

FACILITY ASSESSMENT
LAKE OF THE WOODS SCHOOL
BAUDETTE, MINNESOTA



NOVEMBER 2023

WIDSETH



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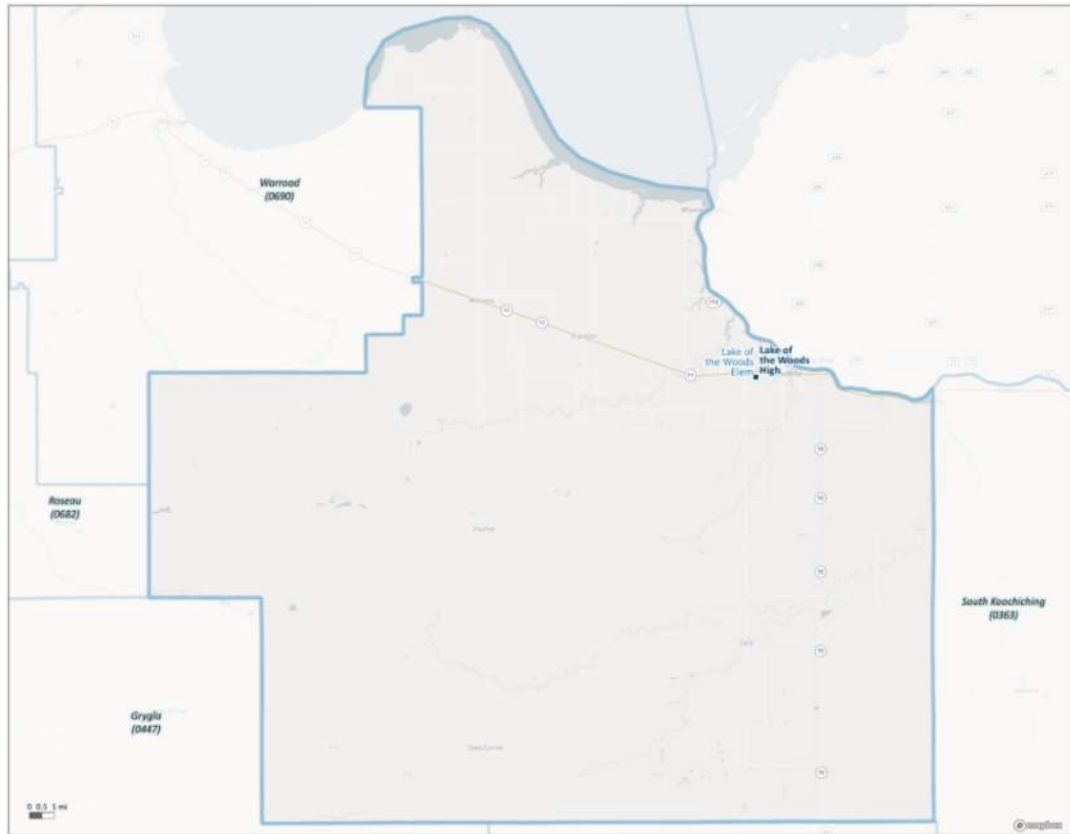
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EXECUTIVE SUMMARY

School Summary

- *Communities Served & Area Served*

The Lake of the Woods School serves approximately 473 students within an approximate 1,160 sq. mile geographical area. The school is located in Baudette, MN and serves multiple smaller communities within its boundaries.



Lake of the Woods School District ranks as Minnesota’s 6th largest school district by area. The average size of all school districts within the State of Minnesota is 254.11 square miles. Lake of the Woods School well exceeds this average value.

- *Existing Facilities*

The current educational facilities consist of a single K-12 building located outside of the City of Baudette. The building was originally constructed in 1991. Subsequent additions were completed in 1997 to provide a multi-purpose room and community pool and in 2019 to add an ice arena to the complex. The facilities have been excellently maintained by the District’s staff, however regular maintenance and repairs are necessary to maintain the same high standards.

Scope of Evaluation

- *Purpose*

In August 2023, Lake of the Woods School District authorized Widseth to conduct a focused facility condition assessment of its building. The purpose of this assessment will assist the Board of Directors with:

- Planning for maintenance and improvements to school facilities
- Prioritizing long- and short-term projects
- Identifying opportunities to enhance learning environments.

The assessment focused on the following items:

- Building Related
 - Roof Conditions
 - Window Conditions
 - Exterior Masonry Conditions
 - Flooring Conditions
 - Restroom Facilities Evaluations
 - Gymnasium Bleacher Conditions
 - Boiler Conditions
 - Kitchen Freezer/Cooler Conditions
- Site Related
 - Vehicular Traffic Evaluation and Recommended Safety Improvements
 - Walking Surface Conditions
 - Site Amenity Conditions
 - Playground Improvements
 - Athletic Field Complex Conditions
 - Athletic Field Complex Support Spaces

- *Scope of Assessment*

Widseth and its consultants visited Lake of the Woods School on September 27th and 28th, 2023 to complete onsite evaluations. During the physical conditions assessment process, Lake of the Woods School staff provided access to all areas of the facility necessary.

Summary of Findings

- *Financial Impact*

The assessment identified \$7,418,000 worth of needs for the Lake of the Woods School facility.

○ Walking Surface Conditions	\$625,000
○ Vehicular Traffic Evaluation and Recommended Safety Improvements	\$852,000
○ Site Equipment Conditions	\$31,000
○ Playground Improvements	\$150,000
○ Athletic Field Complex Conditions	\$1,268,000
○ Athletic Field Complex Support Spaces	\$653,000
○ Roof Conditions	\$758,000
○ Window Conditions	\$908,000
○ Existing Masonry Conditions	\$133,000
○ Flooring Conditions	\$233,000
○ Restroom Facilities Evaluations	\$145,000

○ Gymnasium Bleacher Conditions	\$163,000
○ Heating System	\$1,468,000
○ Pool Mechanical Room Main Circulation Pump	\$28,000
○ Temperature Controls	TBD based on when work occurs
○ Kitchen Freezer/Cooler Conditions	\$153,000

It should be noted that these estimates reflect 2023 pricing. Estimate pricing includes construction, design fees, permitting, and contingency.

- *Distribution*

The distribution of the items identified in the cost breakdown can be broken down into the following categories:

○ Site Conditions:	\$3,429,000
○ Building Conditions:	\$3,989,000

- *Conclusion*

The assessment was completed with the intent to provide the information and data necessary to allow the School Board and administration to make informed decisions on planning for the future of Lake of the Woods School. Widseth and its consultants have not expressed or implied any conclusions within this assessment.

PHYSICAL CONDITIONS

Site Conditions

- *Walking Surface Conditions*

The sidewalks constructed as part of the original construction and subsequent additions are showing significant deterioration due to their age. The primary issue consistent through most areas is cracking of the concrete along control joints leading to depressions which grow in size and depth due to annual freeze-thaw cycles. Such conditions can also be exacerbated by the use of salts during winter months. In addition, freeze-thaw cycles have created uneven panels which result in trip hazards. At the main entrance area there are low spots which collect water. When these areas freeze they do create a significant safety issue. Injuries have occurred as a result of this condition. The existing layouts are generally consistent with accessibility requirements and should be maintained and improved on with any future work.

The pick-up and drop-off areas on the north and east sides of the facility only include sidewalks leading directly from the entrances to the road. This can become very restrictive during winter months leading to students having to walk on the drive lane and creating a safety hazard, or vehicles backing up until they reach a sidewalk causing a congestion issue.

There are also opportunities to add additional sidewalks around the site to improve accessibility to all areas. Sidewalk access can be improved between the parking lot and the ice arena entrances. Currently, the shortest path would require an individual to cross turf. Sidewalks should also be provided between the parking lot and throughout the athletic complex for spectators.

Recommendations: It is recommended that all sidewalks be replaced with new. In areas where the curb and gutter adjacent to the sidewalk has also deteriorated, that should be replaced as well. At the drop-off/pick-up lane on the north side of the building, a sidewalk should be added that runs parallel, alongside the drive lane. In addition, there are opportunities to add an additional sidewalk leading from the parking lot to the ice arena.

Cost: \$625,000



- *Vehicular Traffic Evaluation and Recommended Safety Improvements*

The drive lane on the north side of the facility currently serves as the parent drop-off and pick-up areas for the building. This area was not initially designed for this type of use. Walkways lead directly from the building exits to the drive lane. There is no sidewalk running parallel to the drive lane. This creates challenges for directing pedestrians during winter months. As a result, there are significant safety issues created with students entering and exiting vehicles and potentially crossing drive lanes.



On the south side of the facility, there is an existing loop that runs in front of the building that serves as the bus lane. South of this lane is the primary parking lot for students, staff, and visitors. In addition, there is another small parking lot located to the southeast. The primary issue is the crossing of traffic between the three areas at the entrance to the bus lane. When leaving the small parking lot, you must cross the drive lane as buses enter the bus lane.



Recommendations: On the north side of the facility, it is recommended that the drive lane be split into two lanes, separated by a berm. The berm would create a natural barrier to discourage the opportunity for individuals to cross traffic. The south lane would include an area where vehicles could pull aside temporarily to drop off or pick up a student. At the east end of the drive lane, a cul-de-sac would be constructed to allow for vehicles to efficiently turn back and exit the pick-up/drop-off lane. The cul-de-sac would include a gated access to the existing fire lane that extends around the east side of the building. This lane is necessary to maintain to allow fire truck access to all portions of the facility. Finally, a sidewalk should be constructed along the pick-up/drop-off lane to provide safe areas for pedestrians to walk.



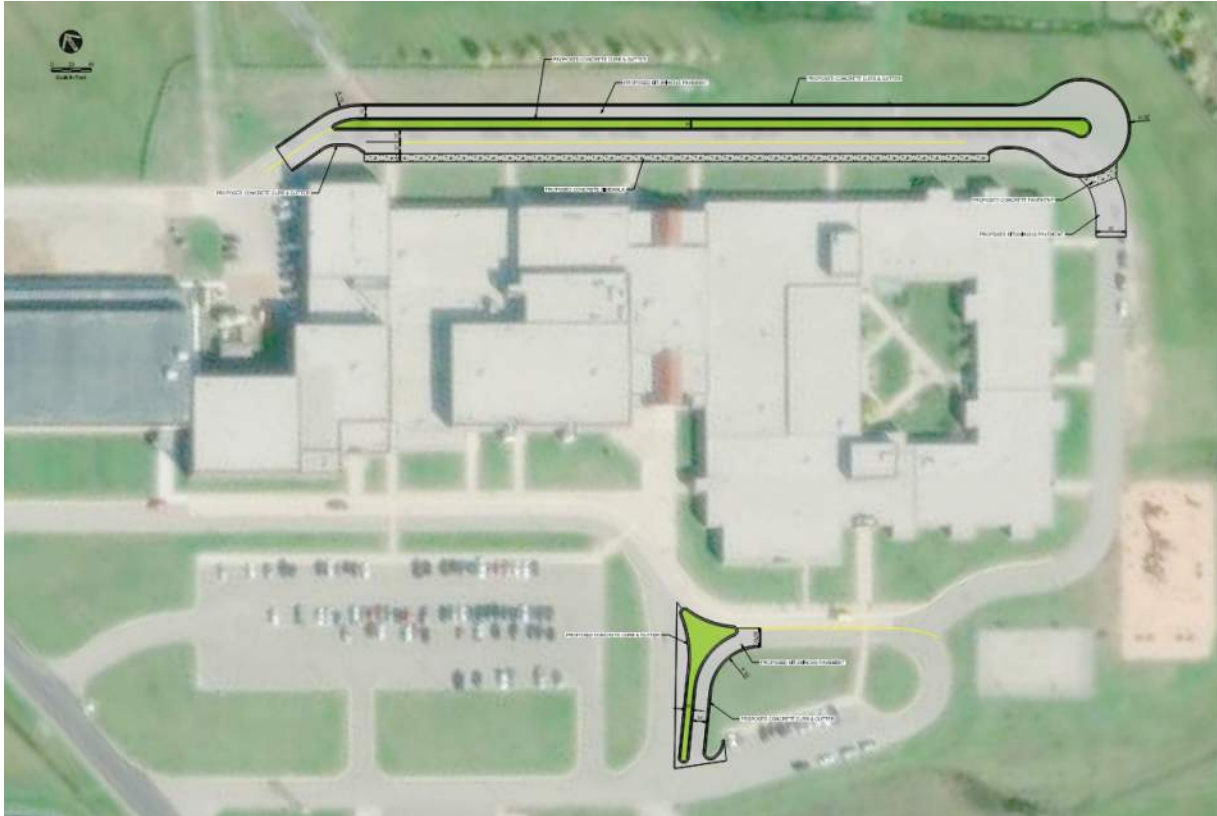
On the south side of the facility, it is recommended that the entrance to the bus lane be modified to allow for separate bus lane traffic and parking lot egress, separated by a landscaped or bermed median.

Entrance to and from the small parking lot located to the southeast would be via one-way traffic. The stripping of the parking lot could be restriped for diagonal parking to further direct the flow of traffic.



The gate on the southeast side of the facility would remain to prevent vehicle access, but still allow fire truck access.

Cost: \$852,000



- *Site Equipment Conditions*

Lake of the Woods School has a combination of benches, picnic tables, bicycle racks, and waster receptacles. Currently, these are located at the main entrance area and within the courtyard area. All site equipment is in fair to poor condition. Most are showing their age with color fading, cracked paint, and rusting. Some benches are in worse condition due to vandalism and/or damage due to snow clearing. The primary challenge with most of the equipment is that they can not be removed.

Recommendation: Replace existing site equipment with new to include benches, picnic tables, bicycle racks and waste receptacles. It is also recommended that waste receptacles be provided at all entrances and areas where students and visitors are expected to gather or enter the building. Any new site equipment



provided should have the ability to be easily relocated to allow for easier snow clearing operations.

Cost: \$31,000

- *Playground Improvements*

The existing playground is located on the east side of the building. The play surface consists of wood chips. There is a variety of different play apparatuses provided for varying age groups. Hard surface playground space is provided as part of the fire lane road that loops the building. The playground is accessible from the exit doors to the wood mulch play area. The equipment was installed as part of the original construction and is showing its age.

Accessibility within the wood mulch area is not easily provided. Although loose fill materials are acceptable, they do hinder access and make it more challenging. Flush transitions should be provided between hard surface areas and play areas. Equipment should be provided with transfer system to allow access to the equipment.

Recommendation: Replace and/or supplement existing outdated equipment with new accessible equipment that includes transfer elements. Provide an improved accessible path throughout playground to provide opportunities for all users. Although a resin system throughout is ideal, paths should be provided at a minimum.

Cost: \$150,000 (Additional \$100,000 for resin system throughout entire playground area)

- *Athletic Field Complex Conditions*

The existing football field, running track, and support athletic spaces were constructed as part of the original building project. The football field currently lacks an irrigation system, thus requiring staff to use time to set up, move, and remove sprinklers. The football field turf area also requires regarding to provide level playing surface with positive drainage to the perimeter. The existing perimeter lighting consists of halogen fixtures.

The existing running track is showing significant signs of it's age. The current running surface and dips and low spots from settling, minor heaves, and cracking of the surface. The cracking allows moisture into the track system leading to further degradation. Finally, the uneven surface leads to potential challenges from holding track events.

Support athletic spaces to the running track include a pole vaulting area, long jump, shot put, and discus areas. All areas are in poor condition and should be refurbished.





Recommendation: Replace the existing running track with a new surface. Regrade the existing football field and install an irrigation system for greater control. Install new perimeter event lighting. Refurbish existing support athletic spaces.

Cost: \$1,268,000 (Additional \$687,000 for artificial turf)

- *Athletic Field Complex Support Spaces*

The support spaces for events occurring at the athletic complex are limited. They consist primarily of two storage buildings on the southeast side of the complex and a press box building on the northwest side. Accessibility is limited.

Recommendations: To improve the amenities available to spectators, it is recommended that a single building be constructed on the backside of the bleachers that would include concessions, accessible restrooms, and storage space for equipment. The upper level of the building could also include a press box. For estimating purposes, it is assumed the building would have a footprint of approximately 900 sq. ft. This allows for a minimum of 6 fixtures within each restroom, concession stand, and storage space. Sidewalks should be provided between the bleachers, support spaces, and parking lot.

Cost: \$665,000



Building Conditions

- *Roof Conditions*

Per excerpt from report prepared by North Central Insulation Urethane Foam Contractors dated July 28, 2023:

Section A: One blister and minor deviations. No concerns at this time

Section B: 2 blisters observed, No concerns at this time

Section C: No concerns at this time

Section D: No concerns at this time

Section E: 1 blister observed, Cracking in the cricket for the drain is getting worse.

Section F: No concerns observed at this time

Section G: No new cracking was found from last year’s repairs. NCI recommends adding foam and silicone for added drainage in the future.

Section H: 2 blisters were observed, Wet foam was found on area H in this year’s inspection. NCI recommends the repair of this asap. If left alone this will more than likely be a wintertime issue.

Section I: 1 Blister was observed. Nothing of concern at this time

Section J: More cracking along the south side of Gymnasium. J is beginning to show its age. Drainage should be added at the time of recoat.

Section K: No concerns at this time

Section L: No concerns at this time

Section M: The roof edge from area M-M2 has an area of deteriorated wood. This should be addressed in the near future.

Sections N, O, P, Q: No concerns at this time

Section R: No concerns at this time

Sections S, T, U: No concerns at this time

Sections V, W: No concerns at this time

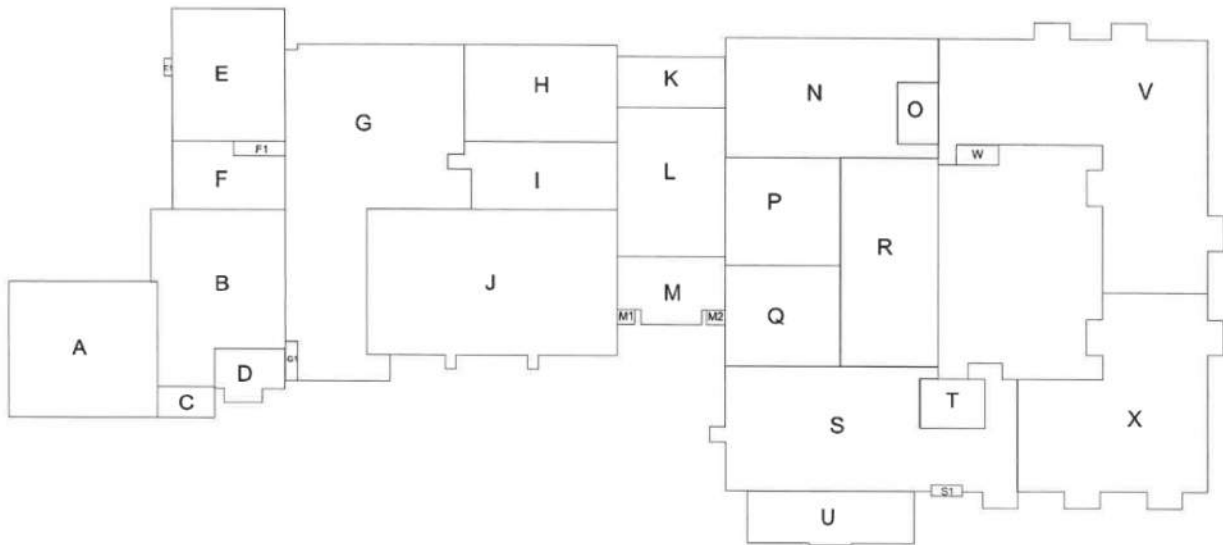
Section X: No concerns at this time

Upon inspection the week of July 26th 2023 the roof system is in good shape. I suggest addressing the wet insulation on area H as soon as possible.

Future attention should be paid for Sections E, F, G, H, I, J, K, L and M. These areas are the ones with future issues beginning to develop.

Blisters are not covered by warranty, if they are not broken open, they cause no case for alarm.

Cost: \$758,000



- **Window Conditions**

Per report provided to the District in July 2023:

All the original metal-clad exterior windows in the school need replacement due to worn or inoperative hardware, sun weathering, deformation due to structural movement, or rotting from being repeatedly frozen while wet. The windows are Pella Clad Stationary and Awning assemblies of varying sizes and were installed in 1992 when the school was built. The awning windows, which open from the bottom outwards, are referred to as operating windows. Windows which do not open by design are referred to as stationary windows.

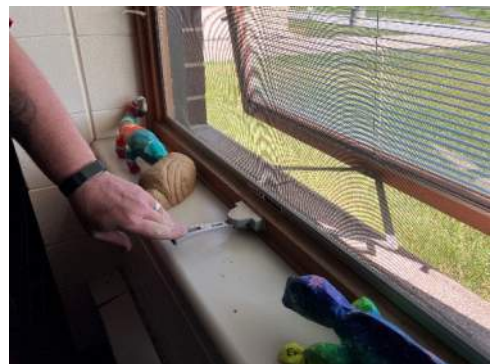
With a few exceptions which are newly replaced units, the stationary and operating windows are metal-exterior clad wood windows, made up in Removable Double Glazed configuration. All the original windows have lattice-type mini-blinds hung between the panes. The interior glass panes remove by pulling small hinged catches which engage slots in the stiles. The blinds operate by turning a small knob at the lower right corner of the interior screen which engages a small gear box to pull supporting strings up or down.

The operation windows along the east facing walls show the greatest degradation due to weathering and structural movement with about half either stuck shut or unable to be closed completely without outside applied pressure. The south window in Room F139 (Ms Krause) is stuck shut due to deformation of the outside wall which appears to have heaved up from frost and jammed the so; against the sash.

Windows along the south facing walls show increased degradation due to sunlight with plastic hardware parts having become brittle and broken. Windows along the north wall show increased degradation due to inclement weather and frost, with wood sash bottom rails rotting. The between panel blinds work in about half the units, and after 31 years, repairs parts are no longer available. Of the 131 operating windows inspected, 83 were deemed to operate satisfactorily.

Recommendation: It is recommended that all aluminum clad wood windows be replaced with a similar style window system. Separate window blinds should be installed at openings to provide sun control, but also allow for future replacement if they break.

Cost: \$908,000



- *Exterior Masonry Conditions*

In general, the condition of the existing masonry around the facility is in good shape. In limited areas around the facility there is evidence of deterioration of mortar joints and sealed joints. The deterioration of mortar joints was observed on the lower concrete block portions of the wall, window sills, and concrete cornice and decorative elements. This type of deterioration is common for masonry buildings as they age. Because of its age, there is maintenance necessary to keep it in its current condition. Failure to minimize moisture penetrations into these joints will lead to rapid deterioration due to freeze-thaw cycles and further degradation of the masonry wall.

Recommendation: It is recommended that the mortar joints at these identified areas be tuckpointed. It is also recommended that all joints in the masonry wall be re-caulked. This would include masonry control joints, sealed joints, perimeter of windows and doors, and other similar joints.

Cost: \$133,000



- *Flooring Conditions*

Flooring throughout the corridors of the facility and select rooms consists of vinyl composite tile (VCT) and rubber wall base that was installed as part of the original construction. In addition, there is a portion of VCT installed within the cafeteria area as well. Maintenance staff have been very diligent in the regular maintenance and waxing of the flooring to extend its useful life. Some installation areas now exceed 30 years. However, the annual routine waxing process has slowly worn away the wear surface of the VCT to wear the adhesive patterns of the backing are visible. In addition, normal shrinkage and movement of the building has caused some joints to widen and some tiles to crack.

Recommendation: Replace all VCT and wall base with an epoxy resin flooring. An epoxy resin flooring will provide a surface that is uniform and without joints. In addition, waxing of the surface is not necessary as the floor surface can be cleaned with water.

Cost: \$233,000



- *Restroom Facilities Evaluations*

The existing restrooms throughout the facility consist of the traditional style with separate facilities for each sex. The recent trend has been to provide gender neutral (or single-user) facilities. Most often this involves a bank of toilet rooms that can be used by a single individual. In front of these toilet rooms are shared lavatory stations. Such a layout reduces wait times, improves safety and monitoring, and plans for future changes in laws outlining facilities requirements.

Recommendation: The classroom area restrooms are all of similar size. The recommendation would be to convert one set of restrooms to individual watercloset rooms.

Cost: \$145,000 each set

- *Gymnasium Bleacher Conditions*

The bleachers located in the gymnasium are original to the building. The bleachers are in fair condition. However, there are existing deficiencies. The existing motors in most banks need replacement. Staff informed us that one was recently replaced and locating a replacement motor was very difficult. Finding replacement parts in the future may become impossible. Also, the bleachers lack accessibility components such as handrails at aisles. This forces individuals to sit in the first row of seats or risk going to elevated rows without the use of handrails to support themselves. In addition, the bleachers lack wheelchair openings.

Recommendation: Replace existing bleachers with new, fully accessible units.

Cost: \$163,000

- *Heating System*

Lake of the Woods School’s main heating fuel source is natural gas. A fuel oil system has been provided for the boilers to serve as the dual fuel backup. Two boilers heat the entire facility and are located near the northwest end of the school in a central boiler room. The boilers and burners are original to the building.

The boiler room consists of two 6800 MBH natural gas hot water fire tube boilers, running at best 80% efficiency. Hot water is distributed from the boilers through variable speed driven base mounted hot water pumps serving the entire facility. Hot water is directed to the air handling unit coils, vav boxes, fin tube radiators and other miscellaneous heaters. Hot water is also delivered to an indirect hot water storage tank consisting of the tank, a shell and tube heat exchanger, circulation pump, and temperature control valves. This tank serves the entire facility. In the summer months two additional gas fired high efficiency hot water heaters run the school when it’s at reduced load.



Recommendation: Replace the boilers with high efficiency, natural gas hot water boilers. Since the system was designed to run at 180°F hot water temperature we would recommend providing two near condensing boilers, and two high efficiency fully condensing boilers. During the peak winter months, the near condensing boilers would provide the heat running at the designed 180°F hot water temperature needed, and in the swing seasons the fully condensing high efficiency hot water boilers would provide the heat at a lower water temperature (140°F) to maximize the efficiency of the condensing boiler. If dual fuel is still desired the near condensing boilers would be provided with fuel oil since that system is already in place.

Close consideration could be given to explore the option of doing a hybrid gas/electric boiler plant if off-peak electricity is offered from the utility. This will further the redundancy on the system and give the owner the option of picking the heating fuel based upon the most economical option at the time.

The indirect domestic hot water storage tank should also be replaced with new gas fired high efficiency hot water heaters. This makes sense from an economic standpoint since the hot water heaters will be running in high efficiency mode year-round versus an indirect storage tank system which would only be able to run in condensing mode during the swing and summer months. If a backup system is needed to run on the fuel oil, then this will need to be reviewed whether we provide dedicated boiler for this system or go indirectly off the main boiler plant.

Cost: \$1,311,000

- *Pool Mechanical Room Main Circulation Pump*

Within the pool mechanical room are several pumps operating the pool. The main pool circulation pump sits within the room and is a base mounted unit. The pump runs at full speed constant volume all the time.

Recommendation: Provide the pump with a variable frequency drive so that the system can be better operated to match the load needed for the pool system. VFD should be interlocked with the DDC control system so the unit is able to be monitored from the front end at the operator workstation.

Cost: \$28,000

- *Temperature Controls*

Temperature controls in the facility have been upgraded to electronic DDC. Pneumatic transducers turn the electrical signal into a pressure that will then move the pneumatic actuators that control the unit. Overall, most of the controls in the building have been upgrade to new controllers, however the pneumatic valves still existing throughout most of the school.

Recommendation: As the equipment is upgraded, so should the pneumatic actuators. The end goal is to have a full electronic DDC system with operator interface on all equipment, and electric actuators so all systems can be monitored and controlled from a central point.

Cost: TBD based on when work occurs

- *Kitchen Freezer/Cooler and Ice Maker Conditions*

The existing cooler and freezers are original to the building. The level of maintenance necessary to keep them operational has been trending upwards. This creates the potential for a critical failure during operational periods where they may have to go down if replacement parts aren't readily available.

In addition, the existing ice maker is in need of replacement.

Recommendation: Replace both units with similar sized units. Provide new ice maker.

Cost: \$165,000



Appendix 1 – Mechanical Equipment Summary

BOILER-1

LOCATION: A127: BOILER ROOM

MANUFACTURER	BRYAN
MODEL #	RW850-W-FDGO
SERIAL #	71317
CONDITION	Fair
RECOMMENDATION	Replace
REMARKS	Provide new near condensing and fully condensing boilers.



BOILER-2

LOCATION: A127: BOILER ROOM

MANUFACTURER	BRYAN
MODEL #	RW850-W-FDGO
SERIAL #	71316
CONDITION	Fair
RECOMMENDATION	Replace
REMARKS	Provide new near condensing and fully condensing boilers.



WH-1 (Water Heater 1)

LOCATION: 200: MECHANICAL MEZZ. NORTH

MANUFACTURER	CYCLONE
MODEL #	BTH 250 966
SERIAL #	MC98-0726963-966
CONDITION	Poor
RECOMMENDATION	Replace
REMARKS	Currently unit is not operating.



WH-2 (Water Heater 2)

LOCATION: 200: MECHANICAL MEZZ. NORTH

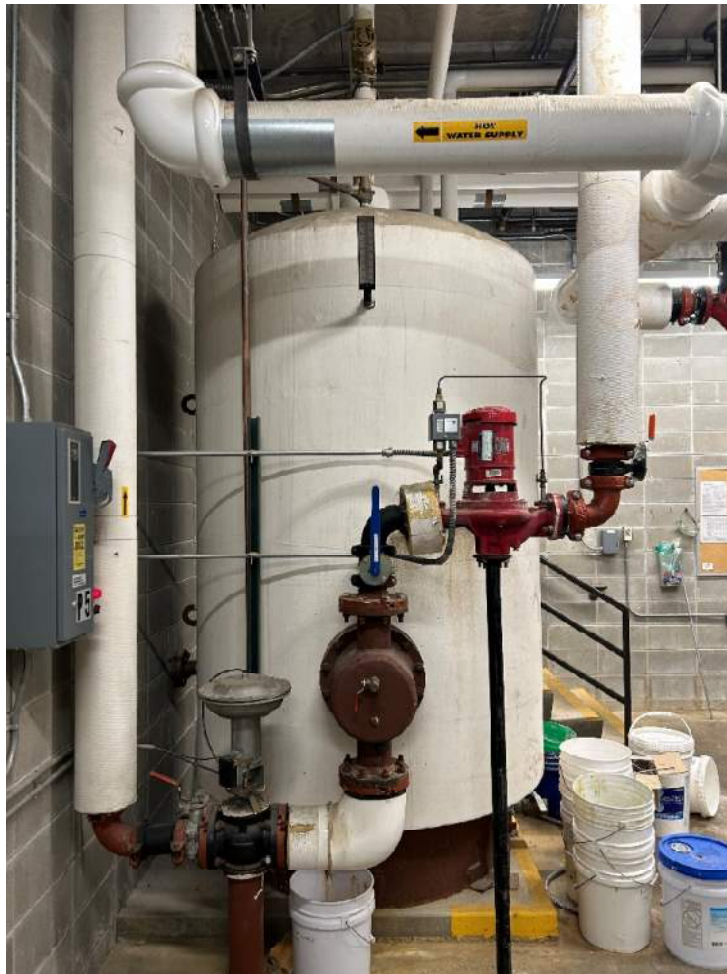
MANUFACTURER	A.O. SMITH
MODEL #	BTH-250 300
SERIAL #	2029120113217
CONDITION	Good
RECOMMENDATION	Leave as is
REMARKS	Implement this heater into the new domestic water system.



STORAGE TANK CIRCULATION PUMP

LOCATION: A127: BOILER ROOM

MANUFACTURER	BELL & GOSSETT
MODEL #	2X7 5.875 BF
SERIAL #	1708873
CONDITION	Fair
RECOMMENDATION	Replace
REMARKS	Replace with high efficiency water heaters.



CP-1 & CP-2 (HOT WATER PUMPS)

LOCATION: A127: BOILER ROOM

MANUFACTURER	BELL & GOSSETT
MODEL #	XL5G 12.875 BF
SERIAL #	1699881
CONDITION	Fair
RECOMMENDATION	Replace
REMARKS	Provide new base mounted pumps to help match system load better.



BOILER BURNERS

LOCATION: A127: BOILER ROOM

MANUFACTURER	GORDON-PIATT ENERGY GROUP
MODEL #	F14.9-GO-30
SERIAL #	UNKNOWN
CONDITION	Fair
RECOMMENDATION	Replace
REMARKS	



AIR SEPARATOR

LOCATION: A127: BOILER ROOM

MANUFACTURER	UNKNOWN
MODEL #	UNKNOWN
SERIAL #	UNKNOWN
CONDITION	Fair
RECOMMENDATION	Replace
REMARKS	



WATER HEATER CIRCULATION PUMP

LOCATION: 200: MECHANICAL MEZZ. NORTH

MANUFACTURER	GRUNDFOS
MODEL #	UNKNOWN
SERIAL #	UNKNOWN
CONDITION	Good
RECOMMENDATION	Replace
REMARKS	Need to review size and flow – unit appears to be smaller than required.



POOL CIRCULATION PUMP

LOCATION: 102: POOL EQUIPMENT

MANUFACTURER	PENTAIR
MODEL #	EQKT1500
SERIAL #	UNKNOWN
CONDITION	Good
RECOMMENDATION	Leave as-is
REMARKS	Provide unit with VFD to match load required.



HOT WATER FILTER

LOCATION: A127: BOILER ROOM

MANUFACTURER	UNKNOWN
MODEL #	UNKNOWN
SERIAL #	UNKNOWN
CONDITION	Good
RECOMMENDATION	Leave as is
REMARKS	



EXPANSION TANK

LOCATION: A127: BOILER ROOM

MANUFACTURER	BELL & GOSSETT
MODEL #	UNKNOWN
SERIAL #	91-1941
CONDITION	Good
RECOMMENDATION	Leave as is
REMARKS	

