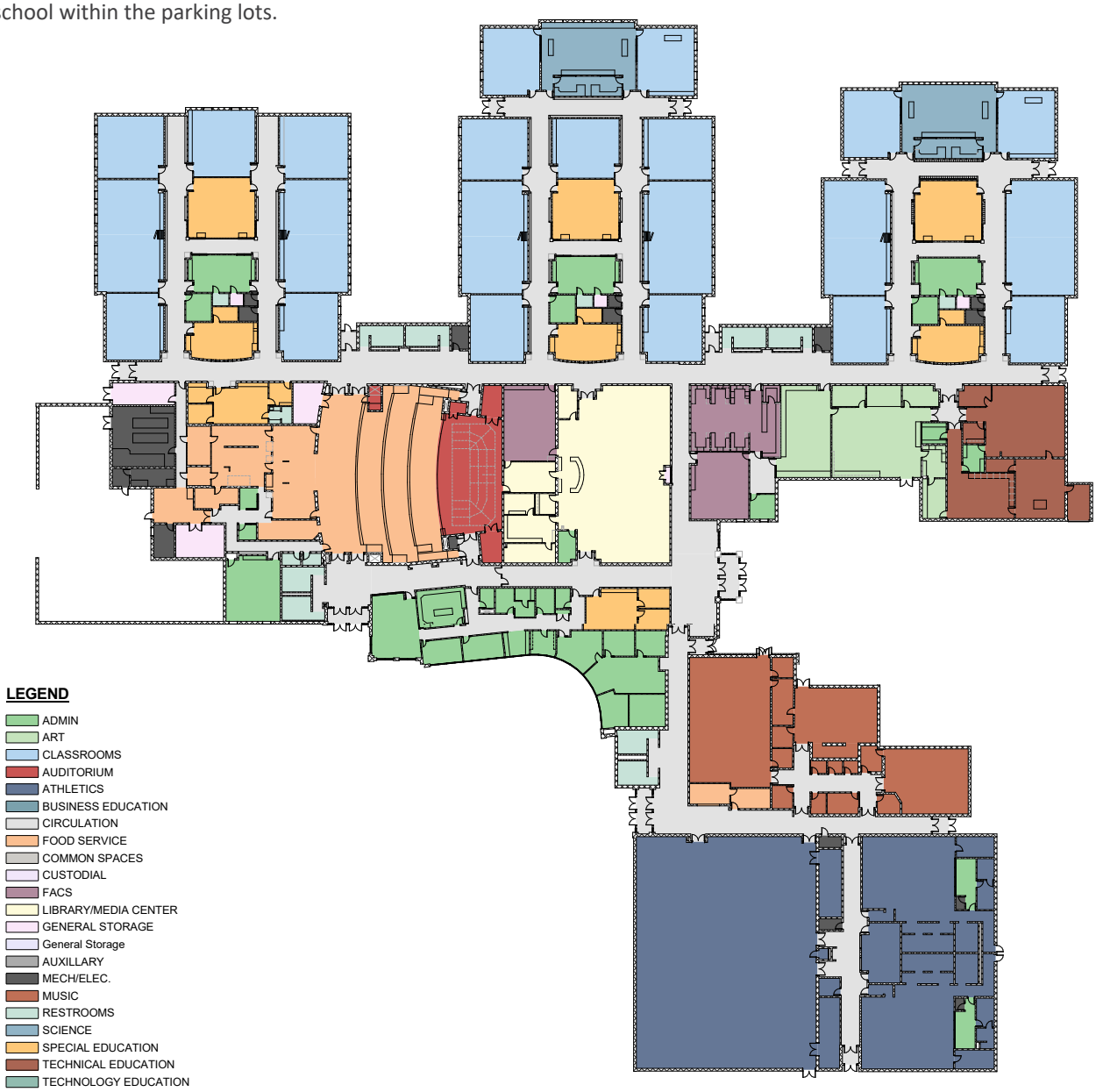
SOUTH MIDDLE SCHOOL

FACILITY ASSESSMENT

A. EXISTING BUILDING INVENTORY

South Middle School is located at 1999 47th Avenue S in Grand Forks and is one of three middle schools in Grand Forks. The building was completed in 1997, with no major renovations or additions to make note of. The school has numerous soccer fields to the south and east and Ulland Park Softball Complex directly to the west.

South Middle School is accessible by 47th Avenue S to the north and S 20th Street to the west. There are parking lots at the northwest corner and south of the school for faculty and staff. Parent drop-off takes place at the north and south entrances of the school within the parking lots.



MAIN FLOOR

B. ARCHITECTURAL FINISHES

SUMMARY

South Middle School's construction was completed in 1997. There are issues with the skin of the building not being completely sealed which allows air to escape through many areas of the school. There are issues with certain materials in the school as they become more aged. The programming of the school is suitable for its needs, but reworking is needed for the resource room near the main office to better suit its function. The bathroom layouts are not ideal as much of the pipework runs along the exterior walls, causing them to freeze frequently in the winter. The lockers are aging and often experience issues with sticking and difficulty opening. The risers in Room 606 are not portable and should be replaced with ones that better serve the music department (001). The laminate trim on much of the casework throughout the school is peeling off and needs new adhesion (002, 003).

SITE

A general patch and repair can be done for the sidewalk and asphalt on the site of the school (004). There is poor drainage near the north main entryway, which causes safety issues during as it freezes over and creates large ice patches.

MASONRY

The exterior brick of the building is in overall good shape but could use cleaning for aesthetic purposes. The joints for the limestone cap need to be cleaned out and resealed to prevent future water damage from happening on the brick underneath (005). There are exterior drains near Doors 5 and 13 that need to be cleaned so that water can properly drain out, as it is currently going onto the brick and creating water spots (006). There is insulation of the brick wall exposed near Door 30 adjacent to the garage that needs a plate to be put on it to prevent future damage (007). There is unpainted, exterior concrete masonry unit (CMU) brick near the receiving doors that should be painted to stop moisture from entering the bricks (008).

ADDITIONAL EXTERIOR MATERIALS

There is EIFS on the upper portions of the exterior walls that is cracking and peeling in many areas (009, 010). The EIFS on the building will keep needing repair and patching and replacement of the material should be considered.

ROOF

There are no notable issues with the roof. It is still original to the school and has had patches repaired throughout the years.

OPENINGS

The caulking around all windows of the school need resealing to secure the building membrane and to allow better temperature regulation inside. The curved, curtain wall window in the main office does not have the proper drainage in the flashing and is poorly sealed underneath, allowing cold air and moisture to enter the wall system (011). All the metal lintels in the school need new paint, as they are currently peeling and chipping (012). The weather stripping on numerous doors to the exterior is in poor shape and should be replaced.

CEILINGS

The acoustical ceiling tile (ACT) is in good shape, but there is water damage in the cafeteria and replacement is advised (013). Another area of concern with ceiling is in the library where there is paint flaking from the steel deck paneling (014).

ARCHITECTURAL FINISHES CONTINUED

WALLS

The interior walls are mostly comprised of painted CMU and gypsum wall board with vinyl wall covering. Large portions of exterior walls are covered with vinyl covering on the interior side. It is recommended the vinyl wall covering be removed from the interior surface of exterior walls, as this could potentially create a double vapor barrier and trap moisture within the walls. Current code does not permit the use of vinyl wall covering on outside walls for this reason. There are several areas where the vinyl wall covering is releasing from the gypsum substrate (015, 016). There is horizontal cracking on the dry wall between many of the interior doors (017, 018).

FLOORING

There is carpeting and various types of tiles for the flooring of the school. Most of the hallways have new carpeting, but many of the classrooms still have original carpeting which is getting older and isn't in great shape (019, 020). There are vinyl composite tiles (VCT) in most of the hallways which are showing signs of wear and tear and bubbling up in quite a few areas. The terrazzo tile in the hallways is beginning to crack (021, 022). The quarry and ceramic tiles in the kitchen and locker rooms could use general repair for problem spots, but do not have major issues (023, 024). The gym floor is in good condition, but there is paint peeling in a couple of spots. The volleyball pole holes are not flush with the surrounding floor, which creates a tripping hazard (025).

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 systems are installed throughout the building. Depending on the level of work performed in the building, sprinkler systems may need to be modified.

PLUMBING

Plumbing piping throughout the building is concealed in the walls and above the ceilings in public areas. Piping that can be observed in exposed spaces appear to be in good condition. School maintenance staff reported that there have not been issues with the plumbing piping leaking or the piping deteriorating to the point of causing blockage.

The restroom plumbing fixtures throughout the building are white vitreous china fixtures for urinals and water closets with having sensor activated flush valves. Typical classroom wing restrooms have wash stations in the public space for hand washing with sensor activated faucets. Lavatories for locker rooms and common spaces are wall mounted china fixtures with metering faucets. The sinks in the classrooms and break rooms are stainless steel with manually operated faucets. Classroom sinks also have bubblers for drinking water.

Domestic hot water is produced by two (2) 285 MBH gas fired water heaters with integral storage tanks. Water heaters were installed in 2020 and are in good condition.

Science rooms have CPVC piping for acid waste/vent system. Neutralization tank for the system is located in the basement. The kitchen three compartment sink has a above grade grease interceptor installed to protect the waste piping system. The auto shop did not appear to have any oil/inflammable waste traps. The art rooms sinks are provided with solids interceptor/ traps to protect the waste piping system.

Thermostatic mixing valves meeting ASSE 1070 requirements should be added to public lavatories for scald protection.

HEATING

Heating for the building is provided by three (3) condensing Thermal Solutions 3000 MBH boilers. Boilers, boiler pumps, and building circulating pumps were installed in 2020. A heating system bypass was added in the system at the time of the boiler and pump replacement to alleviate some existing system issues.

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 relatively good condition. Victaulic grooved piping is used throughout the building and according to maintenance staff the joints are starting to leak.

Variable air volume (VAV) boxes with hot water reheat coils are used throughout the building for zoning. Hot water cabinet unit heater and suspended unit heaters provide heat for vestibules, stairwells, mechanical rooms, and other similar spaces. There is no perimeter finned tube radiation or other supplemental heat in the building. Staff reported issues of inadequate heat in some exterior spaces and offices due to this.

MECHANICAL/ELECTRICAL ASSESSMENT CONTINUED

CMTA

VENTILATION AND EXHAUST

The ventilation and exhaust systems in the school include various indoor air handling units, and various exhaust fans. Air handling units have hot water heating coils and chilled water cooling coils but hot water coils are upstream of the cooling coils for all units. This coil configuration limits the potential for dehumidification at the unit. For units with reheat coils in the ductwork, dehumidification can still be achieved by overcooling at the unit and reheating as required at the zone level. These units are original to the building and we recommend that unit replacements be considered as part of long term planning. Excessive air leakage was found around the access door for AHU-5 supply fan. This door/seals should be replaced to eliminate air loss and inefficiencies. Indoor Air Quality should be addressed throughout the building to meet ASHRAE 62.1 for controllable ventilation rates.

Air handling units are installed in mechanical penthouses throughout the building. The penthouses are accessed through alternating tread ladders which make moving parts and equipment in or out difficult. The mechanical penthouses have a lot of space and allow for a good duct layout and minimal sharp duct transitions.

Existing wood shop has a dust collection system located outside the building. The system does not appear to flame suppression or blast relief components. The distribution ductwork layout is efficient and in good condition. School district to determine if CTE spaces are still required in the school building and modify/update as needed. Art space kiln room has an exhaust hood over the kiln for heat and moisture removal. Food labs do not have exhaust hoods installed over the ranges. Ceiling exhaust operated through a wall switch is provided for general room exhaust. School kitchen has exhaust hoods installed for cooking equipment and dishwasher.

AIR CONDITIONING

Air conditioning systems in the building is provided by an air-cooled chiller and chilled water distribution system. Chiller and associated circulating pumps were installed in 2020 and are in good condition. 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 relatively good condition. Victaulic grooved piping is used throughout the building and according to maintenance staff the joints are starting to leak.

Air handling units serving the gymnasium and locker rooms do not have cooling coils installed. Recommend that chilled water piping ran to the air handling units and cooling coils be installed in the units to meet the requirements of ASHRAE 62.1 for ventilation rates, and ASHREA Standard 55 for cooling and dehumidification.

AUTOMATIC TEMPERATURE CONTROLS

Variable frequency drives (VFDs) for all air handling units are original to the building and past their useful life. Recommend that the VFDs be replaced with new to properly control the unit fans.

Controls throughout the building are electronic and Direct Digital Controls (DDC), original to the building. Some actuators, valves, and control components have been replaced as devices fail. There do not appear to be proper controls or air flow monitoring to control ventilation rates based on occupancies or to verify ASHRAE 62.1 requirements for recommended outdoor air are being met. Some units do not seem to be properly controlled with issues of fan surging and temperature swings being noted. An 2022/2023 project is currently underway to retro-commission controls throughout the building to verify proper operation and increase efficiency.

MECHANICAL/ELECTRICAL ASSESSMENT CONTINUED

CMTA

ELECTRICAL SERVICE

- Power is delivered to facility via electrical service provided by Nodak Electric Coop.
- The electrical service is provided via 750kVA 480/277V 3-phase padmount transformer located at exterior of the building. Power is routed from the transformer through a CT cabinet that is sitting adjacent to the transformer, and then underground to the main service entrance switchboard located directly to the south.
- Electrical service appears to be acceptable, as is. Capacity is more than 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 building's main electrical service is delivered underground into a 480/277V 3-phase 2500A Siemens Type SB3 switchboard. Power to all areas of the building is supplied from this main switchboard. This includes various distribution panels, branch panels, and mechanical equipment.
- All electrical panels and distribution equipment were observed to be in adequate condition. No updates are suggested.
- It was noted that the interior of a branch panel within the wood shop area was filled with sawdust, creating a fire hazard. It is suggested that this panel is properly sealed to prevent the entrance of any dust.

LIGHTING

- While some areas have been upgraded to LED light fixtures with renovations, the large majority of the building interior consists of fluorescent and incandescent lighting.
- An upgrade of all interior lighting to energy-efficient LED lighting is suggested. This would 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 school was noted to be controlled via manual toggle switch. Various areas such as the locker room bathrooms were observed to have automatic lighting controls. Very few areas capable of dimming control.
- 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 centrally-located photocell.
- All exterior lighting control is suggested to be tied into digital lighting management, as outlined in interior lighting portion above.

COMMUNICATIONS SYSTEMS

- Communication from data closet to data closet done via OM4 fiber. 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. Coverage seemed to be adequate for general use.
- Telecom service appears to be adequate and is being updated over time, internally.
- Intercom system consists of Simplex 5100 Series Building Communication System. System has the capability of paging specific zones, as desired. Recessed speakers were noted to be located all throughout circulation areas, in all classrooms, and in almost all "normally-occupied" spaces.
- IP phones are located in all classrooms for room-to-room communication.

MECHANICAL/ELECTRICAL ASSESSMENT CONTINUED

- Centrally-controlled clock system has been upgrade within past few years and is manufactured by American Time with clocks located all throughout school. All communication between clocks and central system is done via hardwiring. Large majority are analog clocks.
- 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 projectors and classroom sound reinforcement.

SAFETY & SECURITY SYSTEMS

- With the exception of a few select doors at the interior and exterior entrance doors, it was noted that electronic door security is present on very few doors within building. A buzz-in system consisting of a 2-way speaker and camera are located at the front entrance.
- It is suggested that additional door security is added to all exterior doors for the purposes of access control and monitoring.
- Security camera system has been updated throughout building over time to IP system.
- System appears to be adequate and can be easily added to by school's IT department, as necessary.
- An intrusion detection system consisting of motion detection throughout hallways was installed several years back, but has since been disconnected entirely because of false alarms.
- Fire alarm control panel is Simplex 4020. Pull stations noted to be located at each exit of building. Fire detection was observed throughout all corridors and was noted to be adequate throughout entire building. Notification consists of strobes and horn/strobe devices. Various areas that are required to have audio/visual notification, per International Building Code, were noted to not have any devices.
- 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 South Middle 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 includes evaluation of the current building codes required by the City of Grand Forks and the State of North Dakota. Non-compliant items within the building have been identified and are listed below.

- Traditional wire glass throughout the building is no longer to code as an acceptable type of safety glass. (026)
- Drinking fountains throughout the building do not meet the required ratio of wheelchair accessible fountains to standing person accessible fountains. (027)
- Door 25 is not protected with an enclosed vestibule, as required by energy code.
- Door hardware on doors to the stage is not accessible. (028)
- Handrails on the stairs up to the stage do not provide the code required extensions at the top and bottom of the stairs. (029)
- Guardrails for ramps in the cafeteria do not meet height requirements and are lacking a separate handrail. (030)
- The lower sink in the science lab is not accessible, as it exceeds reach range requirements and has no knee and toe clearance. (031)
- Showers in locker rooms do not have sufficient drains as required by code to prevent wastewater from one bather passing over areas occupied by other bathers.
- The shower in the PE staff locker room does not have sufficient clearances for accessibility. (032)
- Portions of exterior walls are covered with vinyl wall covering on the interior side, which is not to code. (033)

INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS

SOU-MS 001

The risers in Room 606 are not portable and should be replaced with ones that better serve the music department.

SOU-MS 002

The laminate trim on much of the casework throughout the school is peeling off and needs new adhesion.

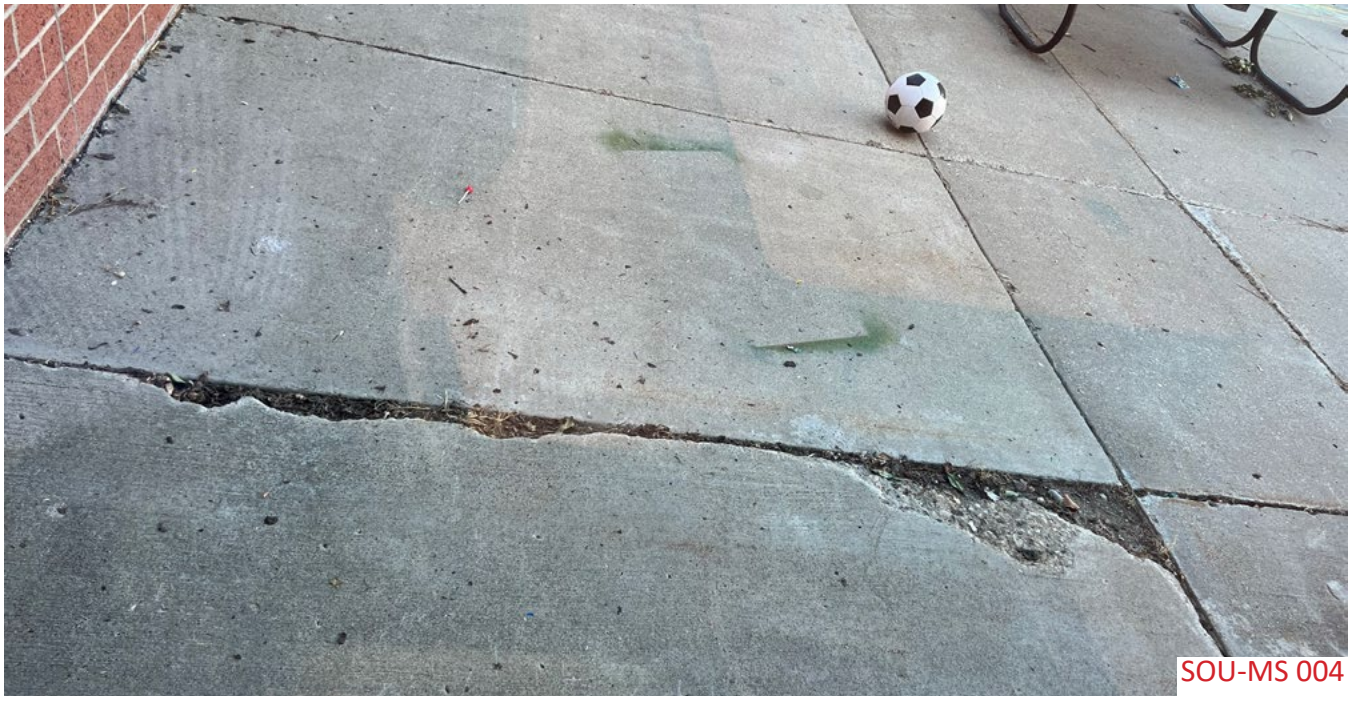
INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS

SOU-MS 003

The laminate trim on much of the casework throughout the school is peeling off and needs new adhesion.

SOU-MS 006

There are exterior drains near Doors 5 and 13 that need to be cleaned so that water can properly drain out as it is currently going onto the brick and creating water spots.



SOU-MS 004

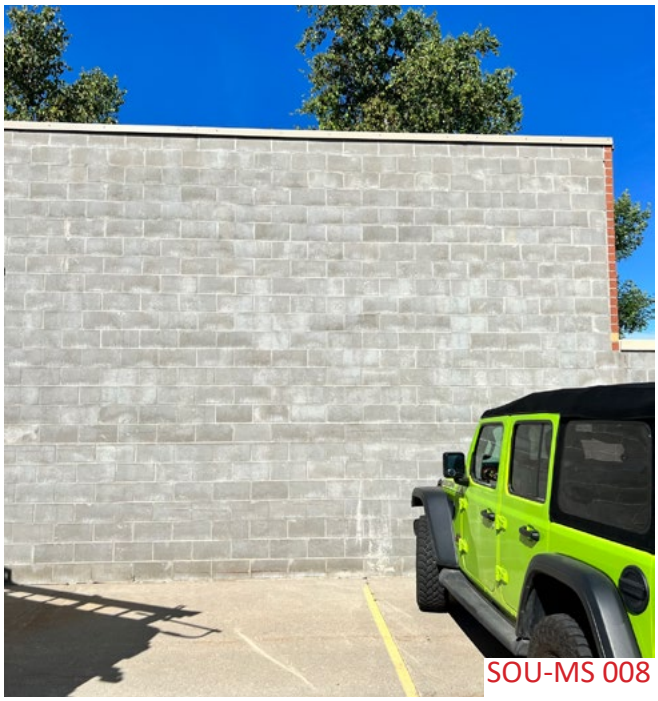
A general patch and repair can be done for the sidewalk and asphalt on the site of the school.

INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS

The joints for the limestone cap need to be cleaned out and resealed to prevent future water damage from happening on the brick underneath

There is insulation of the brick wall exposed near Door 30 adjacent to the garage that needs a plate to be put on it to prevent future damage.

INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS

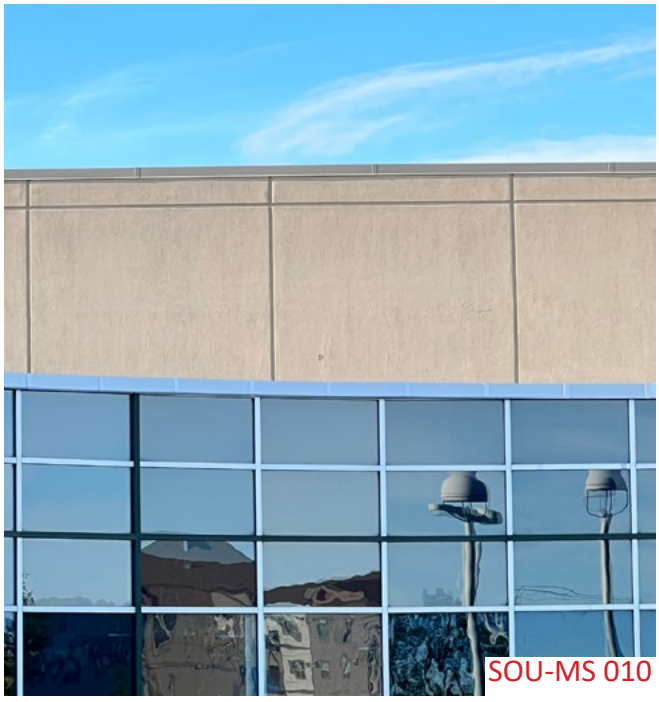


SOU-MS 008

There is unpainted, exterior CMU brick near the receiving doors that should be painted to stop moisture from entering the bricks.

SOU-MS 009

There is EIFS on the upper portions of the exterior walls that is cracking and peeling in many areas.



SOU-MS 010

There is EIFS on the upper portions of the exterior walls that is cracking and peeling in many areas.

SOU-MS 013

The Acoustical Ceiling Tile (ACT) is in good shape, but there is water damage in the cafeteria and replacement is advised.

INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS

SOU-MS 011

The curved, curtain wall window in the main office does not have the proper drainage in the flashing and is poorly sealed underneath, allow cold air to enter in the winter.

SOU-MS 012

All the metal lintels in the school need new paint as they are currently peeling and chipping.

INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS

SOU-MS 014

Another area of concern with ceiling is in the library where there is paint flaking from the steel deck paneling.

SOU-MS 015

There are several areas where the vinyl wall covering is releasing from the gypsum substrate.

SOU-MS 017

There is horizontal cracking on the dry wall between many of the interior doors.

INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS

SOU-MS 016

There are several areas where the vinyl wall covering is releasing from the gypsum substrate.

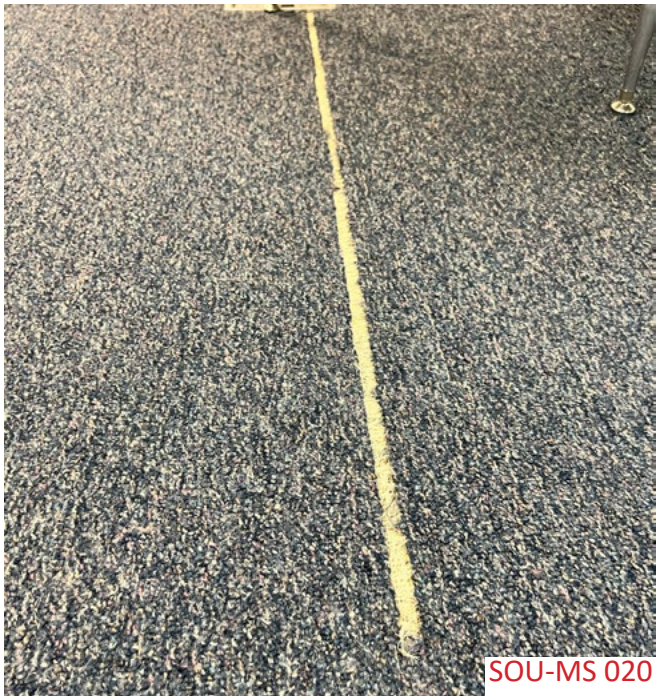
SOU-MS 018

There is horizontal cracking on the dry wall between many of the interior doors.

INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS


SOU-MS 019

Most of the hallways have new carpeting, but many of the classrooms still have original carpeting which is getting older and isn't in great shape


SOU-MS 020

Most of the hallways have new carpeting, but many of the classrooms still have original carpeting which is getting older and isn't in great shape


SOU-MS 021

The terrazzo tile in the hallways is beginning to crack


SOU-MS 022

The terrazzo tile in the hallways is beginning to crack

INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS

The quarry and ceramic tiles in the kitchen and locker rooms could use general repair for problem spots, but do not have major issues.

The quarry and ceramic tiles in the kitchen and locker rooms could use general repair for problem spots, but do not have major issues

The volleyball pole holes are not flush with the floor surrounding, which creates a tripping hazard.

INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS

SOU-MS 026

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

SOU-MS 027

Drinking fountains throughout the building do not meet the required ratio of wheelchair accessible fountains to standing person accessible fountains.

SOU-MS 028

Door 25 is not protected with an enclosed vestibule, as required by energy code.
Door hardware on doors to the stage is not accessible.

SOU-MS 029

Handrails on the stairs up to the stage do not provide the code required extensions at the top and bottom of the stairs.

INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS

SOU-MS 030

Guardrails for ramps in the cafeteria do not meet height requirements and are lacking a separate handrail.

SOU-MS 031

The lower sink in the science lab is not accessible, as it exceeds reach range requirements and has no knee and toe clearance.

SOU-MS 032

The shower in the PE staff locker room does not have sufficient clearances for accessibility.

SOU-MS 033

Portions of exterior walls are covered with vinyl wall covering on the interior side, which is not to code.

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	8,029 SF	5,920 SF	2,109
Art	3,394 SF	3,520 SF	-126
Athletics	16,428 SF	12,460 SF	3,968
Auditorium	2,107 SF	4,140 SF	-2,033
Circulation	26,523 SF	36,205 SF	-9,682
Classrooms	24,557 SF	23,800 SF	757
FACS	3,074 SF	2,900 SF	174
Food Service/Cafeteria	7,824 SF	12,550 SF	-4,726
Library/Media Center	5,373 SF	3,010 SF	2,363
Mechanical/Electrical	1,921 SF	9,051 SF	-7,130
Music	5,902 SF	6,575 SF	-673
Restrooms	1,897 SF	3,017 SF	-1,120
Science	3,084 SF	3,000 SF	84
Special Education	6,144 SF	6,500 SF	-356
Technical Education	3,360 SF	9,300 SF	-5,940

Total Missing Square Footage	-22,331

EXISTING DEFICIENCIES CONTINUED

ADMINISTRATION/PTO COMMENTS AND FEEDBACK

LACK OF LEARNING/COLLABORATION/SUPPORT SPACES

- There is a need for more individual instruction and emotional support spaces.
- Specialists such as therapists do not have enough space.
- The gymnasium needs more space.
- There are areas throughout the school that are not used and could be repurposed into other spaces.
- There is a need for gender neutral restrooms.

SECURITY/SAFETY

- There are not enough places for shelter in place/lockdown.
- The alert system needs to be updated.
- Secure entrances could be improved.

PARKING/STUDENT DROP-OFF AND PICK-UP

- There are issues during student drop-off and pick-up.

TOP PRIORITIES

1. Secure Entrance
2. Common Space/Collaboration Area and Social/Emotional Spaces
3. Outdoor Spaces

E. COST ANALYSIS

South Middle School
Grand Forks, ND
11/2/2022

CONSTRUCTION ENGINEERS

Facility Assessment Estimate

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
ADA and Building Code Compliance												
Replace wire glass throughout the building that is no longer up to code (frame to remain)	1	2,000	SF	$33.65	/	SF	$67,300					$67,300
Add accessible lower water fountains throughout the building	2	2	Ea.	$21,944.54	/	Ea.	$43,889					$43,889
Add interior vestibule at Door 25 as required by energy code	3	1	Ea.	$29,683.02	/	Ea.	$29,683					$29,683
Upgrade door hardware with ADA hardware at the stage	4	6	Ea.	$983.61	/	Ea.	$5,902					$5,902
Replace the handrail on the stairs up to the stage so they will extend 12" past the end of the stairs	5	24	LF	$131.89	/	LF	$3,165					$3,165
Replace the guardrails for ramps in the cafeteria that are not tall enough and are lacking the separate handrail	6	72	LF	$348.24	/	LF	$25,073					$25,073
Create an accessible sink and workstation in the science lab	7	1	Ea.	$7,654.74	/	Ea.	$7,655					$7,655
Remove and replace concrete in locker rooms showers so each individual showerhead can have its own drain per code	8	2	Ea.	$73,711.64	/	Ea.	$147,423				X	$147,423
Remove vinyl wall coverings from the inside of exterior walls that is creating a double vapor barrier, skim coat existing sheetrock and paint	9	12,060	SF	$7.16	/	SF	$86,350					$86,350
Remodel the shower in the PE staff locker room to meet clearances for accessibility	10	1	Ea.	$43,951.64	/	Ea.	$43,952					$43,952
Total Code Compliance		**130,780**	**SF**	**$3.52**	**/**	**SF**	**$460,392**	**$0**	**$0**	**$0**		**$460,392**
Security												
Administration Office Entry Remodel	11	952	SF	$101.40	/	SF				$96,529		$96,529
Total Security		**952**	**SF**	**$101.40**	**/**	**SF**	**$0**	**$0**	**$0**	**$96,529**		**$96,529**
Addition/Remodel (Educational Adequacy)												
Administration	12		SF	$339.20	/	SF				$0		$0
Art	13	126	SF	$351.74	/	SF				$44,319		$44,319
Athletics	14		SF	$360.52	/	SF				$0		$0
Auditorium	15	2,033	SF	$485.35	/	SF				$986,717		$986,717
Business Education	16		SF	$376.82	/	SF				$0		$0
Circulation	17	9,682	SF	$376.83	/	SF				$3,648,497		$3,648,497
Classrooms	18		SF	$376.82	/	SF				$0		$0
Common Spaces	19		SF	$393.12	/	SF				$0		$0
FACS	20		SF	$393.12	/	SF				$0		$0
Food Service/Cafeteria	21	4,726	SF	$458.33	/	SF				$2,166,055		$2,166,055
Library/Media Center	22		SF	$395.63	/	SF				$0		$0
Mechanical/Electrical	23	7,130	SF	$307.85	/	SF				$2,194,995		$2,194,995
Music	24	673	SF	$401.90	/	SF				$270,478		$270,478
Restrooms	25	1,120	SF	$464.61	/	SF				$520,365		$520,365
Science	26		SF	$431.99	/	SF				$0		$0
Special Education	27	356	SF	$340.28	/	SF				$121,138		$121,138
Technical Education	28	5,940	SF	$381.83	/	SF				$2,268,100		$2,268,100
Technology Education	29		SF	$394.37	/	SF				$0		$0
Total Adequacy		**31,786**	**SF**	**$384.47**	**/**	**SF**	**$0**	**$0**	**$0**	**$12,220,663**		**$12,220,663**

South Middle School
Grand Forks, ND
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CONSTRUCTION ENGINEERS

Facility Assessment Estimate

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
Capital Maintenance												
Interior Upgrades												
Replace the lockers since are getting older and often experience issues with sticking and not opening up (788 student lockers in corridor, and 348 lockers in both boys and girls locker room).	30	1,136	Ea.	$840.00	/	Ea.			$954,240			$954,240
Repair the laminate trim on much of the casework throughout the school that peeling off and needs new adhesion	31	130,780	SF	$0.34	/	SF		$44,465				$44,465
Replace damaged ACT ceiling in the cafeteria and replacement	32	5,647	SF	$9.54	/	SF	$53,845					$53,845
Scrape off existing paint in the library and repaint	33	4,374	SF	$8.83	/	SF	$38,622					$38,622
Replace the weather stripping on numerous doors to the exterior that are in poor shape	34	48	Ea.	$653.67	/	Ea.	$31,376					$31,376
General sheetrock repair throughout the building	35	130,780	SF	$0.24	/	SF		$31,387				$31,387
Replace original carpet in the classrooms	36	30,466	SF	$11.81	/	SF		$359,934				$359,934
Replaced damaged and dated VCT throughout the building	37	5,000	SF	$9.12	/	SF		$45,600				$45,600
Repair or replace the terrazzo tile in the hallways where it is beginning to crack	38	5,000	SF	$24.14	/	SF		$120,700				$120,700
General repair of the quarry and ceramic tiles in the kitchen and locker rooms	39	8,641	SF	$2.65	/	SF		$22,899				$22,899
Repair the painting on the gym floor where the paint peeling in a couple of spots	40	1	Ea.	$12,657.20	/	Ea.		$12,657				$12,657
Repair the volleyball pole holes that are not flush with the floor surrounding, which creates a tripping hazard	41	1	Ea.	$6,931.98	/	Ea.	$6,932					$6,932
Interior Upgrades Subtotal		**130,780**	**SF**	**$13.17**	**/**	**SF**						**$1,722,658**
Exterior Upgrades												
Seal existing exterior brick to keep air from escaping through many areas of the school	42	130,780	SF	$1.02	/	SF	$133,396					$133,396
Replaced damaged paving	43	500	SF	$17.56	/	SF	$8,780					$8,780
Fix the bad drainage areas near the north main entryway, which causes safety issues during spring thaw as it freezes over and creates a large ice patch by regrading and landscaping	44	1	Ea.	$21,494.12	/	Ea.	$21,494					$21,494
Clean exterior brick of the building for aesthetic purposes	45	130,780	SF	$0.37	/	SF		$48,389				$48,389
Clean the joints for the limestone cap and resealed to prevent future water damage from happening on the brick underneath	46	130,780	SF	$0.34	/	SF	$44,465					$44,465
Clean out exterior drains near doors 5 and 13 that so that water can properly drain out as it is currently going onto the brick and creating water spots	47	1	Ea.	$7,431.14	/	Ea.	$7,431					$7,431
Repair the area where there is insulation of the brick wall exposed near door 30 adjacent to the garage	48	1	Ea.	$2,341.85	/	Ea.	$2,342					$2,342
Paint the exposed exterior CMU brick near the receiving doors to stop moisture from entering the bricks	49	1	Ea.	$7,614.14	/	Ea.	$7,614					$7,614
General EIFS repair	50	130,780	SF	$0.57	/	SF		$74,545				$74,545
Recaulk around all windows of the school	51	60	Ea.	$501.24	/	Ea.		$30,074				$30,074
Fix the curved, curtain wall window in the main office does where there is not the proper drainage in the flashing and is poorly sealed underneath that allow cold air to enter in the winter	52	1	Ea.	$25,632.17	/	Ea.		$25,632				$25,632
Replace the roof when it nears the end of its useable lifetime	53	130,780	SF	$32.76	/	SF		$4,284,353				$4,284,353
Paint all the metal lintels in the school since they are currently peeling and chipping	54	1	Ea.	$11,274.99	/	Ea.		$11,275				$11,275
Exterior Upgrades Subtotal		**130,780**	**SF**	**$35.94**	**/**	**SF**						**$4,699,790**

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CONSTRUCTION ENGINEERS

Facility Assessment Estimate

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
Electrical Upgrades												
It was noted that the interior of a branch panel within the wood shop area was filled with sawdust, creating a fire hazard. It is suggested that this panel is properly sealed to prevent the entrance of any dust.	55	1	Ea.	$4,124.85	/	Ea.	$4,125					$4,125
Add egress lighting to doors to exterior as is required by Building Code	56	130,780	SF	$1.21	/	SF	$158,244					$158,244
Upgrade of all interior lighting controls throughout to digital lighting management	57	130,780	SF	$2.51	/	SF		$328,258				$328,258
Upgrade of all exterior lighting controls throughout to digital lighting management	58	130,780	SF	$0.25	/	SF		$32,695				$32,695
Update the existing intercom system with a new IP system throughout entire school.	59	130,780	SF	$3.76	/	SF		$491,733				$491,733
Add additional door security all exterior doors with access control and monitoring	60	130,780	SF	$0.85	/	SF	$111,163					$111,163
Upgrade the fire alarm system to a voice-capable system as is currently required by the North Dakota Building Code	61	130,780	SF	$0.69	/	SF	$90,208					$90,208
Electrical Upgrades Subtotal		**130,780**	**SF**	**$9.30**	**/**	**SF**						**$1,216,425**
Mechanical Upgrades												
The auto shop did not appear to have any oil/inflammable waste traps	62	1	Ea.	$24,290.02	/	Ea.	$24,290					$24,290
ASSE 1070 thermostatic mixing valves should be added to public lavatories for scald protection in accordance with the uniform plumbing code.	63	130,780	SF	$0.32	/	SF	$41,850					$41,850
There is no perimeter finned tube radiation or other supplemental heat in the building. Staff reported issues of inadequate heat in some exterior spaces and offices due to this.	64	130,780	SF	$3.48	/	SF		$455,114				$455,114
The ventilation and exhaust systems in the school include various indoor air handling units, and various exhaust fans. Air handling units have hot water heating coils and chilled water cooling coils but hot water coils are upstream of the cooling coils for all units. This coil configuration limits the potential for dehumidification at the unit. For units with reheat coils in the ductwork, dehumidification can still be achieved by overcooling at the unit and reheating as required at the zone level. These units are original to the building and we recommend that unit replacements be considered as part of long term planning. Excessive air leakage was found around the access door for AHU-5 supply fan. This door/seals should be replaced to eliminate air loss and inefficiencies. Indoor Air Quality should be addressed throughout the building to meet ASHRAE 62.1 for controllable ventilation rates.	65	130,780	SF	$10.34	/	SF			$1,352,265			$1,352,265
Existing wood shop has a dust collection system located outside the building. The system does not appear to flame suppression or blast relief components	66	1	Ea.	$15,624.15	/	Ea.	$15,624					$15,624
Air handling units serving the gymnasium and locker rooms do not have cooling coils installed. Recommend that chilled water piping ran to the air handling units and cooling coils be installed in the units to meet the requirements of ASHRAE 62.1 for ventilation rates, and ASHREA Standard 55 for cooling and dehumidification.	67	130,780	SF	$2.35	/	SF		$307,333				$307,333
Variable frequency drives (VFDs) for all air handling units are original to the building and past their useful life. Recommend that the VFDs be replaced with new to properly control the unit fans.	68	130,780	SF	$2.30	/	SF		$300,794				$300,794
Mechanical Upgrades Subtotal		**130,780**	**SF**	**$19.10**	**/**	**SF**						**$2,497,270**

COST ANALYSIS CONTINUED

South Middle School
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CONSTRUCTION ENGINEERS

Facility Assessment Estimate

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
Total Capital Maintenance		**130,780**	**SF**	**$77.51**	**/**	**SF**	**$801,801**	**$7,027,836**	**$2,306,505**	**$0**		**$10,136,143**
Total Construction Cost		**163,518**	**SF**	**$140.13**	**/**	**SF**	**$1,262,193**	**$7,027,836**	**$2,306,505**	**$12,317,192**		**$22,913,726**
**** All above estimated costs are total construction costs. These include general conditions, CM fees, permits, insurances, bonds, taxes*												
Contingencies & Soft Costs												
Design Contingency	69	5.0%					$63,109.63	$351,391.82	$115,325.26	$615,859.60		$1,145,686
Construction Contingency	70	5.0%					$63,109.63	$351,391.82	$115,325.26	$615,859.60		$1,145,686
Escalation	71	0.0%					$0.00	$0.00	$0.00	$0.00		$0
A & E Fees	72	7.0%					$88,353.48	$491,948.55	$161,455.36	$862,203.45		$1,603,961
FF & E	73	2.0%					$25,243.85	$140,556.73	$46,130.10	$246,343.84		$458,275
Owner Contingency	74	1.5%					$18,932.89	$105,417.55	$34,597.58	$184,757.88		$343,706
Total Contingencies & Soft Costs							**$258,749**	**$1,440,706**	**$472,834**	**$2,525,024**		**$4,697,314**
Total Facility Assessment Cost Estimate		**163,518**	**SF**	**$168.86**	**/**	**SF**	**$1,520,942**	**$8,468,543**	**$2,779,339**	**$14,842,216**		**$27,611,040**
Total Critical & Educational Adequacy		**163,518**	**SF**	**$100.07**	**/**	**SF**						**$16,363,158**