useful service life of 10-15 years, but would typically be replaced upon failure of the compressor.
 - F. It was not evident that a source of outdoor air for code ventilation of Office 29 is connected to the furnace fan system. Consider further review and if needed installation of an outdoor air source to this system.
 - G. Consider replacement of the furnace with cased cooling coil and remote roof mounted condensing unit, serving Office 29 due to system age, to avoid unexpected failures, and better energy efficiency. Replace with like equipment or a packaged rooftop unit.
 - H. The Office 1C, 1D, and 1E PTAC units are 7 years old. These PTAC units have a useful service life of 10-15 years, but would typically be replaced upon failure of the compressor.
 - I. The Gymnasium indoor air handling unit is 7 years old. This unit having a hydronic chilled / hot water coil, with regular maintenance, typical repairs, and proper closed hydronic system water treatment, would be expected to provide service for up to 40 years.

VII. ELECTRICAL SYSTEMS:

A. The electrical service is 7 years old and appears to be in good condition. Further upgrading and/or removing existing older panels should be considered as electrical requirements shift. Proper maintenance clearances should be maintained around electrical panels.

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- B. The lighting system has fluorescent style lights. The fixtures appear to be in adequate condition. Consider upgrading to new LED lighting and upgrading controls to improve energy efficiency throughout the lighting system.
- C. The main switchboard should be grounded to the water main with bonding jumpers within 5' of the water service entering the building.

VIII. PLUMBING SYSTEMS:

- A. The plumbing fixtures, flush valves, and faucets appear to be in good condition.
- B. The water heater located in Boiler room 40 is 4 years old and depending on domestic water quality has a useful service life of 10-15 years.
- C. The circulating pump located in Boiler room 40 does not appear to have been replaced at the same time as the water heater. This type of circulator is readily available and could be replaced when it fails with no significant disruption of domestic hot water service.
- D. The electric water heater located in Janitor closet 56 serving Toilet rooms 54 and 56 is 15 years old. This type of water heater is readily available and could be replaced when it fails if loss of domestic hot water service can be tolerated during the time needed for replacement. Consider connecting these Toilet rooms to the central domestic hot water source.

IX. FIRE PROTECTION SYSTEMS:

A. It is understood that the fire sprinkler system serving the under stage storage fire sprinklers is tested at least once a year.



Reed Elementary School

Reed Elementary School currently houses second and third grade students and student enrollment is approximately 385 students. The facility is approximately 44,000 square feet with 22 classrooms (including an Art Room, a Music Room and Library) and a Gymnasium / Lunchroom.

The original elementary school is a single-story structure that was built in 1950 with additions in 1959 and 1975. The exterior wall construction is masonry (4" face brick with concrete block backup). The roof was recently replaced with an SBS modified roof system over rigid insulation. Interior wall finishes mainly consist of painted concrete block walls and glazed block. The main corridors consist of terrazzo flooring and the classrooms have either vinyl asbestos tile or vinyl composition tile. The ceilings in the corridor are acoustical lay-in ceilings and the classrooms have an exposed tectum deck with exposed structure.



	Will County School District 92										
		5-Year Plan and Facil	ity Assessmen	nt							
	Composite Summary of Site and Building Improvements										
		Facility: Reed Elementary Schoo	(Second and	Third Grac	le)		-				
Category	ltem No.	Item Description	Addition Remodeling Sitework	Rationale	Recomm Priority	Action Year	Cost (cost does not include fees and contingency)				
Exterior	2021 R-01	Provide a new covered canopy and student bus drop-off entrance addition for bus line-up at bus lane	Addition				\$200,000				
Exterior	2021 R-02	Provide new digital sign marquee	Sitework				\$32,000				
Exterior	2021 R-03	Parking Lot Reconstruction with new bus lane on west side and parent drop-off on east side. (Needs to be coordinated with future 143rd Street widening)	Sitework				\$347,000				
Exterior	2021 R-04	New Playground Equipment	Sitework				\$65,000				
MEP	2021- 05	Provide fresh air make-up for boiler room.	Remodeling				\$14,000				
Exterior	R-01	Provide new more identifiable main entrance that includes better security and new main office.	Addition and Remodeling				\$1,200,000				
Interior	R-18	Reconfigure toilet rooms to provide ADA stalls. At least one done	Remodeling	ADA			\$52,000				
Exterior	R-28	Improve bus drop-off area.	Sitework	O&M			Scope T.B.D.				
Civil	R-44	Expand existing septic system to accommodate 200 students.	Sitework	O&M			\$145,000				



REED SCHOOL- SECURED ENTRANCE



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PRIORITY 1 ASPHALT PAVEMENT REPLACEMENT

PRIORITY 2 ASPHALT PAVEMENT REPLACEMENT

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Reed Elementary School – Parking Lot Photos













Will County School District 92

Reed Elementary School

14939 W 143rd Street Homer Glen, IL 60491

Mechanical and Electrical Systems Assessment

May 10, 2021



berg engineering consultants, ltd.

Berg Engineering Consultants, Ltd. visited the above facility in April 2021 to observe the general arrangement, operation, and past maintenance of the heating, ventilating, and air conditioning, electrical, plumbing, and fire protection systems. Listed below are our observations, comments, and suggestions. Our comments and suggestions are made with consideration to continued use as an educational facility and, offered in the interest of improving comfort and economy of operation and shall not be construed as a condemnation nor endorsement of the designs, designers or the operating personnel.

SYSTEM DESCRIPTIONS

I. GENERAL:

- A. The original school was built in 1950. There was an addition to the school in 1959, and two other additions date unknown.
- II. MECHANICAL SYSTEMS:
 - A. Natural Gas Service:
 - 1. The incoming natural gas service, routed to the roof on the north side of the school is a 3" NPS. The gas meter array with service shut-off valve is located outside adjacent to Classroom 5.
 - B. Heating, Ventilating, and Air Conditioning Systems:
 - 1. Heating hot water / chilled water system:
 - a. Heating hot water / chilled water distribution is a 2-pipe system to the classroom unit ventilators, gymnasium air handling unit, cabinet and unit heaters, convectors, and finned tube radiation.
 - b. The central heating / cooling water plant includes two boilers each with a dedicated pump, the chiller brazed plate remote evaporator with a dedicated pump, and three distribution pumps, located in Boiler room 15. The chiller air cooled condensing unit is located on the roof. Two distribution pumps are operated on a lead-lag basis for heating, and the third distribution pump is operated for cooling.
 - c. Boilers B-1 and B-2 installed in 2015 are Lochinvar model PBN1701, 85% efficiency, finned tube heat exchanger, induced draft burner, natural gas fired, hot water boilers with a capacity of 1,700 MBH input, 1,445 output, and a pressure rating of 160 PSI.
 - d. Chiller C-1 condensing unit and remote evaporator installed in 2015 is a Daikin model AGZ130D, air cooled, scroll compressors, with a capacity of 126.5 tons.
 - e. Each boiler dedicated heating hot water pump P-1 and P-2 is a B & G series 80, in-line vertical close coupled, each for 80 gpm and 30 ft head.
 - f. The chiller evaporator dedicated heating hot water pump P-3 is a B & G series 80, in-line vertical close coupled, for 320 gpm and 30 ft head.
 - g. The two heating hot water distribution pumps P-5 and P-6 are B & G model 1510-2BD, base mount end suction separately coupled, each for 160 gpm and 50 ft head.
 - h. The chilled water distribution pump P-4 is a B & G model 1510-3B, base mount end suction separately coupled pump, for 320 gpm and 50 ft head.
 - 2. Each classroom is heated, mechanically ventilated, and air conditioned using a classroom unit ventilator with heating hot water / chilled water coil. Roof

mounted corridor exhaust air fans operate for relief air when the unit ventilators are operating in occupied and economizer modes. The Daikin unit ventilators model UAVS were installed in 2015.

- 3. The west Office suite rooms 14 and 15 are heated, ventilated and air conditioned using a fan-coil units with heating hot water / chilled water coil.
- 4. The computer room 12 is air conditioned using a ductless split system with indoor unit and remote outdoor condensing unit located in Boiler room 15. The Daikin ductless split system model FAQ24/RZR224 was installed in 2015.
- 5. Classroom 10 and Library room 13 are each heated, ventilated and air conditioned using a constant air volume, single zone, packaged electric cool/gas heat rooftop unit, nominal 6 tons cooling capacity, 135 mbh input / 109.4 mbh output heating capacity. The Daikin model MPS005B packaged rooftop units were installed in 2015.
- 6. The northeast Office suite rooms 1 and 6 are heated, ventilated and air conditioned using a variable air volume, packaged electric cool/gas heat rooftop unit, nominal 10 tons cooling capacity, 200 mbh input / 160 mbh output heating capacity. Terminal units are Nailor fan powered with hot water heating coils. The Daikin model DPS010A packaged rooftop unit was installed in 2015.
- 7. Teachers Lounge 30 is heated, ventilated, and air conditioned using a Goodman model PC030 constant air volume, single zone, packaged electric cool/electric heat rooftop unit, nominal 3 tons cooling capacity. We think this unit was installed in1997.
- 8. The Gymnasium is heated, mechanically ventilated, air conditioned using an indoor constant volume, single zone, air handling unit with heating hot water / chilled water coil. There are exhaust fans in the walls of the Gymnasium for additional ventilation. The Daikin model CAH021 air handling unit was installed in 2015.
- 9. Toilet rooms are exhausted by roof mounted exhaust air fans.
- C. Temperature Controls:
 - 1. Temperature controls are microprocessor based direct digital temperature controls with web-based accessibility.

III. ELECTRICAL SYSTEMS:

- A. Electrical Service:
 - 1. The main electrical service is rated at 1,200 amps, 120/208 volt, three phase, four wire. The service switchboard was manufactured by Chicago Switchboard. The main distribution section is served by circuit breaker type feeder protection devices.
 - 2. Maintenance equipment and supplies were stored in front of the panels and must be removed to provide required clearances for the panels.
 - 3. The main electrical service was upgraded from a 600 amp service to 1,200 amps in order to accommodate the air-conditioning improvements.
 - 4. The main switchboard is not grounded to the water main within 5' of the water main entering the building.
- B. Standby Power System:
 - 1. A 40kW Kohler generator and Automatic Transfer Switch (ATS) is installed to provide standby power to the building in the event of power outages.
- C. Fire Alarm:

- 1. The fire alarm system was upgraded to a Siemens Desigo system in 2014. The new system appears to be expandable. BEC observed visual notification devices throughout the building to accommodate ADA requirements.
- 2. A Keltron wireless transceiver is located at the Fire Alarm Control Panel.
- D. Intercom and Clock:
 - 1. The intercom and clock head end equipment is a Dukane system by Carehawk. The system appears to be serviceable and in good condition.
- E. Lighting:
 - 1. The lighting fixtures in the school are LED with wall switch controls.
- IV. PLUMBING SYSTEMS:
 - A. General:
 - 1. The plumbing systems include domestic cold, hot, and hot water recirculation, sanitary waste and vent, interior storm water.
 - 2. The toilet room plumbing fixtures include wall and floor mount water closets with manual flush valves, and wall hung multi-user lavatories with self-closing or sensor operated faucets. Electric water coolers located in the Corridors are single user, certain water coolers have a bottle filler.
 - 3. There are (4) waterless urinals in boys Toilet room 16A.
 - B. Domestic Cold Water:
 - 1. The school is supplied domestic water from two private wells located on the property. The pumping system is Metropolitan Industries, Inc. The two domestic water storage tanks are Amtrol WellXTrol size WX452C, 125 psi working pressure, dated 2015.
 - 2. The incoming 3" private domestic water service enters the school from the east side of the school into room 27. The 3" domestic water service includes service shut-off valves, and water meter. There is no reduced pressure backflow preventer installed to the incoming domestic water service.
 - 3. Domestic water piping distribution is to overhead. Visible domestic water piping is copper.
 - C. Domestic Hot Water:
 - The domestic hot water source for the school located in Boiler room 15 includes a water heater and circulating pump. The water heater dated 2013 is a natural gas fired storage tank type water heater, State model SBD81154NE 154,000 Mbh input, 149.33 gal/hr recovery, 81 gal., and a pressure rating of 160 PSI.
 - 2. Domestic water piping distribution is to overhead. Visible domestic water piping is copper.
 - D. Sanitary Waste and Vent:

- 1. Sanitary sewage is discharged to a septic system located on the property. This system includes sewage pumps and holding tanks as the septic field is located uphill from the school.
- 2. Visible sanitary waste and vent piping is cast iron and copper, more recent installations are PVC.
- E. Storm Water:
 - 1. The roof drainage includes is both interior to the building, piped from the roof drains to below grade, and perimeter gutters or scuppers with downspouts to below grade.
 - 2. Visible storm water piping is cast iron.

V. FIRE PROTECTION:

- A. The School has no wet pipe fire sprinkler system.
- B. A wall hydrant for fire department connection was found on the east side of the school adjacent to Door 9. The FDC is piped into the Kitchen storage room and to below grade at the wall. The piping is copper. As it is our understanding that there are no fire sprinkler systems in this school it is not understood as to the purpose of this wall hydrant.

SYSTEM COMMENTS and RECOMMENDATIONS:

- VI. MECHANICAL SYSTEMS:
 - A. The heating, ventilating, and air conditioning systems appear to be in good condition and are being well maintained.
 - B. The boilers are 6 years old. These type boilers with regular maintenance, typical repairs, and proper closed hydronic system water treatment, would be expected to provide service for up to 20 years.
 - C. The air-cooled chiller is 6 years old. This commercial quality chiller with regular maintenance, typical repairs, and proper closed hydronic system water treatment, would be expected to provide service for up to 20 years.
 - D. The unit ventilators are 6 years old. These classroom unit ventilators having hydronic chilled / hot water coils, with regular maintenance, typical repairs, kept clean, with proper closed hydronic system water treatment, would be expected to provide service for up to 40 years.
 - E. The Classroom 10, Library room 13, and northeast Office suite rooms 1 and 6 packaged rooftop units are 6 years old. This quality rooftop unit has a useful service life of 10-15 years.
 - F. Consider replacement of the packaged rooftop unit serving the Teachers Lounge due to age, to avoid unexpected failures, and better energy efficiency.
 - G. The Gymnasium indoor air handling unit is 6 years old. This unit having a hydronic chilled / hot water coil, with regular maintenance, typical repairs, and proper chilled / hot water system water treatment, would be expected to provide service for up to 40 years.

VII. ELECTRICAL SYSTEMS:

A. The electrical service is 7 years old and appears to be in good condition. Proper maintenance and service will help reach the full life expectancy of the new equipment. Proper maintenance clearances should be maintained around electrical panels.

B. The lighting system consisting of LEDs is considered to be an energy efficient method for providing light in buildings. Consider providing additional controls to control lighting based on room occupancy in addition to being controlled through switches.

VIII. PLUMBING SYSTEMS:

- A. The plumbing fixtures, flush valves, and faucets appear to be in good condition.
- B. The water heater is 8 years old and depending on domestic water quality has a useful service life of 10-15 years.
- C. The circulating pump does not appear to have been replaced at the same time as the water heater. This type of circulator is readily available and could be replaced when it fails with no significant disruption of domestic hot water service.
- D. The waterless urinals are not allowed currently by the Illinois Plumbing Code, although they are acceptable outside the state. These waterless urinals should be wiped down daily and the "oil" trap changed regularly in order to keep them sanitary and odor free. The State may require replacement of the urinals upon future plumbing inspection.
- E. It is not understood as to the purpose of the wall hydrant for fire department connection found on the east side of the school. Further investigation is required to determine if it is a connection point for backup water service of the private well system.
- IX. FIRE PROTECTION SYSTEMS:
 - A. It is not understood as to the purpose of the wall hydrant for fire department connection found on the east side of the school. Further investigation is required to determine if it is a connection point for backup water service of the private well system.



Ludwig Elementary School

Ludwig Elementary School currently houses fourth and fifth grade students and student enrollment is approximately 400 students. The facility is approximately 59,000 square feet with 25 classrooms (including an Art Room, Music Room, Band Room, Science Lab and Library) and two Gymnasiums.

The original elementary school is a single-story structure that was built in 1949 with additions that were built sometime between 1949-1954, 1954, and 1975. The exterior wall construction is masonry (4" face brick with concrete block backup). The roof was recently replaced with an SBS modified roof system over rigid insulation. Interior wall finishes mainly consist of painted concrete block walls and glazed block. The main corridors consist of terrazzo flooring and vinyl composition tile and the classrooms have vinyl asbestos tile, vinyl composition tile, or sealed concrete. The ceilings in the corridor are acoustical lay-in ceilings and the classrooms have either acoustical lay-in ceilings or have an exposed wood structure.



		Will County Schoo	District 92						
		5-Year Plan and Facil	itv Assessmer	nt					
		Composite Summary of Site an	d Building Imr	provements	5				
Facility: Ludwig Elementary School (Fourth and Fifth Grade)									
Category	ltem No.	Item Description	Addition Remodeling Sitework	Rationale	Recomm Priority	Action Year	Cost (cost does not include fees and contingency)		
Interior	2021 L-01	Nurses Office Remodeling (in conjuction with new main entrance and Main Office)	Remodeling				Included below Item L-01		
Interior	2021 L-02	Need a dedicated Band Room	Remodeling				\$30,000		
Interior	2021 L-03	New Science/STEM LAB	Remodeling				\$30,000		
Exterior	2021 L-04	Provide new digital sign marquee	Sitework				\$32,000		
		Describe manager identifies by an eine setting of the trip describe							
Exterior	L-01	better security.	Addition	-			\$1,400,000		
Interior	L-02	Reconfigure Main Office spaces to provide for better security and visual control of main entrance.	Remodeling	-			Included above Item L-01		
Interior	L-12	Abatement of vinyl asbestos tile and mastic (includes asbestos inspection project fee). very little left	Remodeling	O&M			\$19,200		
Interior	L-17	Reconfigure toilet rooms to provide ADA stalls. At least one done	Remodeling	ADA			\$52,000		
Exterior	L-18	Parking Lot Re-construction.	Sitework	O&M			\$605,000		
Interior	L-20	Provide fluid-applied athletic flooring in small Gym in lieu of vct.	Remodeling	O&M			\$95,000		
MEP	L-46	Remove existing galvanized domestic water piping and replace with new copper water piping.	Remodeling				\$180,000		



LUDWIG SCHOOL- SECURED ENTRANCE DLA ARCHITECTS, LTD.

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PRIORITY 1 ASPHALT PAVEMENT REPLACEMENT

PRIORITY 2 ASPHALT PAVEMENT REPLACEMENT







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Ludwig Elementary School – Parking Lot Photos













Will County School District 92

Ludwig Elementary School

710 N State Street Lockport, IL 60441

Mechanical and Electrical Systems Assessment

May 10, 2021



berg engineering consultants, ltd.

Berg Engineering Consultants, Ltd. visited the above facility in April 2021 to observe the general arrangement, operation, and past maintenance of the heating, ventilating, and air conditioning, electrical, plumbing, and fire protection systems. Listed below are our observations, comments, and suggestions. Our comments and suggestions are made with consideration to continued use as an educational facility and, offered in the interest of improving comfort and economy of operation and shall not be construed as a condemnation nor endorsement of the designs, designers or the operating personnel.

SYSTEM DESCRIPTIONS

I. GENERAL:

- A. The original school was built in 1949. There was an addition to the school in 1954, and another addition after 1954 but before 1960, and in 1975.
- II. MECHANICAL SYSTEMS:
 - A. Natural Gas Service:
 - 1. The natural gas service entering the school from above grade to below grade outdoors then into the basement Boiler room, is a 4" NPS. The gas meter array with service shut-off valve is located outside of the Corridor on the south side of the Gymnasium.
 - B. Heating, Ventilating, and Air Conditioning Systems:
 - 1. Heating hot water / chilled water system:
 - a. Heating hot water / chilled water distribution is a 2-pipe system to the classroom unit ventilators, gymnasium air handling unit, cabinet and unit heaters, convectors, and finned tube radiation.
 - b. The central heating / cooling water plant includes two boilers each with a dedicated pump, the chiller brazed plate remote evaporator with a dedicated pump, and three distribution pumps, located in the basement Boiler room. The chiller air cooled condensing unit is located on the roof. Two distribution pumps are operated on a lead-lag basis for heating, and the third distribution pump is operated for cooling.
 - c. Boilers B-1 and B-2 installed in 2016 are Lochinvar model PBN1701, 85% efficiency, finned tube heat exchanger, induced draft burner, natural gas fired, hot water boilers with a capacity of 1,700 MBH input, 1,445 MBH output, and a pressure rating of 160 PSI.
 - d. Chiller C-1 condensing unit and remote evaporator installed in 2016 is a Daikin model AG2130D, air cooled, scroll compressors, with a capacity of 126.5 tons.
 - e. Each boiler dedicated heating hot water pump P-1 and P-2 is a B & G series 80-2AB, in-line vertical close coupled, each for 85 gpm and 30 ft head.
 - f. The chiller evaporator dedicated chilled water pump P-3 is a B & G series 80 4x4x9.5B, in-line vertical close coupled, for 305 gpm and 30 ft head.
 - g. The two heating hot water distribution pumps P-5 and P-6 are B & G model 1510-2BD, base mount end suction separately coupled, each for 170 gpm and 60 ft head.
 - h. The chilled water distribution pump P-4 is a B & G model 1510-2.5BB, base mount end suction separately coupled pump, for 305 gpm and 60 ft head.

- 2. Each classroom is heated, mechanically ventilated, and air conditioned using a classroom unit ventilator with heating hot water / chilled water coil. Roof mounted corridor exhaust air fans operate for relief air when the unit ventilators are operating in occupied and economizer modes. The Daikin unit ventilators model UAVS were installed in 2016.
- 3. Science room 27 is heated, ventilated, and air conditioned using a constant air volume, single zone, packaged electric cool/gas heat rooftop unit, nominal 4 tons cooling capacity, 135 mbh input / 109.35 mbh output heating capacity. The Daikin model MPS004C packaged rooftop unit was installed in 2016.
- 4. Band room 28 is heated, ventilated, and air conditioned using a constant air volume, single zone, packaged electric cool/gas heat rooftop unit, nominal 4 tons cooling capacity, 135 mbh input / 109.35 mbh output heating capacity. The Daikin model MPS004C packaged rooftop unit was installed in 2016.
- 5. Library room 30 is heated, ventilated, and air conditioned using a constant air volume, single zone, packaged electric cool/gas heat rooftop unit, nominal 5 tons cooling capacity, 135 mbh input / 109.4 mbh output heating capacity. The Daikin model MPS005C packaged rooftop unit was installed in 2016.
- 6. The Office suite is heated, ventilated and air conditioned using a variable air volume, packaged electric cool/gas heat rooftop unit, nominal 12 tons cooling capacity, 60/300 mbh input heating capacity. The Daikin model DPS012A packaged rooftop unit was installed in 2016. Terminal units are Nailor series fan powered and single duct terminal units with hot water heating coils.
- 7. The small Gymnasium is heated, ventilated, and air conditioned using a constant air volume, single zone, packaged electric cool/gas heat rooftop unit, nominal 10 tons cooling capacity, 225 mbh input / 182.25-112.5 mbh output heating capacity. The Daikin model MPSH10B packaged rooftop unit was installed in 2016.
- 8. The Gymnasium is heated, mechanically ventilated, air conditioned using an indoor constant volume, single zone, air handling unit with heating hot water / chilled water coil. The Daikin model CAH017GDGC CAH021 air handling unit was installed in 2016.
- 9. The IT room is air conditioned using a ductless split system with indoor unit and remote roof mounted outdoor condensing unit. The Daikin ductless split system outdoor condensing unit model no. is RXS30LVJV.
- 10. Toilet rooms are exhausted by roof mounted exhaust air fans.
- C. Temperature Controls:
 - 1. Temperature controls are microprocessor based direct digital temperature controls with web-based accessibility.

I. ELECTRICAL SYSTEMS:

- A. Electrical Service:
 - 1. The main electrical service is rated at 1,600 amperes, 120/208 volt, three phase, four wire and the service switch was manufactured by Boltswitch. The main distribution section was manufactured by Chicago Switchboard and consists of circuit breaker type feeder protective devices.
 - 2. The branch panels located throughout the school were also upgraded recently. These panels appear to be in good condition. There are some locations where cleaning supplies are stored in front of electrical panels, interfering with the clearance requirements for maintenance.

- 3. The main switch and main distribution panel were upgraded in 2014 to accommodate the air-conditioning improvements. The equipment appears to be in good condition.
- B. Standby Power System:
 - 1. A 40kW Kohler generator and Automatic Transfer Switch (ATS) is installed to provide standby power to the building in the event of power outages.
- C. Fire Alarm:
 - 1. The fire alarm system is Siemens Desigo. The fire alarm system was upgraded in 2014 and appears to be expandable. BEC observed visual notification devices throughout the building to accommodate ADA requirements.
 - 2. A Keltron wireless transceiver is located at the Fire Alarm Control Panel.
- D. Intercom and Clock:
 - 1. The intercom and clock head end equipment is a Dukane system by Carehawk. The system appears to be serviceable and in good condition.
- E. Lighting:
 - 1. The lighting fixtures in the school are LED.
- II. PLUMBING SYSTEMS:
 - A. General:
 - 1. The plumbing systems include domestic cold, hot, and hot water recirculation, sanitary waste and vent, storm water.
 - 2. The toilet room plumbing fixtures include floor mount water closets and wall mount urinals with manual flush valves, and wall hung multi-user lavatories with self-closing or sensor operated faucets. Electric water coolers located in the Corridors are single user, certain water coolers have a bottle filler.
 - B. Domestic Cold Water:
 - 1. The domestic water service entering the school from below grade outdoors into the basement Boiler room is a 4" NPS. The 2" NPS domestic water service to the school includes 2" water meter with remote reader and downstream service shut-off valve. There is no reduced pressure backflow preventer installed to the incoming domestic water service.
 - 2. Domestic water piping distribution is to overhead. Visible domestic water piping is galvanized steel and copper.
 - C. Domestic Hot Water:
 - 1. The domestic hot water source for the school located in the basement Boiler room includes a water heater and circulating pump. The water heater dated 2015 is a natural gas fired storage tank type water heater, State model SBD81199NE 118,199 Mbh input, 192.97 gal/hr recovery, 81 gal., and a pressure rating of 160 PSI.

- 2. Domestic water piping distribution is to overhead. Visible domestic water piping is galvanized steel and copper.
- D. Sanitary Waste and Vent:
 - 1. Visible sanitary waste and vent piping is cast iron and copper, more recent installations are PVC.
- E. Storm Water:
 - 1. The roof drainage includes is both interior to the building, piped from the roof drains to below grade, and perimeter gutters or scuppers with downspouts to below grade.
 - 2. Visible storm water piping is cast iron.

III. FIRE PROTECTION:

A. The School has no wet pipe fire sprinkler system.

SYSTEM COMMENTS and RECOMMENDATIONS:

- IV. MECHANICAL SYSTEMS:
 - A. The heating, ventilating, and air conditioning systems appear to be in good condition and are being well maintained.
 - B. The boilers are 5 years old. These type boilers with regular maintenance, typical repairs, and proper closed hydronic system water treatment, would be expected to provide service for up to 20 years.
 - C. The air-cooled chiller is 5 years old. This commercial quality chiller with regular maintenance, typical repairs, and proper closed hydronic system water treatment, would be expected to provide service for up to 20 years.
 - D. The unit ventilators are 5 years old. These classroom unit ventilators having hydronic chilled / hot water coils, with regular maintenance, typical repairs, kept clean, with proper closed hydronic system water treatment, would be expected to provide service for up to 40 years.
 - E. The packaged rooftop units are 5 years old. This quality rooftop unit has a useful service life of 10-15 years.
 - F. The Gymnasium indoor air handling unit is 5 years old. This unit having a hydronic chilled / hot water coil, with regular maintenance, typical repairs, and proper closed hydronic system water treatment, would be expected to provide service for up to 40 years.

V. ELECTRICAL SYSTEMS:

- A. The electrical service is 7 years old and appears to be in good condition. Proper maintenance and service will help reach the full life expectancy of the new equipment. Proper maintenance clearances should be maintained around electrical panels.
- B. The lighting system consisting of LEDs is considered to be an energy efficient method for providing light in buildings. Consider providing additional controls to control lighting based on room occupancy in addition to being controlled through switches.

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VI. PLUMBING SYSTEMS:

- A. The plumbing fixtures, flush valves, and faucets appear to be in good condition.
- B. The water heater is 5 years old and depending on domestic water quality has a useful service life of 10-15 years.
- C. The circulating pump does not appear to have been replaced at the same time as the water heater. This type of circulator is readily available and could be replaced when it fails with no significant disruption of domestic hot water service.
- D. The existing galvanized domestic cold and hot water piping is from the original building and addition installations. Pipe leaks and unexpected failures are likely with continued use. Consider replacement of the existing galvanized domestic water piping with new copper water piping.

VII. FIRE PROTECTION SYSTEMS:

A. No comments.



Oak Prairie Junior High School

Oak Prairie Junior High School currently houses sixth, seventh and eighth grade students and student enrollment is approximately 650 students. The facility is approximately 95,000 square feet with 37 classrooms (including an Art Room, Band Room, Choir Room and a Library Media Center), a Gymnasium and a Lunchroom.

The two-story structure was built in 2002. The exterior wall construction is masonry (4" architectural block with concrete block backup) The roof construction is a ballasted builtup roof and a standing seam metal roof, original to the 2002 construction. Interior wall finishes mainly consist of architectural concrete block walls, painted concrete block and gypsum board. The main corridors consist of vinyl composition tile flooring and the classrooms and offices have either vinyl composition tile or carpet. The structure is exposed on the main level corridor, the ceilings in the lower level corridor are acoustical lay-in ceilings and the classrooms have either acoustical lay-in ceilings or have exposed structure.



		Will County Schoo 5-Year Plan and Facil	ol District 92 ity Assessmen	it			
		Composite Summary of Site an Facility: Oak Prairie Junior High School	d Building Imp (Sixth, Seventh	provements n, and Eigh	; th Grade)		
Category	ltem No.	Item Description	Addition Remodeling Sitework	Rationale	Recomm Priority	Action Year	Cost (cost does not include fees and contingency)
Interior	2021 OP-01	Add 3M Safety Film at Main Entrance(s)	Remodeling				\$12,000
Interior	2021 OP-02	Replace flooring in some of the large volume spaces (Cafeteria).	Remodeling				\$28,000
Interior	2021 OP-03	Band Storage Room too small	Remodeling				
Interior	2021 OP-04	Replace single door into Choral Room with a double door.	Remodeling				\$3,500
Interior	2021 OP-05	Re-configure doors at bottom of stairs at the end of the three wings. Investigate solution to handrail/split-face block knuckle scrapping.	Remodeling				\$27,000
Exterior	2021 OP-06	Add a canopy over the North exit door to alleviate the water issue.	Remodeling				\$14,000
Exterior	2021 OP-07	The building is approaching 20 years old. SEBS roofs typically last 20-25 years. Monitor roof areas for replacement.		O&M			\$1,100,000
MEP	2021 OP-08	Replace share Band/Choral mechanical unit with two separate units for better control.		O&M			\$160,000
MEP	2021 OP-09	Replace 20 year old Kitchen make-up air unit.		O&M			\$80,000
MEP	2021 OP-10	Replace 20 year old Locker Room air handler/make-up air packaged unit.		O&M			\$80,000
MEP	2021 OP-11	Need additional lighting in some of the corridor areas		O&M			\$36,000
MEP	2021 OP-12	Upgrade fire alarm head-end - upgrade existing Edwards EST2 to IO1000 or EST4.		O&M			TBD
Interior	OP-04	Provide an addition for a stage and storage in existing Gymnasium - based on 2200 SF	Addition	-			\$560,000
Exterior	OP-09	Remove abandoned lights at underside of canopy and patch existing soffit. District added metal halide lamps.	-	O&M			\$5,000

Will County School District 92

Oak Prairie Jr. High School

15161 S. Gougar Road Homer Glen, IL 60491

Mechanical and Electrical Systems Assessment

May 10, 2021



berg engineering consultants, ltd.

Berg Engineering Consultants, Ltd. visited the above facility on, May 5, 2021 to observe the general arrangement, operation, and past maintenance of the heating, ventilating, and air conditioning, electrical, plumbing, and fire protection systems. Listed below are our observations, comments, and suggestions. Our comments and suggestions are made with consideration to continued use as an educational facility and, offered in the interest of improving comfort and economy of operation and shall not be construed as a condemnation nor endorsement of the designs, designers or the operating personnel.

SYSTEM DESCRIPTIONS

- I. GENERAL:
 - A. The original school was built in 2001.

II. MECHANICAL SYSTEMS:

- A. Natural Gas Service:
 - 1. The natural gas service entering the school on the northwest side into Mechanical room 32, is a 4" NPS. The gas meter array with service shut-off valve is located outside adjacent to the northwest stair.
- B. Heating, Ventilating, and Air Conditioning Systems:
 - 1. Heating hot and chilled water distribution is a 4-pipe system to the classroom fan-coil units, cabinet and unit heaters, and finned tube radiation.
 - a. Heating hot water system:
 - The central heating hot water plant includes two boilers, three boiler circulating pumps, and two distribution pumps, located in Mechanical room 32. The boilers and distribution pumps operate lead-lag, if needed based on demand both boilers and pumps are operated.
 - Boilers B-1 and B-2 installed in 2016 are Lochinvar model PBN1501, 85% efficiency, finned tube heat exchanger, induced draft burner, natural gas fired, hot water boilers with a capacity of 1,500 MBH input, 1,275 MBH output, and a pressure rating of 160 PSI.
 - 3) The one boiler circulating pump is a B & G model 1510-3ACES (230 gpm, nameplate head not legible), and two boiler circulating pumps are B & G model 1510-2.5ACES, 90 gpm and 40 ft head. All three pumps are base mount end suction separately coupled, each for.
 - 4) The two heating hot water distribution pumps are B & G model 1510-3E, base mount end suction separately coupled, each for 400 gpm and 90 ft head.
 - b. Chilled water system:
 - 1) The central heating chilled water plant includes the chiller shell and tube remote evaporator, two chiller circulating pumps, and two distribution pumps, located in Mechanical room 32. The chiller air cooled condensing unit is located on the roof. The chiller circulating and distribution pumps operate lead-lag with one pump standby.

- 2) Chiller C-1 condensing unit and remote evaporator installed in 2016 is a Carrier model 30RBF2256-HH-73, air cooled, scroll compressors, with a capacity of 207 tons.
- 3) The two chiller circulating pumps are B & G model 1510-3AD, base mount end suction separately coupled, each for 450 gpm and 30 ft head.
- 4) The two chilled water distribution pumps are B & G model 1510-4E, base mount end suction separately coupled, each for 450 gpm and 100 ft head.
- 2. Each classroom is heated and air conditioned using a fan-coil unit with heating hot water and chilled water coils. The fan-coils were installed in 2001. The fan-coil temperature controls were replaced in 2016
- 3. The classrooms are ventilated using (3) outdoor roof mounted variable air volume, single zone, energy recovery air handling units with total enthalpy fixed plate heat exchanger, heating hot water and chilled water coils. Air volume is modulated to maintain return air CO2 level of 700 ppm above outdoor CO2 level. The Air Flow Equipment air handling units were installed in 2017, ERU-1 is 6,000 cfm, ERU-2 is 7,500 cfm, and ERU-3 is 7,800 cfm.
- 4. The Offices are heated, mechanically ventilated, air conditioned using a variable air volume, single zone, packaged electric cool/gas heat rooftop unit, nominal 15 tons cooling capacity, 40/200 mbh input / 480 mbh output heating capacity. The Daikin model DPS015AHMG4DW-6 was installed about 2016.
- 5. The Cafeteria is heated, mechanically ventilated, air conditioned using a constant air volume, single zone, packaged electric cool/gas heat rooftop unit, nominal 15 tons cooling capacity, furnace-1 400 mbh input / 141 mbh output heating capacity, furnace-2 400 mbh input / 245 mbh output heating capacity. The Daikin model MPS040FG4DV1DYBV-A was installed in2016.
- 6. The Gymnasium is heated, mechanically ventilated, air conditioned using a constant air volume, single zone, packaged electric cool/gas heat rooftop unit, nominal 30 tons cooling capacity, furnace-1 300 mbh input / 184 mbh output heating capacity, furnace-2 300 mbh input / 184 mbh output heating capacity. The Daikin model MPS030F was installed in 2016.
- The Band room 29 and Choral room 1253 are heated, ventilated and air conditioned using a constant air volume, single zone, packaged chilled water cooling/gas heat rooftop unit, nominal 20 tons cooling capacity, 390 mbh input / 312 mbh output heating capacity. The Aaon model RK-20-3-40-32M was installed in 2001.
- 8. The Kitchen hood make-up and exhaust air unit is combination packaged gas fired make-up air and exhaust fan unit. The Greenheck Model KSI-112-H20-DBC / CUBE-180-20-G is a replacement unit as it appears newer.
- 9. The Kitchen is heated and ventilated using a Sterling 100% outside air packaged gas fired make-up air unit. This makeup air unit was installed in 2001.
- 10. The Locker room is heated and ventilated using a Sterling 100% outside air packaged gas fired make-up air unit. This makeup air unit was installed in 2001.
- 11. There are two ductless split systems with indoor unit and remote roof mounted outdoor condensing unit. The Daikin ductless split systems were dated in 2013 and 2014.
- C. Temperature Controls:
 - 1. Temperature controls are microprocessor based direct digital temperature controls with web-based accessibility.

III. ELECTRICAL:

- A. Electrical Service:
 - 1. The main electrical service is rated at 2,500 amps, 277/480 volt, three phase, four wire. The service switchboard was manufactured by Siemens. The main distribution section is served by fused switches. The main switch has a ground fault protection system.
 - 2. A secondary switchboard is also located in the same room that operates at 120/208 volt, three phase, four wire after going through the transformer found in the same room. The transformer is rated at 500 kVA.
- B. Standby Power System:
 - 1. A 100kW Kohler Generator and Kohler Automatic Transfer Switch (ATS) were installed to provide power to the building in the event of power outages.
- C. Fire Alarm:
 - 1. The fire alarm system is original to the building and is an Edwards Systems Technology 2. This head-end was discontinued in 2014 and the manufacturer no longer has spare parts available. Some Edwards dealers may have spare parts but they will become harder to find.
- D. Intercom and Clock:
 - 1. The intercom and clock system is a Dukane system. BEC noted a comment during the site visit that some of the calls going out to the system have started to receive some feedback.
- E. Lighting:
 - 1. Lighting throughout the building has been upgraded to LEDs in some portions. The majority of the lights are controlled through wall switches.

IV. PLUMBING:

- A. General:
 - 1. The plumbing systems include domestic cold, hot, and hot water recirculation, sanitary waste and vent, storm water.
 - 2. The toilet room plumbing fixtures include wall mount water closets and wall mount urinals with manual flush valves, and wall hung multi-user lavatories with self-closing or sensor operated faucets. Electric water coolers located in the Corridors are single user, certain water coolers have a bottle filler.
- B. Domestic Cold Water:
 - 1. The combined incoming domestic and fire water service entering the school from below grade through the wall on the northwest side into Mechanical room 32 is a 8" NPS. The 4" NPS domestic water service to the school includes 4" water meter, 4" reduced pressure backflow preventer with remote reader, and service shut-off values.

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- 2. Domestic water piping distribution is to overhead. Visible domestic water piping is copper.
- C. Domestic Hot Water:
 - 1. There are two hot water sources for the school:
 - a. The domestic hot water source for the school located in Mechanical room 32 includes a water heater, storage tank, storage tank circulating pump, master thermostatic mixing valve, and system circulating pump. The water heater dated 2019 is a Lochinvar model CWN074PM, 85% efficiency, finned tube heat exchanger, induced draft burner, natural gas fired, hot water heater with a capacity of 750 MBH input, 731 gal/hr recovery, and a pressure rating of 160 PSI.
 - b. The hot water source located in Mechanical room 32 for service to the Kitchen includes a water heater and circulating pump. The water heater dated 2006 is a natural gas fired storage tank type water heater, A.O. Smith model BTR 500A 110, 500 Mbh input, 484.84 gal/hr recovery, 85 gal., and a pressure rating of 160 PSI.
 - 2. Domestic water piping distribution is to overhead. Visible domestic water piping is copper.
- D. Sanitary Waste and Vent:
 - 1. Visible sanitary waste and vent piping is cast iron and copper.
- E. Storm Water:
 - 1. The roof drainage includes is both interior to the building, piped from the roof drains to below grade, and perimeter gutters or scuppers with architectural downspouts to below grade.
 - 2. Visible storm water piping is cast iron.
- V. FIRE PROTECTION:
 - A. The 2001 building addition is protected by a wet pipe fire sprinkler system including fire department hose connections in the stairwells and corridors.
 - B. The combined incoming domestic and fire water service entering the school from below grade through the wall on the west side into Mechanical room 149 is an 8" NPS. The 8" NPS fire water service to the school includes, 8" reduced-pressuredetector backflow preventer assembly, and service shut-off valves.

SYSTEM COMMENTS and RECOMMENDATIONS

- VI. MECHANICAL SYSTEMS:
 - A. The heating, ventilating, and air conditioning systems appear to be in good condition and are being well maintained.
 - B. The boilers are 5 years old. These type boilers with regular maintenance, typical repairs, and proper closed hydronic system water treatment, would be expected to provide service for up to 20 years.

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- C. The air-cooled chiller is 5 years old. This commercial quality chiller with regular maintenance, typical repairs, and proper chilled water system water treatment, would be expected to provide service for up to 20 years.
- D. The fan-coil units are 20 years old, their temperature controls are 5 years old. These fan-coil units having hydronic chilled water and hot water coils, with regular maintenance, typical repairs, kept clean, with proper chilled and hot water system water treatment, would be expected to provide service for up to 40 years.
- E. The Classroom ventilation air outdoor air handling units are 4 years old. This unit having a fixed plate heat exchanger, heating hot water and chilled water coils, with regular maintenance, typical repairs, and proper closed hydronic system water treatment, would be expected to provide service for up to 40 years.
- F. The Office, Gymnasium, and Cafeteria packaged rooftop units are 5 years old. This quality rooftop unit has a useful service life of 10-15 years.
- G. The Band room and Choral room packaged chilled water cooling/gas heat rooftop unit is 20 years old. This unit having a chilled water coil and gas fired furnace has a useful service life of 18 years. This single zone unit serves two rooms but is controlled from a single thermostat, resulting with one or the other room being uncomfortable depending on time of day and time of year. Consider replacing this unit with two units, one for the Band room, and a second unit for the Choral room, to improve room temperature control, due to unit age, to avoid unexpected failures, and better energy efficiency. Replacement unit to consider could be an outdoor air handling unit with chilled and hot water coils.
- H. The Kitchen hood make-up and exhaust air unit is combination packaged gas fired make-up air and exhaust fan unit appears to be in good condition. Replacement should be considered in say 8 10 years.
- I. The Kitchen and Locker room 100% outside air packaged gas fired make-up air units are 20 years old. This makeup air unit was installed in 2001.
- J. The Locker room is heated and ventilated using a Sterling 100% outside air packaged gas fired make-up air unit. This unit has a useful service life of 18 years. Consider replacing these units due to unit age, to avoid unexpected failures, and better energy efficiency.

VII. ELECTRICAL SYSTEMS:

- A. The main electrical service is original to the building when it was constructed and it appears to be in good working condition. With proper maintenance it should last for its useful life expectancy.
- B. The fire alarm system will continue to function for the time being. The district should consider making improvements to the fire alarm system head-end the next time an upgrade and/or substantial maintenance work is performed. The head-end can be upgraded without replacing any field devices, detectors, or modules. Edwards recommends upgrading the EST2 to a IO1000 to match the system that is being used now or upgrade to EST4 if voice capabilities are to be added in the future.
- C. The remainder of the lighting in the school that is still fluorescent should continue being upgraded into LED lighting to achieve better energy efficiency ratings. Upgraded controls that allow for occupancy sensing and daylight responsive dimming will provide additional energy savings by keeping lights on and/or dimmed only when needed.

VIII. PLUMBING SYSTEMS:

A. The plumbing fixtures, flush valves, and faucets appear to be in good condition.

berg engineering consultants, Itd.

- B. The water heater located in Mechanical room 32 serving the school is 2 years old and depending on domestic water quality has a useful service life of 10-15 years.
- C. The water heater located in Mechanical room 32 serving the Kitchen is 15 years old and depending on domestic water quality has a useful service life of 10-15 years. Plan to replace the water heater in the near future to avoid an unexpected failure and disruption of hot water service to the Kitchen.

IX. FIRE PROTECTION SYSTEMS:

A. It is understood that the fire sprinkler system is tested at least once a year.

APPENDIX

2011 Assessment

Items shaded gray have been completed. Items with strike-through text no longer apply.

Will County School District 92										
		Facility Assessme Composite Summary o	of Site and Build	ange Plann ling Improv	ing /ements					
		Facility: Walsh Elementary	School (Kinder	garten and	First Grad	de)				
Category	Item No.	Item to be Replaced or Repaired	Addition or Remodeling to Support Program	Rationale	Recomm Priority	Action Year	Photo No.	Cost (cost does not include fees and contingency)		
Interior	W 01	Option A: Provide new more identifiable main entrance that includes better security. Relocate administrative offices to where the existing Computer Lab is located and relocate Computer Lab. Office areas to be reconfigured to provide better function, security and flow.	Addition and Remodeling	-				\$280,550		
Interior	VV-01	Option 5: Provide new more identifiable main- entrance that includes better security. Relocate- main entrance to north entrance. Relocate- administrative offices to where existing Classroom- 1A is located. Office areas to be reconfigured to- provide better function, security and flow.	Addition and Remodeling	-				\$ 179,400		
	W-02	Number not used.								
Interior	W-03	Remodel kitchen (if second grade from Reed- relocates to Walsh)	Remodeling	-				\$80,000		
	W-04	Number not used.								
Interior	W-05	Replace built-in cabinetry in classrooms.	-	O&M			8	\$96,000		
Interior	W-06	Replace shelving where unit ventilator is being replaced.	-	O&M			10	\$64,200		
Interior	W-07	Replace non-insulated windows with insulated double pane windows.	-	O&M			19	\$118,560		
Exterior	W-08	Expand parking lot.	-	O&M				\$97,800		
Exterior	W-09	Resurface existing parking lot and asphalt play areas.	-	O&M			1, 2, 3, 4, 7	\$205,000		
Interior	W-10	Reconfigure toilet rooms to provide ADA stalls. At least one done	Remodeling	ADA			13	\$106,000		
Interior	W-11	Abatement of vinyl asbestos tile and mastic (includes asbestos inspection project fee) Cafe	-	O&M			21	\$182,400		
Interior	W-12	Refinish wood floor at stage.	-	O&M			15	\$4,250		
Roof	W-13	Replace skylights with energy efficient skylights.	-	O&M			refer to roof report	\$62,500		
Roof	W-14	Provide roof access to all portions of roof.	-	O&M			refer to roof report	\$5,000		
Interior	W-15	Provide new vct tile flooring where vinyl asbestos tile is removed.	-	O&M				\$45,000		
Interior	W-16	Provide built-in storage for Music Room.	-	O&M				\$5,000		
Interior	W-17	Replace door hardware with ADA compliant hardware.	-	ADA			9	\$10,400		
Interior	W-18	Provide door closer.	-	L/S			9	\$11,000		
Interior	W-19	Replace carpeting in Library.	-	O&M			12	\$5,400		
Roof	W-20	Replace roof with SEBS roofing system.	-	O&M			refer to roof report	\$848,880		
Interior	W-21	Replace single-pane glazing with insulated glazing at exterior doors.	-	O&M				\$4,000		
Interior	W-22	Verify if curtain for Stage is fire-treated.	-	O&M & L/S						
Interior	W-23	Provide fluid-applied athletic flooring in Gym in lieu of vct.	-	O&M				\$71,700		

Category	Item No.	Item to be Replaced or Repaired	Addition or Remodeling to Support Program	Rationale	Recomm Priority	Action Year	Photo No.	Cost (cost does not include fees and contingency)
Interior	W-24	Replace lay-in ceiling and provide new light fixtures.	-	O&M			16	\$15,750
Interior	W-25	Replace stained and/or cracked terrazzo flooring.	-	O&M			18, 20	\$3,000
	W-26	Number not used.						
Interior	W-27	Provide soffits and chases as required for proposed mechanical system upgrade.	-	O&M				\$75,000
Interior	W-28	Investigate crack at wall.	-	O&M & L/S				
Exterior	W-29	Patch cracked concrete sidewalks. Some done	-	O&M & L/S			6	\$2,000
Interior	W-30	Replace coat/backpack hooks in classrooms with built-in cubbies.	-	O&M			17	\$30,000
Interior	W-31	Investigate detail above exterior windows in classroom	-	O&M				
Exterior	W-32	Improve bus drop-off area.	-	O&M				Scope T.B.D.
Exterior	W-33	If second grade from Ludwig relocates to Walsh, accommodate room for an additional four buses.	-	O&M				Scope T.B.D.
Exterior	W-34	Repair concrete stoops for ADA compliancy.	-	O&M & L/S			5	\$3,000
Interior	W-35	Remove storage/equipment from Stage.	-	O&M & L/S				
Interior	W-36	Patch ceramic tile flooring in toilet rooms.	-	O&M			22	\$3,000
Interior	W-37	Verify if any acoustical treatment is required for exposed ceilings and walls with exposed structure.	-	O&M				
Interior	W-39	Refinish or replace bleachers.	-	O&M				\$185,000
Interior	W-40	Install padding at masonry piers adjacent to Stage.	-	O&M			14	\$3,000
MEP	W-42	Remove and replace existing hot water classroom unit ventilators with new hot water unit ventilators connected to the existing heating piping. New unit ventilators will have chilled water coils for connection to a future chilled water piping system. Remove existing pneumatic control system and replace with new direct digital controls system.	-	O&M				\$595,000
MEP	W-43	Remove and replace existing gymnasium air handling unit and controls and replace with a new air handling unit with space for future cooling coil.	-	O&M				\$98,000
MEP	W-44	Remove and replace existing heating hot water boilers associated pumps and specialties with new water tube hot water boilers.	-	O&M				\$120,000
MEP	W-45	Add chilled water piping and an outdoor air cooled chiller to the building to provide air conditioning to the classrooms and gymnasium. Note: Must complete items W-42 and W-43 above in conjunction with this item.	-	O&M				\$350,000
MEP	W-46	Remove existing tank type urinals and replace with new flush valve urinals. Also saw cut existing floor and add a new floor drain	-	O&M				\$40,000
MEP	W-47	Remove and replace existing Computer Room Air Conditioning equipment with new classroom unit ventilators connected to the new chilled water system.	-	O&M				\$44,000

Appendix - 2011 Assessment (Gray Shaded Items Completed)

Appendix - 2011	Assessment (Gray Shaded Iter	ms Completed)
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Category	Item	Item to be Replaced or Repaired	Addition or	Rationale	Recomm	Action	Photo No.	Cost (cost does
	No.		Remodeling to		Priority	Year		not include fees
			Support Program					and contingency)
MEP	W-48	Remove existing furnace and condensing unit for main offices and install new packaged rooftop unit with 100% outdoor air economizer.	-	O&M				\$12,000
MEP	W-49	Provide approximately one additional duplex outlet for each classroom.	-	O&M			11	\$30,000

	Will County School District 92									
		Facility Assessme	ent and Long R	ange Plani	ning					
		Facility: Reed Elementar	v School (Seco	ond and Th	ird Grade)				
Category	Item No.	Item to be Replace or Repaired	Addition or Remodeling to Support Program	Rationale	Recomm Priority	Action Year	Photo No.	Cost (cost does not include fees and contingency)		
Exterior	R-01	Provide new more identifiable main entrance that includes better security.	Addition					\$40,000		
Interior	R-02	Reconfigure main office areas to provide better function, security and flow.	Remodeling					\$172,552		
	R-03	Number not used								
	R-04	Number not used								
Interior	R-05	Replace non-insulated windows with insulated double pane windows.	-	O&M				\$223,860		
	R-06	Number not used								
Interior	R-07	Replace built-in cabinetry.	-	O&M			9, 10	\$86,400		
Interior	R-08	Replace shelving where unit ventilator is being replaced.	-	O&M			8	\$51,300		
Interior	R-09	Replace door hardware with ADA compliant hardware.	-	ADA			16	\$10,400		
Interior	R-10	Provide door closer.	-	L/S			16	\$11,000		
Interior	R-11	Abatement of asbestos tile and mastic (includes asbestos inspection project fee)	-	O&M			15	\$179,200		
Interior	R-12	Provide fluid-applied athletic flooring in Gym in lieu of vct.	-	O&M				\$72,000		
Interior	R-13	Refinish wood floor at stage.	-	O&M			12	\$4,250		
Roof	R-14	Replace skylights with energy efficient skylights.	-	O&M			refer to roof report	\$7,200		
Roof	R-15	Provide roof access to all portions of roof.	-	O&M			refer to roof report	\$5,000		
Interior	R-16	Provide new vct tile flooring where vinyl asbestos tile is removed.	-	O&M				\$56,000		
Interior	R-17	Provide built-in storage for Music Room.	-	O&M				\$5,000		
Interior	R-18	Reconfigure toilet rooms to provide ADA stalls. At least one done	Remodeling	ADA			14	\$109,000		
Roof	R-19	Replace roof with SEBS roofing system.	-	O&M			refer to roof report	\$790,200		
Interior	R-20	Verify if curtain for Stage is fire-treated.	-	O&M & L/S						
Interior	R-21	Replace lay-in ceiling and provide new light fixtures.	-	O&M			13	\$47,250		
Interior	R-22	Replace stained and/or cracked terrazzo flooring.	-	O&M			7	\$6,000		
Interior	R-23	Number not used								
Interior	R-24	Provide soffits and chases as required for proposed mechanical system upgrade.	-	O&M				\$55,000		
Exterior	R-25	Patch cracked concrete sidewalks. Some done	-	O&M & L/S			6	\$2,000		
Interior	R-26	Replace coat/backpack hooks in classrooms with built-in cubbies.	-	O&M			11	\$22,500		

Category	ltem No.	Item to be Replace or Repaired	Addition or Remodeling to Support Program	Rationale	Recomm Priority	Action Year	Photo No.	Cost (cost does not include fees and contingency)
Interior	R-27	Investigate detail above exterior windows in classroom	-	O&M				
Exterior	R-28	Improve bus drop-off area.	-	O&M				Scope T.B.D.
Interior	R-29	Remove storage/equipment from Stage.	-	O&M & L/S				
Exterior	R-30	Masonry tuckpointing required.	-	O&M			2, 5	\$40,000
Exterior	R-31	Repair dented gutters.	-	O&M			1	\$3,000
Exterior	R-32	Remove efflorescence present.	-	O&M			4	Refer to item R-30
Exterior	R-33	Remove brick stains presents.	-	O&M			3	Refer to item R-30
Interior	R-34	Verify if any acoustical treatment is required for exposed ceilings and walls with exposed structure.	-	O&M				
MEP	R-36	Remove and replace existing hot water classroom unit ventilators with new hot water unit ventilators connected to the existing heating piping. New unit ventilators will have chilled water coils for connection to a future chilled water piping system. Remove existing pneumatic control system and replace with new direct digital controls system connected to a new building energy management system.	-	O&M				\$477,000
MEP	R-37	Remove and replace existing gymnasium air handling unit and controls and replace with a new air handling unit with space for future cooling coil.	-	O&M				\$99,000
MEP	R-38	Remove and replace existing heating hot water boilers associated pumps and specialties with new water tube hot water boilers.	-	O&M				\$120,000
MEP	R-39	Add chilled water piping and an outdoor air cooled chiller to the building to provide air conditioning to the classrooms and gymnasium. Note: Must complete items R-36 and R-37 above in conjunction with this item.	-	O&M				\$292,000
MEP	R-40	Remove and replace existing Computer Room and Library air conditioning equipment with new classroom unit ventilators. Connect to new chilled water system.	-	O&M				\$44,000
MEP	R-41	Remove existing furnace and condensing unit for main offices and teachers lounge and install new unit ventilators for offices that are not occupied during the summer and install new low life packaged rooftop unit for offices that would be occupied all summer long.	-	O&M				\$85,000
MEP	R-42	Replace existing Fire Alarm system with new. Including new strobes as required for ADA.	-	O&M				\$68,000
MEP	R-43	Provide approximately one additional duplex outlet for each classroom.	-	O&M				\$25,000
Civil	R-44	Expand existing septic system to accommodate 200 students.	-	O&M				\$75,000
Civil	R-45	In lieu of expanding existing septic system, provide tie-in to existing watermain and sanitary sewer lines.	-	O&M				\$979,750

Appendix - 2011 Assessment (Gray Shaded Items Completed)

	Will County School District 92									
		Facility Assessme	ent and Long R	ange Planı	ning					
		Composite Summary o	of Site and Buil	ding Impro	vements					
		Facility: Ludwig Element	ary School (Fo	urth and F	ifth Grade)				
Category	Item No.	Item to be Replace or Repaired	Addition or Remodeling to Support Program	Rationale	Recomm Priority	Action Year	Photo No.	Cost (cost does not include fees and contingency)		
Exterior	L-01	Provide new more identifiable main entrance that includes better security.	Addition	-				\$40,000		
Interior	L-02	Reconfigure Main Office spaces to provide for better security and visual control of main entrance.	Remodeling	-				\$230,000		
	L-03	Number not used								
	L-04	Number not used								
Interior	L-05	Convert unused locker rooms into suitable storage for all teachers.	Remodeling	-			23	\$35,000		
Interior	L-06	Replace non-insulated windows with insulated double pane windows.	-	O&M				\$30,000		
	L-07	Number not used								
Interior	L-08	Replace built-in cabinetry.	-	O&M			10, 18	\$98,000		
Interior	L-09	Replace or provide shelving where unit ventilator is being replaced.	-	O&M			11	\$90,450		
Interior	L-10	Replace door hardware with ADA compliant hardware.	-	ADA			13	\$10,400		
Interior	L-11	Provide door closer.	-	L/S			13	\$11,000		
Interior	L-12	Abatement of vinyl asbestos tile and mastic (includes asbestos inspection project fee). very little left	-	O&M				\$19,200		
Interior	L-13	Refinish wood floor at stage.	-	O&M				\$4,250		
Roof	L-14	Provide roof access to all portions of roof.	-	O&M			refer to roof report	\$5,000		
Interior	L-15	Provide new vct tile flooring where vinyl asbestos tile is removed.	-	O&M				\$6,000		
Interior	L-16	Provide built-in storage for Music Room.	-	O&M				\$5,000		
Interior	L-17	Reconfigure toilet rooms to provide ADA stalls. At least one done	Remodeling	ADA			15, 16	\$128,000		
Exterior	L-18	Resurface existing parking lot.	-	O&M			5, 6, 7, 8	\$233,700		
Roof	L-19	Replace roof with SEBS roofing system.	-	O&M			refer to roof report	\$1,065,000		
Interior	L-20	Provide fluid-applied athletic flooring in small Gym in lieu of vct.	-	O&M				\$34,200		
Interior	L-21	Verify if curtain for Stage is fire-treated.	-	O&M & L/S						
Interior	L-22	Replace lay-in ceiling and provide new light fixtures.	-	O&M			14	\$60,000		
Interior	L-23	Polish and repair stained and/or cracked terrazzo flooring.	-	O&M			9, 17, 26	\$10,000		
	L-24	Number not used								
Interior	L-25	Provide soffits and chases as required for proposed mechanical system upgrade.	-	O&M				\$65,000		

Category	ltem No.	Item to be Replace or Repaired	Addition or Remodeling to Support Program	Rationale	Recomm Priority	Action Year	Photo No.	Cost (cost does not include fees and contingency)
Exterior	L-26	Patch cracked concrete sidewalks Some done	-	O&M & L/S				\$2,000
Interior	L-27	Remove storage/equipment from Stage.	-	O&M & L/S				
Exterior	L-28	Masonry tuckpointing required.	-	O&M			1, 2	\$40,000
Exterior	L-29	Remove brick stains present.	-	O&M			3, 4	Refer to Item L-28
Interior	L-30	Repaint hollow metal doors and frames.	-	O&M				\$10,000
Interior	L-31	Refinish woodwork in corridor.	-	O&M				\$4,000
Interior	L-32	Replace wood doors that are in poor condition.	-	O&M			25	\$4,000
Interior	L-33	Provide tempered glass in display cases.	-	O&M & L/S			19	\$2,500
Interior	L-34	Extend walls to underside of structure.	-	O&M & L/S			20	\$4,000
Interior	L-35	Refinish or replace bleachers.	-	O&M			21	\$185,000
Interior	L-36	Replace tectum panels on walls in Gymnasium.	-	O&M			22	\$12,000
Interior	L-37	Investigate if there are any acoustical issues in the Library as a result of the adjacent Band Room	-	O&M				
MEP	L-39	Remove and replace existing steam classroom unit ventilators with new hot water unit ventilators connected to new hot water heating piping. New unit ventilators will have chilled water coils for connection to a future chilled water piping system. Remove existing pneumatic control system and replace with new direct digital controls system.						\$665,000
MEP	L-40	Remove and replace existing gymnasium unit ventilators with new air handling unit and controls with space for future cooling coil.						\$130,000
MEP	L-41	Remove and replace existing steam heating water boilers associated pumps and specialties with new water tube hot water boilers. Remove existing steam and condensate piping system and install new hot water piping. Note: Must complete items L-39 and L-40 above in conjunction with this item.						\$525,000
MEP	L-42	Add chilled water piping and an outdoor air cooled chiller to the building to provide air conditioning to the classrooms and gymnasium. Note must complete items L-39, L-40 and L-41 above in conjunction with this item.						\$475,000
MEP	L-43	Remove and replace existing Air handling unit serving the Teachers Lounge and adjoining offices with new Air handling unit. Connect to new chilled water system.						\$30,000
MEP	L-44	Remove existing rooftop unit for main offices and install new packaged rooftop unit with 100% outdoor air economizer.						\$30,000
MEP	L-45	Remove and replace 3 original electrical distribution panels with new.						\$42,000
MEP	L-46	Remove existing galvanized domestic water piping and replace with new copper water piping.						\$140,000

Appendix - 2011 Assessment (Gray Shaded Items Completed)

Category	Item No.	Item to be Replace or Repaired	Addition or Remodeling to Support Program	Rationale	Recomm Priority	Action Year	Photo No.	Cost (cost does not include fees and contingency)
MEP	L-47	Provide approximately one additional duplex outlet for each classroom.					12	\$25,000

Appendix - 2011 Assessment (Gray Shaded Items Completed)

Will County School District 92									
Facility Assessment and Long Range Planning Composite Summary of Site and Building Improvements									
Facility: Oak Prairie Junior High School (Sixth, Seventh, and Eighth Grade)									
Category	Item No.	Item to be Replace or Repaired	Addition or Remodeling to Support Program	Rationale	Recomm Priority	Action Year	Photo No.	Cost (cost does not include fees and contingency)	
Exterior	OP-01	Provide new parking lot south of baseball fields.	Addition	-				\$151,200	
Exterior	OP-02	Expand existing north parking lot	Addition	-				\$134,400	
Exterior	OP-03	Provide future drive to 151st Street	-	-				\$118,000 - \$210,000	
Interior	OP-04	Provide an addition for a stage and storage in existing Gymnasium - based on 2200 SF	Addition	-				\$440,000	
Interior	OP-05	Replace damaged lay-in ceiling.	-	O&M			11, 12	\$49,000	
Interior	OP-06	Replace carpeting (in Stem Lab / Computer Lab 171).	-	O&M			7, 8	\$6,510	
Interior	OP-07	Replace rusting mesh on stairs	-	O&M			15	\$5,000	
Interior	OP-08	Provide missing kickplates on doors.	-	O&M			5, 6	\$2,500	
Exterior	OP-09	Remove abandoned lights at underside of canopy and patch existing soffit. District added metal halide lamps.	-	O&M			4	\$5,000	
Exterior	OP-10	Tuckpoint limestone joints.	-	O&M			3	\$5,000	
Exterior	OP-11	Repair or replace rusting concrete.	-	O&M			1	\$13,500	
Exterior	OP-12	Repair or replace rusting downspouts.	-	O&M			2	\$5,000	
Exterior	OP-13	Waterproof splitface block at stairway where water is coming through.	-	O&M			13	\$2,500	
Interior	OP-14	Patch/paint damaged gypsum board walls and soffits.	-	O&M				\$5,000	
Interior	OP-15	Seal wall penetrations	-	O&M & L/S			14	Scope T.B.D.	
Roof	OP-16	Investigate roof leaks.	-	O&M			9, 10		
Interior	OP-17	Provide new vct tile flooring in areas where VCT is cracked or missing.	-	O&M			16		
Interior	OP-18	Investigate window air issue.	-	O&M			17		
MEP	OP-19	Admin Area - Option I - Trane service technician reprogram and check out existing control system	-	O&M				\$3,000 - \$18,000	
MEP	0P-20	Admin Area - Option Ia - Replace existing light- commercial gas fired electric cooling rooftop unit- with Trane unit of the same type.	-	O&M				\$30,000	
MEP	OP-21	Admin Area - Option II - Remove existing VVT- system including the existing 15 ton packaged- rooftop unit and install 4 separate gas fired- electronic cooling packaged rooftop units on the- roof directly over the offices.	-	O&M				\$ 62,000	
MEP	OP-22	Admin Area - Option III - Change the VVT system to a true variable volume system (VAV) with building press control. Replace the existing VVT terminals with true pressure independent VAV terminals. Replace the existing light commercial rooftop unit with a medium commercial class VAV gas heat electric cooling rooftop unit.	-	O&M				\$97,000	

Category	ltem No.	Item to be Replace or Repaired	Addition or Remodeling to Support Program	Rationale	Recomm Priority	Action Year	Photo No.	Cost (cost does not include fees and contingency)
MEP	0P-23	Admin Area - Option IIIa - Same as Option III- except instead of putting in a medium duty- commercial class rooftop unit put in a heavy duty- unit.	-	O&M				\$ 133,000
MEP	0P-2 4	Admin Area - Option IV - Same as Option III but- also put in supplement hot water baseboard or- radiant ceiling heat in the exterior rooms. This will allow heating at night without running the VAV- system.	-	O&M				\$125,000
MEP	OP-25	Admin Area - Option IVa - Same as Option IV- except provide the same heavy duty rooftop unit.	-	0&M				\$160,000
MEP	OP-26	Provide AC in Gymnasium	-	O&M				\$250,000 - \$300,000

Appendix - 2011 Assessment (Gray Shaded Items Completed)