

A. EXISTING BUILDING INVENTORY	255
B. ARCHITECTURAL FINISHES	256
C. MECHANICAL/ELECTRICAL ASSESSMENT	257
D. EXISTING DEFICIENCIES	261
E. COST ANALYSIS	270



# LAKE AGASSIZ ELEMENTARY SCHOOL + HEAD START





# LAKE AGASSIZ ELEMENTARY SCHOOL + HEAD START

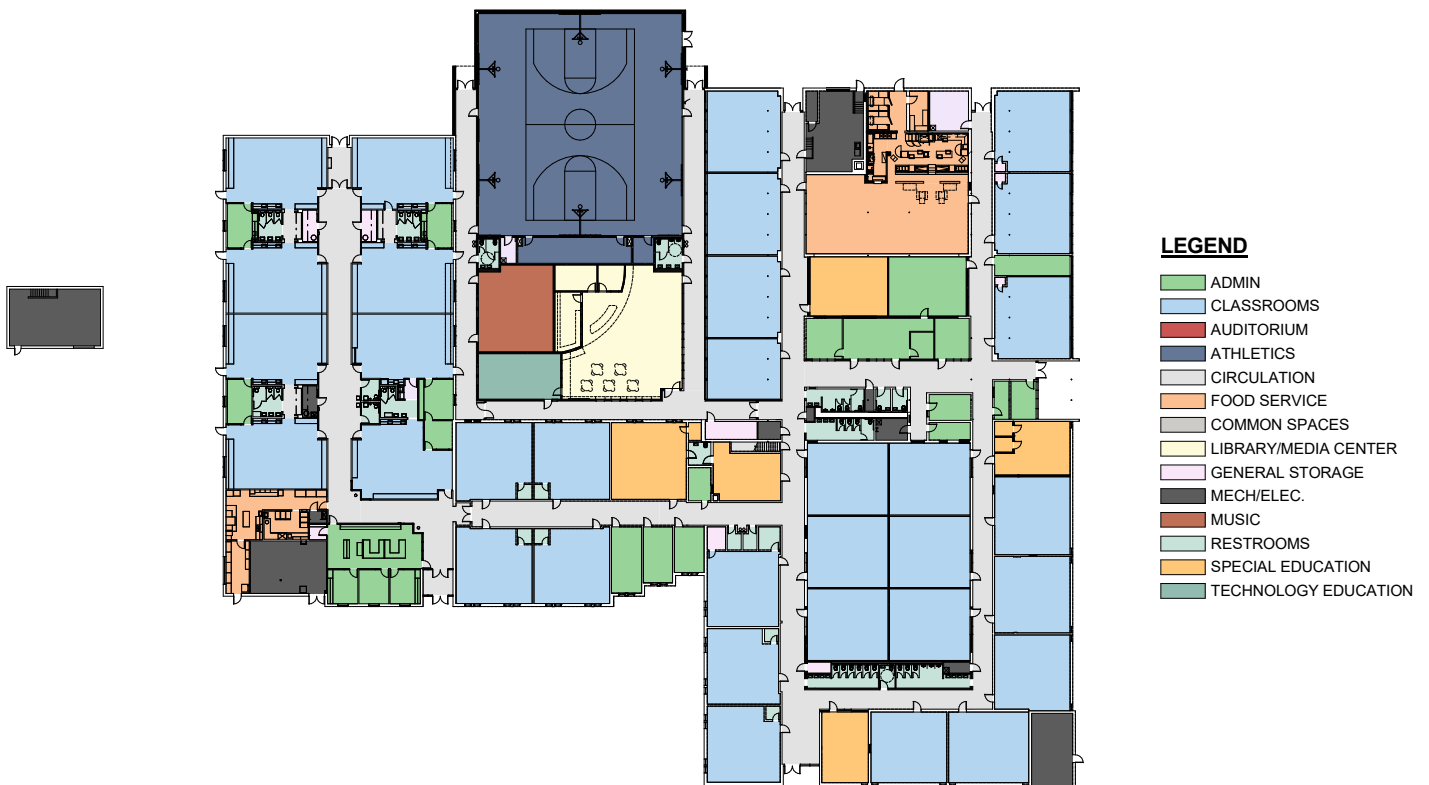
**FACILITY ASSESSMENT** EXISTING BUILDING INVENTORY ARCHITECTURAL FINISHES  
MECH/ELEC ASSESSMENT EXISTING DEFICIENCIES COST ANALYSIS APPENDIX

## A. EXISTING BUILDING INVENTORY

Lake Agassiz Elementary School is located at 605 Stanford Road in Grand Forks. Within the same building is Grand Forks Head Start, that has an address of 3600 6th Avenue N. The original elementary school opened in 1961, but the student population quickly outgrew the building and additions were needed. An addition was completed in 1975 and in 1982, another addition and remodel were finished. The additions mainly included classrooms to accommodate more students. In 1995, Head Start was added to Lake Agassiz Elementary to offer services to children from low-income families in their early education days. In 2007, another addition was complete to add a gymnasium and support spaces for the school.

Lake Agassiz Elementary School and Head Start is accessible by 6th Avenue N to the south and Stanford Road to the east. There is a parking lot that starts in the southwest corner of the building and wraps around the west and north side of the building for faculty use.

### FLOOR PLAN



### FLOOR PLAN



## B. ARCHITECTURAL FINISHES

### SUMMARY

Lake Agassiz Elementary School opened in 1961 with multiple additions to accommodate the growing enrollment. The school lacks in space as larger classrooms are being split into two, the nurse's office lacks space, and staff are creating small rooms wherever they can. Casework in classrooms is dated, but functions.

### SITE

Concrete found around the building shows cracking (001). The concrete at Door 1 should be leveled out (002).

### MASONRY

The exterior brick of the building is in overall good shape, but the mortar needs to be washed. Caulking around the base of the building could use a touch up (003). There are a few areas with damaged brick (004). Flashing at the bottom of the brick portion of the wall was caulked over, preventing proper water drainage. Water pools on the lintel and it is causing it to rust and deteriorate (005).

### ADDITIONAL EXTERIOR MATERIALS

There are portions of the exterior insulation and finish systems (EIFS) around the building that is in good condition. Metal paneling on the addition is in good condition.

### ROOF

Roof has been patched over time, as needed.

### OPENINGS

Doors and windows are in relatively good condition. The original glazing compound on windows is coming off and needs to be redone (006). West facing metal doors are aged and should be replaced (007).

### CEILINGS

The ceilings within the school are mostly compromised of acoustical ceiling tile (ACT). Some classrooms have sagging tile due to humidity (008).

### WALLS

The interior walls are either painted masonry, painted gypsum board, have vinyl wall coverings, or have tiling. Some concrete masonry unit (CMU) brick is caving in from ducts (009).

### FLOORING

Carpet in the building is aging, but still in good condition (010).

### SECURITY

Although security cameras are present at the doors, there is no direct visibility from the office to the main entrance. Ideally, all visitors should be directed into the office upon entry, before gaining access into the school.





## C. MECHANICAL/ELECTRICAL ASSESSMENT

### FIRE PROTECTION

- Fire sprinkler system is currently installed throughout the entire building. Depending on the level of work performed in the building, sprinkler systems may need to be modified to accommodate any new work.

### PLUMBING

- Most of the plumbing piping throughout the building is original to each section of the building. Piping was added from the plumbing mains to the remodeled gymnasium in 2007, as well as most of the plumbing fixtures being replaced at that time. Maintenance staff reported a lack of hot water at the faculty lounge. Recommend investigating the hot water and recirculating hot water piping to determine the issue.
- The restroom plumbing fixtures throughout the building are currently white vitreous china fixtures with the water closets being a combination of flush valve and tank type floor mounted toilets. The lavatory faucets are a combination of sensor type and manually operated. The school has been replacing the lavatory sensor faucets with manual faucets as mixing valves and/or sensors start to fail. The sink faucets in the classrooms and break rooms are manually operated.
- Domestic hot water for the original 1960 building along with the 1975, 1982, and 2007 additions is produced by one (1) 250 MBH gas fired water heater in the boiler room of the original building. The domestic hot water for the 1995 Head Start addition's kitchen is produced by one (1) 30KW electric water heater in the mechanical room of the 1995 addition. The rest of the domestic hot water for the 1995 addition is produced by two (2) 4.5 KW. All water heaters have integral storage tanks. Water heaters were installed in 2007, 2011, 2015, and 2014, respectively. The gas fired water heater is nearing its expected end-of-life and is showing it's age. The electric water heater seems to be in good condition. It should be considered to replace the gas fired water heater with a direct vent fully-condensing water heater to maximize efficiency as part of the long term planning.
- Kitchen plumbing fixtures and piping is relatively new and in good condition. Maintenance staff did not report any issues at the time of the walk through.
- The gymnasium restrooms have a single water closet and two urinals for boy's restroom and two water closets for girl's restroom off the main gym. A code study verifying occupant load and required fixture counts should be done for the building to verify the number of fixtures is adequate.
- ASSE 1070 thermostatic mixing valves should be added to public lavatories for scald protection in accordance with the uniform plumbing code.

### HEATING

- Heating for the entire building comes from one (1) Bell & Gossett shell & tube steam to hot water heat exchanger. The heat exchanger and associated piping and pumps were installed during the 2007 addition/remodel. Multiple circulation pumps and loops are used to distribute hot water throughout the building. The heating water plant is being designed to be replaced as part of a 2022/2023 project.
- Existing piping throughout the building is concealed in the walls and above the ceilings in public areas. Piping that can be observed in mechanical spaces appears to be in good condition.
- Hot water terminal reheat coils are used throughout the building for zoning. Perimeter radiant ceiling panels are installed in exterior classrooms and offices for supplemental heat in the 1975 and 1982 additions only. Hot water cabinet unit heater and suspended unit heaters provide heat for vestibules, stairwells, mechanical rooms, and other similar spaces. The unit heaters have all been replaced during the 2007 addition/remodel or newer and appear to be in good condition. The radiant ceiling panels are original to the building and should be considered to be replaced with new as part of the long term planning.



## MECHANICAL/ELECTRICAL ASSESSMENT CONTINUED



### VENTILATION AND EXHAUST

- The ventilation and exhaust systems in the school include various air handling units, packaged rooftop units, and various exhaust fans. Indoor Air Quality should be addressed throughout the building to meet ASHRAE 62.1 for controllable ventilation rates. All of the existing air handling equipment have been replaced since 2007 or newer and appear to be in good condition.
- Ductwork throughout the 1975 and 1982 addition of the building not replaced in the 2007 addition/remodel is at the end of its useful life and will have excessive leakage. Recommend replacing the ductwork with new.

### AIR CONDITIONING

- Air conditioning systems in the original 1960 building and all of the 1975, 1982, and 2007 additions consist of packaged DX cooling on the rooftop air handling units. All of these units were replaced or added in 2007. The indoor air handling unit serving 1995 Head Start addition has a remote split system DX condensing unit and has been recently replaced. All of these units appear to be in good condition.

### AUTOMATIC TEMPERATURE CONTROLS

- There appears to be proper controls for air flow monitoring to control ventilation rates based on occupancies and ASHRAE 62.1 requirements for recommended outdoor air are being met. The Direct Digital Controls (DDC) system should be integrated with the existing Grand Forks Public School's Building Automation System (BAS). The system would be integrated across the district to allow for single stop monitoring and controls of all buildings in the district.



## MECHANICAL/ELECTRICAL ASSESSMENT CONTINUED



### ELECTRICAL SERVICE

- Electrical service is delivered to the facility by Xcel Energy via 500KVA 208/120V padmount transformer located on north side of building.
- Power is routed underground from the transformer to an adjacent CT cabinet. Then routed underground into the main electrical service entrance space and into main distribution switchboard.
- Peak loads on this transformer in the past 12 months was 280kW (778A), as provided by Xcel Energy.
- Electrical service appears to be acceptable, as is. Capacity is adequate.
- STANDBY POWER
- A generator is not currently located on-site.
- No improvements are suggested for generator power. While emergency generator power is useful, it is not required.

### POWER DISTRIBUTION

- The service entrance switchboard is a 208/120V 1900A Siemens Type SB1 Switchboard. Power is supplied to all areas of the building from this main switchboard. This includes various distribution panels, mechanical equipment, and branch panels.
- No upgrades are suggested for the service entrance, at this time.
- Branch panels throughout building were noted to be in fair condition.

### LIGHTING

- The large majority of the building interior consists of fluorescent and incandescent lighting. Areas such as the gym have been updated to LED lighting.
- School is currently scheduled to undergo a lighting upgrade project that will replace all non-LED lighting within school with energy-efficient LED lighting. This should cut lighting energy usage by 50-75%.
- Lighting at exterior of building has been upgraded to energy-efficient LED lighting with either new light fixtures, or new LED bulbs within existing light fixtures.
- Emergency egress lighting provided via battery back lighting. Exit signage appeared to be adequate.
- The addition of building mounted exterior emergency egress lighting at each and every exit door is suggested.

### LIGHTING CONTROL SYSTEMS

- Lighting within large majority of school was noted to be controlled via manual toggle switch. Very few areas capable of dimming operation.
- Upgrade of all lighting controls throughout to digital lighting management is suggested. This includes, but is not limited to, occupancy sensors, vacancy sensors, daylight sensors, dimming controls in majority of spaces, and digital monitoring of all controls via manufacturer provided software.
- All exterior lighting is controlled via timeclock and photocell.
- All exterior lighting control is suggested to be tied into digital lighting management, as outlined in interior lighting portion above.



## MECHANICAL/ELECTRICAL ASSESSMENT CONTINUED



### COMMUNICATIONS SYSTEMS

- Majority of data cabling within school consists of Category 5 and 5e cabling, with all newly-installed cabling being Category 6. Several wireless access points were noted throughout building.
- Telecom service appears to be adequate and is being updated over time, internally.
- Intercom system consists of Simplex 5100 Series Building Communication System, with some remnants of a Rauland intercom system throughout building.. Recessed speakers were noted to be located all throughout circulation areas and several “normally-occupied” areas. Intercom speakers were not noted within classrooms.
- IP phones are located in all classrooms for room-to-room communication.
- Centrally-controlled clock system is manufactured by Simplex with clocks located all throughout school. All communication between clocks and central system is done via hardwiring. Clocks consist or primarily analog devices. It was stated that as clocks become unusable, they are replaced by simple battery-powered clocks.
- Clocks consist of primarily analog devices.
- Bell system, when required, is operated through intercom system.
- It is suggested that the existing intercom system be updated to new IP system throughout entire school. This would provide the functionality to adjust the utilization and grouping of each individual speaker, as desired. This system would also include an upgraded wireless clock system. The intercom system and clock system would communicate with manufacturer provided software to set schedules, announcements, bells, etc.
- Classroom technology varied between classrooms. Technology observed consisted of digital displays, short-throw projectors, and classroom sound reinforcement.

### SAFETY & SECURITY SYSTEMS

- A select few exterior entrance doors currently utilize electronic door hardware for entrance.
- It is suggested that additional door security is added to all exterior doors for the purposes of access control and monitoring.
- Security camera systems, at the interior and exterior, have been updated over time to IP-based cameras.
- System appears to be adequate and can be easily added to by school’s IT department, as necessary.
- Fire alarm control panel is Simplex 4010. Pull stations noted to be located at each exit of building. Fire detection was noted to be adequate. Notification consists of strobes and horn/strobe devices and locations appeared to be adequate.
- It is suggested that the fire alarm system be upgraded to a voice-capable system as is currently required by the North Dakota Building Code. This system would emit voice messages instructing occupants what to do in an emergency situation. This would be in lieu of a horn sounding in an emergency, as the system currently does.



## D. EXISTING DEFICIENCIES

The analysis of the existing Grand Forks Central High School has been broken down into three categories: code compliance/Americans with Disabilities Act (ADA) compliance, educational adequacy, and capital maintenance. The facility has been assessed for deficiencies as defined below:

### 1. Code Compliance/Americans with Disabilities Act (ADA) Compliance

This portion includes assessment of the current building codes required by the City of Grand Forks and the State of North Dakota. Non-compliant items within the building are identified and listed below.

- Sinks in classrooms are not accessible. (011)
- Sinks in restrooms are not accessible. (012)
- Display case does not have required safety glass. (013)
- Door 1,2, and 10 are not protected with an enclosed vestibule, as required by energy code. (014, 015)
- Traditional wire glass throughout the building is no longer to code as an acceptable type of safety glass. (016)
- Door hardware on doors to the STAR rooms is not accessible.
- The restrooms near the first-grade classrooms are not accessible due to the absence of grab bars. (017, 018)





## LAKE AGASSIZ ELEMENTARY SCHOOL + HEAD START

**FACILITY ASSESSMENT** EXISTING BUILDING INVENTORY ARCHITECTURAL FINISHES  
MECH/ELEC ASSESSMENT EXISTING DEFICIENCIES COST ANALYSIS APPENDIX

### INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS



Concrete found around the building shows cracking.



The concrete at door one should be leveled out.



Caulking around the base of the building could use a touch up.



West facing metal doors are aged and should be replaced.



**INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS**



LA-ES 004

There are a few areas with damaged brick.



LA-ES 005

Flashing at the bottom of the brick portion of the wall was caulked over, preventing proper water drainage. Water pools on the lintel and it is causing it to rust and deteriorate.



## INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS



LA-ES 006

The original glazing compound on windows is coming off and needs to be redone.



LA-ES 008

Some classrooms have sagging tile due to humidity.





# LAKE AGASSIZ ELEMENTARY SCHOOL + HEAD START

**FACILITY ASSESSMENT** EXISTING BUILDING INVENTORY ARCHITECTURAL FINISHES  
MECH/ELEC ASSESSMENT EXISTING DEFICIENCIES COST ANALYSIS APPENDIX

## INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS



LA-ES 009

Some CMU brick is caving in from ducts.



LA-ES 010

Carpet in the building is aging but still in good condition.



LA-ES 011

Sinks in classrooms are not accessible.

## INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS



**LA-ES 012**

Sinks in restrooms are not accessible.



**LA-ES 013**

Display case does not have required safety glass.



**LA-ES 014**

Doors 1,2, and 10 are not protected with an enclosed vestibule, as required by energy code.



**LA-ES 015**

Doors 1,2, and 10 are not protected with an enclosed vestibule, as required by energy code.



## INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS



**LA-ES 016**

Traditional wire glass throughout the building is no longer to code as an acceptable type of safety glass.



**LA-ES 017**

The restrooms near the first-grade classrooms are not accessible due to the absence of grab bars.



**LA-ES 018**

The restrooms near the first-grade classrooms are not accessible due to the absence of grab bars.



# LAKE AGASSIZ ELEMENTARY SCHOOL + HEAD START

**FACILITY ASSESSMENT** EXISTING BUILDING INVENTORY ARCHITECTURAL FINISHES  
MECH/ELEC ASSESSMENT EXISTING DEFICIENCIES COST ANALYSIS APPENDIX

## EXISTING DEFICIENCIES CONTINUED

### EDUCATIONAL ADEQUACY

This is a review of applicable Department of Public Instruction recommendations as they relate to Grand Forks Public Schools' curriculum. To understand educational space deficiencies, we have evaluated educational models, curriculum configurations, and quantity and quality of existing spaces in comparison to the option of a modern, purpose-built educational facility.

Area	Current Square Footage	DPI Recommended Square Footage	Difference
Administration	5,187 SF	4,800 SF	387
Athletics	7,293 SF	3,400 SF	3,893
Circulation	12,449 SF	21,229 SF	-8,780
Classrooms	29,156 SF	30,500 SF	-1,344
Food Service/Cafeteria	3,736 SF	8,342 SF	-4,606
Library/Media Center	2,405 SF	2,545 SF	-140
Mechanical/Electrical	2,836 SF	5,307 SF	-2,471
Music	953 SF	1,000 SF	-47
Restrooms	2,203 SF	1,769 SF	434
Special Education	3,177 SF	3,950 SF	-773
Technology Education	565 SF	1,000 SF	-435

Total Missing Square Footage	-13,882
------------------------------	---------



## EXISTING DEFICIENCIES CONTINUED

### ADMINISTRATION/PTO COMMENTS AND FEEDBACK

#### SECURITY ISSUES

- The main office is not located in an ideal place for those entering the building.

#### LACK OF LEARNING AND SUPPORT SPACES

- Music and band share a classroom.
- There is not a place for paras to keep their belongings.
- There is not space for administration or staff meetings.
- There are not enough collaboration spaces.
- The cafeteria is too small. It takes over two hours to complete lunch.

#### SPACES ARE NOT ADJACENT TO EACH OTHER

- Kindergarten classrooms are not all near each other due to the different locations of nearby restrooms.

#### PARKING/STUDENT DROP-OFF AND PICK-UP

- There are not enough parking spaces.
- Student drop-off and pick-up is not exceptional.
- The school is unable to have parent events during the day due to the lack of parking.
- There is not a separate parking lot for Head Start.
- Kids have to walk through the parking lot to get to the playground.

### TOP PRIORITIES

1. Security
2. Larger Cafeteria
3. A Solution to Avoid Having Kids Walk Through Parking Lot to Get to Playground

# E. COST ANALYSIS

Lake Agassiz Elementary School & Head Start  
Grand Forks, ND  
11/2/2022



## Facility Assessment

Description	Item Number	Takeoff Qty	Total Cost/Unit	Critical	5 yrs Deferred Maint	10 yrs Deferred Maint	Educational Adequacy	Synergistic with other needs	Total Cost
<b>Code Compliance</b>									
Replace casework (10lf of base and top) per classroom and sinks in classrooms are not accessible	1	8 Ea	\$14,965.45 /Ea	\$119,724					\$119,724
Add accessible sinks in restrooms	2	4 Ea	\$5,644.82 /Ea	\$22,579					\$22,579
Replace the glass in the display case with the required tempered glass	3	1 Ea	\$4,515.86 /Ea	\$4,516					\$4,516
Add an interior vestibule at doors 1,2, and 10 to meet energy code	4	3 Ea	\$20,562.20 /Ea	\$61,687					\$61,687
Replace wire glass throughout the building that is no longer up to code (frame to remain)	5	800 SF	\$35.53 /SF	\$28,428					\$28,428
Upgrade door hardware with ADA hardware into STAR rooms	6	20 Ea	\$1,150.29 /Ea	\$23,006					\$23,006
Add grab bars in restrooms near first grade area	7	2 Ea	\$476.26 /Ea	\$953					\$953
<b>Total Code Compliance</b>		<b>76,617 SF</b>	<b>\$3.41 /SF</b>	<b>\$260,892</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>		<b>\$260,892</b>
<b>Security</b>									
Secure entrance, administration office and special education relocation remodel	8	3,530 SF	\$266.94 /SF				\$942,298		\$942,298
<b>Total Security</b>		<b>3,530 SF</b>	<b>\$266.94 /SF</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$942,298</b>		<b>\$942,298</b>
<b>Addition/Remodel (Educational Adequacy)</b>									
Administration	9	SF	\$339.20 /SF				\$0		\$0
Art	10	SF	\$351.74 /SF				\$0		\$0
Athletics	11	SF	\$360.52 /SF				\$0		\$0
Auditorium	12	SF	\$485.35 /SF				\$0		\$0
Business Education	13	SF	\$376.82 /SF				\$0		\$0
Circulation	14	8,780 SF	\$376.83 /SF				\$3,308,593		\$3,308,593
Classrooms	15	1,344 SF	\$376.82 /SF				\$506,445		\$506,445
Common Spaces	16	SF	\$393.12 /SF				\$0		\$0
FACS	17	SF	\$393.12 /SF				\$0		\$0
Food Service/Cafeteria	18	4,606 SF	\$458.33 /SF				\$2,111,056		\$2,111,056
Library/Media Center	19	140 SF	\$395.63 /SF				\$55,388		\$55,388
Mechanical/Electrical	20	2,471 SF	\$307.85 /SF				\$760,706		\$760,706
Music	21	47 SF	\$401.90 /SF				\$18,889		\$18,889
Restrooms	22	SF	\$464.61 /SF				\$0		\$0
Science	23	SF	\$431.99 /SF				\$0		\$0
Special Education	24	773 SF	\$340.28 /SF				\$263,034		\$263,034
Technical Education	25	SF	\$381.83 /SF				\$0		\$0
Technology Education	26	435 SF	\$394.37 /SF				\$171,553		\$171,553
<b>Total Adequacy</b>		<b>18,596 SF</b>	<b>\$386.95 /SF</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$7,195,663</b>		<b>\$7,195,663</b>
<b>Capital Maintenance</b>									
<b>Interior Upgrades</b>									
Replace ACT in classrooms with water damage	27	8,500 SF	\$9.54 /SF		\$81,049				\$81,049
Repair damaged CMU brick that is caving in from ducts	28	2 Ea.	\$3,136.01 /Ea.	\$6,272					\$6,272
Replace aging carpet in the building	29	19,154 SF	\$10.40 /SF		\$199,121				\$199,121
<b>Interior Upgrades Subtotal</b>		<b>76,617 SF</b>	<b>\$3.74 /SF</b>						<b>\$286,442</b>
<b>Exterior Upgrades</b>									
Replace damaged concrete around the building that is cracking	30	2,000 SF	\$17.05 /SF		\$34,108				\$34,108
Remove and replace the concrete at door that is not level	31	352 SF	\$17.10 /SF		\$6,019				\$6,019

## Lake Agassiz Elementary School &amp; Head Start

Grand Forks, ND

11/2/2022



## Facility Assessment

Description	Item Number	Takeoff Qty	Total Cost/Unit	Critical	5 yrs Deferred Maint	10 yrs Deferred Maint	Educational Adequacy	Synergistic with other needs	Total Cost
Clean the exterior brick of the building where the motor needs to be washed	32	5,000 SF	\$6.47 /SF			\$32,350			\$32,350
Replace caulking around the base of the building as needed	33	1,000 LF	\$6.27 /LF						\$6,272
Replaced damaged brick	34	20 SF	\$194.43 /SF						\$3,889
Repair damage area around EFIS	35	1 Ea	\$6,272.02 /Ea						\$6,272
General maintenance of the windows and doors as needed	36	25 Ea	\$501.76 /Ea			\$12,544			\$12,544
Replace the roof when it nears the end of its useable lifetime	37	76,617 SF	\$39.30 /SF			\$3,011,048			\$3,011,048
Replace west facing metal doors that are aged	38	4 Ea	\$2,896.74 /Ea			\$11,587			\$11,587
<b>Exterior Upgrades Subtotal</b>		<b>76,617 SF</b>	<b>\$40.78 /SF</b>						<b>\$3,124,090</b>
<b>Electrical Upgrades</b>									
Add egress lighting to doors to exterior as is required by Building Code	39	76,617 SF	\$1.23 /SF						\$94,239
Upgrade of all interior lighting controls throughout to digital lighting management	40	76,617 SF	\$1.88 /SF			\$144,163			\$144,163
Upgrade of all exterior lighting controls throughout to digital lighting management	41	76,617 SF	\$0.19 /SF			\$14,416			\$14,416
Update the existing intercom system with a new IP system throughout entire school	42	76,617 SF	\$3.76 /SF			\$288,080			\$288,080
Add additional door security all exterior doors with access control and monitoring	43	76,617 SF	\$1.21 /SF						\$92,707
Upgrade the fire alarm system to a voice-capable system as is currently required by the North Dakota Building Code	44	76,617 SF	\$0.69 /SF			\$52,860			\$52,860
<b>Electrical Upgrades Subtotal</b>		<b>76,617 SF</b>	<b>\$8.96 /SF</b>						<b>\$686,465</b>
<b>Mechanical Upgrades</b>									
Modify existing sprinklers to meet NFPA standards	45	76,617 SF	\$0.63 /SF						\$48,054
Maintenance staff reported a lack of hot water at the faculty lounge. Investigating the hot water and recirculating hot water piping to determine the issue.	46	76,617 SF	\$0.16 /SF			\$12,259			\$12,259
The school has been replacing the lavatory sensor faucets with manual faucets as mixing valves and/or sensors start to fail. The sink faucets in the classrooms and break rooms are manually operated.	47	76,617 SF	\$1.25 /SF			\$96,109			\$96,109
It should be considered to replace the gas fired water heater with a direct vent fully-condensing water heater to maximize efficiency as part of the long term planning.	48	76,617 SF	\$1.23 /SF			\$94,080			\$94,080
Add ASSE 1070 thermostatic mixing valves to public lavatories for scald protection in accordance with the uniform plumbing code.	49	76,617 SF	\$0.31 /SF			\$24,027			\$24,027
Replaced radiant ceiling panels that are original to the building as part of the long term planning.	50	76,617 SF	\$0.82 /SF			\$62,471			\$62,471
Improve indoor air quality throughout the building to meet ASHRAE 62.1 for controllable ventilation rates.	51	76,617 SF	\$5.02 /SF						\$384,435
Replace ductwork that is at the end of its useful life and that has excess leakage	52	76,617 SF	\$7.53 /SF						\$576,653
Replace all existing pneumatic controls with a direct digital control system	53	76,617 SF	\$5.02 /SF			\$384,617			\$384,617
<b>Mechanical Upgrades Subtotal</b>		<b>76,617 SF</b>	<b>\$21.96 /SF</b>						<b>\$1,682,705</b>
<b>Total Capital Maintenance</b>		<b>76,617 SF</b>	<b>\$75.44 /SF</b>	<b>\$1,283,911</b>	<b>\$4,107,769</b>	<b>\$388,022</b>	<b>\$0</b>		<b>\$5,779,701</b>
<b>Total Construction Cost</b>		<b>98,743 SF</b>	<b>\$143.59 /SF</b>	<b>\$1,544,802</b>	<b>\$4,107,769</b>	<b>\$388,022</b>	<b>\$8,137,962</b>		<b>\$14,178,554</b>

\*\*\* All above estimated costs are total construction costs. These include general conditions, CM fees, permits, insurance, bonds, taxes



COST ANALYSIS CONTINUED

Lake Agassiz Elementary School & Head Start  
Grand Forks, ND  
11/2/2022



Facility Assessment

Description	Item Number	Takeoff Qty	Total Cost/Unit	Critical	5 yrs Deferred Maint	10 yrs Deferred Maint	Educational Adequacy	Synergistic with other needs	Total Cost
<b>Contingencies &amp; Soft Costs</b>									
Design Contingency	54	5.0%		\$77,240.11	\$205,388.43	\$19,401.09	\$406,898.08		\$708,928
Construction Contingency	55	5.0%		\$77,240.11	\$205,388.43	\$19,401.09	\$406,898.08		\$708,928
Escalation	56	0.0%		\$0.00	\$0.00	\$0.00	\$0.00		\$0
A & E Fees	57	7.0%		\$108,136.15	\$287,543.81	\$27,161.52	\$569,657.31		\$992,499
FF & E	58	2.0%		\$30,896.04	\$82,155.37	\$7,760.43	\$162,759.23		\$283,571
Owner Contingency	59	1.5%		\$23,172.03	\$61,616.53	\$5,820.33	\$122,069.42		\$212,678
<b>Total Contingencies &amp; Soft Costs</b>				<b>\$316,684</b>	<b>\$842,093</b>	<b>\$79,544</b>	<b>\$1,668,282</b>		<b>\$2,906,604</b>
<b>Total Facility Assessment Cost Estimate</b>		<b>98,743 SF</b>	<b>\$173.03 / SF</b>	<b>\$1,861,487</b>	<b>\$4,949,861</b>	<b>\$467,566</b>	<b>\$9,806,244</b>		<b>\$17,085,158</b>
<b>Total Critical &amp; Educational Adequacy</b>		<b>98,743 SF</b>	<b>\$118.16 / SF</b>						<b>\$11,667,730</b>

A. EXISTING BUILDING INVENTORY	274
B. ARCHITECTURAL FINISHES	275
C. MECHANICAL/ELECTRICAL ASSESSMENT	277
D. EXISTING DEFICIENCIES	281
E. COST ANALYSIS	294



# *Lewis & Clark* **LEWIS AND CLARK ELEMENTARY SCHOOL**