

West Central Area School District

Facility Assessment &
Educational Adequacy Study

June 24th, 2024 - Final Report



North Elementary

411 1st Street SE
Elbow Lake, MN 56531

South Elementary

31 Central Ave N.
Kensington, MN 56343

Table of Contents

Table of Contents	03
Certifications	05
Educational Adequacy	06
Facility Assessment: Overview	34
WCA North : Civil	40
: Architectural Exterior	
: Architectural Interior	
: Structural	
: Mechanical	
: Electrical	
WCA South : Civil	100
: Architectural Exterior	
: Architectural Interior	
: Structural	
: Mechanical	
: Electrical	
Appendix Files	150
Exhibit A: WCA North - Civil Site	
Exhibit B: WCA North – Budgetary Cost Estimate	
Exhibit C: WCA South - Civil Site	
Exhibit D: WCA South – Budgetary Cost Estimate	
Exhibit E: MDE Guide For Planning School Construction Projects	
Exhibit F: ASHRAE_Chart_HVAC_Life_Expectancy	

Professional Certifications

ARCHITECTURE

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Architect under the laws of the State of Minnesota.



Name Brent Dammann

Date: 06/24/2024 Reg. No. 44145

CIVIL ENGINEERING

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

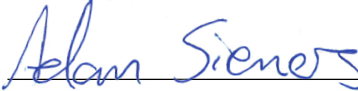


Name Jeffrey L. Kuhn

Date: 06/24/2024 Reg. No. 26874

MECHANICAL ENGINEERING

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

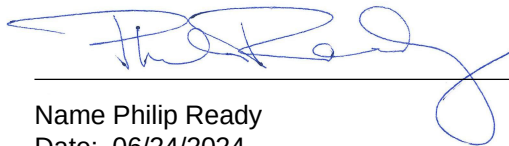


Name Adam Seimers

Date: 06/24/2024 Reg. No. 52730

ELECTRICAL ENGINEERING

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.



Name Philip Ready

Date: 06/24/2024 Reg. No. 62081

EDUCATIONAL ADEQUACY

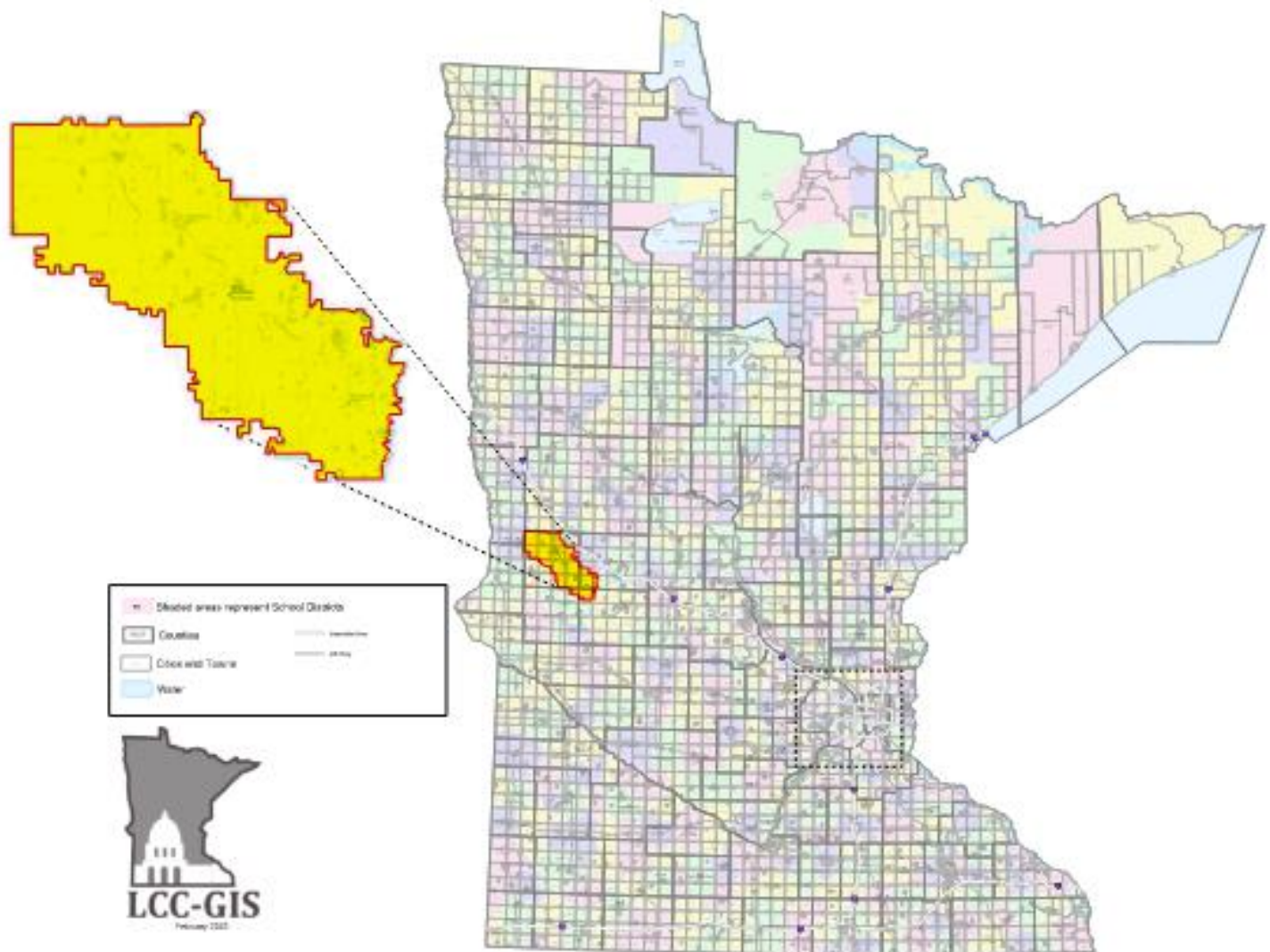
Educational Adequacy: District Summary

West Central Area School District

- *Geographic Area*

West Central Areas School District 2341 is in west central Minnesota south of Interstate 94 between Fergus Falls and Alexandria. The school district has a large geographic area that encompasses 436 square miles in Grant, Douglas, Otter Tail, Stevens and Pope Counties, Minnesota. It includes all or part of 18 townships and is approximately 41.5 miles long by 15 miles wide. The average of all school districts within the State of Minnesota is 254 square miles, which places WCA above the average of Minnesota's 332 school districts.

2022 - 2023 Minnesota School Districts

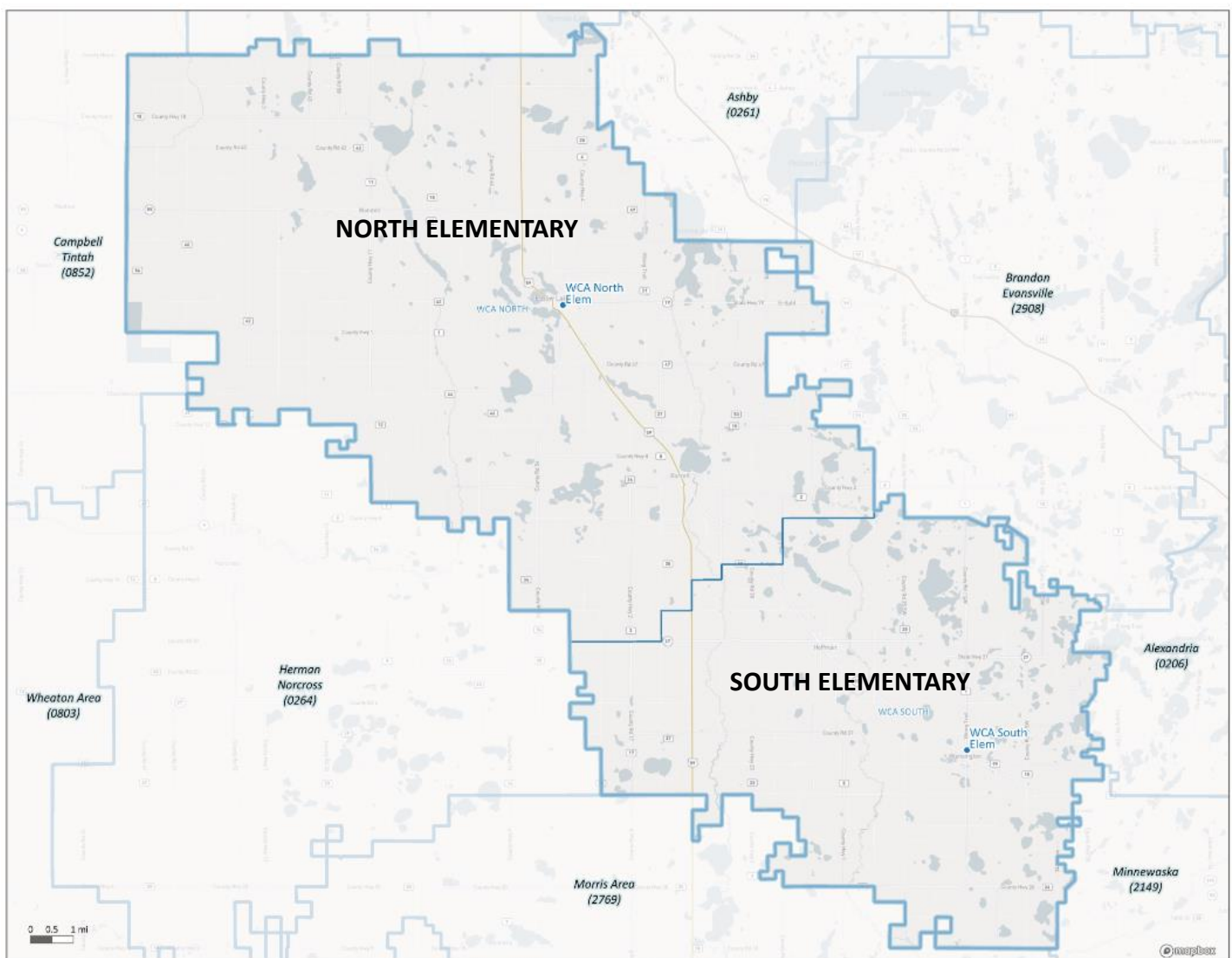


Educational Adequacy: District Summary

West Central Area School District

- District Map and Attendance Areas*

The below map is intended to convey not only the West Central Area School boundary, but also specific elementary attendances areas as defined by the school district. Those attendance areas are labeled in all caps, along the end of the boundary if necessary. Actual elementary school locations are included, regardless of whether or not they have an assigned attendance area. This map is informational only and may not be accurate; please note that it is not mandatory for districts to provide information on attendance areas to MDE, and each district determines their own rules on which students attend specific schools.



Educational Adequacy: District Summary

West Central Area School District

- Communities Served*

West Central Areas School District 2341 serves the Minnesota communities of Barrett, Elbow Lake, Hoffman, Kensington, Wendell, and the surrounding areas with open enrollment opportunities. WCA has two elementary schools located in Elbow Lake, MN (North Elementary) and Kensington, MN (South Elementary, serving students in Pre-K through 4th grade. The Middle School/ Secondary School is located in Barrett, MN and serves students in 5th through 12th grades. As of 2022, West Central Area School District's total population is estimated at 5,310 residents.

- Enrollment*

Little Knights and Kindergarten Connection information provided by the school district and enrollment data was collected from Minnesota Department of Education's data base for the purpose of this report. At the time of this report, the FY24 data was still being finalized by the state.

West Central Area
District Enrollment Data

YEAR	Little Knights (3 yr.)	Kdg. Connection (4 yr.)	Kdg.	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	TOTAL
2023-2024	37	46	40	52	48	64	61	63	47	63	57	58	59	59	60	814
2022-2023	42	31	54	48	65	69	65	48	62	54	55	62	59	64	58	836
2021-2022	23	46	53	60	72	65	47	59	53	58	63	54	64	60	47	824
2020-2021	11	17	61	73	64	51	54	54	57	59	55	65	61	45	59	786
2019-2020	9	29	74	65	49	58	60	59	65	56	71	66	48	61	49	819
2018-2019	12	22	67	47	64	56	62	66	58	74	65	45	60	48	49	795
2017-2018	11	20	50	63	54	61	62	63	70	63	50	63	49	52	49	780
2016-2017	15	19	57	48	59	61	55	64	63	41	60	49	52	49	47	739
2015-2016	N/A	N/A	49	58	63	54	65	64	42	62	51	52	48	51	53	712
2014-2015	N/A	N/A	60	68	56	67	63	45	63	53	50	48	49	50	47	719

N/A = Had not started yet

Educational Adequacy: District Summary

West Central Area School District

- Existing Facilities

West Central Area Schools consists of two elementary buildings on either end of the district and a centrally located middle and high school. The information below shows the buildings the district owns, the years of the original build, the year of subsequent additions, total square footage, and the age of each original building.

North Elementary School is comprised of an original facility constructed in 1936, two subsequent additions and one partial building demolition. Initially a K-12 facility for Elbow Lake and Wendell, the school was reorganized as a Pre K-3 and 7-12 when they consolidated with Barrett. It served as an elementary and the high school for the West Central Schools after consolidation with Hoffman and Kensington until the new high school was built in Barrett, MN. The building is currently the North Elementary school for WCA.

South Elementary School is comprised of an original facility constructed in 1955 and two subsequent additions. Initially functioning as a K-12 facility, it also served as the elementary school when Hoffman and Kensington consolidated. Today, it is the South Elementary school for WCA.

WCA School District Facilities Age Table				
Building	Description	Year Constructed	Facility Age	Square Footage
North Elementary				
	Original building	1936	88	10,000
	Building addition	1950	74	21,171
	Building addition	1966	58	44,010
				Total SF: 75,181
South Elementary				
	Original building	1955	69	18,456
	Building addition	1957	67	9,080
	Building addition	1970	54	8,168
				Total SF: 35,704
Secondary School				
	Original building	1995	29	130,000
				Total SF: 130,000

**For the purpose of the educational adequacy assessment, we are studying both the North Elementary and South Elementary buildings. The Secondary Building is not included in the assessment, due to the building's newer age.*

Educational Adequacy

West Central Area School District

THIS PAGE INTENTIONALLY
LEFT BLANK

Educational Adequacy: North Elementary Summary

West Central Area School District: 411 1st Street SE, Elbow Lake, MN 56531

- **North Elementary Educational Adequacy Summary**

Building site: The North Elementary school site is in an ideal location to serve the Northern half of the WCA School District. Overall site improvements are recommended for compliance with ADA requirements and safety/security concerns. There is no dedicated main entry to the building, nor is there a dedicated bus drop off/ pick up zone. Circulating students with vehicle and bus traffic is hazardous. One clearly defined entrance to an elementary school allows for all people entering the building to pass through a controlled access point. This site's green space allows for future expansion of the building, site improvements and enhanced exterior play areas.

Classroom Square Footage: The North Elementary complies with most of Minnesota Department of Education classroom square recommendations in standard classrooms. Additional square footage, such as an oversized library, under utilized locker rooms, and larger than needed classroom spaces would provide opportunity for interior renovations to add additional learning and support spaces within the building's existing footprint. Spaces such as student collaboration and project-based learning are a standard for educational design and are challenging to accommodate in a historic building. The school is currently out of flexible classrooms which is prohibiting for future enrollment growth.

21st Century Learning: Given the historic age of the elementary school, furniture, and technology, providing a 21st century learning experience for students is near to impossible. Classrooms do not have adequate lighting and air controls for indoor quality standards, classrooms still retain their original chalk boards, and add-on (not integrated) technology has been incorporated over the years. Traditional heavy furniture does not allow for flexibility within classrooms and no project-based learning spaces are accessible to students and teachers. Double loaded corridors with student lockers provides congested circulation throughout the building and prevents adequate monitoring. Preparing students for a modern world starts at a young age, and MDE's Design for Planning Schools is an essential tool when starting this planning process. We have provided a copy of this resource document as a reference to the School District.



m DEPARTMENT OF EDUCATION

Guide for Planning School Construction Projects in Minnesota

Division of School Finance
1500 Highway 36 West
Roseville, MN 55113
Telephone: 651-582-8779
Fax: 651-582-8878
Email: mde.funding@state.mn.us
Website: [Minnesota Department of Education](https://www.mn.gov/education)

WIDSETH

ARCHITECTS ■ ENGINEERS
SCIENTISTS ■ SURVEYORS

Facility Assessment & Educational
Adequacy Study June 2024

Educational Adequacy: North Elementary

West Central Area School District: 411 1st Street SE, Elbow Lake, MN 56531

- *Building Site*

North Elementary located in Elbow Lake, MN is situated in the center of the city. The building is located across two parcels of land. The East parcel has a good portion of green spaces that would provide opportunities for future building expansion on the current site. The existing playground sits on the North side of the building in a courtyard. Due to the position of this courtyard, the grass turf is in poor condition and creates a muddy environment during shoulder seasons. An all-weather turf surface would allow better access to the outdoor space and playground structure year-round.

Additionally, no clear main entrance to the building exists. The school district should consider one point of entry for students and visitors, with a secure vestibule and security system. Wayfinding for visitors accessing the building is limited. Exterior signage and lighting could enhance the main entry to the building.



Educational Adequacy: North Elementary

West Central Area School District: 411 1st Street SE, Elbow Lake, MN 56531

- *Building Site*



**North entrance- Not ADA compliant, no safe and secure access to building, not connected to administrative office, lack of signage or wayfinding, and no pedestrian crossing.*



**North playground with poor site conditions, lack of turf, and mudding conditions. Not ADA compliant.*

Educational Adequacy: North Elementary

West Central Area School District

• Building Summary

North Elementary was originally built in 1936 with several major additions, the most recent from 1966. Many of the classrooms at North are inadequately sized according to Minnesota Department of Education's requirements. In addition, the building lacks collaborative learning spaces and has ADA compliance issues. 21st Century learning should provide students with current technology, flexible furniture, and building controls that allow for individual learning environments to be controlled throughout the day. Additional review of the existing facility's physical conditions can be found in the facility assessment portion of this report.

Grade and age levels: 3-year-olds, 4-year-olds, Pre-K through 4th grade.

Student enrollment: 150 students

Average Core Classroom Size Comparison



910 Sq. Ft

Recommended Size

1st -12th: 900 sq. ft.
Kindergarten: 1200 sq. ft.

Square Footage

75,181
Sq. Ft.

West Central Area North Elementary Enrollment Data

YEAR	Little Knights	Kdg. Connection	Kdg.	1st	2nd	3rd	4th	TOTAL
2023-2024	21	22	22	30	29	32	42	198
2022-2023	28	15	29	29	29	46	45	221
2021-2022	13	22	33	27	48	42	25	210
2020-2021	N/A	N/A	34	48	40	30	32	184
2019-2020	N/A	N/A	45	38	28	32	27	170
2018-2019	N/A	N/A	38	27	36	27	37	165
2017-2018	N/A	N/A	28	33	26	38	33	158
2016-2017	N/A	N/A	29	21	36	31	31	148
2015-2016	N/A	N/A	21	33	33	31	35	153
2014-2015	N/A	N/A	32	35	31	36	26	160
N/A = Had not started yet								

Educational Adequacy: North Elementary

West Central Area School District

- Building Floor Plan:- 75,181 total square feet.



**Plan not shown to scale.*



Educational Adequacy: North Elementary

West Central Area School District

- Building Floor Plan by Age of Construction



*Plan not shown to scale.



Educational Adequacy: North Elementary

West Central Area School District: Educational Adequacy Report Summary

- *Report Understanding*

On the following page, you will find a detailed report studying each classroom and supporting space. This report analyzes the school's square footage compared to Minnesota Department of Education's (MDE) recommendations. Based on this information, we assess each space as the following; within range, undersized, or facility deficient. Facility deficient is the term used to identify the lack of recommended learning spaces by MDE.

- *Classroom Square Footage Analysis*

North Elementary school's grade level classrooms are mostly within MDE's recommended square footage ranges. The school has captured under-utilized square footage to create an additional flex classroom. Outside of this flex classroom, no additional grade level classrooms are available, preventing flexibility for future enrollment growth.

General school construction project space guidelines and assumptions (MDE) include the following:

- ✓ Classrooms designed to accommodate 15-28 students, depending upon grade level.
- All current building, accessibility, and health and safety codes will be met.
- Accessibility to all educational programs and services for students and adults with disabilities will be provided.
- Spaces are designed to be flexible, expandable, and when appropriate, multipurpose.

****out of the above listed guidelines, North Elementary currently need only one.***

- *21st Century Learning*

Based on MDE requirements, the following recommendations are made for planning and designing facilities in preschool through grades four.

- Primary, intermediate, and upper elementary grades in a traditional classroom setting with enhanced technology.
- Primary, intermediate, and upper elementary grades in house, wing, or pod classroom arrangements with adjacent resource, technology, and student and staff support spaces.
- Specialized learning spaces such as instrumental and choral music, physical education, computer labs, science, art, world language, special education, Title 1, English as a second language, and gifted-talented.
- Location of student lockers in classrooms or locker bays, not hallways, to reduce hallway crowding and improve circulation.
- Offer clear sight lines for supervision and security throughout facility.

****out of the above listed guidelines, North Elementary currently deficient in all areas.***

Educational Adequacy: North Elementary

West Central Area School District: Educational Adequacy Report Summary

North Elementary

Elbow Lake, MN

Current Student Enrollment: 198

Space Description		MDE Recommendations				Room #	Actual Square Feet	Current Max. Student Capacity		Shared Space	Notes
		Space Range		MDE Student Capacity Range							
		Low	High	Low	High						
School Learning Spaces											
Classrooms											
	Daycare	1,000	1,400	15	25	12E	2937	48	Full-Time	No	Within Range
	Headstart	1,000	1,400	15	25	13E	1276	21	Full-Time	No	Within Range
	ECFE Preschool 3YR					5E	1204		Full-Time	No	
	Preschool 4YR					6E	1204		Full-Time	No	
	Kindergarten	1,200	1,500	15	25	16W	1339	19	Full-Time	No	Within Range
	Kindergarten	1,200	1,500	15	25	17W	1240	18	Full-Time	No	Within Range
	1st Grade	850	950	15	25	9W	896	19	Full-Time	No	Within Range
	1st Grade	850	950	15	25	15W	928	20	Full-Time	No	Within Range
	2nd Grade	850	950	15	25	7W	896	19	Full-Time	No	Within Range
	2nd Grade	850	950	15	25	8W	928	20	Full-Time	No	Within Range
	3rd Grade	850	950	15	25	5W	896	19	Full-Time	No	Within Range
	3rd Grade	850	950	15	25	6W	928	20	Full-Time	No	Within Range
	3rd Grade	850	950	15	25	18W	816	17	Full-Time	No	Undersized
	4th Grade	850	950	15	25	3W	896	19	Full-Time	No	Within Range
	4th Grade	850	950	15	25	4W	928	20	Full-Time	No	Within Range
	Subtotal (Classrooms)	12,050	14,350	195	325		17312	277			
Common Spaces											Facility Deficient
	Multipurpose	1,200	1,800	125	175	B128	3405	342	Part-Time	No	Within Range
	Resource Room					2W	928			No	
	Teacher Lounge	150	200			19W	2020			Yes	Facility Deficient
	Subtotal (Common Spaces)	1,350	2,000				6353				
Library / Media Center											
	Library	614	1,024	16	33	7E	1579			No	Within Range
	Conference	150	150			A138	365			No	Facility Deficient
	Office	100	100			A137	414			No	Facility Deficient
	Reference	200	200			A139	489			No	Facility Deficient
	Subtotal (Library / Media Center)	1,064	1,474				2,847				
Technology											
	Computer Lab	1,000	1,200	20	30	19W	2020				Oversized
	Subtotal (Technology)	1,000	1,200				2,020				
Special Education											
	Sensory / OT	450	450	5	8	17E	986			No	Within Range
	Speech					B117	150			No	Undersized
	Title 1					1W	510			No	Undersized
	Reading	800	1200	10	17	1W	370			No	Undersized
	SPED					8E	841			No	Undersized
	SPED					A126	182			No	Undersized
	SPED					A125	209			No	Undersized
	Subtotal (Special Education)	1250	1650	15	25		3248	0			
Art / Science											
	STEM	250	250			4E	1376				Oversized
	Subtotal (Art / Science)	250	250				1,376				
Music											
	General Music Classroom	1,000	1,500	25	50	2E	1220				Within Range
Physical Education											
	Gymnasium	6,000	8,000			14E	9,458		Full-Time	No	Within Range
	Girls Locker Room	6,000	8,000			A109	809			No	Facility Deficient
	Boys Locker Room	6,000	8,000			A112	1,594			No	Facility Deficient
	Subtotal (Physical Education)	12,000	16,000								

Educational Adequacy: North Elementary

West Central Area School District: Educational Adequacy Report Summary

- 21st Century Learning



**Double loaded corridors, with lockers and poor sightlines and security.*



**Standard classroom with chalk boards, dated technology, limited access to power, and non-flexible furniture*

Educational Adequacy

West Central Area School District

THIS PAGE INTENTIONALLY
LEFT BLANK

Educational Adequacy: South Elementary Summary

West Central Area School District: 31 Central Ave N. Kensington, MN 56343

- *South Elementary Educational Adequacy Summary*

Building site: The South Elementary school site is located on a city block and land-locked from expansion opportunities. Overall site improvements are recommended for compliance with ADA requirements and safety/security concerns. There is no dedicated main entry to the building, nor is there a dedicated bus drop off/ pick up zone. Circulating students with vehicle and bus traffic is hazardous. One clearly defined entrance to an elementary school allows for all people entering the building to pass through a controlled access point. The site's green space and playground are under sized and located adjacent to a busy street and utility entrance to the building.

Classroom Square Footage: The South Elementary is deficient in most Minnesota Department of Education classroom square recommendations throughout the building. Knowing that the building is land-locked, no building expansion is possible with this facility. Utilization rates of the building do not allow for many shared spaces and given the historic age of the school; no special education classroom are provided. Makeshift areas utilizing mechanical and storage rooms are being used to support special education learning. Spaces such as student collaboration and project-based learning are a standard for educational design and are challenging to accommodate in a historic building. The school is currently out of flexible classrooms which is prohibiting for future enrollment growth.

21st Century Learning: Given the historic age of the elementary school, furniture, and technology, providing a 21st century learning experience for students is near to impossible. Classrooms do not have adequate lighting and air controls for indoor quality standards, classrooms lack writable surfaces, and add-on (not integrated) technology has been incorporated over the years. Traditional heavy furniture does not allow for flexibility within classrooms and no project-based learning spaces are accessible to students and teachers. Double loaded corridors with student lockers provides congested circulation throughout the building and prevents adequate monitoring. Preparing students for a modern world starts at a young age, and MDE's Design for Planning Schools is an essential tool when starting this planning process. We have provided a copy of this resource document as a reference to the School District.



Guide for Planning School Construction Projects in Minnesota

Division of School Finance
1500 Highway 36 West
Roseville, MN 55113
Telephone: 651-582-8779
Fax: 651-582-8878
Email: mde.funding@state.mn.us
Website: Minnesota Department of Education

Educational Adequacy: South Elementary

West Central Area School District: 31 Central Ave N. Kensington, MN 56343

- *Building Site*

South Elementary located in Kensington, MN is situated in the center of the city. The building is located on one parcel of land. The building site is landlocked from future growth or expansion options. The existing playground sits on the South side of the building and is under sized. Due to the lack of green space, the grass turf is in poor condition and creates a muddy environment during shoulder seasons. An all-weather turf surface would allow better access to the outdoor space and playground structure year-round.

Additionally, no clear main entrance to the building exists. The school district should consider one point of entry for students and visitors, with a secure vestibule and security system. Wayfinding for visitors accessing the building is limited. Exterior signage and lighting could enhance the main entry to the building. The building's west entry is congested with trash receptacles, garbage dumpster, delivery trucks and vehicles. This is a hazard when in close proximity to the outdoor play area.



Educational Adequacy: South Elementary

West Central Area School District: 31 Central Ave N. Kensington, MN 56343

- *Building Site*



**West entrance- Not ADA compliant, no safe and secure access to building, and not connected to administrative office.*



**South playground with poor site conditions, lack of turf, and mudding conditions. Not ADA compliant. In close proximity to heavily utilized parking lot.*

Educational Adequacy: South Elementary

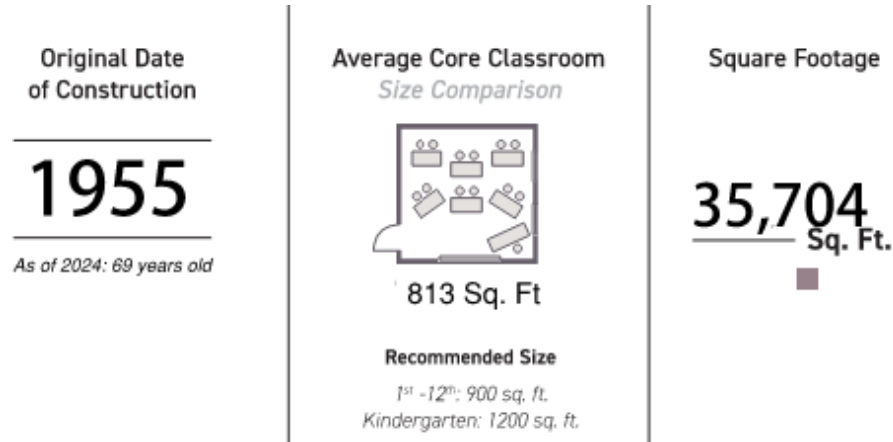
West Central Area School District

• Building Summary

South Elementary was originally built in 1955 with two major additions, the most recently in 1970. Many classrooms at South are inadequately sized according to MDE requirements. In addition, the building lacks collaborative learning spaces and has ADA compliance issues. 21st Century learning should provide students with current technology, flexible furniture, and building controls that allow for individual learning environments to be controlled throughout the day. Additional review of the existing facility's physical conditions can be found in the facility assessment portion of this report.

Grade and age levels: 3-year-olds, 4-year-olds, Pre-K through 4th grade.

Student enrollment: 198 students



West Central Area South Elementary Enrollment Data

YEAR	Little Knights	Kdg. Connection	Kdg.	1st	2nd	3rd	4th	TOTAL
2023-2024	16	24	18	22	19	32	19	150
2022-2023	14	16	25	19	36	23	20	153
2021-2022	10	24	20	33	24	23	22	156
2020-2021	11	17	27	25	24	21	22	147
2019-2020	9	29	29	25	21	26	33	172
2018-2019	12	22	29	20	28	29	25	165
2017-2018	11	20	22	30	28	23	29	163
2016-2017	15	19	28	27	23	30	24	166
2015-2016	N/A	N/A	28	25	30	23	30	136
2014-2015	N/A	N/A	28	33	25	31	37	154
N/A = Had not started yet								

Educational Adequacy: South Elementary

West Central Area School District

- Building Floor Plan-: 35,704 total square feet.



Educational Adequacy: South Elementary

West Central Area School District

- Building Floor Plan-: 35,704 total square feet.



Educational Adequacy: South Elementary

West Central Area School District: Educational Adequacy Report Summary

- *Report Understanding*

On the following page, you will find a detailed report studying each classroom and supporting space. This report analyzes the school's square footage compared to Minnesota Department of Education's (MDE) recommendations. Based on this information, we assess each space as the following; within range, undersized, or facility deficient. Facility deficient is the term used to identify the lack of recommended learning spaces by MDE.

- *Classroom Square Footage Analysis*

South Elementary school's grade level classrooms are all below MDE's recommended square footage ranges. The school has captured mechanical and storeroom space for the development of special education room. No additional grade level classrooms are available, preventing flexibility for future enrollment growth.

General school construction project space guidelines and assumptions (MDE) include the following:

- Classrooms designed to accommodate 15-28 students, depending upon grade level.
- All current building, accessibility, and health and safety codes will be met.
- Accessibility to all educational programs and services for students and adults with disabilities will be provided.
- Spaces are designed to be flexible, expandable, and when appropriate, multipurpose.

****out of the above listed guidelines, South Elementary is currently deficient in all areas.***

- *21st Century Learning*

Based on MDE requirements, the following recommendations are made for planning and designing facilities in preschool through grades four.

- Primary, intermediate, and upper elementary grades in a traditional classroom setting with enhanced technology.
- Primary, intermediate, and upper elementary grades in house, wing, or pod classroom arrangements with adjacent resource, technology, and student and staff support spaces.
- Specialized learning spaces such as instrumental and choral music, physical education, computer labs, science, art, world language, special education, Title 1, English as a second language, and gifted-talented.
- Location of student lockers in classrooms or locker bays, not hallways, to reduce hallway crowding and improve circulation.
- Offer clear sight lines for supervision and security throughout facility.

****out of the above listed guidelines, South Elementary is currently deficient in all areas.***

Educational Adequacy: South Elementary

West Central Area School District: Educational Adequacy Report Summary

South Elementary

Kensington, MN

Current Student Enrollment: 150

Space Description		MDE Recommendations				Room #	Actual Square Feet	Current Max. Student Capacity	Usage	Shared Space	Notes
		Space Range		MDE Student Capacity Range							
		Low	High	Low	High						
School Learning Spaces											
Classrooms											
	Preschool	1,000	1,400	15	25	139	1216	20	Full-Time	No	Within Range
	Preschool 3yr	1,000	1,400	15	25	156	764	12	Full-Time	No	Undersized
	Kindergarten	1,200	1,500	15	25	114	1058	15	Full-Time	No	Undersized
	Kindergarten	1,200	1,500	15	25	119	1209	17	Full-Time	No	Within Range
	1st Grade	850	950	15	25	128	852	18	Full-Time	No	Within Range
	1st Grade	850	950	15	25	131	852	18	Full-Time	No	Within Range
	2nd Grade	850	950	15	25	149	800	17	Full-Time	No	Undersized
	3rd Grade	850	950	15	25	132	800	17	Full-Time	No	Undersized
	3rd Grade	850	950	15	25	152	800	17	Full-Time	No	Undersized
	4th Grade	850	950	15	25	127	800	17	Full-Time	No	Undersized
	4th Grade	850	950	15	25	133	1049	22	Full-Time	No	Within Range
	Subtotal (Classrooms)	10,350	12,450	165	275		10200	190			
Common Spaces											
	Offices / Nurses Station	1,500	1,800			148	800				Undersized
	Teachers Lounge / Work Room	1,200	1,800	125	175	0	1116	112			Undersized
	Subtotal (Common Spaces)	2,700	3,600				1916				
Library / Media Center											
	Library	400	600			145	1583				Within Range
	Computer Lab	200	200			145	1583				Within Range
	Subtotal (Library / Media Center)	600	800				3,166				
Special Education											
	SPED	450	450	5	8	122	188	3			
	SPED					123	263				Facility Deficient
	SPED					124	145				Facility Deficient
	SPED					125	173				Facility Deficient
	SPED					126	253				Facility Deficient
	Sensory / O.T.					150	798				Facility Deficient
	Title 1					151	789				Facility Deficient
	Reading Core					109	351				Facility Deficient
	Speech	800	1200	10	17	117	1957	26			Facility Deficient
	Subtotal (Special Education)	1250	1650	15	25		4917	29			
Music											
	Music Classroom	1,000	1,500	25	50	159	1307		Full-Time	No	Within Range
Physical Education											
	Gymnasium	6,000	8,000			162	5,984		Part-Time	Yes	Undersized

Educational Adequacy: South Elementary

West Central Area School District: Educational Adequacy Report Summary

- 21st Century Learning



**Double loaded corridors, with lockers and poor sightlines and security.*



**Standard classroom with lack of white boards, dated technology, limited access to power, and non-flexible furniture*

Educational Adequacy

West Central Area School District

End Of Educational
Adequacy Report

FACILITY ASSESSMENT

Facility Assessment: **Overview**

Executive Summary

The material presented in this written report has been formulated for the use of the West Central Area School District. The purpose of this report is to aid the District in assessing the needs and improvement measures to be taken in accordance with the facility maintenance of the existing facility.

The contents of this report include :

1. Table of contents
2. Descriptive information comprised of text and graphics highlighting specific items where improvements are needed for maintaining this facility.
3. A non-exhaustive cost summary and supporting documentation.

The purpose of this investigation is to create a baseline summary of the facility in an “As-Is” state of current conditions. The report will provide recommendations for maintenance planning and will provide a budgetary cost estimate describing maintenance values suggested for maintained operation of the organization.

Maintenance and planning efforts carried out by the organization should not be considered through a narrow lens, instead considering the needs and assets in a unified approach and reflecting the needs of the overall community.

Facility Assessment: **Overview**

WiDSETH's Assignment to Investigate and Report

The West Central Area School District selected WiDSETH to conduct a facility study of the existing site & building, located at 411 1st St SE, Elbow Lake, MN. WiDSETH was chosen to investigate, evaluate, and report on general current conditions of the site, building and mechanical and electrical systems. Matters related to accessibility are noted, but the scope of this investigation does not include an exhaustive & in-depth analysis of accessibility.

To accomplish the investigation, WiDSETH assembled their in-house team of specialists including: an architect, interior designer, civil engineer, mechanical engineer and electrical engineer. Together, a tour is conducted of all parts of the buildings and site to see first-hand the conditions and use of the overall facility, to visually observe how the facility is holding-up physically - both on the interior and exterior, and how the mechanical, electrical and plumbing systems are operating. WiDSETH's team took note of, and photographed deficiencies, noncompliant items, and specific instances where improvements could be addressed. The team reviewed existing documents and spoke with key facility & board personal, soliciting their knowledge to ensure a high level of information quality and completeness. Upon completion of this on-site facilities tour, the team prepared the following report which describes the conditions observed.

Each evaluation is formatted in the following way:

- Each deficient item is numbered and described.
- Recommendations for future action are provided.
- Photographic inventory is provided to help the reader understand the depth of the subject matter.
- Each numbered item is directly linked and identified on the budgetary cost spreadsheet.

The report includes an itemized, non-exhaustive cost summary that directly ties to each highlighted deficiency. Budgetary cost estimate values are provided to reflect current maintenance needs as well as primary upgrade costs that are required to operate. These estimate values are provided in current 2024 dollars.

Facility Assessment: Criteria & Rating

The assessment team evaluated the facility and grounds based on the following categories:

1. Site: Physical surface conditions of the Parking / Hardscape.
2. General Physical Conditions: Including exterior envelope (roof, wall, exterior doors & windows, sidewalks & stoops), interior elements and finishes (partition walls, doors, windows, floor finishes, ceiling finishes), and State Building Code / ADA deficiencies.
3. Mechanical / Electrical / Plumbing Conditions: Including HVAC, Ventilation, and Plumbing systems.

The Facility Report presents Data Sheets delineated by a general overview of conditions followed by the specific analysis of individual deficiencies. Each zone or building analysis contains the associated line-item element breakdown. This spreadsheet tool aims to capture existing information such as last known year of replacement and replacement cost along with relevant comments. Current Unit Costs for repair / replacement are provided and shown as current year [2024] values (representing the time of the most recent assessment).

The spreadsheet prioritizes these values in categoric terms of “LOW – MEDIUM – HIGH”



- LOW (estimated replacement 10 years or beyond)
- MEDIUM (estimated replacement 5-10 years)
- HIGH (estimated replacement 0-5 years)

This Facility Report & Budgetary Cost Estimate Spreadsheet provides both a general overview and specific highlight of general condition & deficiencies (versus listing every item regardless of its condition).



Overview of Existing Conditions and Recommendations:

The West Central Area North Elementary facility was assessed to evaluate the condition and quality of the existing civil infrastructure.

- Sidewalk
- Concrete Curb and Gutter
- Bituminous Pavement
- Erosion/undermining Building
- Green Space and Turf Establishment
- Storm Sewer
- Full Depth Reclamation

The Elbow Lake facility, situated roughly in the center of the city, is notably in poor condition with several high-priority issues. Sidewalks are deteriorated and require replacement around the entire facility, including building entrances and stairways. The concrete curb and gutter has also deteriorated, necessitating a full replacement to restore proper functionality. The bituminous pavement throughout the parking lot is beyond repair and requires complete removal and replacement. Erosion caused by a roof downspout on the north side of the building has exposed the foundation, necessitating filling the area with concrete and installing a splash pad to prevent future erosion. Additionally, areas lacking sufficient grass coverage should be seeded and fertilized to promote turf establishment. To enhance drainage, the installation of storm sewers with area drain inlets is recommended. The basketball court bituminous pavement is in good condition today. It is recommended that the basketball court be reclaimed and paved in the future.



C01: Sidewalk

C01 Concern: Sidewalk

Priority: High



The existing sidewalks and stairways do not meet American with Disabilities Act (ADA) standards. Trip hazards, inconsistent stair riser heights, and inadequate handrails pose safety risks to students, staff, and visitors. The sidewalks show signs of significant wear, including cracks, and settlements.

ADA Compliance Issues:

1. Areas where concrete has settled or raised more than $\frac{1}{4}$ inch creates trip hazards, violating ADA standards.
2. The concrete stairways lack continuous handrails on both sides, which is required by ADA guidelines.
3. The riser heights vary within a set of stairs, leading to non-uniform steps.

[Item # Recommendation:]

It is recommended that all existing sidewalks and stairways be replaced with new, ADA-compliant structures. A trench drain with a solid cast iron cover should be installed across the sidewalk to replace the small diameter, plastic pipe that runs under the existing sidewalk. A small portion of concrete curb and gutter will need to be replaced on 1st Street SE to accommodate the new trench drain.



Building entrance from courtyard.



East building entrance (door 13).



C02: Concrete Curb and Gutter

C02 Concern: Concrete Curb and Gutter

Priority: High



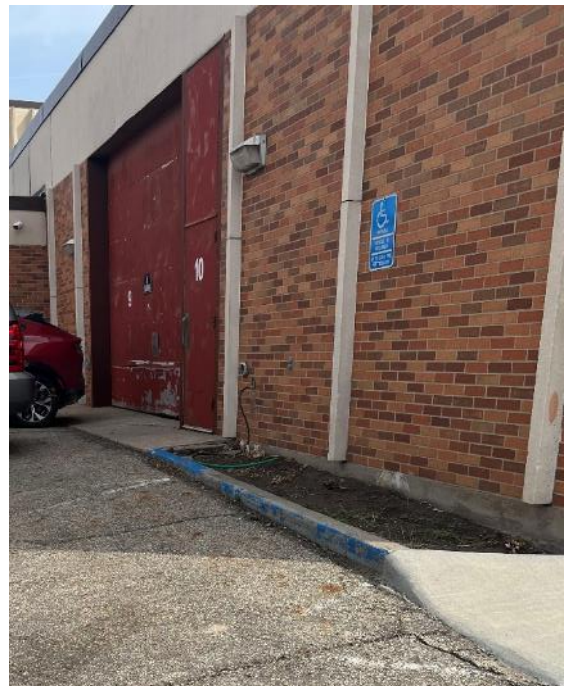
The existing curb surrounding the bituminous parking lot on the facility's south side is in poor condition. Additionally, there is no gutter on the existing curb to convey the flow of water. Parts of the curb are painted, but the paint has faded significantly.

[Item # Recommendation:]

It is recommended that all the existing curbs be replaced with a new curb and gutter system. This will convey water away from the buildings and towards the city street to the south. Handicap parking and pedestrian entry points will be painted for improved visibility.



Curb in front of the south facility entrance.



Curb in front of handicap parking area.



C03: Bituminous Pavement

C03 Concern: Bituminous Pavement

Priority: High



The existing bituminous pavement in the south parking lot is in poor condition. Alligator cracking is prevalent across the entire parking lot. The pavement markings are barely visible.

[Item # Recommendation:]

It is recommended that the entire parking lot be replaced with new bituminous pavement and pavement markings.



South parking lot entrance.



South parking lot looking north.



South parking lot looking east.



South parking lot looking south.



C04: Erosion/undermining Building

C04 Concern: Erosion/undermining Building

Priority: High



There is erosion and some undermining present underneath a downspout on the north side of the building. The ground has eroded away exposing the buildings footing. There are visible holes present where the ground has eroded away.

[Item # Recommendation:]

It is recommended that concrete be poured to plug the visible holes. It is also recommended that a concrete splash pad be poured directly under the downspout sloping away from the building to prevent erosion in the future.



Erosion and undermining beneath downspout.



C05: Green Space and Turf Establishment

C05 Concern: Green Space and Turf Establishment

Priority: Low



The green space in the courtyard requires regrading to match the surrounding sidewalk and 4X4 timber elevations around the playground. Turf is sparse along the west and south sides of the building, necessitating reseeding to establish healthy turf.

[Item # Recommendation:]

It is recommended that the green space in the courtyard be regraded to direct water flow towards 1st Street SE to the north. The gradient will help prevent water accumulation and subsequent freeze/thaw damage to the sidewalk and nearby buildings. Once regraded, consider landscaping to improve the aesthetic appeal of the courtyard. Reseed and fertilize the courtyard area to promote turf growth. The areas along the west and south side of the facility need reseeding and fertilizing to support healthy turf growth.



Courtyard area looking south.



Courtyard area looking north.



West side of building.



South side of facility.



C06: Storm Sewer

C06 Concern: Storm Sewer

Priority: Med



The current condition of the green space situated towards the center of the facility indicates inadequate drainage. Simply regarding and sloping the area may not sufficiently address the issue.

[Item # Recommendation:]

Install a storm sewer system equipped with multiple inlets strategically placed throughout the green space in the center of the facility. The storm sewer network should discharge onto the northern street, effectively diverting water away from the buildings. To facilitate this, it's necessary to install a trench drain featuring a solid cast iron cover. Additionally, a segment of curb and gutter along the street will require removal and replacement.



Drainage issues in green space.



Storm sewer to outlet to the north.



Drainage issues in green space.



C07: Full Depth Reclamation

C07 Concern: Full Depth Reclamation

Priority: Low



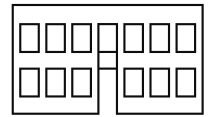
The existing basketball court pavement has some cracks that are visible but overall, the pavement is in good condition.

[Item # Recommendation:]

It is recommended that the basketball court be reclaimed, reshaped, and paved in the future.



Basketball court bituminous pavement.



Summary of Deficiencies

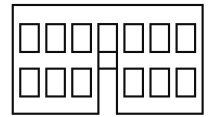
Exterior:

The current state of existing conditions for the WCA Elbow Lake facility can be considered to be in mix of conditions, ranging from [Poor, to Fair, to Good] but ongoing maintenance deferral has resulted in many significant features of the exterior envelope as being categorized as “well beyond the age of their useful life”.

Please refer to the following conditions as requiring substantial upgrades.

- The roof will require significant upgrades for all portions older than the 2016 updates. **All roof related repairs should follow any recommendations provided in the Insurance Report.*
- Portions of the older brickwork require significant tuckpointing of the mortar joints, particularly near roof scuppers & downspouts.
- Exterior hollow metal doors + frames and overhead doors are substantially beyond the age of their useful life. At minimum, these will all require cleaning, scraping, and repainting. Joint/sealant renewals are also required at each location. Doors 5, 6, 9, & 10 need to be replaced.
- Exterior windows and frames are substantially beyond the age of their useful life and should be upgraded to a thermally broken, aluminum system with double-pane windows to meet current MN Energy Code standards.

*Previous assessments contracted by the WCA District in recent years continue to hold valuable data and recommendations. Existing Building Envelope deficiencies identified during those previous assessments remain deficient and are identified in this assessment as well.

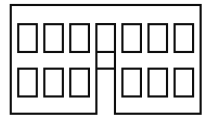


Overview of Existing Conditions and Recommendations:

Construction of the Elbow Lake Facility (original and addition) is well designed, energy efficient [in terms of its thermal mass due to the CMU+Brick assembly], and durable. But the facility currently is showing it's long history and age, with many primary systems having aged well beyond their useful life. While many of the existing deficiencies remain manageable and repairable, nearly all of the deficient systems are integral to the health and well-being of this structure. If the District plans for educational operations to continue at this facility, financial commitments with a focus on updating these primary components of the building envelope must be put in place. Continued deferral of maintenance will quickly result in overall decay to the entire structure.

If one does not exist, a maintenance policy for annual visual inspections should be established for the following exterior items:

- Roof & Parapet (Once Updated):
 - Parapet coping & flashing (around the perimeter exterior and perimeter interior)
 - Anticipated Useful Life: 40+
 - Exposed roof membrane (especially at seams and transitions in plane)
 - Anticipated Useful Life: TPO (20-25), EPDM (20-25), BUR (20-25)
 - Roof drains, covers, and scuppers (25-40)
- Entry Canopy:
 - Finish coatings and soffit boards
 - Anticipated Useful Life: Stains (3-8), Paints (7-10)
- Windows (Once Updated): 30 yrs
 - Sill flashing
 - Anticipated Useful Life: 20+
 - Perimeter sealant
 - Anticipated Useful Life: 5-10
- Doors (Once Updated): 20 yrs
 - Frames and Panels
 - Paint finish – checking for signs of oxidation or flaking/scratches
 - Anticipated Useful Life: 7-10
 - Sill Sweeps & Weatherstripping
 - Anticipated Useful Life: 5-10
- ADA Path of Entrance and Path of Egress (Once Updated):
 - Sidewalks – checking for signs of cracking and non-compliant changes of surface height from the door to the parking lot
 - Anticipated Useful Life: *40+ (useful life is significantly diminished if treated with corrosive anti-icing agents)



AE01: Roof Assemblies

AE01 Concern:

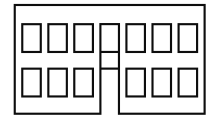
Priority: High



Significant portions of the roof have exceeded their useful life expectancy and recently come under scrutiny of the District's insurance provider, resulting in the loss of insurance coverage following separate, insurance-lead investigation.

[Item # Recommendation:]

Follow all recommendations and requirements laid out in the insurance report.



AE02: Exterior Walls

AE02 Concern:

Priority: High



Various and numerous locations around the perimeter are showing signs of mortar & joint deterioration, especially near roof drains and downspouts.

Exterior Envelope : Across the facility, there are indications of settlement cracking and missing mortar that are both indicative of, and introduce, water and air infiltration issues for the building envelope. There are multiple instances where the exterior masonry and mortar are showing signs of significant deterioration due to the unintended presence of consistent moisture. Problems such as these as are the result of moisture movement and buildup. Each of these (and all similar) instances warrant further investigation to determine the sources of moisture intrusion prior to work.

[Item # Recommendation:]

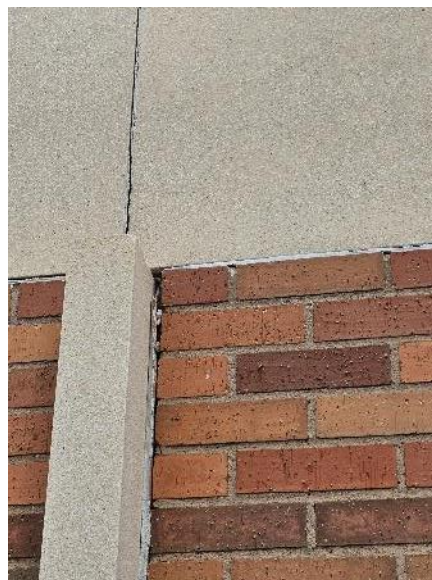
Repair “top of wall” and parapet issues prior to remediating localized deficiencies. Deteriorating and missing mortar needs to be replaced, and these areas need to be “repointed” or “tuckpointed” to ensure that the exterior envelope is air and watertight.

Seal building envelope and coordinate with replacements of windows / doors.

Prior to any mortar replacement work commencing, the building will need to be washed to remove the dirt and debris that has accumulated on the building over time. It is critical for the mortar to be in similar color, texture and compressive strength to match the existing mortar.

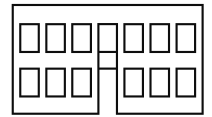


Joint / Tuckpoint repair



Deteriorated joints





AE03: Windows

AE03 Concern:

Priority: High



Exterior window systems are showing significant damage & degradation at key sealant locations, allowing moisture and air to infiltrate, and resulting in substantially reduced energy efficiency as well as indoor comfort levels for those who occupy the building.

[Item # Recommendation:]

Remove thermally inefficient existing windows and install new, thermally broken aluminum storefront windows and associated sealant, flashing and caulking. The new aluminum storefront windows will be energy efficient, prevent water and air infiltration into the building.



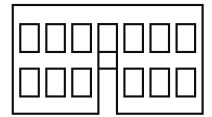
Broken window



Deteriorated window sealant



Broken window



AE04: Exterior Doors & Overhead Doors

AE04 Concern:

Priority: High

Nearly all hollow metal doors are aged beyond their useful life.



[Item # Recommendation:]

Exterior doors set into protective alcoves can continue to function adequately with routine maintenance to the finish paint, weatherstripping, seals, and sweeps. Doors with direct exposure will require additional maintenance routines as a result of UV related material degradation and freeze/thaw cycles.

Doors 5, 6, 9, & 10 need to be replaced.





Summary of Deficiencies

Interior:

Based on the age of the building, the overall interior appears to be in good condition in terms of finishes. Terrazzo flooring is largely in good condition, although there are a few instances of cracking that should be monitored and repaired.

Classroom flooring is primarily a single roll carpet that remains in good condition but will require replacement within the +/- 5-8 year range, with a few rooms requiring earlier replacement. Wall finishes did not show significant damage that would require major repair work, however there are areas that require patching and painting.

There are isolated instances throughout the building that are asbestos containing and recommend abatement.

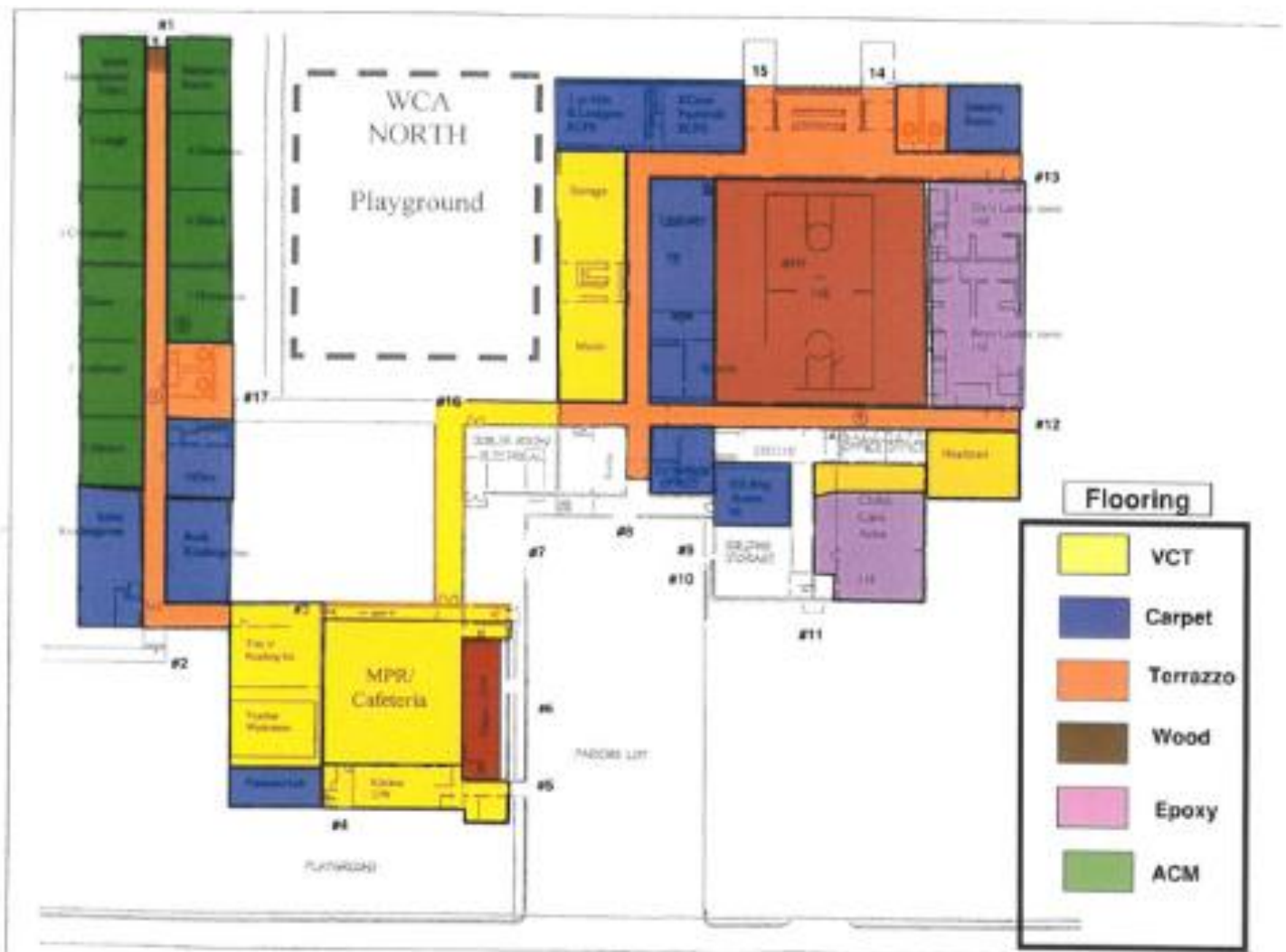
Acoustical ceiling tiles throughout the facility are generally uniform in style but a few locations are in need of replacement.

Classroom doors along the corridors do not meet current requirements related to building code fire rating or ADA door handle operation. Doors with knobs requiring twisting of the wrist should be retrofitted with lever handles to meet accessibility requirements; and budgetary preparations should be made to update classroom doors to meet current corridor fire rating requirements.

Casework worksurface heights throughout the building was observed at 36" above the finish floor, which exceeds the Minnesota accessibility guidelines maximum height of 34".

All of the multiple accommodation toilet rooms as well as single person toilet rooms do not meet accessibility code requirements. Minnesota Building Code requires a remodeling project expenditure of 20% of the construction budget for accessibility upgrades. For this reason, toilet room upgrade should be looked at as part of any future addition/remodel project.

Flooring Diagram

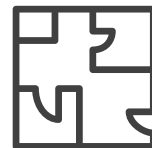




Overview of Existing Conditions and Recommendations:

Current state of the interior of the WCA North (Elbow Lake) building can be considered in good condition. General aging of building materials has occurred, as well as standard building wear and tear. Some items in the following interior report are on the high end of the priority. The following items should be considered as improvements in the long-range plan:

- Flooring:
 - Terazzo: 20 yrs
 - General conditions of the terrazzo flooring is in good condition with only a few isolated instances of cracking.
 - Wood: 20 yrs
 - Stage in the Cafetorium space is original wood. A maintenance plan for routine cleaning, sanding, filling, and finishing should be followed.
 - Carpet: 10 yrs
 - There is a mix of newer carpet tile selections and older roll-type carpet selections. Preparations should be made for planned upgrades to the older selections.
 - VCT: 20 yrs
 - Instances of these flooring systems are in generally fair to good condition, but they are beyond the end of their life expectancy. Preparations should be made for planned upgrades.
 - Epoxy: 20 yrs
 - Instances of these flooring systems are in generally good condition, but they are nearing the end of their life expectancy. Preparations should be made for planned upgrades.
 - ACM materials: There continues to be locations of Asbestos Containing Materials in the school. The District should continue with its current maintenance efforts to abate and upgrade these locations as required.
- Classroom countertops (20+ yrs) and sinks:
 - Update per Minnesota accessibility guidelines for approach, reach ranges, work surface height and operable controls at the sink.
 - While modifying, consider staff & student ergonomic considerations as well.
- Wall painting: 10 yrs
 - Continue to patch and paint walls as required on annual basis in high traffic areas.
- Future restroom accessibility:
 - If restrooms are ever to be upgraded, review current Minnesota accessibility guidelines.
- Interior doors: 30+ yrs
 - Interior doors should be updated to meet current Minnesota accessibility guidelines. Doors should also be reviewed for potential upgrades related to current security best practices.
- Ceiling materials: 24 yrs

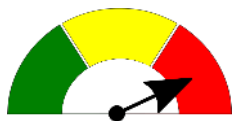


AI01: Life / Safety Deficiencies

AI01 Concern:

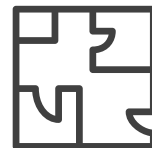
Priority: High

The facility lacks fire sprinkler protection



[Item # Recommendation:]

Update facility to incorporate new automatic fire sprinkler system & new fire alarm system.

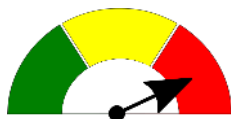


AI02: Asbestos Abatement

AI02 Concern:

Priority: High

Sections of the facility require asbestos abatement



[Item # Recommendation:]

Preparations should be made to periodically and routinely schedule asbestos abatement, until all remaining portions have been removed.



AI03: Accessibility Deficiencies

AI03 Concern:

Priority: High



Handrails and guardrails should be constructed to return its end to either a wall surface or floor surface. This is to prevent loose clothes or apparatus from catching on a handrail extension in the event of an emergency.

Room signage should be updated to meet current Minnesota accessibility guidelines and building codes.

[Item # Recommendation:]

Update facility to meet all current Minnesota accessibility guidelines and building codes.

Minnesota Building Code requires a remodeling project expenditure of 20% of the construction budget for accessibility upgrades. For this reason, upgrades such as these should be looked at as part of any future addition/remodel project.



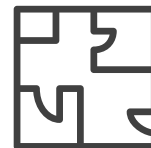
Non-compliant handrail extension



Non-compliant handrail extension



Non-accessible signage.

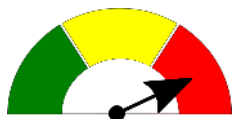


WCA North - Architectural Interior: **Analysis**

AI04: Accessibility Deficiencies

AI04 Concern:

Priority: High



Classrooms throughout the school are in conditions ranging from [Fair to Good]. Primary deficiencies observed are related to Minnesota accessibility guidelines related to classroom door handles, casework worksurface heights, and sink control handles (where present).

[Item # Recommendation:]

Update facility to meet all current Minnesota accessibility guidelines and building codes.

Minnesota Building Code requires a remodeling project expenditure of 20% of the construction budget for accessibility upgrades. For this reason, upgrades such as these should be looked at as part of any future addition/remodel project.



Non-accessible sinks & surface heights



Non-accessible door hardware.



AI05: Accessibility Deficiencies

AI05 Concern:

Priority: High



All of the multiple accommodation toilet rooms as well as single person toilet rooms do not meet accessibility code requirements. Clearances within the rooms do not allow for a five-foot turning radius, clearances in front of sinks and grab bars are not located in all instances.

[Item # Recommendation:]

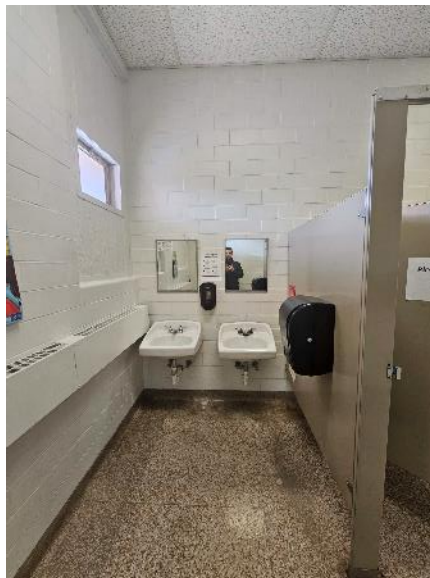
Update facility restrooms to meet all current Minnesota accessibility guidelines and building codes.

Restrooms throughout the building will need to be reconfigured to provide the adequate clearance at entry doors, around plumbing fixtures and within toilet stalls, as defined by the current Minnesota Accessibility Code. This reconfiguration would require a remodel and would impact the overall layout of the interior space of the building, including the relocation of the plumbing fixtures. In addition, the current Minnesota State Building Code requires impervious flooring materials and wall base, as well as cleanable wall finishes and ceiling materials. These items would be taken into consideration in a full restroom remodel.

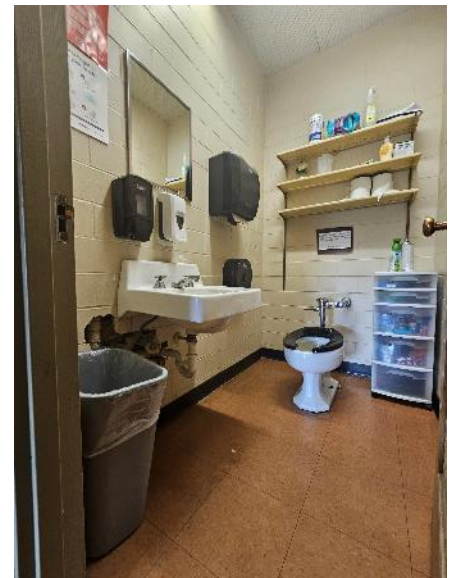
Minnesota Building Code requires a remodeling project expenditure of 20% of the construction budget for accessibility upgrades. For this reason, upgrades such as these should be looked at as part of any future addition/remodel project.



Stalls lack compliant floor space & grab bars



Sink locations lack compliant floor space, height requirements, and operable control requirements



Refer to previous



AI06: Hallway Floor & Wall Finishes

AI06 Concern:

Priority: High



Terrazzo flooring throughout the building is primarily in good condition, with select instances of cracking. Vinyl flooring sections are in generally fair to good condition, but they are beyond the end of their life expectancy. Preparations should be made for planned upgrades.

Wall surfaces are also in fair to good condition, with select instances of damage or wear.

[Item # Recommendation:]

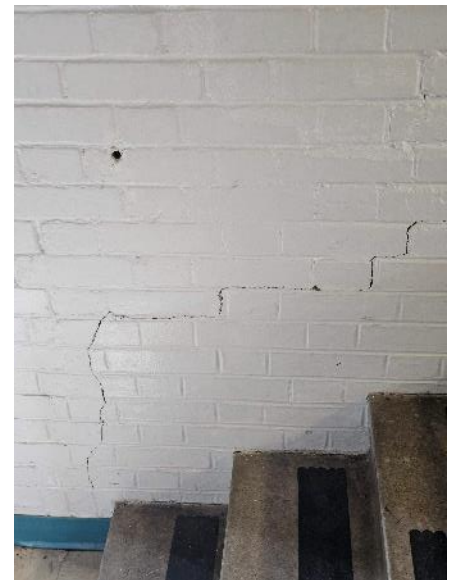
Create a routine maintenance plan to perform annual inspections for the purpose of locating and identifying specific instances of cracking. Patch and repair as required.



Cracking across hallway



Damaged wall tile grout



Cracking near Door 4 - likely due to settlement



AI07: Admin, Classroom, & Library Floor & Wall Finishes

AI07 Concern:

Priority: High



Administration area carpeting is recently installed carpet tile.

Classroom & Library flooring is primarily a single roll carpet that remains in good condition but will require replacement within the +/- 5-8 year range, with a few rooms requiring earlier replacement. Wall finishes did not show significant damage that would require major repair work, however there are areas that require patching and painting.

[Item # Recommendation:]

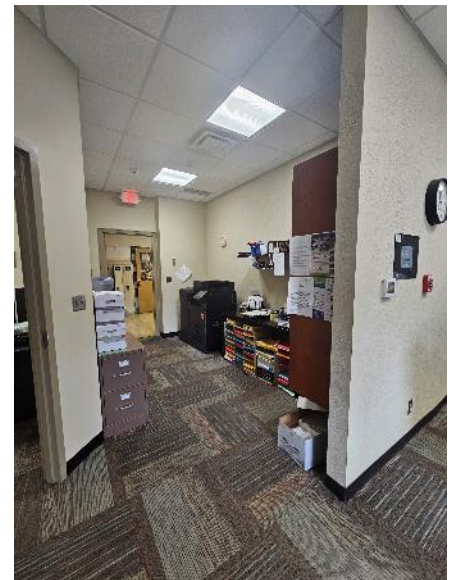
There is a mix of newer carpet tile selections and older roll-type carpet selections. Preparations should be made for planned upgrades to the older selections.



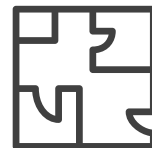
Typical classroom carpet



Typical library carpet



Typical administration carpet

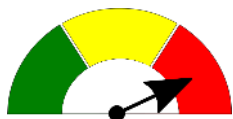


WCA North - Architectural Interior: **Analysis**

AI08: Ceiling Finishes

AI08 Concern:

Priority: High



Ceiling finishes throughout the building is primarily in good condition, with select instances of staining.

A hallway ceiling near the Kitchen is cracked and sagging.

[Item # Recommendation:]

Create a maintenance plan to routinely assess interior conditions.

Replace ceiling tiles as required.

The Kitchen hallway ceiling should be specifically investigated and assessed to determine the cause and nature of the damage.



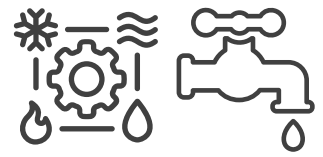
Stained ceiling tile



Rusted ceiling grid



Cracked and sagging ceiling near Kitchen



Overview of Existing Conditions and Recommendations:

This facility assessment report provides an overview of the WCA North Elementary School's HVAC and Plumbing systems, focusing on its outdated steam boiler heating system and the absence of proper ventilation. The elementary school is currently reliant on antiquated steam boiler heating system for indoor thermal comfort during winter. The school lacks the proper amount of ventilation. This document aims to identify current conditions, propose recommendations for updating, and provide expected cost estimates for outlined recommendations.

HVAC Systems

WCA North Elementary School is heated using two LP gas Cleaver Brooks steam boilers with a steam distribution system and pneumatic controls. The school's heating system uses a traditional steam boiler setup, where water is heated to produce steam. This steam is then distributed throughout the building through large pipes to heating coils, radiators, or convectors, providing heat to the indoor spaces. The steam then cools and turns to condensate which is captured and returned in smaller pipes. The condensate is then heated again to steam. The system operates on older technology that may be inefficient and prone to maintenance issues. The east side (old high school) was converted to hot water distribution using shell and tube heat exchangers and is pumped to Hot Water terminal units throughout.

The Office area is served by a LP gas rooftop unit with air-conditioning and outdoor air ventilation. Exhaust fans throughout for restrooms and general ventilation (Power Roof Ventilators). The Gym has indoor AHUs are heating only is currently provided using only one steam unit heater. There is no fresh air ventilation provided to the space. Typical Classrooms receive heating and ventilation from indoor AHUs via a mix of ceiling and in floor ductwork.

Typical Classrooms (west side) – unit ventilators encompassing some OA when new and operational. Now the unit's dampers are in a set position which may not be enough OA during occupied class periods and bring in unnecessary OA throughout the night or weekends which causes increased energy use/cost. Typical Classrooms (east side) – receive heating and ventilation from indoor AHUs via ceiling supply and return ductwork.

Plumbing Systems

Overall, the plumbing fixtures are operational but need updating. There is a new water meter because the old one was unable to shut down, which is a telling sign of the rest of the building. Locker rooms seem to be used for changing and restrooms only. Unused for showering. Building has a mix of flush valve and tank-type water closets. Some of the fixtures are starting to show wear and hairline cracking. Classroom sinks do not meet code (bubblers).

Recommendations:

- Upgrade the steam boiler heating system with modern, energy-efficient hot water boiler system and controls to improve heating performance and reduce energy consumption. Provide new hot water piping throughout the school to the new hot water heating components.
- Install new Indoor AHU systems to provide heating, cooling, and ventilation. These will provide adequate air circulation and improve indoor air quality, ensuring a healthy and comfortable learning environment for students and staff.
- Budget for the upgrade of plumbing fixtures and accessories. Remove plumbing fixtures in areas that have become unused (locker room).



ME01: Steam Heat Systems - Boilers

ME01 Concern:

Priority: High

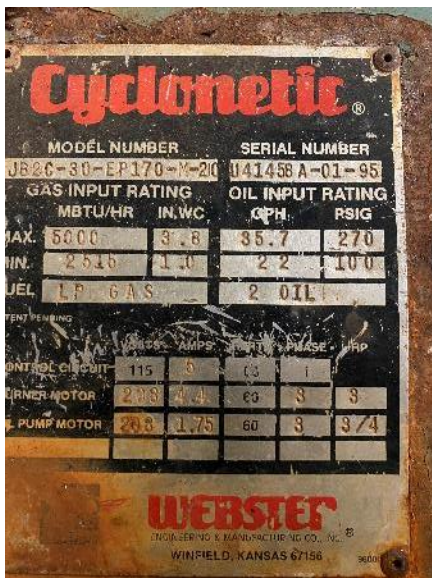


The building's steam distribution system is served with two 5,000 MBH, liquid propane with fuel oil backup boilers. These boilers are 29 years old and beyond their useful life. Maintenance and repairs are available for these boilers to keep them useful but come at a sizeable cost and is not a long-term fix.

While old steam boiler systems are operational and used for certain applications, they often present various drawbacks in terms of distribution, efficiency, maintenance, and controls compared to hot water heating solutions. Upgrading to more advanced and energy-efficient heating systems is recommended to improve overall comfort and performance.

[Item # Recommendation:]

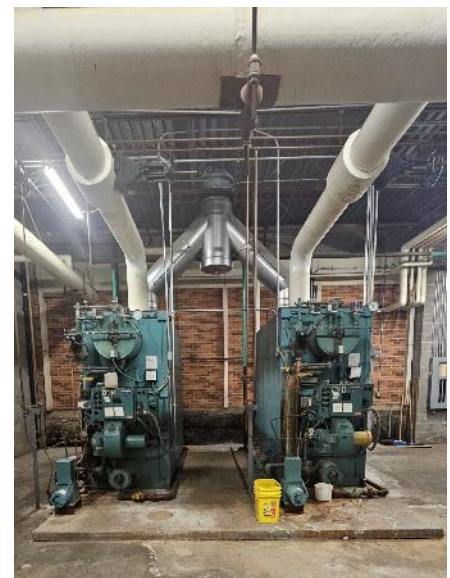
Remove steam boiler system, piping, traps, condensate, pumps, and controls. Replace with high efficiency hot water boilers, water piping, insulation, pumps, and controls.



Steam Boiler tag



Steam to Hot Water Exchanger



Steam Boilers



WCA North - Mechanical: **Analysis**

ME02: Steam Heat Systems - Distribution

ME02 Concern:

Priority: High



The building's steam distribution system is of the age where it has or will start to fail. A leaking steam pipe to one of the wings could result in inability to heat, school shutdowns, and possible damage to water lines if not addressed right away (like over a weekend). Fixes for the initial leaks might last but additional failures are likely.

Steam Traps need yearly maintenance to maintain pressures and keep efficiencies high. These tend to be left unmaintained in steam systems.

[Item # Recommendation:]

Remove steam and condensate piping and replace with hot water hydronic piping, electric control valves, digital controls, and water treatment.





ME03: Steam Heat – Classroom, Hallway/ Vestibule Terminal Units

ME03 Concern:

Priority: High



The classroom steam terminal units consist of unit ventilators and a steam radiator. Most unit ventilators are not operating at 100%. They are beyond the age where they have failed or will start to fail (heat exchangers/ motors/ OA dampers). There is either a reduction of fresh air per classroom or too much where energy is wasted.

The building's steam radiators in Hallway and Vestibules are technically beyond useful life but still operational. Efficiency is questionable as the steam radiators may be scaled and in need of water treatment or beyond repair. These units are not able to be used when converting to hot water hydronic systems and will need to be replaced.

[Item # Recommendation:]

Remove steam unit ventilators, radiators, piping, valves, and controls in classrooms throughout west side (steam side) of the elementary.

Replace with hot water fin tube radiation, hydronic piping, electric control valves, digital controls, and water treatment for envelope losses as needed in Vestibules or corner rooms.



Classroom Unit Steam Ventilator



Vestibule Steam Radiator



Restroom Steam Radiator



ME04: Steam to Hot Water – Shell and Tube heat Exchanger and Distribution

ME04 Concern:

Priority: Med



The East portion of the school is served by Hot Water heat via a shell and tube heat exchanger. The steam boilers heat water/glycol mixture (glycol is automotive antifreeze) through the exchanger and distribute to terminal units using pumps and piping.

[Item # Recommendation:]

Budget for removal of Shell and Tube Exchanger and circulating pumps with the upgrade to hot water boilers. Replace current water/ auto antifreeze and replace with proper glycol / water percentages.



Shell and Tube Heat Exchanger



Steam to Hot Water Distribution / Pumps



WCA North - Mechanical: **Analysis**

ME05: Exhaust Systems (PRVs)

ME05 Concern:

Priority: High



The building's exhaust system is served with powered roof ventilators (PRVs). At the time of the walk-through none of the PRVs were operational (some without motors).

[Item # Recommendation:]

For a well-designed HVAC system to operate correctly, Outdoor Air and Exhaust Air need to be working. The PRVs shall be replaced with new as they are not worth repairing. Exhaust fans shall be designed with direct drive motors to reduce maintenance time and costs.



PRV – Missing motor.



PRV – Maintenance Required



PRV – Maintenance Required



ME06: Air Handling Units (AHUs)

ME06 Concern:

Priority: High



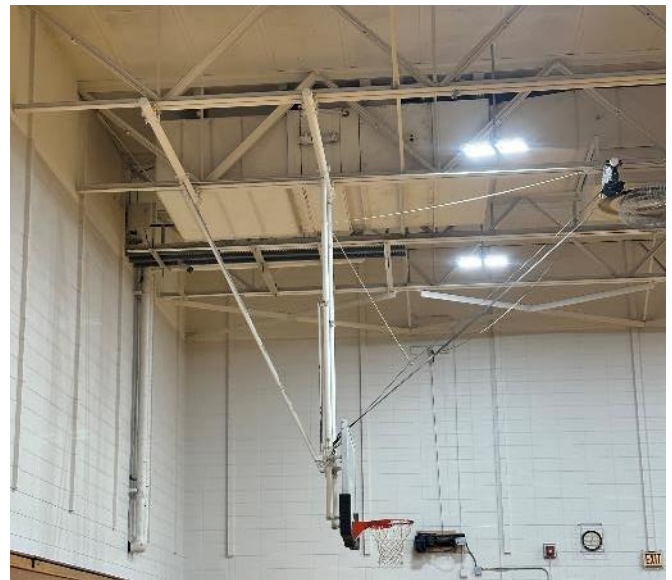
The east portion of the building and gymnasium is served by five AHUs (three serving classrooms and two for the gymnasium) which provide heating and ventilation (fresh air). The units and controls are beyond their useful life and require significant effort to keep up with maintenance and repairs. These units have Hot Water coils, constant speed fans, and pneumatic controls. They don't have cooling coils or have the ability to add cooling.

[Item # Recommendation:]

The AHUs are operational for now but should be replaced with upgraded systems which employ more efficient technologies such as variable speed fans, digital controls, and more accurate outdoor air measures. The replacement units can be mounted in place or on the roof to gain more storage if needed. The new units shall be sized with cooling / dehumidification. A unit shall be added for the west wing and incorporate ductwork to each classroom with a VAV system with hot water reheats.



Indoor AHU – Heating Only



Indoor AHU – Heating Only



WCA North - Mechanical: **Analysis**

ME07: Through-Wall Air Conditioning Units in classrooms

ME07 Concern:

Priority: Med



Through-Wall Air Conditioning Units used for classroom and spot cooling are outdated and not operational. The units are past their useful life and do not meet MN energy Code for efficiency.

[Item # Recommendation:]

Remove through-wall air conditioners and patch walls to match existing. New HVAC system shall provide cooling.



Through wall AC unit



AC Unit Model Number



ME08: Recessed / Flush mounted Ceiling Heaters

ME08 Concern:

Priority: Low



The east athletic areas of the building are served with hot water ceiling heaters. (Lobby, vestibules, locker rooms, and restrooms). These operate on a call for heat from the corresponding thermostats. These units are beyond life expectancy, inefficient, and tend to be loud.

[Item # Recommendation:]

Provide thorough maintenance and replace fan motors if needed.

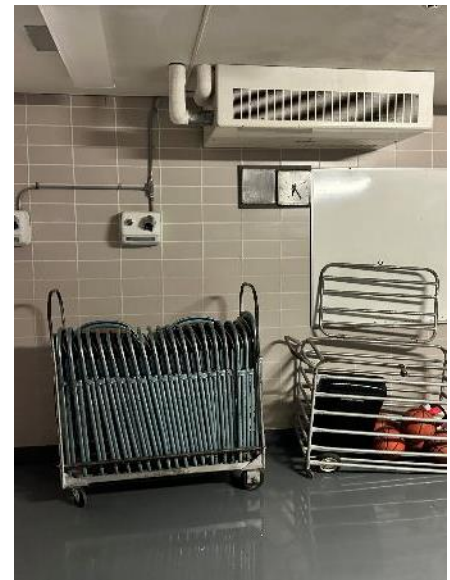
In the next 10+ years, remove these heaters and replace with individual AHUs or RTUs for spaces needed. New units will have air-conditioning / dehumidification. New units will also meet the proper energy code for heating, cooling, and fan efficiencies which will provide savings in utility bills.



Recessed Ceiling Heater - Lobby



Recessed Ceiling Heater – Storage



Flush Mount Ceiling Heater - Lockers



WCA North - Mechanical: **Analysis**

ME09: Office Rooftop Unit

ME09 Concern:

Priority: Med



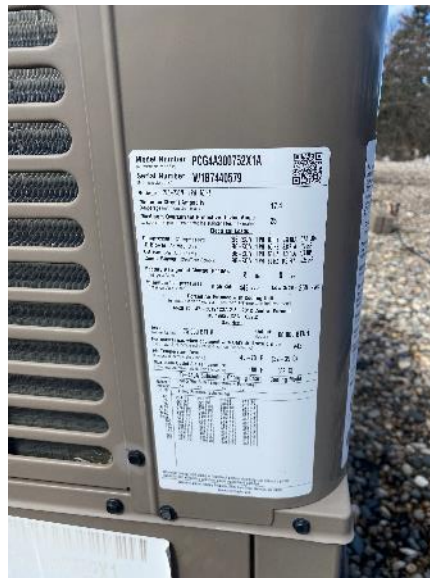
There is a rooftop unit which provides HVAC to the office in the existing elementary building. The unit is a 2005 LuxeAire packaged rooftop with 75 MBH gas heat (80%) and 2.5 tons of cooling (11.0 EER).

[Item # Recommendation:]

The 2005 RTU is just beyond its life expectancy and shall be budgeted for replacement in the next 1-5 years.



Office RTU



RTU information



ME10: Commercial Kitchen

ME10 Concern:

Priority: Med



Although functional, the commercial kitchen lacks code compliance because of the exhaust hoods. The Type-1 grease hood is slightly too small for the equipment underneath (griddle and ovens). The Type-2 hood, serving the dishwasher, appears to be undersized for current codes, but the CFM of exhaust fan was not known to determine compliance. The make up air unit appears operational but is blowing directly at the hood which hinders the hood's performance. The MAU is also heating only which can be a disadvantage to the staff. There is exposed domestic piping without insulation. The water heater serving the kitchen is a 40-gallon electric and is undersized for the application.

[Item # Recommendation:]

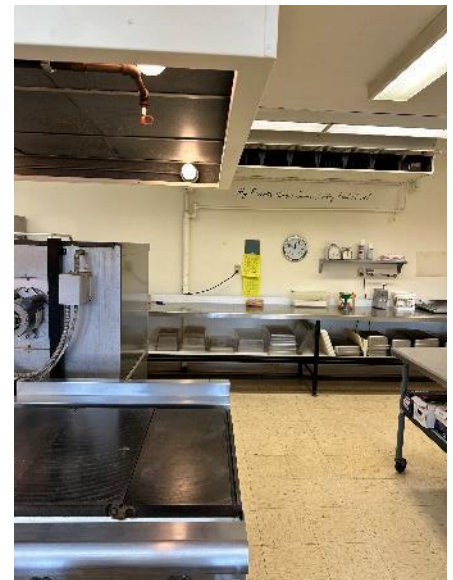
Budget for replacement of kitchen HVAC system in the next 6-10 years. Type-1 and 2 hoods, exhaust fans, fire suppression, and make up air unit. Investigate layout and consider relocating sinks and cooking equipment in the most efficient manner. Route piping in walls, upgrade hand sinks to stainless steel. Upgrade Water heater a gas-fired unit. Add recirculation pump.



Type-1 Hood



Reroute and insulate water lines.



Griddle is outside of Type-1 hood.



ME11: Plumbing fixtures and Piping throughout elementary

ME11 Concern:

Priority: Med



In general, the plumbing fixtures, faucets, and flush valves have reached beyond their expected life. With a few exceptions, they are operational now and can be repaired or replaced as they fail. Fixtures (such as sinks, water closets, urinals, etc.) tend to last longer but show their age as you upgrade around them. Faucets and flush valves show their age as well but are easier to replace. Some restrooms have flush valve water closets, and some have tank-type. The classroom sink with bubblers do not meet current code for separation distance.

Domestic piping throughout the building is expected to have severe scale buildup over the years. This reduces the area inside the pipe, increase friction, and reduces the pressure to the fixtures.

[Item # Recommendation:]

Replace faucets on lavatories and sinks. Replace flush valves and water closets and urinals. Replace necessary fixtures with matching equipment. Budget for replacement of all fixtures within the next 10 years.

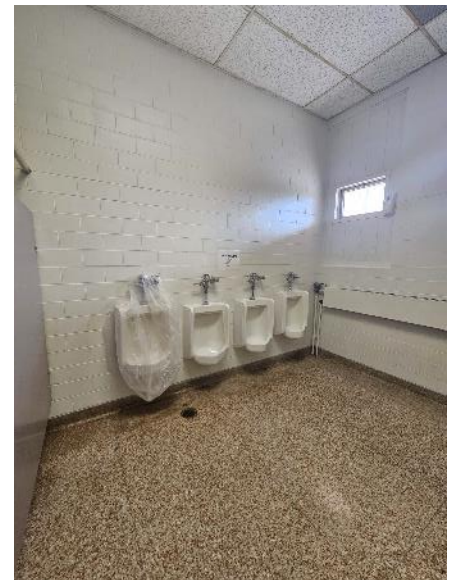
Replace all domestic water lines throughout the building to each fixture group with copper piping.



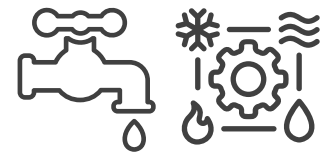
Replaced water service



Replacement water closets do not match



Inoperable fixtures



ME12: Plumbing and HVAC Systems - Early Childhood

ME12 Concern:

Priority: Med



The plumbing fixtures are functional but beyond their life and not designed for an ECCE classroom which benefits from lower height lavatories and water closets.

The classroom relies on hot water radiation and unit ventilators for heat. There is minimal ventilation and no air conditioning. The unit ventilators are beyond the age where they have failed or will start to fail (heat exchangers/ motors/ OA dampers). There is either a reduction of fresh air per classroom or energy is wasted (too much OA) when using the ventilators.

[Item # Recommendation:]

Budget for repair and/or replacement of plumbing fixtures in the boy's and girl's restrooms within 6-10 years. Consider new 10" water closets and lower wall-hung lavatories for the younger children.

Remove and replace unit ventilators with an AHU or RTU to serve the spaces with proper heating, cooling, and ventilation for the purpose used.



ECCE – Unit Ventilators



Restroom fixtures



ME13: Plumbing Systems – Locker Rooms

ME13 Concern:

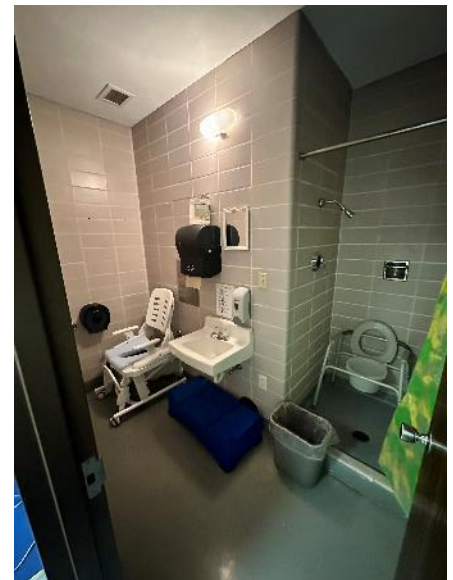
Priority: Med



The plumbing fixtures in the locker are beyond life expectancy. They are seldom used. Some areas have become storage areas. Some areas consist of incomplete remodels.

[Item # Recommendation:]

Budget for repair and/or replacement of plumbing fixtures in the men's and women's Locker rooms within 6-10 years. Consider new layouts and reduced numbers as needed. If removing fixtures in certain areas to gain storage, cap plumbing in ceiling for future use.





Overview of Existing Conditions and Recommendations:

The existing electrical systems and equipment are, in general, in fair to good condition with useful life remaining. However, three of the electrical panels in the west wing of the building utilize ceramic fuses and require immediate replacement.

The electrical utility provider is Elbow Lake Municipal Power, which serves the building with a 120/208 volt, 3-phase electrical service via a pad mounted transformer and metered CT cabinet located on the south side of the building.

The existing facility lighting is primarily incandescent and fluorescent fixtures utilizing T8 style tubes. Some of the facility lighting has recently been replaced new LED fixtures or retrofitted to utilize LED T8 pattern replacement tubes, and the staff indicated that the retrofitting of the remaining fluorescent fixtures is ongoing.

There are lighting control changes that Widseth recommends for reducing energy consumption while also giving the end user more control/comfort (dimming, daylighting), however, some of these will be contingent depending on the type of LED light fixture upgrades that the school district continues with.

The exit and emergency lighting throughout appears adequate and in good working order, however, there were multiple areas observed where the exit signage was not up to code and which should be replaced with new illuminated exit signs. Periodically test, maintain and/or replace existing exit signs and emergency lights as necessary.

The current electric code requires tamper proof receptacles in all areas of schools that are accessible to students. No tamper proof receptacles observed in the building.

Staff indicated that there are not enough receptacles in classrooms.

The facilities' security systems (surveillance cameras, card readers, etc.) appear to be in good working order and located in areas that are satisfactory for the building's current functions and needs.

The facility's fire alarm system is via smoke detection only and appears to be in good condition, complete and up to code. Continue with periodic maintenance inspections and tests as recommended by the manufacturers.



Lighting:

The lighting system throughout the building appears to be in good working condition.

The existing facility lighting is primarily incandescent and fluorescent fixtures utilizing T8 style tubes. Some of the facility lighting has recently been replaced with new LED fixtures or retrofitted existing fixtures to utilize LED T8 pattern replacement tubes; the staff indicated that the retrofitting of the remaining fluorescent fixtures is ongoing.

There are several options when replacing or retrofitting existing light fixtures to LED, these are:

- Lamp-Only LED Replacements
- LED Retrofit Kits
- Dedicated LED Fixtures

When retrofitting or replacing existing lighting fixtures to LED, unless upfront cost is the primary concern, Widseth recommends replacing the entire fixture with new dedicated LED lighting fixtures over the various LED tube replacement or retrofit kit options.

Recognizing that Widseth's typical recommendation may be a departure from the current light fixture retrofitting work that has been completed and is ongoing, Widseth would like to offer the following information regarding the various options so that, however it is decided to proceed, the School District is able to do so informed of the advantages and disadvantages of each option.



Lighting:

Option #1 – Lamp-Only Upgrades (TLEDs):

There are three ways to accomplish an LED retrofit with lamp-only upgrades.

1. UL Type A, LED replacements. This TLED tube type is compatible with existing fluorescent ballasts and only the tubes need to be replaced. This type of tube replacement is the cheapest and simplest way to convert existing fluorescent fixtures to TLED, however, they usually are not dimmable, and there may be compatibility issues between the TLED lamps and the existing fluorescent ballasts, even among the same manufacturers.
2. UL Type B, LED replacements. This TLED tube type are also known as “ballast bypass lamps” or “direct wire lamps”, and, as the name suggests, require rewiring the existing light fixture to bypass the existing fluorescent ballast and directly wire the lamp holders. While this option is typically more expensive than Type A installations, because of rewiring the fixtures, they do not have the same compatibility issues.
3. UL Type C LED replacements. This TLED tube type requires the existing fluorescent ballast to be replaced with a new driver. This option is the more expensive than retrofitting an existing fixture with Types A or B TLED tubes, but they also have the longest lifespan of the three, are more efficient, and offer dimming capabilities.

Advantages:

- Cheapest upfront cost
- Quickest Installation with the least amount of downtime
- Existing fixture and all optical components remain
- Typical energy saving of 40-60% (compared to fluorescent)

Disadvantages:

- Performance depends on existing fixture/ballast
- May not be compatible with existing or desired controls (ie: dimmers, etc.)
- Possible electrocution, flickering and surge protection issues (with UL Type B)
- Potential for difficulty in upgrading to future emerging technologies
- Narrow light distribution with poor light uniformity
- More frequent maintenance/replacement than dedicated LED fixtures
- Depending on the electrical utility provider, may not be eligible for LED rebates



Lighting:

Option #2 – LED Retrofit Kits:

An LED retrofit kit replaces all the internal components of the existing fluorescent light fixture but utilize the existing housing. The new components fit inside the existing housing but make it look like a completely new fixture. Retrofit kits are less expensive upfront than new fixtures and offer increased energy savings and performance upgrades over TLEDs.

Advantages:

- Lower upfront cost vs. new fixture
- Keeps the existing fixture housing installed
- Longer lifespan vs. lamp-only replacement
- Wider range of lumen output and distribution, etc. than lamp-only options
- Potential for dimming and control capabilities
- Typically eligible for electrical utility LED rebates
- Typical energy saving of 50-70% (compared to fluorescent)

Disadvantages:

- Higher upfront cost vs. lamp-only replacement
- Longer installation time with more downtime than lamp-only replacement
- Potential for difficulty in upgrading to future emerging technologies



Lighting:

Option #3 – New, Dedicated LED Fixtures:

This solution completely replaces existing fixtures in their entirety with new LED fixtures. The LED components are an integral part of the light fixture rather than the traditional lamp or bulb. Dedicated LED fixtures are the most efficient and offer a wide selection of options, such as, but not limited to, lumen packages, color temperatures, CRI levels, control options, etc. While dedicated fixtures still tend to cost more than lamp-only or retrofit kits, the cost difference between them has been steadily decreasing in recent years.

Advantages:

- Wide selection of control options (dimming, occupancy sensing, daylight harvesting, etc.)
- Wider range of options for lumen output and distribution, etc. than other options
- Longer lifespan vs. lamp-only or retrofit replacement
- Typically eligible for electrical utility LED rebates
- Typical energy saving of 50-70% (compared to fluorescent)

Disadvantages:

- Highest upfront cost for both material and labor
- Longer installation time with more downtime than other options

EL01: LIGHTING CONTROLS (INTERIOR)

EL01 Concern:

Priority: Low



The lighting controls throughout the building are primarily via standard on/off switching with very few spaces having energy reducing measures such as dimmers, occupancy sensors or daylighting. While occupancy sensors can be installed in combination with any light fixtures, installation of dimmers and daylighting sensors is contingent upon existing and/or future light fixtures being compatible with these types of controls (some lamp-only LED retrofit tubes are not compatible with dimming or daylight sensors).

ELO1 Recommendations:

- It is recommended to:
 1. Provide occupancy sensors throughout the building (Hallways, Bathrooms, Meeting Rooms, etc.), except for areas where automatic controls may present a safety concern (Mechanical, Electrical and Server Rooms, etc.)
 2. Provide dimming controls in offices and classrooms and other similar spaces.
 3. Provide daylighting sensors in spaces with lots of incoming natural light, such as offices and classrooms with exterior windows, etc.

NOTE: The related cost estimate included in this report is a lump sum item, however, these improvements could easily be made classroom by classroom over a period of years to spread out the costs.



Examples of standard on/off switching in most locations



EL02: EXIT SIGNS

EL02 Concern:

Priority: High



In general, the exit and emergency lighting throughout appears adequate and in good working order, however, there were some areas observed where the exit signage was damaged and/or not up to code, and which should be replaced with new illuminated exit signs. Periodically test, maintain and/or replace existing exit signs and emergency lights as necessary.

ELO2a Recommendation:

It is recommended to replace all damaged exit signs and all non-illuminated exit signs with new illuminated emergency signs. Some of the locations are pictured below.

Following is a list of non-illuminated exit signs observed during walkthrough:

- Teacher's Lounge 19W (total of 2)



Non-Illuminated Exit Signs in Teacher's Lounge 19W



EL02: EXIT SIGNS

EL02 Concern:

Priority: High



In general, the exit and emergency lighting throughout appears adequate and in good working order, however, there were some areas observed where the exit signage was damaged and/or not up to code, and which should be replaced with new illuminated exit signs. Periodically test, maintain and/or replace existing exit signs and emergency lights as necessary.

ELO2b Recommendation:

It is recommended to conduct annual testing of all powered exit sign and emergency lights, and repair and/or replacement of exit signs and emergency lights as needed.



Examples of exit signs and emergency lights that require annual testing.



ELO3: Electrical Distribution Equipment

EL03 Concern:

Priority: High



The existing electrical systems and equipment are, in general, in fair to good condition with useful life remaining. However, three of the electrical panels in the west wing of the building are Frank Adam Electric Co. panels utilizing ceramic fuses and require immediate replacement. There are also a number of ITE branded panels located throughout the building that are in varying conditions. All are in working condition, but it is recommended to budget for replacement of these panels within the next 10-15 years.

ELO3 Recommendations:

It is recommended that the school district replace the three ceramic fuse panels immediately.

It is recommended that budgeting is put in place to replace the ITE branded panels in the next 10-15 years.

ELO 3a - ITE branded Switchboard, replace in the next 15 years:

- 2000A Switchboard for electrical service entrance and power distribution, located in Boiler Room A133. Fair condition, replace in next 15 years. Has dust and corrosion built up around switches, needs cleaning immediately. Provide covers for spaces left open to the interior of switchboard.

ELO 3b – Panels in need of immediate replacement:

- In-wall fuse-style electrical panel located in Corridor outside Classroom 5W.
- In-wall fuse-style electrical panel located in Janitor's Closet across from Classroom 9W.
- In-wall fuse-style electrical panel located in IT/Janitor's Closet adjacent from Classroom 17W.

ELO 3c - ITE branded panels in fair to good condition, replace in the next 10 years:

- Panel E located in Boiler Room A133. Fair condition, replace in next 10 years.
- In-wall panels B (north wall) and C (south wall) located in Gymnasium 14E (total of 2). Fair condition, replace in next 10 years.
- In-wall panel D located in concessions area adjacent Lobby A103. Fair condition, replace in next 10 years.
- In-wall Panel F located in Janitor's Closet A119. Fair condition, replace in next 10 years. Has a lot of dust built up around the circuit breaker, needs cleaning immediately.
- In-wall Panel G located in Daycare 12E. Fair condition, replace in next 10 years.



ELO3: Electrical Distribution Equipment

EL03 Concern:

Priority: High



The existing electrical systems and equipment are, in general, in fair to good condition with useful life remaining. However, three of the electrical panels in the west wing of the building are Frank Adam Electric Co. panels utilizing ceramic fuses and require immediate replacement. There are a number of ITE branded panels located throughout the building that are varying condition. All appear serviceable, but it is recommended to budget for replacement of these panels within the next 10-15 years.

ELO3 Recommendations:

ELO 3d - ITE branded panels in fair to good condition, replace in the next 15 years:

- Panel K located in Receiving B137 adjacent Kitchen B130. Good condition, replace in next 15 years.
- In-wall double-tub panel located in Corridor A136 outside Classroom ECFE 5E. Good condition, replace in next 15 years.
- In-wall panel located in office area adjacent SPED 8E. Good condition, replace in next 15 years. Immediately provide blank cover to replace duct tape over unused breaker spaces.

In good condition, no replacement necessary:

- Panel LP-1 located in IT/Janitor's Closet adjacent from Classroom 17W.
- Load center located in Kitchen Office B135, adjacent Multipurpose B128 and Kitchen B130.
- Panel LP-2 located in Stage B129.
- Load center adjacent Panel K located in Receiving B137 adjacent Kitchen B130.
- Panel DP-1 located in Boiler Room A133.
- Panel LP-3 located in Boiler Room A001.



ELO3: Electrical Distribution Equipment

EL03 Concern:

Priority: High



See below for photos of existing 2000A ITE Switchboard, in need of replacement within the next 15 years.

ELO3a:



Existing 2000A ITE Switchboard for Electrical Service Entrance



ELO3: Electrical Distribution Equipment

ELO3 Concern:

Priority: High



See below for photos of fuse-style electrical panels that need immediate replacement.

ELO3b:



Panel in Corridor outside Classroom 5W



Panel in Janitor's Closet across from Rm 9W



Panel in IT/Janitor's Closet adjacent Rm 17W



ELO3: Electrical Distribution Equipment

EL03 Concern:

Priority: High



See below for photos of ITE branded panels in need of replacement within the next 10 years.

ELO3c:



Panel E in Boiler Room A133



Panel B in North Wall of Gymnasium 14E



Panel C in South Wall of Gymnasium 14E



Panel D in Concessions Area



Panel F in Janitor's Closet A119



Panel G in Daycare 12E



ELO3: Electrical Distribution Equipment

EL03 Concern:

Priority: High



See below for photos of ITE branded panels in need of replacement within the next 15 years.

ELO3d:



Panel K in Receiving B137



Double-tub Panel in Corridor 136A outside Classroom ECFE 5E



Panel in Office Area Adjacent SPED 8E



ELO4: Electrical Distribution Equipment

EL04 Concern:

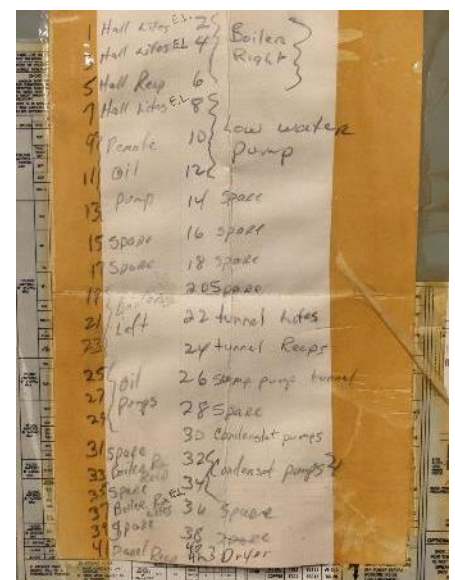
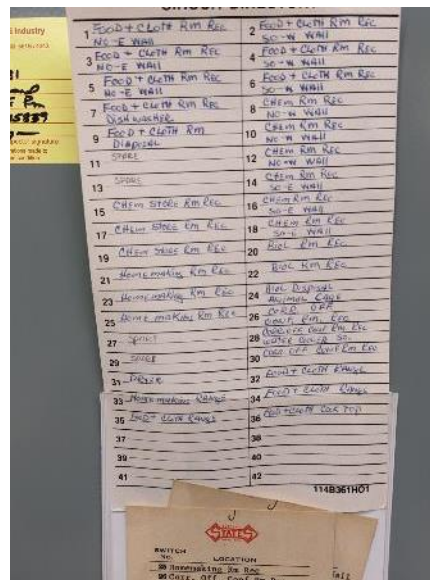
Priority: Med



The electrical distribution equipment labels, and the electrical panel circuit directories are largely out of date, labeled incorrectly, and in some cases completely absent or unreadable. This creates confusion for future remodels, and potentially unsafe conditions for personnel during emergencies or maintenance and repair work.

ELO4 Recommendation:

It is recommended to hire an electrician to verify all the electrical loads in the building and provide up-to-date labeling and circuit directories for all the electrical distribution equipment.



Examples of panels needing updated labels and circuit directories



ELO5: Electrical Distribution Equipment

EL05 Concern:

Priority: Med

Annual Preventative Maintenance Items.



ELO5 Recommendations:

As an annual preventative maintenance item, it is recommended to:

ELO 5a - Have thermal testing conducted on all electrical distribution equipment (ie: transformers, metering cabinets, panels, disconnects, VFD's, etc.). This can help find loose connections, detect overloaded circuits or potential failure points that could lead to costly equipment damage and/or injuries to personnel.

ELO 5b - Have electrical panels and distribution equipment cleaned. Dust build-up in panels can lead to nuisance tripping of circuit breakers, or even arcing and catastrophic failure in extreme cases.



Examples of electrical equipment needing annual preventative maintenance



EL06: RECEPTACLES

EL06 Concern:

Priority: High



The current electrical code requires tamper-resistant receptacles in all areas of schools that are accessible to students. No tamper-resistant receptacles were observed.

EL06 Recommendation:

It is recommended to replace all the receptacles in areas accessible to students with tamper-resistant receptacles. Provide tamper-resistant GFCI electrical devices in all locations required by the current edition of the National Electrical Code.



EL07: RECEPTACLES

EL07 Concern:

Priority: Low



When discussing items of concern with staff, nearly all mentioned that there are not enough receptacles in classrooms, and that they are making do by utilizing extensions cords, power strips, etc. It was observed that some classrooms did not have any receptacles on the exterior walls of the classroom.

EL07 Recommendation:

It is recommended to survey each classroom in how they are being utilized and note any areas of the classroom where there are not receptacles, or where there are not enough receptacles, and using this information to hire an electrician to install additional receptacles as needed.



ELO8: RECEPTACLES

EL08 Concern:

Priority: High



A couple of specific receptacles posing a safety concern were observed:

1. A receptacle on the north wall of Kindergarten 1yW has a sizeable gap in the wall above the receptacle, leaving exposed wire accessible. This poses a shocking hazard, especially to young, curious children with small hands.
2. A receptacle in Janitor's closet opposite Classroom 9W does not have GFCI protection. With the potential exposure to water in this room, this poses a potential shocking hazard to maintenance personnel.

ELO8 Recommendations:

ELO 8a – Patch and repair wall above receptacle so that there is no gap or access to exposed wires.

ELO 8b – Replace receptacle with new integral GFCI device.



Receptacle in Kindergarten 17W



Non-GFCI Receptacle in Janitor's Closet



Overview of Existing Conditions and Recommendations:

The West Central Area South Elementary facility was assessed to evaluate the condition and quality of the existing civil infrastructure.

- Sidewalk
- Bituminous Pavement
- Green Space and Turf Establishment
- Resurface tennis court

The WCA South facility, situated on the north side of the city along CSAH 1, is notably in good condition. While the sidewalks are generally in good shape, improvements are recommended at pedestrian crossings and entrances. The bituminous pavement in the parking lot and trails are also in good condition. It is recommended to stripe the parking lot for regular and handicap parking stalls and consider annual maintenance for cracks, fading paint, etc. Additionally, areas with insufficient grass coverage should undergo seeding and fertilization to promote healthy turf establishment. The existing tennis court is in good condition. It is recommended that in the future the court be resurfaced including replacing the fence and net.



C01 : Sidewalk

C01 Concern: Sidewalk

Priority: Med



Portions of the existing sidewalks and stairways do not meet American with Disabilities Act (ADA) standards. Trip hazards, inconsistent stair riser heights, and inadequate handrails pose safety risks to students, staff, and visitors. The sidewalks show signs of wear, including cracks, and settlements. The facility has a pedestrian crossing at CSAH 1 that shares the parking lot entrance. The pedestrian crossing and parking lot entrance should be separate.

ADA Compliance Issues:

1. The concrete stairways lack continuous handrails on both sides, which is required by ADA guidelines.
2. The riser heights vary within a set of stairs, leading to non-uniform steps.

[Item # Recommendation:]

It is recommended that all the existing, non-ADA compliant concrete sidewalks be replaced with new, ADA-compliant structures. The parking lot entrance should be moved to separate the pedestrian crossing and the parking lot entrance.



North entrance.



East entrance.



Shared pedestrian crossing and parking lot entrance.



C02: Bituminous Pavement

C02 Concern: Bituminous Pavement

Priority: Med



The bituminous pavement in the parking lot is in good shape. The parking lot has very little cracks present. The bituminous trail around the facility is also in good condition.

[Item # Recommendation:]

1. Annual crack sealing and seal coating are recommended for both the parking lot and bituminous trail.
2. Pavement markings for the parking lot are recommended for designated parking places, including handicap parking.



Parking lot entrance along CSAH 1.



Parking lot on the west side of the facility.



Bituminous trail along the south side of the facility.



C03: Green Space and Turf Establishment

C03 Concern: Green Space and Turf Establishment

Priority: Low



Most of the facility boasts fully established turf; however, there are a few areas with sparse coverage, as illustrated in the accompanying pictures.

[Item # Recommendation:]

It is recommended to reseed and fertilize the green spaces on the south, west, and east (by the fuel tank as pictured below) sides of the facility to promote healthy turf growth.



Green space by south facility entrance.



Green space by fuel tank.



Green space on west side of facility.



C04: Resurface Tennis Court

C04 Concern: Resurface Tennis Court

Priority: Low



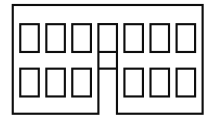
The existing tennis court is in good condition, but it will require replacement in the future.

[Item # Recommendation:]

It is recommended that in the future the tennis court be resurfaced. This would include removal and replacement of the surrounding fence and net.



Tennis court.



Summary of Deficiencies

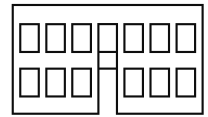
Exterior:

The current state of existing conditions for the WCA South facility can be considered to be in mix of conditions, ranging from [Poor, to Fair, to Good] but ongoing maintenance deferral has resulted in many significant features of the exterior envelope as being categorized as “well beyond the age of their useful life”.

Please refer to the following conditions as requiring substantial upgrades.

- The roof will require significant upgrades, and recommendations should follow all information provided in the Insurance Report.
- Portions of the perimeter fascia are damaged or missing, leaving the wooden sub-fascia exposed and creating a direct opening for unwanted water, air, and pest infiltration.
- There are numerous instances of settlement cracking. Portions of the exterior face brick require significant tuckpointing of the mortar joints, particularly near roof scuppers & downspouts. Sealant at control joints and expansion joints is significantly deteriorated and requiring replacement. Significant damage to exterior face brick has occurred in select locations, primarily at low corners and likely due to being hit by something.
- Many of the exterior windows and frames are substantially beyond the age of their useful life and should be upgraded to a thermally broken, aluminum system with double-pane windows to meet current MN Energy Code standards. (Staff has indicated that maintenance updates and upgrades are in place, with plans to provide select upgrades in 2024)
- In certain locations, the District has installed sheet board over the face of exterior windows. As this is not recommended as a permanent solution, it is advised that preparations be made to update the complete window system in order to address their needs while also meeting current MN Energy Code standards.

*Previous assessments contracted by the WCA District in recent years continue to hold valuable data and recommendations. Existing Building Envelope deficiencies identified during those previous assessments remain deficient and are identified in this assessment as well.

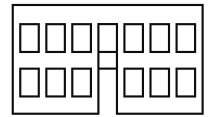


Overview of Existing Conditions and Recommendations:

Construction of the WCA South Facility (original and addition) is energy efficient [in terms of its thermal mass due to the CMU+Brick assembly], and durable. But the facility currently is showing it's long history and age, with many primary systems having aged well beyond their useful life. While many of the existing deficiencies remain manageable and repairable, nearly all of the deficient systems are integral to the health and well-being of this structure. If the District plans for educational operations to continue at this facility, financial commitments with a focus on updating these primary components of the building envelope must be put in place. Continued deferral of maintenance will quickly result in overall decay to the entire structure.

If one does not exist, a maintenance policy for annual visual inspections should be established for the following exterior items:

- Roof & Parapet (Once Updated):
 - Parapet coping & flashing (around the perimeter exterior and perimeter interior)
 - Anticipated Useful Life: 40+
 - Exposed roof membrane (especially at seams and transitions in plane)
 - Anticipated Useful Life: TPO (20-25), EPDM (20-25), BUR (20-25)
 - Roof drains, covers, and scuppers (25-40)
- Windows (Once Updated): 30 yrs
 - Sill flashing
 - Anticipated Useful Life: 20+
 - Perimeter sealant
 - Anticipated Useful Life: 5-10
- Doors (Once Updated): 20 yrs
 - Frames and Panels
 - Paint finish – checking for signs of oxidation or flaking/scratches
 - Anticipated Useful Life: 7-10
 - Sill Sweeps & Weatherstripping
 - Anticipated Useful Life: 5-10
- ADA Path of Entrance and Path of Egress (Once Updated):
 - Sidewalks – checking for signs of cracking and non-compliant changes of surface height from the door to the parking lot
 - Anticipated Useful Life: *40+ (useful life is significantly diminished if treated with corrosive anti-icing agents)



AE01: Roof Assemblies

AE01 Concern:

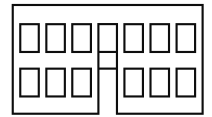
Priority: High



Significant portions of the roof have exceeded their useful life expectancy and recently come under scrutiny of the District's insurance provider, resulting in the loss of insurance coverage following separate, insurance-lead investigation.

[Item # Recommendation:]

Follow all recommendations and requirements laid out in the insurance report.



AE02: Fascia

AE02 Concern:

Priority: High



Portions of the perimeter fascia are damaged or missing, leaving the wooden sub-fascia exposed and creating a direct opening for unwanted water, air, and pest infiltration.

[Item # Recommendation:]

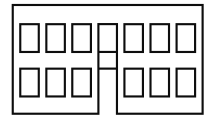
At damaged and missing sections, inspect wooden sub-fascia for signs of decay. Replace sections of sub-fascia as required. Replace damaged sections of pre-finished metal fascia.



Missing section of metal fascia



Wood rot at sub-fascia



AE03: Exterior Walls

AE03 Concern:

Priority: High



Various and numerous locations around the perimeter are showing signs of mortar & joint deterioration, especially near roof drains and downspouts.

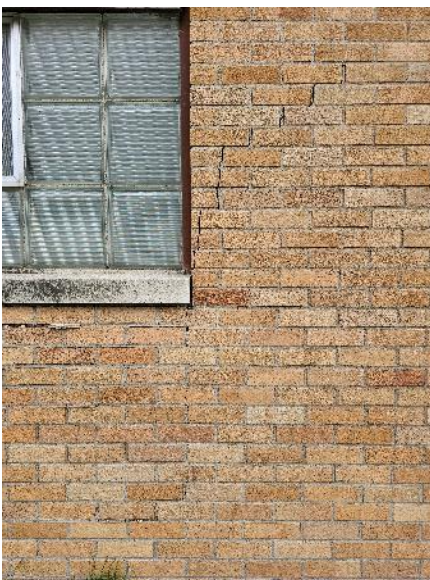
Exterior Envelope : Across the facility, there are indications of settlement cracking and missing mortar that are both indicative of, and introduce, water and air infiltration issues for the building envelope. There are multiple instances where the exterior masonry and mortar are showing signs of significant deterioration due to the unintended presence of consistent moisture. Problems such as these as are the result of moisture movement and buildup. Each of these (and all similar) instances warrant further investigation to determine the sources of moisture intrusion prior to work.

[Item # Recommendation:]

Repair “top of wall” and parapet issues prior to remediating localized deficiencies. Deteriorating and missing mortar needs to be replaced, and these areas need to be “repointed” or “tuckpointed” to ensure that the exterior envelope is air and watertight.

Prior to any mortar replacement work commencing, the building will need to be washed to remove the dirt and debris that has accumulated on the building over time. It is critical for the mortar to be in similar color, texture and compressive strength to match the existing mortar.

Broken blocks should be cut out and re-installed



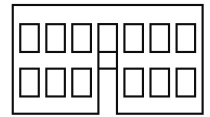
Settlement cracking & joint deterioration



Deteriorated joints



Damaged corner brick



AE04: Windows

AE04 Concern:

Priority: High



Exterior window systems are showing significant damage & degradation at key sealant locations, allowing moisture and air to infiltrate, and resulting in substantially reduced energy efficiency as well as indoor comfort levels for those who occupy the building.

[Item # Recommendation:]

Remove thermally inefficient existing windows and install new, thermally broken aluminum storefront windows and associated sealant, flashing and caulking. The new aluminum storefront windows will be energy efficient, prevent water and air infiltration into the building.



Beyond its useful life



Beyond its useful life



Deteriorated window sealant



Summary of Deficiencies

Interior:

Based on the age of the building, the overall interior appears to be in well maintained in terms of finishes but it is recognized many of the interior products are beyond their useful life expectancy. Preparations should be made for their near future replacement.

Hallway tile flooring is largely in good condition, although it is recognized that this product is beyond its useful life expectancy.

Hallway epoxy flooring is recently installed and in good condition.

Classroom flooring is primarily vinyl tile, which is identified as being significantly beyond its useful life due to its age. A number of other student space flooring is single roll carpet that remains in good condition but will require replacement within the +/- 5-8 year range, with a few rooms requiring earlier replacement.

Wall finishes throughout the facility did not show significant damage that would require major repair work, however there are areas that require patching and painting.

There are isolated instances throughout the building that are asbestos containing and recommend abatement.

Ceiling finishes are primarily Acoustical ceiling tiles (either adhered or lay-in) throughout the facility. These are generally uniform in style and condition, but a few locations are in need of replacement due to water staining. Preparations should be made for the near future replacement of the adhered tiles.

Classroom doors along the corridors do not meet current requirements related to building code fire rating or ADA door handle operation. Doors with knobs requiring twisting of the wrist should be retrofitted with lever handles to meet accessibility requirements; and budgetary preparations should be made to update classroom doors to meet current corridor fire rating requirements.

Casework worksurface heights throughout the building was observed at 36" above the finish floor, which exceeds the Minnesota accessibility guidelines maximum height of 34".

All of the multiple accommodation toilet rooms as well as single person toilet rooms do not meet accessibility code requirements. Minnesota Building Code requires a remodeling project expenditure of 20% of the construction budget for accessibility upgrades. For this reason, toilet room upgrade should be looked at as part of any future addition/remodel project.



WCA South - Architectural Interior: Overview Summary

Flooring Diagram



- Flooring Diagram (WCA Review & Comment – 2021)



Overview of Existing Conditions and Recommendations:

Current state of the interior of the WCA North (Elbow Lake) building can be considered in good condition. General aging of building materials has occurred, as well as standard building wear and tear. Some items in the following interior report are on the high end of the priority. The following items should be considered as improvements in the long-range plan:

- Flooring:
 - Vinyl: 20 yrs
 - General conditions of the vinyl flooring is well maintained, but well beyond its useful life expectancy.
 - Wood: 20 yrs
 - Stage in the Gym space is original wood. A maintenance plan for routine cleaning, sanding, filling, and finishing should be followed.
 - Carpet: 10 yrs
 - There is primarily the older roll-type carpet selections located in select areas such as the Library and a few other rooms. Preparations should be made for planned upgrades to these older selections.
 - Ceramic: 75-100 yrs
 - Restroom locations
 - Epoxy: 20 yrs
 - Instances of these flooring systems are in generally good condition, as they have been recently installed to replace sections of asbestos floor tile.
 - ACM materials: There continues to be locations of Asbestos Containing Materials in the school. The District should continue with its current maintenance efforts to abate and upgrade these locations as required.
- Classroom countertops (20+ yrs) and sinks:
 - Update per Minnesota accessibility guidelines for approach, reach ranges, work surface height and operable controls at the sink.
 - While modifying, consider staff & student ergonomic considerations as well.
- Wall painting: 10 yrs
 - Continue to patch and paint walls as required on annual basis in high traffic areas.
- Future restroom accessibility:
 - If restrooms are ever to be upgraded, review current Minnesota accessibility guidelines.
- Interior doors: 30+ yrs
 - Interior doors should be updated to meet current Minnesota accessibility guidelines. Doors should also be reviewed for potential upgrades related to current security best practices.
- Ceiling materials: 24 yrs
 - Preparations should be made to upgrade all instances of adhered ceiling tile.



WCA South - Architectural Interior: **Analysis**

AI01: Life / Safety Deficiencies

AI01 Concern:

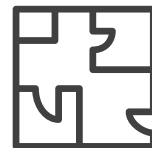
Priority: High

The facility lacks fire sprinkler protection



[Item # Recommendation:]

Update facility to incorporate new automatic fire sprinkler system & new fire alarm system.

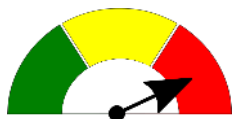


AI02: Asbestos Abatement

AI02 Concern:

Priority: High

Sections of the facility require asbestos abatement



[Item # Recommendation:]

Preparations should be made to periodically and routinely schedule asbestos abatement, until all remaining portions have been removed. Considerations should be made to upgrade the Gymnasium bleachers.



AI03: Accessibility Deficiencies

AI03 Concern:

Priority: High



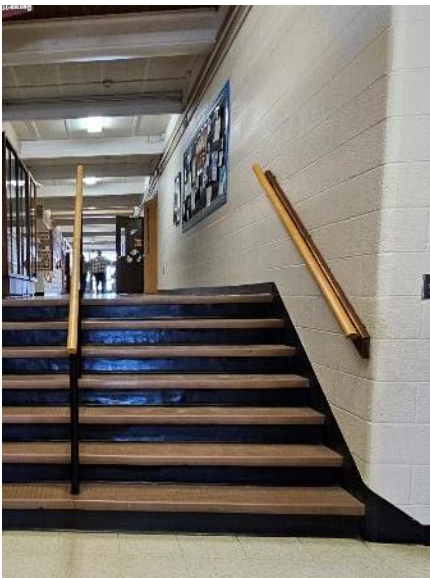
Handrails and guardrails should be constructed to return its end to either a wall surface or floor surface. This is to prevent loose clothes or apparatus from catching on a handrail extension in the event of an emergency.

The facility lacks room and wayfinding signage. Preparations should be made to purchase and install signage designed to meet current Minnesota accessibility guidelines and building codes.

[Item # Recommendation:]

Update facility to meet all current Minnesota accessibility guidelines and building codes.

Minnesota Building Code requires a remodeling project expenditure of 20% of the construction budget for accessibility upgrades. For this reason, upgrades such as these should be looked at as part of any future addition/remodel project.



Non-compliant handrail extension



Non-accessible signage.



AI04: Accessibility Deficiencies

AI04 Concern:

Priority: High



Classrooms throughout the school are in conditions ranging from [Fair to Good]. Primary deficiencies observed are related to Minnesota accessibility guidelines related to classroom door handles, casework worksurface heights, and sink control handles (where present).

[Item # Recommendation:]

Update facility to meet all current Minnesota accessibility guidelines and building codes.

Minnesota Building Code requires a remodeling project expenditure of 20% of the construction budget for accessibility upgrades. For this reason, upgrades such as these should be looked at as part of any future addition/remodel project.



Non-accessible sinks & surface heights



Non-accessible door hardware.



AI05: Accessibility Deficiencies

AI05 Concern:

Priority: High



Multiple accommodation toilet rooms do not meet accessibility code requirements. Clearances within the rooms do not allow for a five-foot turning radius and grab bars are not located in all instances.

[Item # Recommendation:]

Update facility restrooms to meet all current Minnesota accessibility guidelines and building codes.

Restrooms throughout the building will need to be reconfigured to provide the adequate clearance at entry doors, around plumbing fixtures and within toilet stalls, as defined by the current Minnesota Accessibility Code. This reconfiguration would require a remodel and would impact the overall layout of the interior space of the building, including the relocation of the plumbing fixtures. In addition, the current Minnesota State Building Code requires impervious flooring materials and wall base, as well as cleanable wall finishes and ceiling materials. These items would be taken into consideration in a full restroom remodel.

Minnesota Building Code requires a remodeling project expenditure of 20% of the construction budget for accessibility upgrades. For this reason, upgrades such as these should be looked at as part of any future addition/remodel project.



Stalls lack compliant floor space & grab bars



AI06: Hallway Floor & Wall Finishes

AI06 Concern:

Priority: High



Flooring throughout the building is primarily in good condition. Continue to perform routine maintenance and upgrade/abate remaining asbestos locations in the Gym

Wall surfaces are also in fair to good condition, with select instances of damage or wear.

[Item # Recommendation:]

Create a routine maintenance plan to perform annual inspections for the purpose of locating and identifying specific instances of cracking. Patch and repair as required.



Wall cracks – likely due to settlement forces



Cracking at wall tile



Cracking near interior hallway opening



AI07: Classroom & Library Floor & Wall Finishes

AI07 Concern:

Priority: High



Classroom flooring is typically a vinyl tile.

Library flooring is primarily a single roll carpet that remains in good condition but will require replacement within the +/- 5-8 year range, with a few rooms requiring earlier replacement. Wall finishes did not show significant damage that would require major repair work, however there are areas that require patching and painting.

[Item # Recommendation:]

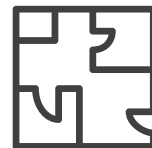
There is a mix of newer carpet tile selections and older roll-type carpet selections. Preparations should be made for planned upgrades to the older selections.



Typical classroom vinyl tile



Typical library carpet

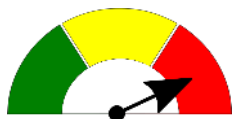


WCA South - Architectural Interior: **Analysis**

AI08: Interior Ceiling Finishes

AI08 Concern:

Priority: High



Ceiling finishes throughout the building is primarily in good condition, with select instances of staining.

Sections of adhered ceiling tile should be replaced with lay-in acoustical tile

[Item # Recommendation:]

Create a maintenance plan to routinely assess interior conditions.

Replace ceiling tiles as required.



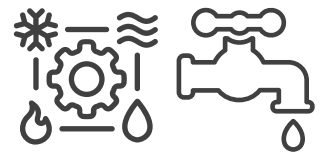
Adhered ceiling tile



Water stains



Water stains



Overview of Existing Conditions and Recommendations:

This facility assessment report provides an overview of the WCA South Elementary School's HVAC and Plumbing systems, focusing on the outdated steam boiler heating system and the absence of proper ventilation. The elementary school is currently reliant on antiquated steam boiler heating system for indoor thermal comfort during winter. The school lacks the proper amount of ventilation. This document aims to identify current conditions, propose recommendations for updating, and provide expected cost estimates for outlined recommendations.

HVAC Systems

WCA South Elementary is heated using two steam boilers with a steam distribution system and pneumatic controls. One boiler uses fuel oil as a source of energy and the other is an electric boiler. The school's heating system uses a traditional steam boiler setup, where water is heated to produce steam. This steam is then distributed throughout the building through pipes to heating coils, radiators, or convectors, providing heat to the indoor spaces. The steam then cools and turns to condensate which is captured and heated again to steam. The system operates on older technology that may be inefficient and prone to maintenance issues.

The Office area is served by a LP gas rooftop unit with air-conditioning and outdoor air ventilation. Exhaust fans throughout for restrooms and general ventilation (PRVs). The Gym Indoor AHU is not operational, and heating is currently provided using only one steam unit heater. There is no fresh air ventilation provided to the space.

Typical Classrooms receive heating and ventilation from indoor AHUs via a mix of ceiling and in floor ductwork.

Plumbing Systems

There are two locations of water entering the building. One in the locker room storage was disconnect due to piping issues and was back fed using the boiler room service.

Locker rooms are used for storage only and show signs of poor ventilation and moisture.

The elementary has a mixture of flush valve and tank-type water closet.

Recommendations:

- Upgrade the steam boiler heating system with a modern, energy-efficient equipment to improve heating performance and reduce energy consumption. Provide new hot water piping throughout to the new hot water heating components.
- Install new Indoor AHU systems to provide adequate indoor air circulation and improve indoor air quality, ensuring a healthy and comfortable learning environment for students and staff.
- Budget for the upgrade of plumbing fixtures and accessories. Remove plumbing fixtures in areas that have become unused (locker room).



WCA South - Mechanical: **Analysis**

ME01: Steam Heat Systems - Boilers

ME01 Concern:

Priority: High



The building's steam distribution system is served with two boilers, a Fuel Oil from 1954 and an Electric from 1981. These boilers are 70 and 43 years old respectively and beyond their useful life. Granted the Fuel Oil Boiler has newer tubes and burner, and the Electric Boiler has new Elements within the last five years

Maintenance and repairs are available for these boilers to keep them useful for a while, but at the lower efficiency rates and higher costs for the energy sources of the boilers, it is not recommended.

[Item # Recommendation:]

Remove steam boiler (electric and fuel oil) system, piping, traps, condensate, pumps, and controls. Replace with high efficiency hot water boilers, water piping, insulation, pumps, and controls.



Fuel Oil Boiler



Electric Boiler



Steam Condensate collection/pumps

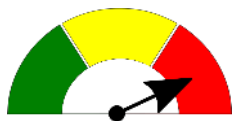


WCA South - Mechanical: **Analysis**

ME02: Steam Heat Systems - Distribution

ME02 Concern:

Priority: High



The building's steam distribution system is of the age where it has or will start to fail. A leaking steam pipe to one of the wings could result in inability to heat, school shutdowns, and possible damage to water lines if not addressed right away (like over a weekend). Fixes for the leaks might last but a different point may fail right after.

[Item # Recommendation:]

Remove steam and condensate piping and replace with hot water hydronic piping, digital control valves, digital controls, and water treatment.



Steam distribution piping to AHU



Steam distribution piping to AHU



ME03: Air Handling Units (AHUs)

ME03 Concern:

Priority: High



The building is designed to be served by four AHUs. Three of the four are operational. The three AHU to the classrooms provide heating and ventilation (fresh air). The gymnasium AHU is inoperable. The gym is only heated via two steam unit heaters (and one is inoperable).

The AHUs, controls, and ductwork are beyond life and require significant effort to keep up with maintenance and repairs. These units have steam coils, constant speed fans, and pneumatic controls. They don't not have cooling coils or have the ability to add cooling. One AHU had its HTG coil replaced in 2023.

[Item # Recommendation:]

The classroom AHUs are operational for now but should be replaced with upgraded systems which employ more efficient technologies such as variable speed fans, digital controls, and more accurate outdoor air measures. The replacement units can be mounted in place or on the roof to gain more storage if needed. The new units shall be sized with cooling / dehumidification.

The Gymnasium unit should be replaced right away and sized to handle heating, cooling, and code required ventilation air.

Remove steam radiators and unit heaters, piping, valves, and controls in classrooms, gym, and throughout building.

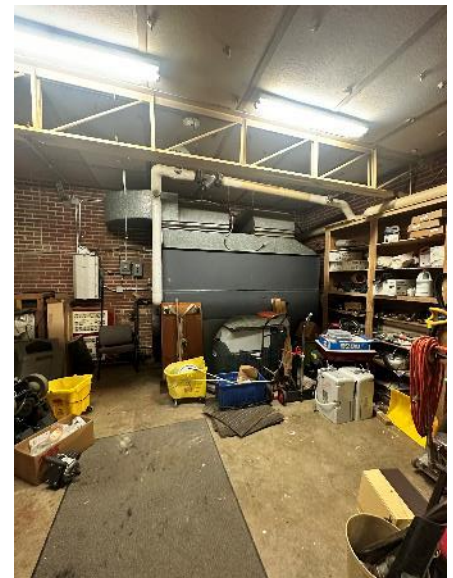
Replace heating capacity with new AHUs or RTUs and associated ductwork. Supplement with electric baseboard or wall heaters in troublesome areas (like corners of building and vestibules).



Inoperable Gym AHU



Southeast AHU



North AHU – New HTG coil in 2023



ME04: Exhaust Systems (PRVs)

ME04 Concern:

Priority: High



The building's exhaust system is served with powered roof ventilators (PRVs). At the time of the walk-through two of the PRVs were operational. The others are out of balance, beyond repair, and past their life expectancy.

[Item # Recommendation:]

For a well-designed HVAC system to operate correctly, Outdoor Air and Exhaust Air need to be working. The PRVs shall be replaced with new.



Power Roof Ventilators



ME05: Through Wall Air Conditioning Unit and IT room cooling

ME05 Concern:

Priority: High



Through-Wall Air Conditioning Units used for the office is outdated and not operational. There is a PVC duct and inline fan which steals colder air from the office and supplies the IT room to provide some cooling. The Window AC unit is past it's useful life and does not meet MN energy Code for efficiency. The Fan is operational, but PVC is not allowed to be used as ductwork per the MN Mech Code. An IT room shall have independent cooling for proper operation and longer life of servers.

[Item # Recommendation:]

Remove through-wall air conditioners and patch walls to match existing. New HVAC system or Mini Split shall provide cooling for office and IT room.



Inline fan to IT room



IT room with inline fan in upper right



ME06: Hanging Steam Unit Heaters

ME06 Concern:

Priority: High



The school has four hanging unit heaters with only one being operational. During the walkthrough, we were told there are leaks in the three inoperable heat exchangers and they are disconnected.

The Gymnasium (2) and Gym Storage/locker (2). The gymnasium is heated by this one hanging unit heater. It keeps up during the winter, but there is no redundancy.

[Item # Recommendation:]

Remove steam unit heaters, piping, controls and mounting hardware. New AHU or RTU will replace the heating, cooling, and ventilation capacities needed.



Operational Unit heater serving Gym



Disconnected Unit Heater



Disconnected Unit Heater

[illegible]

131



ME08: Plumbing piping and fixtures throughout elementary

ME08 Concern:

Priority: Med



The plumbing fixtures, faucets, and flush valves have reached beyond their expected life. With a few exceptions, they are operational now and can be repaired or replaced as they fail.

Fixtures (such as sinks, water closets, urinals, etc.) tend to last longer but show their age as you upgrade around them. In general, Vitreous China fixtures are expected to last 30 years. In school settings this expectancy drops due to the increased use they see. Harsh cleaning chemicals, constant use, and abuse contribute to the lower life spans.

Faucets and flush valves show their age as well but are easier to replace. Some restrooms have flush valve water closets, and some have tank-type. The classroom sink with bubblers do not meet current code for separation distance.

Domestic piping throughout the building is expected to have severe scale buildup over the years. This reduces the area inside the pipe, increase friction, and reduces the pressure to the fixtures.

[Item # Recommendation:]

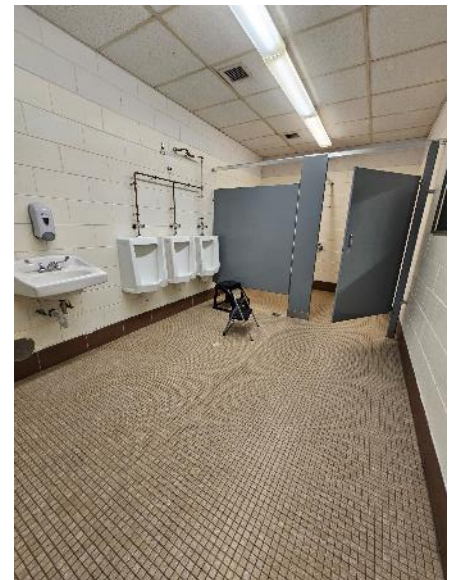
Replace faucets on lavatories and sinks. Replace flush valves and water closets and urinals. Replace necessary fixtures with matching equipment. Budget for replacement of all fixtures within the next 10 years.



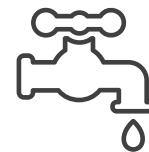
Plumbing fixtures



Restroom fixtures



Fixtures with exposed/uninsulated piping



WCA South - Mechanical: **Analysis**

ME09: Plumbing Systems – Locker Rooms

ME09 Concern:

Priority: Med



The plumbing fixtures in the locker areas are beyond life expectancy. They are seldomly or never used. Some areas have become storage areas.

[Item # Recommendation:]

Budget for removal of fixtures. Cap plumbing lines at mains. Fill in sanitary drains and cap vents.



Unused showers



Unused restroom



Overview of Existing Conditions and Recommendations:

The existing electrical systems and equipment are, in general, in fair to good condition with useful life remaining. However, many of the electrical panels are dated and are nearing the end of their useful life.

The electrical utility provider is Ottertail Power, which serves the building by a 120/240 volt, 3-phase electrical service via pole mounted transformers and meter located on the north side of the property; and an additional 480V, 3-phase off-peak service for the Boiler via a pad mounted transformer and off-peak meter on the south side of the building.

The existing facility lighting is primarily incandescent and fluorescent fixtures utilizing T8 style tubes. Some of the facility lighting has recently been replaced new LED fixtures or retrofitted to utilize LED T8 pattern replacement tubes, and the staff indicated that the retrofitting of the remaining fluorescent fixtures is ongoing.

There are lighting control changes that Widseth recommends for reducing energy consumption while also giving the end user more control/comfort (dimming, daylighting), however, some of these will be contingent depending on the type of LED light fixture upgrades that the school district continues with.

The exit and emergency lighting throughout appears adequate and in good working order, however, there were multiple areas observed where the exit signage was not up to code and which should be replaced with new illuminated exit signs. Periodically test, maintain and/or replace existing exit signs and emergency lights as necessary.

The current electric code requires tamper proof receptacles in all areas of schools that are accessible to students. With a few exceptions, nearly all the receptacles observed in the building were not tamper proof.

Staff indicated that there are not enough receptacles in classrooms.

The facilities' security systems (surveillance cameras, card readers, etc.) appear to be in good working order and located in areas that are satisfactory for the building's current functions and needs.

The facility's fire alarm system is via smoke detection only and appears to be in good condition, complete and up to code. Continue with periodic maintenance inspections and tests as recommended by the manufacturers.



Lighting:

The lighting system throughout the building appears to be in good working condition.

The existing facility lighting is primarily incandescent and fluorescent fixtures utilizing T8 style tubes. Some of the facility lighting has recently been replaced with new LED fixtures or retrofitted existing fixtures to utilize LED T8 pattern replacement tubes; the staff indicated that the retrofitting of the remaining fluorescent fixtures is ongoing.

There are several options when replacing or retrofitting existing light fixtures to LED, these are:

- Lamp-Only LED Replacements
- LED Retrofit Kits
- Dedicated LED Fixtures

When retrofitting or replacing existing lighting fixtures to LED, unless upfront cost is the primary concern, Widseth recommends replacing the entire fixture with new dedicated LED lighting fixtures over the various LED tube replacement or retrofit kit options.

Recognizing that Widseth's typical recommendation may be a departure from the current light fixture retrofitting work that has been completed and is ongoing, Widseth would like to offer the following information regarding the various options so that, however it is decided to proceed, the School District is able to do so informed of the advantages and disadvantages of each option.



Lighting:

Option #1 – Lamp-Only Upgrades (TLEDs):

There are three ways to accomplish an LED retrofit with lamp-only upgrades.

1. UL Type A, LED replacements. This TLED tube type is compatible with existing fluorescent ballasts and only the tubes need to be replaced. This type of tube replacement is the cheapest and simplest way to convert existing fluorescent fixtures to TLED, however, they usually are not dimmable, and there may be compatibility issues between the TLED lamps and the existing fluorescent ballasts, even among the same manufacturers.
2. UL Type B, LED replacements. This TLED tube type are also known as “ballast bypass lamps” or “direct wire lamps”, and, as the name suggests, require rewiring the existing light fixture to bypass the existing fluorescent ballast and directly wire the lamp holders. While this option is typically more expensive than Type A installations, because of rewiring the fixtures, they do not have the same compatibility issues.
3. UL Type C LED replacements. This TLED tube type requires the existing fluorescent ballast to be replaced with a new driver. This option is the more expensive than retrofitting an existing fixture with Types A or B TLED tubes, but they also have the longest lifespan of the three, are more efficient, and offer dimming capabilities.

Advantages:

- Cheapest upfront cost
- Quickest Installation with the least amount of downtime
- Existing fixture and all optical components remain
- Typical energy saving of 40-60% (compared to fluorescent)

Disadvantages:

- Performance depends on existing fixture/ballast
- May not be compatible with existing or desired controls (ie: dimmers, etc.)
- Possible electrocution, flickering and surge protection issues (with UL Type B)
- Potential for difficulty in upgrading to future emerging technologies
- Narrow light distribution with poor light uniformity
- More frequent maintenance/replacement than dedicated LED fixtures
- Depending on the electrical utility provider, may not be eligible for LED rebates



Lighting:

Option #2 – LED Retrofit Kits:

An LED retrofit kit replaces all the internal components of the existing fluorescent light fixture but utilize the existing housing. The new components fit inside the existing housing but make it look like a completely new fixture. Retrofit kits are less expensive upfront than new fixtures and offer increased energy savings and performance upgrades over TLEDs.

Advantages:

- Lower upfront cost vs. new fixture
- Keeps the existing fixture housing installed
- Longer lifespan vs. lamp-only replacement
- Wider range of lumen output and distribution, etc. than lamp-only options
- Potential for dimming and control capabilities
- Typically eligible for electrical utility LED rebates
- Typical energy saving of 50-70% (compared to fluorescent)

Disadvantages:

- Higher upfront cost vs. lamp-only replacement
- Longer installation time with more downtime than lamp-only replacement
- Potential for difficulty in upgrading to future emerging technologies



Lighting:

Option #3 – New, Dedicated LED Fixtures:

This solution completely replaces existing fixtures in their entirety with new LED fixtures. The LED components are an integral part of the light fixture rather than the traditional lamp or bulb. Dedicated LED fixtures are the most efficient and offer a wide selection of options, such as, but not limited to, lumen packages, color temperatures, CRI levels, control options, etc. While dedicated fixtures still tend to cost more than lamp-only or retrofit kits, the cost difference between them has been steadily decreasing in recent years.

Advantages:

- Wide selection of control options (dimming, occupancy sensing, daylight harvesting, etc.)
- Wider range of options for lumen output and distribution, etc. than other options
- Longer lifespan vs. lamp-only or retrofit replacement
- Typically eligible for electrical utility LED rebates
- Typical energy saving of 50-70% (compared to fluorescent)

Disadvantages:

- Highest upfront cost for both material and labor
- Longer installation time with more downtime than other options

ELO1: LIGHTING CONTROLS (INTERIOR)

EL01 Concern:

Priority: Low



The lighting controls throughout the building are primarily via standard on/off switching with very few spaces having energy reducing measures such as dimmers, occupancy sensors or daylighting. While occupancy sensors can be installed in combination with any light fixtures, installation of dimmers and daylighting sensors is contingent upon existing and/or future light fixtures being compatible with these types of controls (some lamp-only LED retrofit tubes are not compatible with dimming or daylight sensors).

EL01 Recommendations:

- It is recommended to:
 1. Provide occupancy sensors throughout the building (Hallways, Bathrooms, Meeting Rooms, etc.), except for areas where automatic controls may present a safety concern (Mechanical, Electrical and Server Rooms, etc.)
 2. Provide dimming controls in offices and classrooms and other similar spaces.
 3. Provide daylighting sensors in spaces with lots of incoming natural light, such as offices and classrooms with exterior windows, etc.

NOTE: The related cost estimate included in this report is a lump sum item, however, these improvements could easily be made classroom by classroom over a period of years to spread out the costs.



Examples of standard on/off switching in most locations.



ELO2: EXIT SIGNS

EL02 Concern:

Priority: High



In general, the exit and emergency lighting throughout appears adequate and in good working order, however, there were some areas observed where the exit signage was damaged and/or not up to code, and which should be replaced with new illuminated exit signs. Periodically test, maintain and/or replace existing exit signs and emergency lights as necessary.

ELO2a Recommendation:

It is recommended to replace all damaged exit signs and all non-illuminated exit signs with new illuminated emergency signs. Some of the locations are pictured below.

Following is a list of damaged exit signs observed during walkthrough:

- In-wall Exit signs in Gymnasium 162 (total of 4)

Following is a list of non-illuminated exit signs observed during walkthrough:

- Custodial Office/Storage 117 (total of 1)
- Home Economics Classroom 139 (total of 2)
- Corridor 136 adjacent Kindergarten 119, and Corridor 142 (total of 2)
- Exit signs in Library 145 (total of 2)
- Exit signs in Music Rm 159 (total of 2)



Damaged Exit Sign in Gymnasium 162



Non-illuminated Sign in Library 145.



Non-illuminated Sign in Corridor 142.



ELO2: EXIT SIGNS

EL02 Concern:

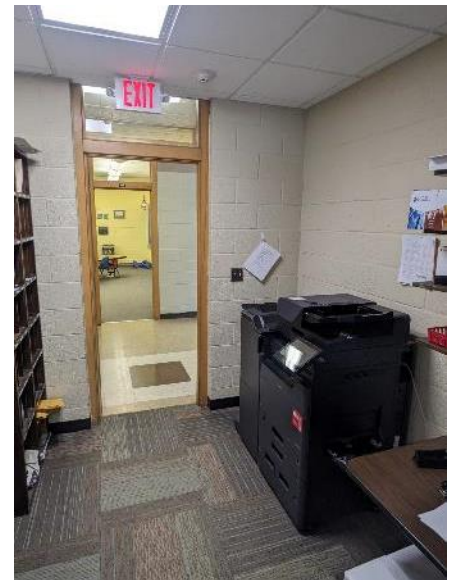
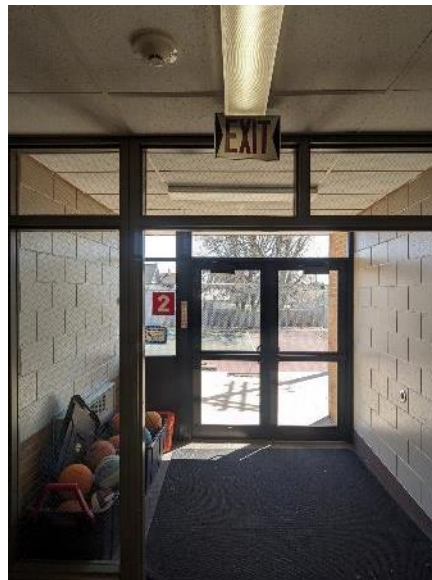
Priority: High



In general, the exit and emergency lighting throughout appears adequate and in good working order, however, there were some areas observed where the exit signage was damaged and/or not up to code, and which should be replaced with new illuminated exit signs. Periodically test, maintain and/or replace existing exit signs and emergency lights as necessary.

ELO2b Recommendation:

It is recommended to conduct annual testing of all powered exit sign and emergency lights, and repair and/or replacement of exit signs and emergency lights as needed.



Examples of exit signs and emergency lights that require annual testing.



ELO3: Electrical Distribution Equipment

EL03 Concern:

Priority: High



The existing electrical distribution equipment is, in general, in fair to good condition with useful life remaining. However, many of the electrical panels are dated and are nearing the end of their useful life. This is especially true of the Westinghouse branded panels – Westinghouse ceased production of electrical panels in 1995 and replacement parts are no longer produced for them. All the Westinghouse panels and distribution equipment in this building was likely installed during the original construction of the building in 1955, or in the additions in 1957 and 1970; these are at or nearing the end of their useful life.

ELO3 Recommendations:

It is recommended that the school district begin budgeting for electrical panel replacements within the next 10 years.

ELO3a – Service entrance equipment in need of replacement within the next 10 years:

- 240V electrical service entrance (Service Disconnect & Electrical Distribution Panel) located in Boiler Room 137.

ELO3b – Panels in need of replacement within the next 10 years:

- 100A Square D electrical panel and all disconnects (approx. 14) located in Furnace Room 119.
- In-wall electrical panel located in Corridor 101 outside Music Rm 159.
- In-wall electrical panel located in Hallway outside Gymnasium 162.
- In-wall electrical panel located in Stage 162A.
- Two (2) surface mounted Westinghouse panels located in Custodial Office/Storage 117.
- In-wall electrical panel located in Corridor 148 outside classrooms 126 and 127.

ELO3c – Disconnects in need of replacement within the next 10 years:

- Equipment disconnects (approx. 14) located in Furnace Room 119.

In good condition, no replacement necessary:

- 480V off-peak boiler equipment located in Boiler Room 137.
- 100A sub-panel with TVSS device located in Boiler Room 137.
- Load center and disconnect under Stage 162A.
- Surface mounted “New Corridor Panel P1” located Corridor 105.
- Two (2) surface mounted Square D load centers with TVSS devices located in Custodial Office/Storage 117.



ELO3: Electrical Distribution Equipment

EL03 Concern:

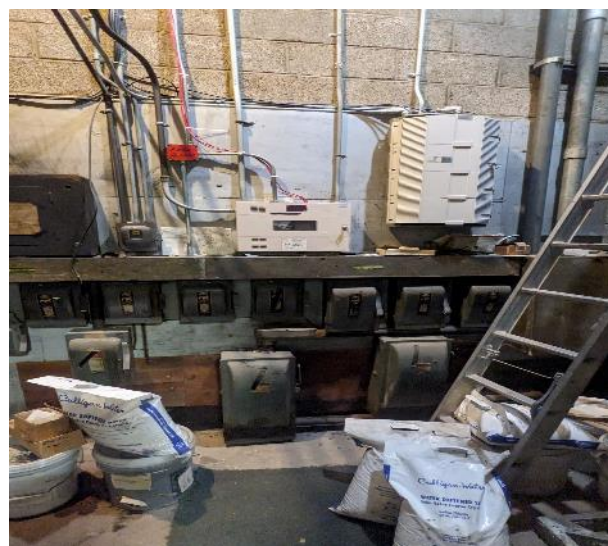
Priority: High



See below for photos of electrical panels and distribution equipment that needs replacement within the next 10 years.



240V, 3-phase Service Disconnect (Far Left) and Distribution Panel (Center) – Both are Westinghouse branded equipment and should be replaced.



Square D Panel and Equipment Disconnects in Furnace Room 119.



ELO3: Electrical Distribution Equipment

EL03 Concern:

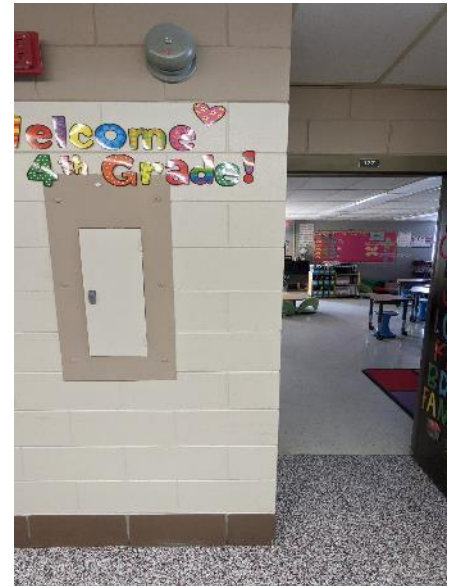
Priority: High



See below for photos of Westinghouse branded electrical panels that need replacement within the next 10 years.



Two Panels located in Custodial Office/Storage 117



Panel located in Corridor 148 outside Classrooms 126 & 127



Panel in Corridor 101 outside Music Rm 159



Panel in Hallway outside Gymnasium 162



Panel in Stage 162A



ELO4: Electrical Distribution Equipment

EL04 Concern:

Priority: Med



The electrical distribution equipment labels, and the electrical panel circuit directories are largely out of date, labeled incorrectly, and in some cases completely absent or unreadable. This creates confusion for future remodels, and potentially unsafe conditions for personnel during emergencies or maintenance and repair work.

ELO4 Recommendation:

It is recommended to hire an electrician to verify all the electrical loads in the building and provide up-to-date labeling and circuit directories for all the electrical distribution equipment.



Examples of panels needing updated labels and circuit directories



ELO5: Electrical Distribution Equipment

EL05 Concern:

Priority: Med

Annual Preventative Maintenance Items.



ELO5 Recommendations:

As an annual preventative maintenance item, it is recommended to:

ELO 5a - Have thermal testing conducted on all electrical distribution equipment (ie: transformers, metering cabinets, panels, disconnects, VFD's, etc.). This can help find loose connections, detect overloaded circuits or potential failure points that could lead to costly equipment damage and/or injuries to personnel.

ELO 5b - Have electrical panels and distribution equipment cleaned. Dust build-up in panels can lead to nuisance tripping of circuit breakers, or even arcing and catastrophic failure in extreme cases.



Examples of electrical equipment needing annual preventative maintenance



EL06: RECEPTACLES

EL06 Concern:

Priority: High



The current electrical code requires tamper proof receptacles in all areas of schools that are accessible to students. The only places where tamper proof receptacles were observed in the building were one receptacle in Corridor 129 outside of the staff lounge, and the receptacles inside the Staff Lounge 121. No other tamper proof receptacles were observed.

EL06 Recommendation:

It is recommended to replace all the receptacles in areas accessible to students with tamper proof receptacles.



EL07: RECEPTACLES

EL07 Concern:

Priority: Low

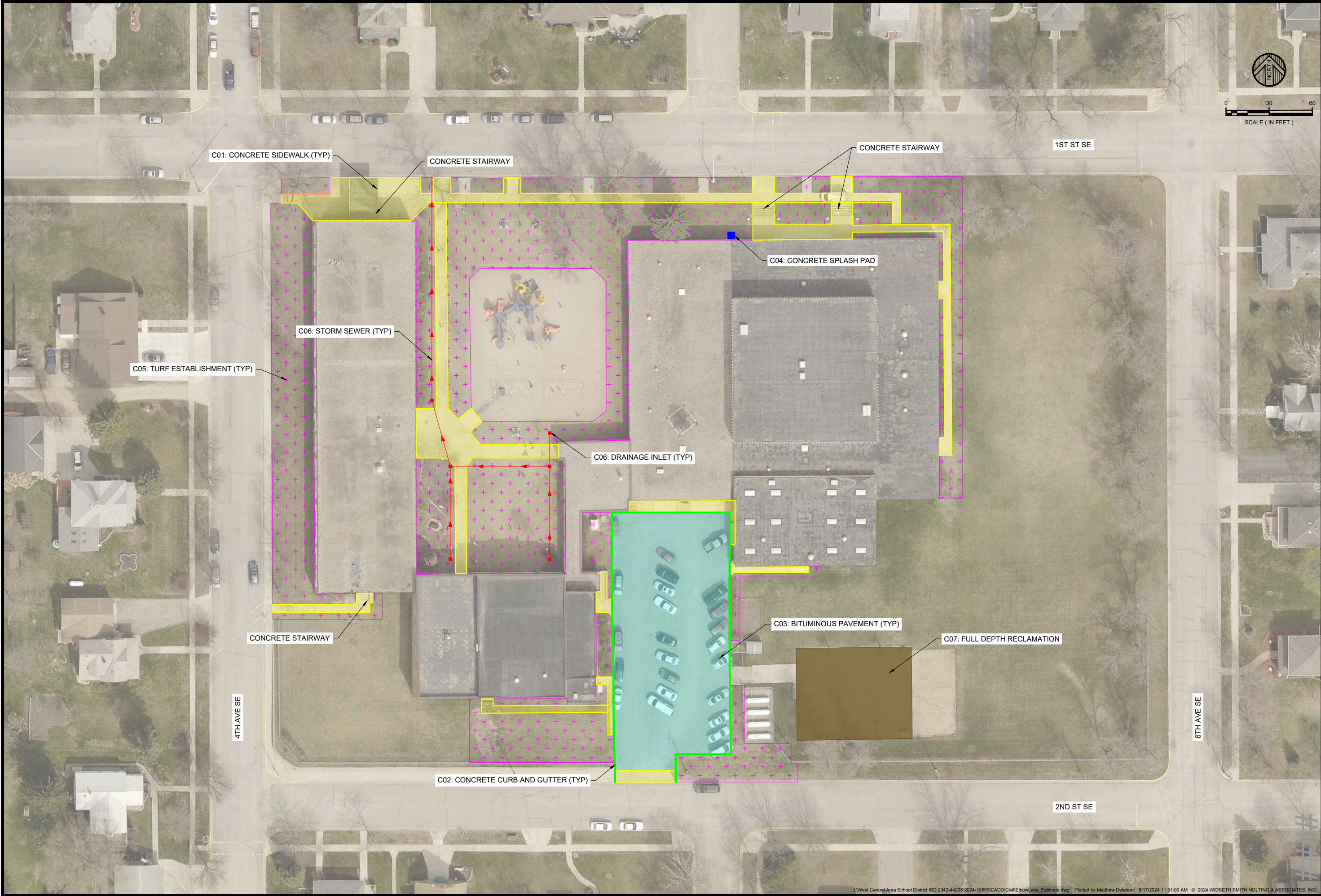


When discussing items of concern with staff, nearly all mentioned that there are not enough receptacles in classrooms, and that they are making do by utilizing extensions cords, power strips, etc. It was observed that some classrooms did not have any receptacles on the exterior walls of the classroom.

EL07 Recommendation:

It is recommended to survey each classroom in how they are being utilized and note any areas of the classroom where there are not receptacles, or where there are not enough receptacles, and using this information to hire an electrician to install additional receptacles as needed.

APPENDIX FILES



C01: CONCRETE SIDEWALK (TYP)

CONCRETE STAIRWAY

CONCRETE STAIRWAY

1ST ST SE

C04: CONCRETE SPLASH PAD

C06: STORM SEWER (TYP)

C05: TURF ESTABLISHMENT (TYP)

C06: DRAINAGE INLET (TYP)

CONCRETE STAIRWAY

C03: BITUMINOUS PAVEMENT (TYP)

C07: FULL DEPTH RECLAMATION

4TH AVE SE

C02: CONCRETE CURB AND GUTTER (TYP)

6TH AVE SE

2ND ST SE

WIDSETH

ARCHITECTS • ENGINEERS • SCIENTISTS • SURVEYORS

BY: _____

DATE: _____

SCALE: _____

DRAWN BY: _____

CHECKED BY: _____

JOB NUMBER: _____

REVISIONS DESCRIPTION

DATE

REV#

DATE

REV#

DATE

REV#

DATE

REV#

FACILITY ASSESSMENT - ELBOW LAKE

WEST CENTRAL AREA SCHOOL DISTRICT

CITY OF ELBOW LAKE

ELBOW LAKE - CIVIL IMPROVEMENTS

SHEET NO.

2024-10659

THIS PLAN AND ALL SPECIFICATIONS OR REPORTS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED #### UNDER THE LAWS OF THE STATE OF ##.

DATE: ##/##/##

LIC. NO. ##/##

J:\West Central Area School District ISD 2342-44235\2024-10659\CADD\Civil\ElbowLake_Estimate.dwg Plotted by: Matthew Delahunt 5/17/2024 11:31:00 AM © 2024 WIDSETH SMITH NOLTING & ASSOCIATES, INC.

Discipline	Item #	Price	Year New	Comments
Civil				
Item 01:	Sidewalk			Replace all existing sidewalk and stairways with new, ADA-compliant structures.
Item 02:	Concrete Curb and Gutter			Replace all existing curbs with a new curb and gutter system.
Item 03:	Bituminous Pavement			Replace the entire parking lot with new bituminous pavement and pavement markings.
Item 04:	Erosion/Undermining Building			Concrete poured to plug the visible holes of the footing. Install a concrete splash pad to prevent further erosion.
Item 05:	Green Space and Turf Establishment			Regrade the courtyard area to direct water away from the buildings and north towards the street. Reseed and fertilize to establish turf.
Item 06:	Storm Sewer			Install a storm sewer system with multiple inlets to reduce ponding of water on school property.
Item 07:	Full Depth Reclamation			Reclaim the existing basketball courts and repave.
Discipline Sub-Total				

		Useful Life	Repair/Replace			Value Total	Priority Low	Priority Medium	Priority High	
Discipline	Item #	(Years)	Cost	Quantity	UOM	2024	(10-Beyond)	(5-10 Years)	(0-5 Years)	
Civil										
	Item 01:	Sidewalk	25	\$260,000.00	1	LS	\$260,000.00		\$260,000.00	
	Item 02:	Concrete Curb and Gutter	25	\$20,000.00	1	LS	\$20,000.00		\$20,000.00	
	Item 03:	Bituminous Pavement	20	\$90,000.00	1	LS	\$90,000.00		\$90,000.00	
	Item 04:	Erosion/Undermining Building	25	\$5,000.00	1	LS	\$5,000.00		\$5,000.00	
	Item 05:	Green Space and Turf Establishment	-	\$30,000.00	1	LS	\$30,000.00	\$30,000.00		
	Item 06:	Storm Sewer	25	\$25,000.00	1	LS	\$25,000.00		\$25,000.00	
	Item 07:	Full Depth Reclamation	20	\$20,000.00	1	LS	\$20,000.00	\$20,000.00		
	Discipline Sub-Total						\$450,000.00	\$50,000.00	\$25,000.00	\$375,000.00

Discipline	Item #	Price	Year New	Comments
Architectural Exterior				
	Item 01: Roof Replacement			*Replacement of the existing roof systems & components - FOLLOW ALL RECOMMENDATIONS AND REQUIREMENTS FROM THE INSURANCE REPORT (This line item is meant as a reference indicator only)
	Item 02: Exterior Walls			Clean the exterior. Seal building envelope. Repoint, tuckpoint, joint repair & brick replacement
	Item 03: Windows			Replace windows to meet current MN Energy Code requirements
	Item 04: Exterior Doors & Overhead Doors			Maintain finish, seals, and weatherstripping + door replacements
	Discipline Sub-Total			
Architectural Interior				
	Item 01: Life / Safety			Update facility to incorporate new automatic fire sprinkler system & new fire alarm system.
	Item 02: Asbestos Abatement			Preparations should be made to periodically and routinely schedule asbestos abatement, until all remaining portions have been removed.
	Item 03: Accessibility			Update facility to meet all current Minnesota accessibility guidelines and building codes. (Guardrail extensions, Room signage)
	Item 04: Accessibility			Update facility to meet all current Minnesota accessibility guidelines and building codes. (Casework, Interior Doors)
	Item 05: Accessibility			Update facility restrooms to meet all current Minnesota accessibility guidelines and building codes.
	Item 06: Hallway Floor & Wall Finishes			Create a routine maintenance plan to perform annual inspections for the purpose of locating and identifying specific instances of cracking. Patch and repair as required. Plan for replacement of Vinyl floor tiles.
	Item 07: Admin, Classroom, & Library Floor & Wall Finishes			Preparations should be made for planned upgrades to the older selections.
	Item 08: Ceiling Finishes			Replace ceiling tiles as required. The Kitchen hallway ceiling should be specifically investigated and assessed to determine the cause and nature of the damage.
	Discipline Sub-Total			

			Useful Life	Repair/Replace			Value Total	Priority Low	Priority Medium	Priority High
Discipline	Item #		(Years)	Cost	Quantity	UOM	2024	(10-Beyond)	(5-10 Years)	(0-5 Years)
Architectural Exterior										
	Item 01:	Roof Replacement	20-25	\$32.00	75000	SF	\$2,400,000.00			\$2,400,000.00
	Item 02:	Exterior Walls	5-10	\$163,000.00	1	LS	\$163,000.00			\$163,000.00
	Item 03:	Windows	40	\$236,000.00	1	LS	\$236,000.00			\$236,000.00
	Item 04:	Exterior Doors & Overhead Doors	20	\$65,000.00	1	LS	\$65,000.00			\$65,000.00
	Discipline Sub-Total		\$2,864,000.00 \$0.00 \$0.00 \$2,864,000.00							
Architectural Interior										
	Item 01:	Life / Safety	35-40	\$7.00	75000	SF	\$525,000.00			\$525,000.00
	Item 02:	Asbestos Abatement	5-15		1	LS	\$300,000.00		\$150,000.00	\$150,000.00
	Item 03:	Accessibility	75		1	LS	\$40,000.00			\$40,000.00
	Item 04:	Accessibility	20-40		1	LS	\$360,000.00			\$360,000.00
	Item 05:	Accessibility	1		1	LS	\$75,000.00			\$75,000.00
	Item 06:	Hallway Floor & Wall Finishes	20-40		1	LS	\$136,000.00			\$136,000.00
	Item 07:	Admin, Classroom, & Library Floor & Wall Finishes	1		1	LS	\$125,000.00			\$125,000.00
	Item 08:	Ceiling Finishes	1		1	LS	\$8,000.00			\$8,000.00
	Discipline Sub-Total		\$1,569,000.00 \$0.00 \$150,000.00 \$1,419,000.00							

Discipline	Item #	Price	Year New	Comments
Mechanical				
	Item 1: Steam Heat Systems - Boilers	-	1995	Remove two steam boilers, Replace with High Efficiency Hot Water boilers.
	Item 2: Steam Heat Systems - Distribution	-	1950-1966	Remove ~3,000 feet of steam and condensate piping and pumps, traps, control valves, insulation and Replace with ~3,000 ft (avg 2"Ø) of Hot Water supply and return piping to new AHUs, RTUs, Reheat coils, Fin Tube Radiation, etc. Provide new redundant circulation pumps to west portion of the building.
	Item 3: Steam Heat – Classroom, Hallway/ Vestibule Terminal Units	-	1950-1966	Remove steam radiators and unit ventilators, replace with hot water units
	Item 4: Steam to Hot Water	-	1966	Remove Steam shell and tube heat exchanger. Connect new hot water system into existing. Reuse East circulation pumps.
	Item 5: Exhaust Systems (PRVs)	-	1995	The PRVs shall be replaced with new.
	Item 6: Air Handling Units (AHUs)	-	1966-1995	The AHUs shall be replaced with new and include variable speed fans, digital controls, and cooling / dehumidification. Includes Condensing unit and Updated Ductwork. connections. An AHU shall be added with new ductwork throughout the west wing to each classroom utilizing VAVs with hot water reheats.
	Item 7: Through-Wall Air Conditioning Units in classrooms	-	1995	Remove through-wall air conditioners and patch walls to match existing. New HVAC system shall provide cooling.
	Item 8: Recessed / Flush mounted Ceiling Heaters (Hot Water)	-	1995	Provide maintenance and fan motor replacement where needed. Replace with new if necessary.
	Item 9: Office Rooftop Unit (2.0 ton)	-	2005	Budget for replacement in the next 1-5 years.
	Item 10: Commercial Kitchen	-	1966-1995	Budget for replacement of kitchen HVAC system in the next 6-10 years due to code issues and age of equipment. Type-1 and 2 hoods, exhaust fans, fire suppression, and make up air unit. Investigate layout and consider relocating sinks and cooking equipment in the most efficient manner. Route piping in walls, upgrade hand sinks to stainless steel. Upgrade Domestic water heater and add circ pump.
	Item 11: Plumbing piping and fixtures throughout elementary	-	1966-1995	Replace domestic piping, faucets on lavatories and sinks, flush valves, water closets, and urinals. Replace necessary fixtures with matching equipment. Budget for replacement of all piping and fixtures within the next 10 years
	Item 12: Plumbing and HVAC Systems - Plumbing Systems – Early Childhood	-	1966-1995	Budget for repair and/or replacement of plumbing fixtures in the boy's and girl's restrooms within 6-10 years. Consider new 10" water closets and lower wall-hung lavatories for the younger children. Remove unit ventilators and Upgrade the AHU or replace with RTU to serve the spaces with proper heating, cooling, and ventilation for the purpose used. (Included in ME06 Price)
	Item 13: Plumbing Systems – Locker Rooms	-	1966	Budget for repair and/or replacement of plumbing fixtures in the men's and women's Locker rooms within 6-10 years. Consider new layouts and reduced numbers as needed.
Discipline Sub-Total				

			Useful Life	Repair/Replace			Value Total	Priority Low	Priority Medium	Priority High
Discipline	Item #		(Years)	Cost	Quantity	UOM	2024	(10-Beyond)	(5-10 Years)	(0-5 Years)
Mechanical										
	Item 1:	Steam Heat Systems - Boilers	25	\$523,000	1	System	\$523,000			\$523,000
	Item 2:	Steam Heat Systems - Distribution	30	\$96	3000	LF	\$288,000			\$288,000
	Item 3:	Steam Heat – Classroom, Hallway/ Vestibule Terminal Units	25	\$5,150	3	EA	\$15,450			\$15,450
	Item 4:	Steam to Hot Water	30	\$21,200	3	EA	\$63,600		\$63,600	
	Item 5:	Exhaust Systems (PRVs)	20	\$3,100	12	EA	\$37,200			\$37,200
	Item 6:	Air Handling Units (AHUs)	25	\$92,500	6	EA	\$555,000			\$555,000
	Item 7:	Through-Wall Air Conditioning Units in classrooms	10	\$1,700	3	EA	\$5,100		\$5,100	
	Item 8:	Recessed / Flush mounted Ceiling Heaters (Hot Water)	25	\$1,500	8	EA	\$12,000	\$12,000		
	Item 9:	Office Rooftop Unit (2.0 ton)	15	\$9,200	1	EA	\$9,200		\$9,200	
	Item 10:	Commercial Kitchen	20	\$95,000	1	System	\$95,000		\$95,000	
	Item 11:	Plumbing piping and fixtures throughout elementary	30	\$500,000	1	System	\$500,000		\$500,000	
	Item 12:	Plumbing and HVAC Systems - Plumbing Systems – Early Childhood	30	\$1,425	10	EA	\$14,250		\$14,250	
	Item 13:	Plumbing Systems – Locker Rooms	30	\$1,200	13	EA	\$15,600		\$15,600	
Discipline Sub-Total							\$2,133,400.00	\$12,000.00	\$702,750.00	\$1,418,650.00

Discipline	Item #	Price	Year New	Comments
Electrical				
	Item 1:	Lighting Controls (Interior)	\$305,000.00	Replacement of lighting controls recommended for energy reduction.
	Item 2:	Exit Signs & Emergency Lights		Exit Signs and Emergency Lights
	Item 2a	Replace Exit Signs	\$900.00	Replace damaged exit signs in non-illuminated exit signs as indicated in report.
	Item 2b	Annual Testing	\$1,200 / year	Conduct annual testing of all exit signs and emergency lights, repair/replace as necessary.
	Item 3:	Distribution Equipment		Replace Electrical Distribution Equipment
	Item 3a	Switchboard	\$95,000.00	Replace existing 2000A ITE switchboard within the next 15 years.
	Item 3b	Panels - Replace Immediately	\$21,000.00	Replace existing fuse-style panels indicated in report immediately.
	Item 3c	Panels - Replace in next 10 years	\$42,000.00	Replace existing panels indicated in report within the next 10 years.
	Item 3d	Panels - Replace in next 15 years	\$28,000.00	Replace existing panels indicated in report within the next 15 years.
	Item 4:	Update Labels & Circuit Directories	\$25,000.00	Hire electrician to verify electrical loads, provide up-to-date labeling and circuit directories for all electrical distribution equipment.
	Item 5:	Preventative Maintenance		Annual Preventative Maintenance for Electrical Distribution Equipment
	Item 5a	Thermal Testing	\$13,000 / year	Conduct annual thermal testing of electrical distribution equipment (transformers, metering cabinets, switchboards, panels, disconnects, VFD's, etc.)
	Item 5b	Cleaning	\$7,500 / year	Have electrical panels and distribution equipment cleaned.
	Item 6:	Receptacles	\$30,000.00	Replace all receptacles in student accessible areas with tamper-resistant devices.
	Item 7:	Receptacles	\$95,000.00	Survey classrooms, add receptacles as needed to accommodate utilization.
	Item 8:	Receptacles		Specific receptacles posing a safety risk.
	Item 8a	Kindergarten 17W	\$150.00	Patch and repair wall above receptacle.
	Item 8b	Janitor's Closet	\$175.00	Replace receptacle with integral GFCI device.
Discipline Sub-Total				

PROJECT SUB-TOTAL
CONTINGENCY
SUB-TOTAL
GENERAL CONTRACTOR/CONSTRUCTION MANAGER
SUB-TOTAL
A/E DESIGN
TOTAL

			Useful Life	Repair/Replace			Value Total	Priority Low	Priority Medium	Priority High
Discipline	Item #		(Years)	Cost	Quantity	UOM	2024	(10-Beyond)	(5-10 Years)	(0-5 Years)
Electrical	Item 1:	Lighting Controls (Interior)	20+	\$305,000.00	1	LS	\$305,000.00	\$305,000.00		
	Item 2:	Exit Signs & Emergency Lights								
	Item 2a	Replace Exit Signs	10+	\$450.00	2	EA	\$900.00			\$900.00
	Item 2b	Annual Testing	Yearly	\$1,200.00	1	\$/year	\$1,200.00			\$1,200.00
	Item 3:	Distribution Equipment								
	Item 3a	Switchboard	15	\$95,000.00	1	LS	\$95,000.00			\$95,000.00
	Item 3b	Panels - Replace Immediately	0	\$7,000.00	3	EA	\$21,000.00			\$21,000.00
	Item 3c	Panels - Replace in next 10 years	10	\$7,000.00	6	LS	\$42,000.00			\$42,000.00
	Item 3d	Panels - Replace in next 15 years	15	\$7,000.00	4	LS	\$28,000.00			\$28,000.00
	Item 4:	Update Labels & Circuit Directories		\$25,000	1	LS	\$25,000.00		\$25,000.00	
	Item 5:	Preventative Maintenance								
	Item 5a	Thermal Testing	Yearly	\$13,000.00	1	\$/year	\$13,000.00		\$13,000.00	
	Item 5b	Cleaning	Yearly	\$7,500.00	1	\$/year	\$7,500.00		\$7,500.00	
	Item 6:	Receptacles	20+	\$120,000.00	1	LS	\$120,000.00			\$120,000.00
	Item 7:	Receptacles	20+	\$95,000.00	1	LS	\$95,000.00	\$95,000.00		
	Item 8:	Receptacles								
	Item 8a	Kindergarten 17W		\$150.00	1	LS	\$150.00			\$150.00
	Item 8b	Janitor's Closet		\$175.00	1	LS	\$175.00			\$175.00
Discipline Sub-Total							\$753,925.00	\$400,000.00	\$45,500.00	\$308,425.00

PROJECT SUB-TOTAL			\$7,770,325.00	\$462,000.00	\$923,250.00	\$6,385,075.00
CONTINGENCY	20%		\$1,554,065.00	\$92,400.00	\$184,650.00	\$1,277,015.00
SUB-TOTAL			\$9,324,390.00	\$554,400.00	\$1,107,900.00	\$7,662,090.00
GENERAL CONTRACTOR/CONS	20%		\$1,864,878.00	\$110,880.00	\$221,580.00	\$1,532,418.00
SUB-TOTAL			\$11,189,268.00	\$665,280.00	\$1,329,480.00	\$9,194,508.00
A/E DESIGN	12%		\$1,342,712.16	\$79,833.60	\$159,537.60	\$1,103,340.96
TOTAL			\$12,531,980.16	\$745,113.60	\$1,489,017.60	\$10,297,848.96

Discipline	Item #	Price	Year New	Comments
Civil				
	Item 01: Sidewalk			Pedestrian crossings and entrances.
	Item 02: Bituminous Pavement			Pavement markings in parking lot and general maintenance.
	Item 03: Green Space and Turf Establishment			Reseed and fertilize areas to promote healthy tur establishment.
	Item 04: Resurface Tennis Court			Remove and replace pavement, fencing, and net. Resurface the court.
	Discipline Sub-Total			

		Useful Life	Repair/Replace			Value Total	Priority Low	Priority Medium	Priority High
Discipline	Item #	(Years)	Cost	Quantity	UOM	2024	(10-Beyond)	(5-10 Years)	(0-5 Years)
Civil									
	Item 01: Sidewalk	25	\$70,000.00	1	LS	\$70,000.00		\$70,000.00	
	Item 02: Bituminous Pavement	-	\$10,000.00	1	LS	\$10,000.00		\$10,000.00	
	Item 03: Green Space and Turf Establishment	-	\$15,000.00	1	LS	\$15,000.00	\$15,000.00		
	Item 04: Resurface Tennis Court	20	\$50,000.00	1	LS	\$50,000.00	\$50,000.00		
Discipline Sub-Total						\$145,000.00	\$65,000.00	\$80,000.00	\$0.00

Discipline	Item #	Price	Year New	Comments
Architectural Exterior				
	Item 01: Roof Replacement			*Could not confirm the age of the roof - FOLLOW ALL RECOMMENDATIONS AND REQUIREMENTS FROM THE INSURANCE REPORT (This line item is meant as a reference indicator only)
	Item 02: Fascia			At damaged and missing sections, inspect wooden sub-fascia for signs of decay. Replace sections of sub-fascia as required. Replace damaged sections of pre-finished metal fascia.
	Item 03: Exterior Walls			Clean the exterior. Seal building envelope. Repoint, tuckpoint, joint repair & brick replacement
	Item 04: Windows			Replace windows to meet current MN Energy Code requirements
Discipline Sub-Total				
Architectural Interior				
	Item 01: Life / Safety			Update facility to incorporate new automatic fire sprinkler system & new fire alarm system.
	Item 02: Asbestos Abatement			Preparations should be made to periodically and routinely schedule asbestos abatement, until all remaining portions have been removed.
	Item 03: Accessibility			Update facility to meet all current Minnesota accessibility guidelines and building codes. (Guardrail extensions, Room signage)
	Item 04: Accessibility			Update facility to meet all current Minnesota accessibility guidelines and building codes. (Casework, Interior Doors)
	Item 05: Accessibility			Update facility restrooms to meet all current Minnesota accessibility guidelines and building codes.
	Item 06: Hallway Floor & Wall Finishes			Create a routine maintenance plan to perform annual inspections for the purpose of locating and identifying specific instances of cracking. Patch and repair as required. Plan for replacement of Vinyl floor tiles.
	Item 07: Admin, Classroom, & Library Floor & Wall Finishes			Preparations should be made for planned upgrades to the older selections.
	Item 08: Ceiling Finishes			Replace ceiling tiles as required. The Kitchen hallway ceiling should be specifically investigated and assessed to determine the cause and nature of the damage.
Discipline Sub-Total				

			Useful Life	Repair/Replace			Value Total	Priority Low	Priority Medium	Priority High
Discipline	Item #		(Years)	Cost	Quantity	UOM	2024	(10-Beyond)	(5-10 Years)	(0-5 Years)
Architectural Exterior										
	Item 01:	Roof Replacement	20-25	\$32.00	35000	SF	\$1,120,000.00			\$1,120,000.00
	Item 02:	Fascia	20	\$800.00	1	LS	\$800.00			\$800.00
	Item 03:	Exterior Walls	5-10	\$38,000.00	1	LS	\$38,000.00			\$38,000.00
	Item 04:	Windows	40	\$236,000.00	1	LS	\$230,000.00			\$230,000.00
	Discipline Sub-Total						\$1,388,800.00	\$0.00	\$0.00	\$1,388,800.00
Architectural Interior										
	Item 01:	Life / Safety	35-40	\$7.00	35700	SF	\$249,900.00			\$249,900.00
	Item 02:	Asbestos Abatement	5-15		1	LS	\$230,000.00		\$115,000.00	\$115,000.00
	Item 03:	Accessibility	75		1	LS	\$8,000.00			\$8,000.00
	Item 04:	Accessibility	20-40		1	LS	\$120,000.00			\$120,000.00
	Item 05:	Accessibility	1		1	LS	\$60,000.00			\$60,000.00
	Item 06:	Hallway Floor & Wall Finishes	20-40		1	LS	\$200,000.00			\$200,000.00
	Item 07:	Admin, Classroom, & Library Floor & Wall Finishes	20		1	LS	\$120,000.00			\$120,000.00
	Item 08:	Ceiling Finishes	1		1	LS	\$8,000.00			\$8,000.00
	Discipline Sub-Total						\$995,900.00	\$0.00	\$115,000.00	\$880,900.00

Discipline	Item #	Price	Year New	Comments
Mechanical				
	Item 1: Steam Heat Systems - Boilers	-	1955, 1981	Remove two steam boilers, Replace with High Efficiency Hot Water boilers, water piping, insulation, pumps, and controls.
	Item 2: Steam Heat Systems - Distribution	-	1955-1970	Remove ~2,400 feet of steam and condensate piping and pumps, traps, control valves, insulation and Replace with ~2,400 ft (avg 2"Ø) of Hot Water supply and return piping to new AHUs, RTUs, Reheat coils, Fin Tube Radiation, etc. Provide new redundant circulation pumps
	Item 3: Air Handling Units (AHUs)	-	1955-1970	The AHUs shall be replaced with new and include variable speed fans, digital controls, and cooling / dehumidification. Includes Condensing unit and Updated Ductwork connections.
	Item 4: Exhaust Systems (PR)	-	1955-1970	The PRVs shall be replaced with new.
	Item 5: Through Wall Air Conditioning Unit and IT room cooling	-	2005*	Remove and patch wall to match. Provide Mini Split for IT room.
	Item 6: Hanging Steam Unit Heaters	-	1990*	Demo Hanging unit heaters, Replace heating capacity with AHU (Pricing in ME03)
	Item 7: Office Rooftop Unit (2.5 ton)	-	2015	Budget for replacement in the next 1-5 years.
	Item 8: Plumbing piping and fixtures throughout elementary	-	1955-1970	Replace faucets on lavatories and sinks. Replace flush valves and water closets and urinals. Replace necessary fixtures with matching equipment. Budget for replacement of all fixtures within the next 10 years
	Item 9: Plumbing Systems – Locker Rooms	-	1966-1995	Budget for removal of fixtures. Cap plumbing lines at mains. Fill in sanitary drains and cap vents
			* Estimate	
Discipline Sub-Total				

			Useful Life	Repair/Replace			Value Total	Priority Low	Priority Medium	Priority High
Discipline	Item #		(Years)	Cost	Quantity	UOM	2024	(10-Beyond)	(5-10 Years)	(0-5 Years)
Mechanical										
	Item 1:	Steam Heat Systems - Boilers	25	\$423,000	1	System	\$423,000			\$423,000
	Item 2:	Steam Heat Systems - Distribution	30	\$96	2400	LF	\$230,400			\$230,400
	Item 3:	Air Handling Units (AHUs)	25	\$129,600	4	EA	\$518,400			\$518,400
	Item 4:	Exhaust Systems (PR Through Wall Air Conditioning Unit and IT room cooling	30	\$4,100	7	EA	\$28,700			\$28,700
	Item 5:	Hanging Steam Unit Heaters	20	\$8,500	1	EA	\$8,500			\$8,500
	Item 6:	Office Rooftop Unit (2.5 ton)	25	\$2,150	4	EA	\$8,600			\$8,600
	Item 7:	Plumbing piping and fixtures throughout elementary	15	\$10,300	1	EA	\$10,300		\$10,300	
	Item 8:	Plumbing Systems – Locker Rooms	30	\$300,000	1	System	\$300,000		\$300,000	
	Item 9:		30	\$350	18	EA	\$6,300		\$6,300	
Discipline Sub-Total							\$1,534,200.00	\$0.00	\$316,600.00	\$1,217,600.00

Discipline	Item #	Price	Year New	Comments
Electrical				
	Item 1: Lighting Controls (Interior)	\$85,000.00		Replacement of lighting controls recommended for energy reduction.
	Item 2: Exit Signs & Emergency Lights			Exit Signs and Emergency Lights
	Item 2a Replace Exit Signs	\$5,850.00		Replace damaged exit signs in Gymnasium and non-illuminated exit signs as indicated in report.
	Item 2b Annual Testing	\$1,200 / year		Conduct annual testing of all exit signs and emergency lights, repair/replace as necessary.
	Item 3: Distribution Equipment			Replace Electrical Distribution Equipment
	Item 3a Service Disconnect & Main Panel	\$15,000.00		Replace existing service disconnect and main distribution panel within the next 10 years.
	Item 3b Westinghouse Panels	\$49,000.00		Replace 7 electrical panels indicated in the report within the next 10 years.
	Item 3c Disconnects	\$21,000.00		Replace approx. 14 equipment disconnects in Furnace Rm 119 within the next 10 years.
	Item 4: Update Labels & Circuit Directories	\$20,000.00		Hire electrician to verify electrical loads, provide up-to-date labeling and circuit directories for all electrical distribution equipment.
	Item 5: Preventative Maintenance			Annual Preventative Maintenance for Electrical Distribution Equipment
	Item 5a Thermal Testing	\$11,000 / year		Conduct annual thermal testing of electrical distribution equipment (transformers, metering cabinets, switchboards, panels, disconnects, VFD's, etc.)
	Item 5b Cleaning	\$7,500 / year		Have electrical panels and distribution equipment cleaned.
	Item 6: Receptacles	\$100,000.00		Replace all receptacles in student accessible areas with tamper-resistant devices.
	Item 7: Receptacles	\$80,000.00		Survey classrooms, add receptacles as needed to accommodate utilization.
Discipline Sub-Total				

PROJECT SUB-TOTAL
CONTINGENCY
SUB-TOTAL
GENERAL CONTRACTOR/CONSTRUCTION MANAGER
SUB-TOTAL
A/E DESIGN
TOTAL

			Useful Life	Repair/Replace			Value Total	Priority Low	Priority Medium	Priority High
Discipline	Item #		(Years)	Cost	Quantity	UOM	2024	(10-Beyond)	(5-10 Years)	(0-5 Years)
Electrical	Item 1:	Lighting Controls (Interior)	20+	\$85,000.00	1	LS	\$85,000.00	\$85,000.00		
	Item 2:	Exit Signs & Emergency Lights								
	Item 2a	Replace Exit Signs	10+	\$450.00	13	EA	\$5,850.00			\$5,850.00
	Item 2b	Annual Testing	Yearly	\$1,200.00	1	\$/year	\$1,200.00			\$1,200.00
	Item 3:	Distribution Equipment								
	Item 3a	Service Disconnect & Main Panel	10	\$15,000.00	1	LS	\$15,000.00			\$15,000.00
	Item 3b	Westinghouse Panels	10	\$7,000.00	7	EA	\$49,000.00			\$49,000.00
	Item 3c	Disconnects	10	\$1,500.00	14	EA	\$21,000.00			\$21,000.00
	Item 4:	Update Labels & Circuit Directories		\$20,000	1	LS	\$20,000.00		\$20,000.00	
	Item 5:	Preventative Maintenance								
	Item 5a	Thermal Testing	Yearly	\$11,000.00	1	\$/year	\$11,000.00		\$11,000.00	
	Item 5b	Cleaning	Yearly	\$7,500.00	1	\$/year	\$7,500.00		\$7,500.00	
	Item 6:	Receptacles	20+	\$100,000.00	1	LS	\$100,000.00			\$100,000.00
	Item 7:	Receptacles	20+	\$80,000.00	1	LS	\$80,000.00	\$80,000.00		
	Discipline Sub-Total						\$395,550.00	\$165,000.00	\$38,500.00	\$192,050.00

PROJECT SUB-TOTAL				\$4,459,450.00	\$230,000.00	\$550,100.00	\$3,679,350.00
CONTINGENCY			20%	\$891,890.00	\$46,000.00	\$110,020.00	\$735,870.00
SUB-TOTAL				\$5,351,340.00	\$276,000.00	\$660,120.00	\$4,415,220.00
GENERAL CONTRACTOR/CONS			20%	\$1,070,268.00	\$55,200.00	\$132,024.00	\$883,044.00
SUB-TOTAL				\$6,421,608.00	\$331,200.00	\$792,144.00	\$5,298,264.00
A/E DESIGN			12%	\$770,592.96	\$39,744.00	\$95,057.28	\$635,791.68
TOTAL				\$7,192,200.96	\$370,944.00	\$887,201.28	\$5,934,055.68

