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VALLEY MIDDLE SCHOOL





A. EXISTING BUILDING INVENTORY

Valley Middle School is located at 2100 5th Avenue N in Grand Forks. The school opened in 1955 as a junior high school. In 1956, an addition was made to the west of the original school. This addition included a library, classrooms, band and chorus rooms, practice rooms, and arts and crafts rooms. In 1961, the school was expanded further west with the addition of a gym, locker room, new library, office, teacher's lounge, stage, classrooms, and a new kitchen. In 1975, a portion of the 1961 addition was remodeled, turning previous recitation rooms into a reading/research room, storage room, and an office work room. In 1978, a library addition was added onto the southwest corner of the school and the adjacent classrooms were remodeled to create library storage, a work room, audio/visual storage, informal reading room, and a conference/studio room. The existing gym work room and apparatus room were also remodeled during this time to create a new gym entry/storage room. In 1982, several roof beams were repaired. In 1993, another addition and remodel took place to the northwest corner of the school where a child nutrition program was added. A renovation took place in 1995 to remove the crafts room, storage, office, and drafting room. Two industrial technology classrooms, a manufacturing room, and an audio/visual room were built. In 1998, the original wing of the school received a renovation and additions were added to the north end of both the original 1954 wing and the 1956 wing. These additions consisted of new science classrooms and laboratories. In 1999, remodeling took place in which various upgrades were done throughout the school. In 2001, the food service area was remodeled. Most of the windows in the school were replaced in 2010.

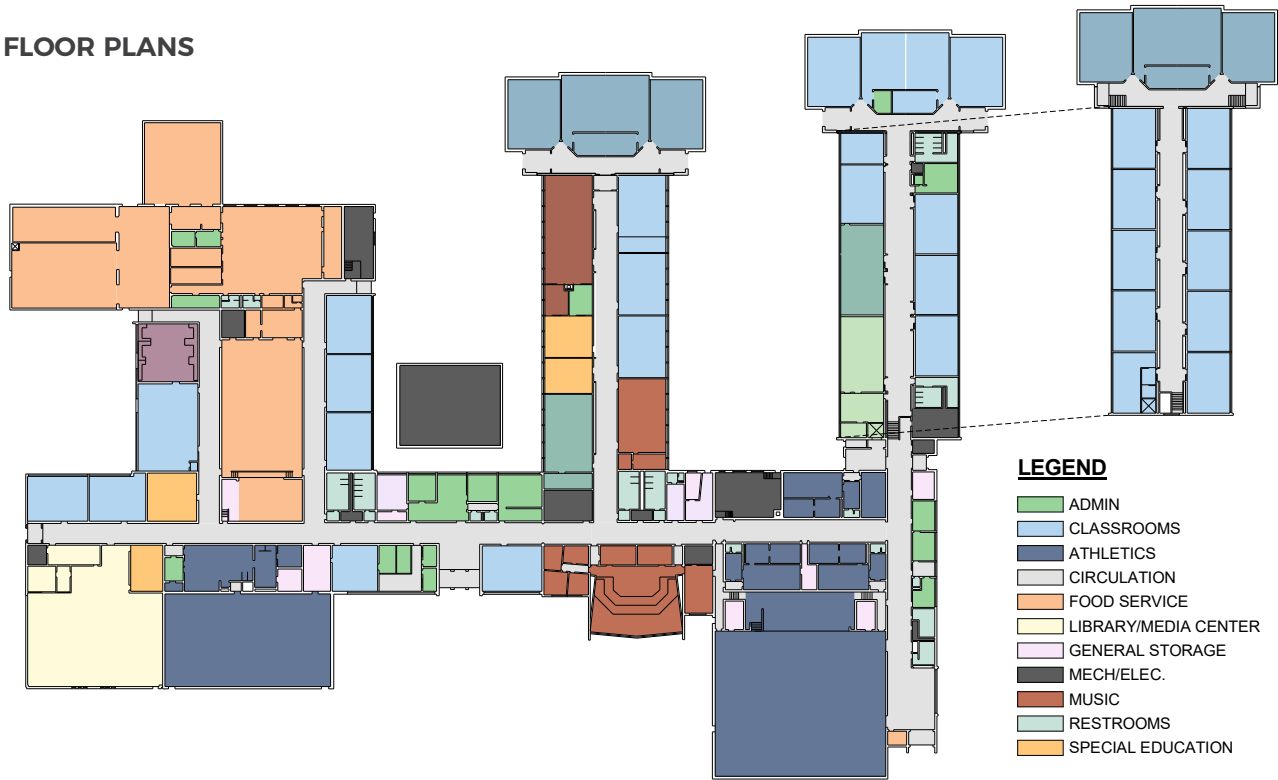
Valley Middle School is accessible from 6th Avenue N to the north, N 20th Street to the east, and 5th Avenue N to the south. There are two parking lots to the north of the building and one small parking lot to the south of the building.



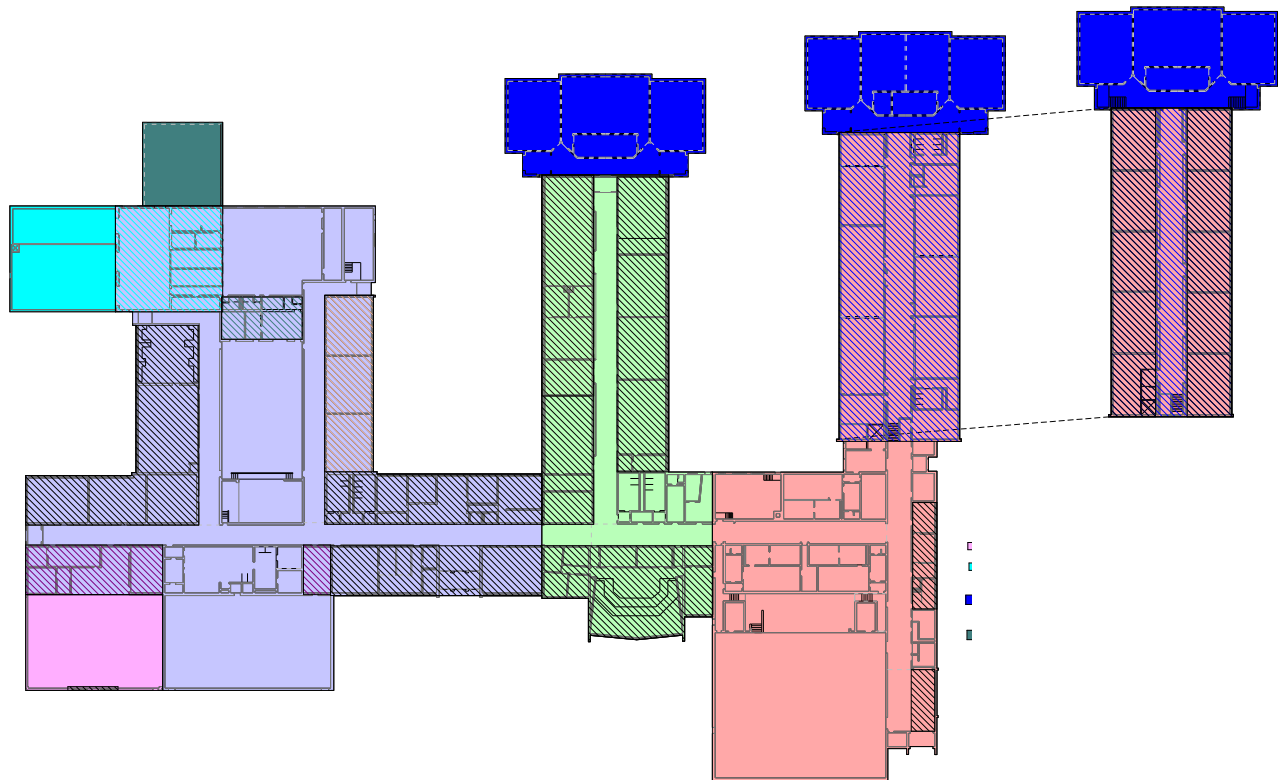
VALLEY MIDDLE SCHOOL

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

FLOOR PLANS



OVERALL FLOOR PLAN





B. ARCHITECTURAL FINISHES

SUMMARY

Valley Middle School opened in 1955. Since then, the school has received additions in 1961, 1978, 1993, and 1998. Remodel projects were done in 1975, 1993, 1995, 1998, and 1999. Signs of wear and tear are prevalent in both the interior and exterior of the school. The school does not have air conditioning and temperature regulation throughout is difficult. Classrooms are small and there aren't any spaces for student collaboration where breakout sessions can take place. There is a general lack of technology in the building. Classrooms do not have enough outlets, the sound system does not reach all rooms, and clocks are not synchronized so the time shown varies from room to room. There are no science labs in the building and no water at all on the second floor. There are not enough restrooms in the building and there are privacy concerns in several of the existing restrooms. Parking is sparse and there is no designated spot for student drop off and pick up. The school has been well maintained throughout the years but is no longer able to meet the educational needs of the students or faculty.

SITE

There is not enough parking on site and student drop off/pick up is not efficient. There are accessibility issues at most exterior doors as a step up is required to enter the building (001, 002, 003, 004). The stoop at the exterior door in the corridor outside the library is sinking and pulling away from the door sill causing gaps at the threshold (005, 006). The same issue is apparent at other doors where there isn't a proper stoop tied in (007). The stoop outside the southeast door of the small gymnasium is in very bad shape and needs to be replaced (008). Louvres around the exterior of the building should be repainted (009, 010).

MASONRY

The brick is in good condition overall, but caulking is wearing and needs attention (011, 012, 013). The first few courses of brick around the building are dirty and should be cleaned (014). A mowing strip should be installed to prevent this issue in the future.

ADDITIONAL EXTERIOR MATERIALS

Although the exterior of the building is mainly brick, there are also accents of exterior insulation and finish systems (EIFS) and wood paneling. Caulking is wearing and should be redone on EIFS walls (015) and where the EIFS meets the brick (016). The flashing around the bottom of the EIFS is not sufficiently running away from the wall (017). The EIFS band beneath the windows in the north parking lot is damaged and should be refinished (018). The exposed trim board around the top of the brick walls should be repainted (019). Wood paneling above the brick at the south exterior wall of the gymnasium is pulling away and needs attention (020). Painted plywood around the exterior of the building is damaged and deteriorating (021) and shows signs of water damage above the exterior door between classroom D2 and the food service building (022).



ARCHITECTURAL FINISHES CONTINUED

ROOF

There are gaps in the soffit that need to be addressed (023).

OPENINGS

Overall, the windows appear to be in good condition but the sealant and gasketing within the windows are in poor shape and need to be redone (024). The doors throughout the building are in poor shape. Due to the age of the doors, visible wear and tear is shown on multiple doors (025, 026).

CEILINGS

Most of the ceilings are acoustical ceiling tiles (ACT) with acoustical panels located in some rooms. There are some water stains throughout the building (027). The acoustical panels are dated and showing wear (028).

WALLS

The interior walls are either painted masonry, painted gypsum board, have vinyl wall covering, tiling, or acoustical panels. There are notes of shifting and large cracks in multiple concrete masonry units (CMU) walls throughout the building (029, 030).

FLOORING

The flooring is mostly compromised of carpet and tiling. Some classrooms have new carpet but most of the school consists of dated carpet. Certain areas of the carpet in the school are experiencing warping. Old tile located throughout the school should be tested for asbestos (031).

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 absent throughout the majority of the building. A fire suppression system riser and fire department connection were found for the 1998 addition and adjacent two-story portion of the school. Other than these areas, no other fire sprinkler piping was found in the school. Any renovation in this school would require sprinkler systems to be installed throughout the areas of the school not currently covered by the existing 1998 system.

PLUMBING

The sewer piping throughout the building is in poor condition and is deteriorated. Facilities staff have reported a number of issues with sewer leaks and backups. Existing piping is located below floor slabs or in small crawl tunnels around the school making replacement difficult but necessary. There is little, if any, existing sewer waste and vent piping that should be relied upon for use in the future.

Storm and groundwater drainage have traditionally been a large issue at this school. There has been water in the tunnels and in the lower level of the school on many occasions. The existing storm and groundwater system, or lack thereof, should be replaced with a new system throughout the entire school.

Domestic water piping is original to the year the building or addition was constructed. This places a large fraction of the water piping at 44 years old or older. This school does not currently have any type of water treatment system (e.g., a water softener) which makes it likely a majority of the water piping is scaled and in poor condition. It is likely most, if not all, existing water piping should be replaced.

The restroom plumbing fixtures throughout the building are currently white vitreous china fixtures. Flush valves and lavatory faucets are manually operated. It appears as though the district has been changing fixtures, flush valves, and faucets as required to address failures. Fixtures, in general, are in a reasonable condition however, there are not enough fixtures to serve the occupant load of the building. Also, fixtures should be equipped with automatic sensors for improved health and safety. It is likely that all restrooms in the school need a complete renovation in order to meet the code-required fixtures for the number of occupants and bring the facilities to a modern standard.

Domestic hot water is largely produced by natural gas water heaters. It appears the water heaters have been replaced on an as-required basis as they have failed. The existing water heaters are functional but should be replaced with new high-efficiency, sealed combustion, natural gas water heaters.

Kitchen plumbing fixtures and piping are in poor condition and are in need of being replaced.

Boys and girls locker rooms have showers that are in poor condition and a very low number of restroom fixtures. The showers should be replaced, and additional restroom fixtures should be added but only if architectural changes are made to the locker rooms to address code issues.



MECHANICAL/ELECTRICAL ASSESSMENT CONTINUED



HEATING

Heating for the building comes from four (4) non-condensing low-pressure steam boilers. Boilers are at least 20 years old and are past the end of their useful life. There are a number of condensate pumps throughout the building which return back to the boiler room. There is one existing boiler feed tank in the boiler room that is also past the end of its useful life. The steam system piping is original to the year the building or addition was constructed. This places a large fraction of the piping at 44 years old or older. Facilities staff have reported a number of piping leaks in the building. Steam is delivered to heating coils in air handling units, unit ventilators, steam fin-tube radiation, and other terminal heating devices. The steam fin-tube radiation throughout the school has been noted to leak as well as make noise that disturbs the learning environment. Steam coils subject to outside air, such as in air handling units and unit ventilators, have been noted to freeze and crack. This leads to the coils being repaired or replaced or no longer having a heating coil for use in this equipment.

Overall, the entire steam heating system for this building is well past its useful life, of antiquated design, and needs to be replaced with a new more efficient, easier-to-maintain system.

VENTILATION AND EXHAUST

The school has 18 different indoor air handling units, over 30 different exhaust fans, and many different unit ventilators. All air handling units and unit ventilators are steam heated and have no air conditioning. The HVAC equipment is largely original to the year the building or addition was constructed. This places a large fraction of the equipment at 44 years old or older which is well past its useful life. Many of the units are not fully functional, if functional at all, which results in poor air movement and indoor air quality.

Ductwork throughout the building does not effectively distribute air. The ductwork itself is at the end of its useful life and will have excessive leakage.

Overall, the entire HVAC system (equipment and ductwork) in this building should be replaced with new systems which do not include unit ventilators. These improvements are necessary to properly distribute air, allow for air conditioning to be installed, and improve indoor air quality.

AIR CONDITIONING

With the exception of a few, small, standalone, air conditioning units the school has no air conditioning. It is highly recommended the school have an air conditioning system installed that is integrated into the school's HVAC systems.

AUTOMATIC TEMPERATURE CONTROLS

Controls throughout the building are pneumatic and original to the building. These controls currently function poorly, if at all. Also, pneumatic controls offer limited control capability and no ability for monitoring and alarm. With the controls as they are today, there is no way to properly control ventilation rates based on occupancies or to verify ASHRAE 62.1 requirements for recommended outdoor air are being met. It is recommended that all existing pneumatic controls be replaced with new Direct Digital Controls (DDC) systems. The 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 300KVA 208/120V padmount transformer located on north side of building.
- Power is routed underground from the transformer to a wall-mounted CT cabinet just to the south. Power is then routed through the exterior wall and into the service entrance switchboard within a mechanical room.
- Peak loads on this transformer in the past 12 months was 191kW (530A), 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 1200A Siemens Series 6. Power is supplied to all areas of the building from this main switchboard. This includes various distribution panels, mechanical equipment, and branch panels.
- Branch panels throughout building were noted to be very old, in some cases. While some are newer and have been added/updated over time, some appear to be nearing the end of their useful life. All panels are currently in working order, but it is recommended that the older panels be replaced with any renovation project.
- It was noted that very few receptacles were located within each classroom. Outlet expanders and plugmold devices were utilized in several locations. Above a unit heater in one instance. Often times this creates a situation in which there are more outlets on a single circuit than is allowed by Code, and can create a fire hazard.
- Areas such as the weight room were noted to have electrical distribution equipment and disconnects out in the open for anyone to operate. This presents a safety concern. These devices should be located in back of house areas where only faculty can access them.

LIGHTING

- The large majority of the building interior consists of fluorescent and incandescent lighting. Areas such as the cafeteria and front office have been updated to LED lighting. Various areas, such as the locker rooms, were noted to have inadequate lighting levels, as recommended by the Illuminating Engineering Society.
- 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 of school was noted to be controlled via manual toggle switch. Very few areas utilize dimming operation.
- Gym lighting is currently controlled via breaker within electrical panel that is accessible to anyone in gym area causing a potential safety concern.
- 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.



MECHANICAL/ELECTRICAL ASSESSMENT CONTINUED



- All exterior lighting is controlled via photocell and/or timeclock.
- All exterior lighting control is suggested to be tied into new digital lighting management, as outlined in interior lighting portion above.

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. Dedicated wireless access points were observed in several classrooms. 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. Recessed speakers were noted to be located all throughout circulation areas. Intercom speakers were observed in some classrooms, but not all.
- 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 of primarily analog devices. It was stated by faculty that when a Simplex clock goes out, it is replaced with a simple battery-powered clock.
- 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 smart boards, shorth-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 was recently updated to Simplex 4100ES. Panel is capable of voice evacuation, but currently utilized horns throughout school. Pull stations noted to be located at each exit of building. Fire detection noted to be adequate. Notification consists of strobes and horn/strobe devices. Locations of notification devices was noted to be inadequate in some instances where devices were spaced too far apart.
- 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 Valley 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.

- Door hardware on various doors throughout the building is not accessible (032, 033).
- Most of the building is non-sprinklered with the exception of several of the additions (034).
- The staff lounge restroom is not accessible (035).
- The counseling room restroom is not accessible (036).
- Many interior doors are not fire rated (037).
- Hallways in the music room do not meet minimum width requirements for accessibility (038).
- All public restrooms in the building are not accessible (039).
- The custodial office restroom is not accessible (040).
- The stairwell in the mechanical room is missing a handrail (041).
- All locker rooms are not accessible (042, 043).
- 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 weight room is not accessible from the gym (044).
- The door into the weight room fails to meet required maneuvering clearance for accessibility and the door does not swing in the proper direction (045).
- Drinking fountains throughout the building do not meet the required ratio of wheelchair accessible fountains to standing person accessible fountains (046).
- Most entrances to the school do not have the required safety glass (047).
- Combustible material is found in corridors that are non-sprinklered (048).
- Exit doors do not have the required safety glass (049).
- Several rooms in the school do not have proper signage with brail.
- Guardrails in all stairwells do not meet height requirements.
- Handrails on stairs do not provide the code required extensions at the top and bottom of the stairs.
- The stairwell in the middle of the school is lacking a separate handrail from the guardrail and spaces between the railings exceed the maximum size of 4" (050).
- The door to the electrical meter room does not swing in the proper direction.
- Wire glass is seen throughout the building (051).
- Pipes throughout the building are exposed and should be protected (052).
- Sinks in classrooms are not accessible (053, 054).
- Computer room 3 needs an additional exit.
- The art room needs an additional exit.
- Room B-5 needs an additional exit (055).
- The desk in the main office is not accessible.
- FACS classroom is not accessible (056).
- The staff supply room is not accessible and needs a handrail on the stairwell.



INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS



VAL-MS 001

There are accessibility issues at most exterior doors as a step up is required to enter the building.



VAL-MS 002

There are accessibility issues at most exterior doors as a step up is required to enter the building.



VAL-MS 003

There are accessibility issues at most exterior doors as a step up is required to enter the building.



VAL-MS 004

There are accessibility issues at most exterior doors as a step up is required to enter the building.

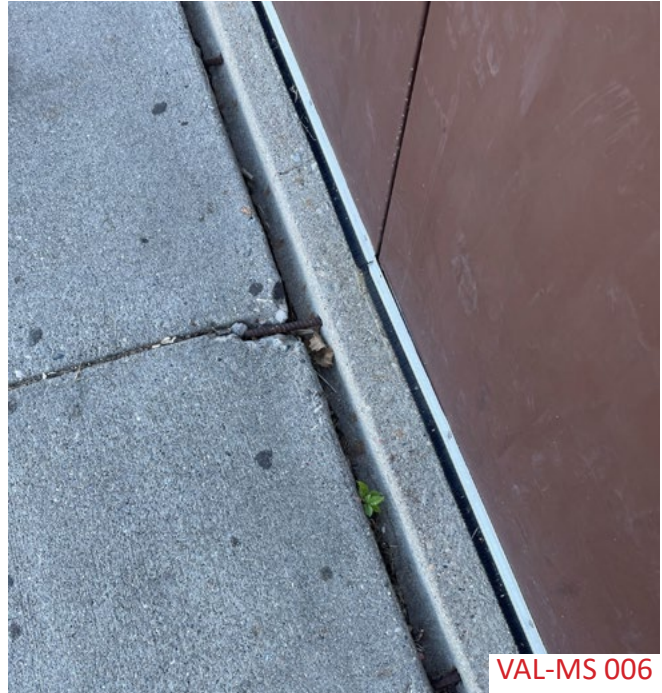


INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS



VAL-MS 005

The stoop at the exterior door in the corridor outside the library is sinking and pulling away from the door sill causing gaps at the threshold.



VAL-MS 006

The stoop at the exterior door in the corridor outside the library is sinking and pulling away from the door sill causing gaps at the threshold.



VAL-MS 007

The same issue is apparent at other doors where there isn't a proper stoop tied in.



VAL-MS 008

The stoop outside the southeast door of the small gymnasium is in very bad shape and needs to be replaced.

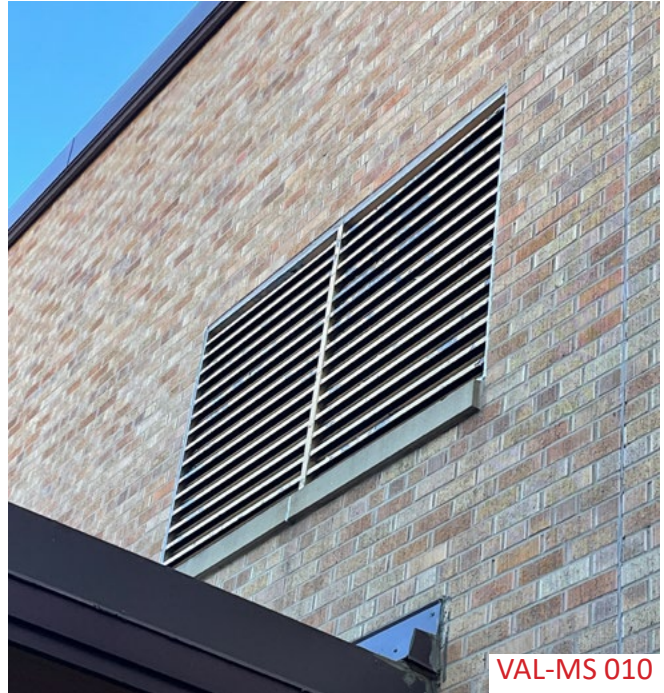


INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS



VAL-MS 009

Louvres around the exterior of the building should be repainted.



VAL-MS 010

Louvres around the exterior of the building should be repainted.



VAL-MS 011

The brick is in good condition overall, but caulking is wearing and needs attention.



VAL-MS 012

The brick is in good condition overall, but caulking is wearing and needs attention.



INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS



VAL-MS 013

The brick is in good condition overall, but caulking is wearing and needs attention.



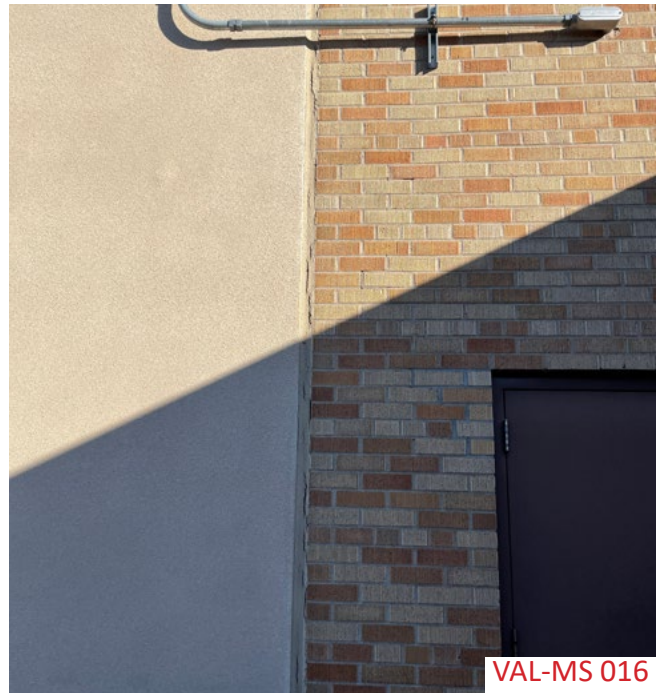
VAL-MS 014

The first few courses of brick around the building are dirty and should be cleaned.



VAL-MS 015

Caulking is wearing and should be redone on EIFS walls.



VAL-MS 016

Caulking is wearing and should be redone on EIFS walls and where the EIFS meets the brick.



INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS



VAL-MS 017

The flashing around the bottom of the EIFS is not sufficiently running away from the wall.



VAL-MS 018

The EIFS band beneath the windows in the north parking lot is damaged and should be refinished.



VAL-MS 019

The exposed trim board around the top of the brick walls should be repainted.



VAL-MS 020

Wood paneling above the brick at the south exterior wall of the gymnasium is pulling away and needs attention.



INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS



VAL-MS 021

Painted plywood around the exterior of the building is damaged and deteriorating.



VAL-MS 022

Painted plywood around the exterior of the building is damaged and deteriorating and shows signs of water damage above the exterior door between classroom D2 and the food service building.



VAL-MS 023

There are gaps in the soffit that need to be addressed.



VAL-MS 024

Overall, the windows appear to be in good condition but the sealant and gasketing within the windows are in poor shape and need to be redone.



INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS



VAL-MS 025

Due to the age of the doors, visible wear and tear is shown on multiple doors.



VAL-MS 026

Due to the age of the doors, visible wear and tear is shown on multiple doors.



VAL-MS 027

There are some water stains throughout the building.



VAL-MS 028

The acoustical panels are dated and showing wear.

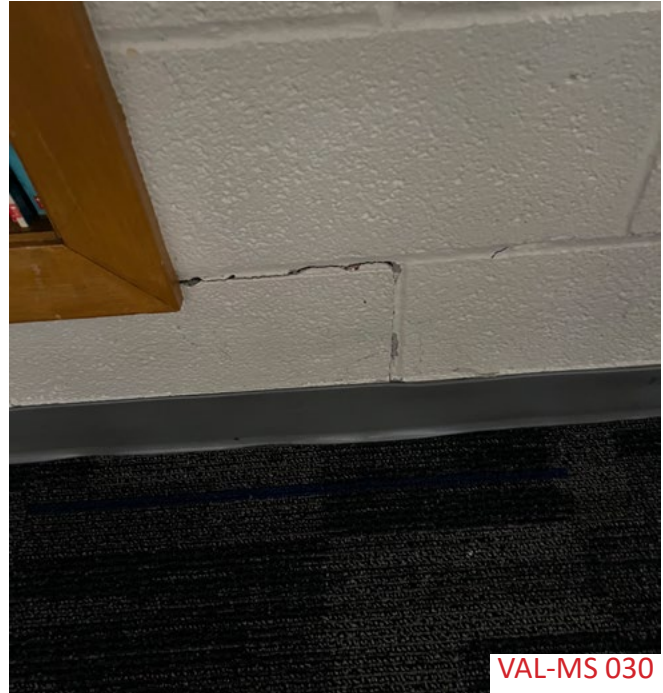


INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS



VAL-MS 029

There are notes of shifting and large cracks in multiple CMU walls throughout the building.



VAL-MS 030

There are notes of shifting and large cracks in multiple CMU walls throughout the building.



VAL-MS 031

Old tile located throughout the school should be tested for asbestos.



VAL-MS 032

Door hardware on various doors throughout the building is not accessible.

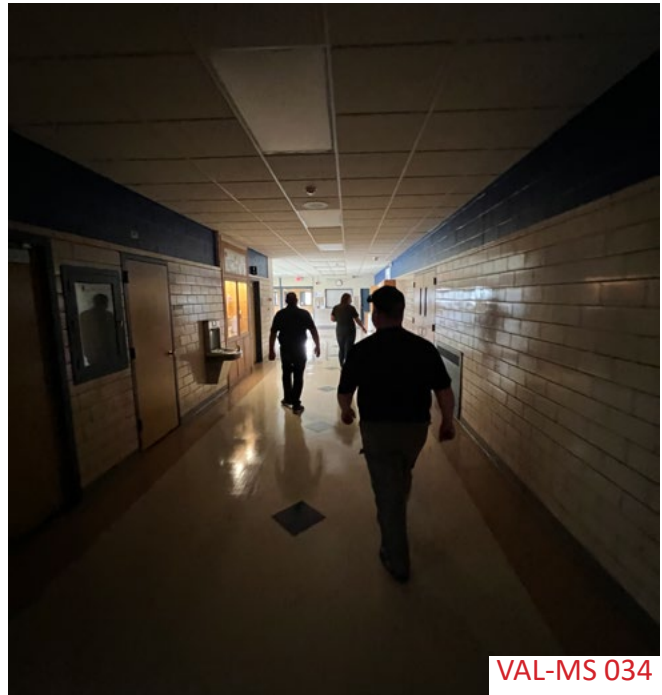


INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS



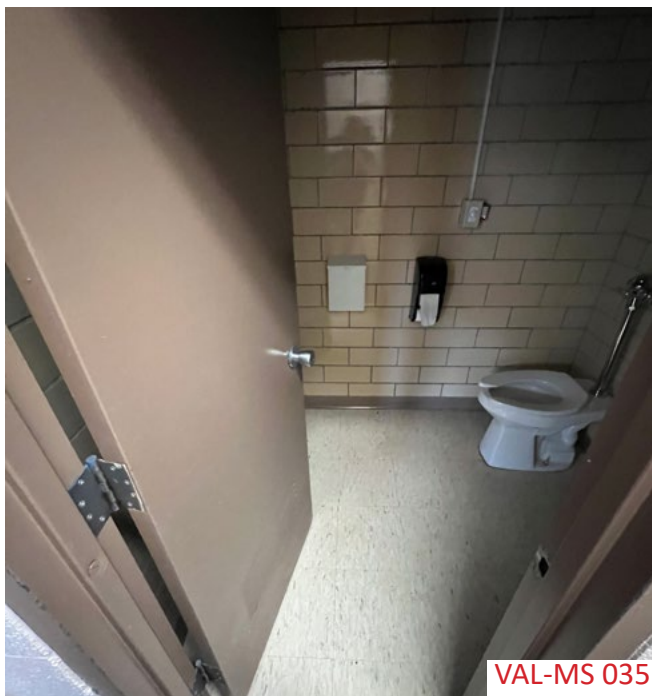
VAL-MS 033

Door hardware on various doors throughout the building is not accessible.



VAL-MS 034

Most of the building is non-sprinklered with the exception of several of the additions.



VAL-MS 035

The staff lounge restroom is not accessible.



VAL-MS 036

The counseling room restroom is not accessible.

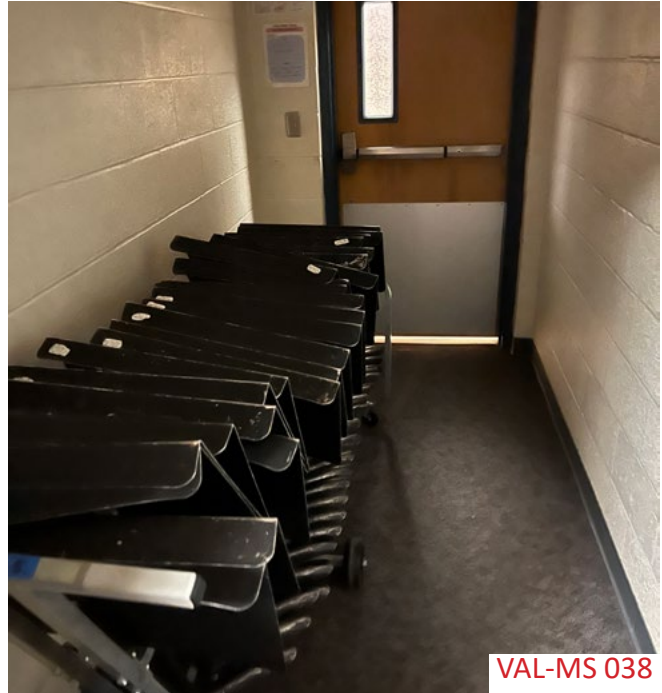


INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS



VAL-MS 037

Many interior doors are not fire rated.



VAL-MS 038

Hallways in the music room do not meet minimum width requirements for accessibility.



VAL-MS 039

All public restrooms in the building are not accessible.



VAL-MS 040

The custodial office restroom is not accessible.



INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS



VAL-MS 041

The stairwell in the mechanical room is missing a handrail.



VAL-MS 042

All locker rooms are not accessible.



VAL-MS 043

All locker rooms are not accessible.



VAL-MS 044

The weight room is not accessible from the gym.

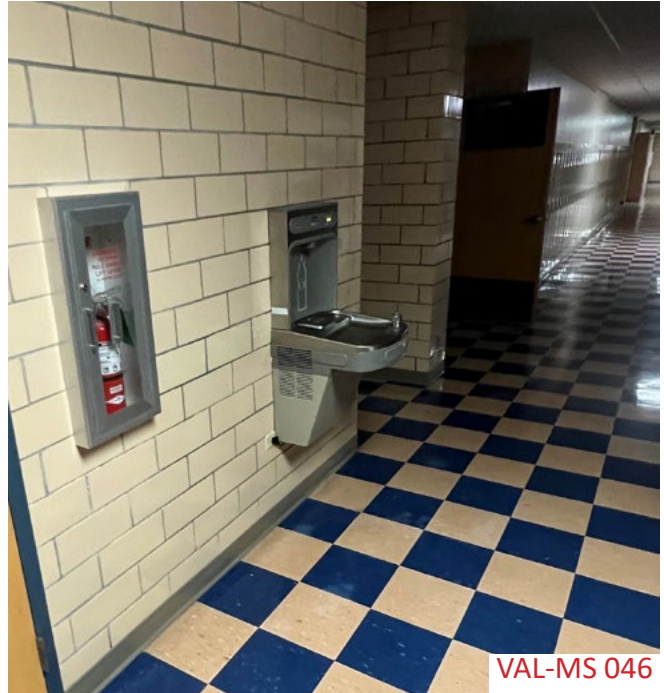


INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS



VAL-MS 045

The door into the weight room fails to meet required maneuvering clearance for accessibility and the door does not swing in the proper direction.



VAL-MS 046

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



VAL-MS 047

Most entrances to the school do not have the required safety glass.



VAL-MS 048

Combustible material is found in corridors that are non-sprinklered.



VALLEY MIDDLE SCHOOL

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

INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS



VAL-MS 049

Exit doors do not have the required safety glass.



VAL-MS 050

The stairwell in the middle of the school is lacking a separate handrail from the guardrail and spaces between the railings exceed the maximum size of 4".



VAL-MS 051

Wire glass is seen throughout the building.



VAL-MS 052

Pipes throughout the building are exposed and should be protected.



INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS



VAL-MS 053

Sinks in classrooms are not accessible.



VAL-MS 054

Sinks in classrooms are not accessible.



VAL-MS 055

Room B-5 needs an additional exit.



INTERIOR AND EXTERIOR EXISTING DEFICIENCIES PHOTOS



FACS classroom is not accessible.



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	1,996 SF	4,180 SF	-2,184
Art	902 SF	1,900 SF	-998
Athletics	10,325 SF	20,280 SF	-9,955
Circulation	14,029 SF	19,680 SF	-5,651
Classrooms	14,609 SF	26,450 SF	-11,841
FACS	608 SF	1,200 SF	-592
Food Service/Cafeteria	2,862 SF	8,886 SF	-6,024
Library/Media Center	2,969 SF	2,367 SF	602
Mechanical/Electrical	1,509 SF	4,920 SF	-3,411
Music	2,591 SF	4,900 SF	-2,309
Restrooms	1,220 SF	1,640 SF	-420
Science	4,889 SF	7,800 SF	-2,911
Special Education	898 SF	1,350 SF	-452
Technical Education	1,031 SF	1,950 SF	-919
Technology Education	1,464 SF	2,540 SF	-1,076

Total Missing Square Footage	-48,141
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EXISTING DEFICIENCIES CONTINUED

ADMINISTRATION/PTO COMMENTS AND FEEDBACK

AIR QUALITY/CONTROL

- There is no air conditioning in the entire school, except for the main office.

LACK OF COLLABORATION/SUPPORT/LEARNING SPACES

- The school is not functional for collaborative learning with small groups.
- The gymnasium is not big enough for school events.
- There are not enough bathrooms throughout the school.

CURRENT TECHNOLOGY DOES NOT SUPPORT 21ST CENTURY LEARNING

SPACES THAT ARE NEEDED IN NEW SCHOOL:

- Autism Room
- High-Need Behavioral Rooms
- Day Treatment Program Rooms
- STEM Program Rooms
- Teacher Planning Areas
- Additional Music Rooms/Spaces
- Green Spaces/Natural Light
- Stage
- Space to Have School Events for all Students and Staff
- Restrooms

PARKING/STUDENT DROP-OFF AND PICK-UP ISSUES

TOP PRIORITIES

1. Air Quality/Control
2. Additional Collaborative/Support/Learning Spaces
3. Improved Traffic Flow

E. COST ANALYSIS

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



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									
Upgrade door hardware with ADA hardware	1	100 Ea	\$983.61 / Ea	\$98,361					\$98,361
Remodel all staff single user restrooms by expanding into neighboring spaces as needed to meet accessibility requirements	2	5 Ea	\$44,455.90 / Ea	\$222,280				X	\$222,280
Remodel the counseling room restroom within existing space to meet accessibility requirements	3	1 Ea	\$39,916.98 / Ea	\$39,917				X	\$39,917
Replace some interior doors with fire rated doors and frame in rated walls	4	50 Ea	\$3,779.83 / Ea	\$188,992				X	\$188,992
Remodel the hallways in the music room by shrinking the two storage rooms and one practice room to create a wider hallway (assume 30 lf 14ft tall new CMU walls)	5	150 SF	\$329.71 / SF	\$49,456					\$49,456
Remodel all public restrooms in the building within existing space to meet accessibility requirements	6	8 Ea	\$74,350.90 / Ea	\$594,807				X	\$594,807
Remodel the custodial office restroom within the existing space to meet accessibility requirements	7	1 Ea	\$39,917.00 / Ea	\$39,917				X	\$39,917
Replace guardrail and add handrail to the stairwell in three mechanical rooms	8	60 LF	\$212.58 / LF	\$12,755					\$12,755
Remodel all locker rooms do to accessibility requirements, including the related rooms; corridors, storage, offices, showers, bathrooms, weights and fitness	9	4,330 SF	\$359.77 / SF	\$1,557,799				X	\$1,557,799
Remove and replace concrete in 3 locker rooms showers so each individual showerhead can have its own drain per code	10		/						
Remodel will make the weight room is accessible from the gym	11		/						
Change the swing of the door into the weight room that lacks sufficient push/pull clearance	12		/						
Add handicap accessible water fountains throughout the building	13	16 Ea	\$21,944.54 / Ea	\$351,113					\$351,113
Replace exterior and interior entrance with tempered glass at the main south entrance, the east entrance by the gym, and the west entrance by the library.	14	3 Ea	\$42,899.62 / Ea	\$128,699					\$128,699
Remove combustible material from ceilings and walls in the music area, replace with acoustical wall coverings and ACT	15	1,500 SF	\$53.84 / SF	\$80,764					\$80,764
Replace room signage that is missing brail with ADA compliant signs	16	185 Ea	\$128.26 / Ea	\$23,729					\$23,729
Replace all guardrails and handrails in public stairwells that do currently meet code (60 lf guardrail and 240 lf handrails)	17	300 LF	\$199.43 / LF	\$59,829					\$59,829
Add handrails extensions to the to and bottom of the stairs	18		/						
Add a separate handrail to the guardrail as required in the stairwell in the middle of the school	19		/						
Replace guardrail where the spaces between railings exceed the maximum size of 4"	20		/						
Change the swing of the door to the electrical meter room	21	1 Ea	\$3,561.29 / Ea	\$3,561					\$3,561
Replace wire glass throughout the building that is no longer up to code (frame to remain)	22	3,200 SF	\$33.65 / SF	\$107,683				X	\$107,683
Protect sink plumbing in restrooms throughout the building that are exposed	23	18 Ea	\$940.48 / Ea	\$16,929				X	\$16,929
Replace casework (20lf of base, top, and upper per classroom) and sinks in 40 classrooms that are not accessible	24	40 Ea	\$26,939.88 / Ea	\$1,077,595					\$1,077,595
Create a second exit in computer room 3	25	1 Ea	\$3,508.52 / Ea	\$3,509					\$3,509
Create a second exit in the art room	26	1 Ea	\$3,508.53 / Ea	\$3,509					\$3,509
Create a second exit in room B-5	27	1 Ea	\$3,508.52 / Ea	\$3,509					\$3,509
Create an ADA workstation at the desk in the main office	28	1 Ea	\$7,855.41 / Ea	\$7,855					\$7,855

**Valley Middle School
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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
Create an ADA workstation in the FACS classroom by replacing 20 lf of base, top, and cabinets	29	1 Ea	\$19,417.13 /Ea	\$19,417					\$19,417
Add a handrail to the staff supply room however it is not accessible	30	40 LF	\$212.58 /LF	\$8,503					\$8,503
Total Code Compliance		77,911 SF	\$60.33 / SF	\$4,700,487	\$0	\$0	\$0		\$4,700,487
Security									
Administration Office Entry (Addition and Remodel)	31	4,460 SF	\$317.73 /SF	\$0	\$0	\$0	\$1,417,072		\$1,417,072
Total Security		4,460 SF	\$317.73 / SF	\$0	\$0	\$0	\$1,417,072		\$1,417,072
Addition/Remodel (Educational Adequacy)									
Administration	32	2,184 SF	\$339.20 /SF				\$740,812		\$740,812
Art	33	998 SF	\$351.74 /SF				\$351,036		\$351,036
Athletics	34	9,955 SF	\$360.52 /SF				\$3,588,951		\$3,588,951
Auditorium	35	SF	\$485.35 /SF				\$0		\$0
Business Education	36	SF	\$376.82 /SF				\$0		\$0
Circulation	37	5,651 SF	\$376.83 /SF				\$2,129,483		\$2,129,483
Classrooms	38	11,841 SF	\$376.82 /SF				\$4,461,914		\$4,461,914
Common Spaces	39	SF	\$393.12 /SF				\$0		\$0
FACS	40	592 SF	\$393.12 /SF				\$232,727		\$232,727
Food Service/Cafeteria	41	6,024 SF	\$458.33 /SF				\$2,760,964		\$2,760,964
Library/Media Center	42	SF	\$395.63 /SF				\$0		\$0
Mechanical/Electrical	43	3,411 SF	\$307.85 /SF				\$1,050,088		\$1,050,088
Music	44	2,309 SF	\$401.90 /SF				\$927,984		\$927,984
Restrooms	45	420 SF	\$464.61 /SF				\$195,137		\$195,137
Science	46	2,911 SF	\$431.99 /SF				\$1,257,534		\$1,257,534
Special Education	47	452 SF	\$340.28 /SF				\$153,805		\$153,805
Technical Education	48	919 SF	\$381.83 /SF				\$350,906		\$350,906
Technology Education	49	1,076 SF	\$394.37 /SF				\$424,347		\$424,347
Total Adequacy		48,743 SF	\$382.12 / SF	\$0	\$0	\$0	\$18,625,689		\$18,625,689
Capital Maintenance									
Interior Upgrades									
Replace doors throughout the building that are in rough shape due to the age of the doors	50	50 Ea	\$3,780.24 /Ea		\$189,012			X	\$189,012
Replace dated ACT	51	20,000 SF	\$9.14 /SF		\$182,803			X	\$182,803
Further investigation is warranted to determine the cause of the shifting and large cracks in multiple CMU walls throughout the building	52								
Replace dated carpet throughout the school	53	25,000 SF	\$10.51 /SF		\$262,719				\$262,719
Replace old VCT, assumed to be contaminated with asbestos, replace with new flooring including abatement costs	54	5,000 SF	\$24.78 /SF		\$123,898				\$123,898
Interior Upgrades Subtotal		77,911 SF	\$9.73 / SF						\$758,433
Exterior Upgrades									
Add 62 additional parking stalls to the parking lot since it is not large enough	55	15,500 SF	\$14.84 /SF				\$230,020		\$230,020

**Valley Middle School
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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
Replace the roof when it nears the end of its useable lifetime	56	67,944 SF	\$53.21 / SF		\$3,615,300				\$3,615,300
Replace caulking where need on brick and EIFS exterior walls	57	77,911 SF	\$0.85 / SF	\$66,224					\$66,224
Replace damaged stoops to exterior doors where they are missing	58	9 Ea.	\$18,808.94 / Ea.	\$169,280					\$169,280
Replace sidewalk at stoops that are causing there to be a step up to the get access to the building	59	2,400 SF	\$18.30 / SF	\$43,931					\$43,931
Paint metal louvers	60	2 Ea.	\$784.74 / Ea.	\$1,569					\$1,569
Clean the bottom of the exterior brick that is dirty	61	1 Ea.	\$12,341.57 / Ea.	\$12,342					\$12,342
Add a mow strip around the school to prevent damaged to the lower courses of the exterior brick	62	1 Ea.	\$28,744.96 / Ea.	\$28,745					\$28,745
Replace the flashing around the bottom of the EIFS that is not sufficiently running away from the wall	63	1 Ea.	\$76,379.74 / Ea.	\$76,380					\$76,380
Patch and refinish the damaged EIFS band beneath the windows in the north parking lot	64	1 Ea.	\$9,843.64 / Ea.	\$9,844					\$9,844
Paint the exposed trim boards around the top of the brick walls	65	1 Ea.	\$6,417.64 / Ea.	\$6,418					\$6,418
Fill the gaps in the exterior soffit	66	1 Ea.	\$16,743.74 / Ea.	\$16,744					\$16,744
Remove and replace hardboard siding with metal wall panel	67	1 Ea.	\$54,328.23 / Ea.	\$54,328					\$54,328
Exterior Upgrades Subtotal		77,911 SF	\$55.59 / SF						\$4,331,125
Electrical Upgrades									
Replace branch panels throughout building that are noted to be very old that are nearing the end of their useful life	68	77,911 SF	\$3.45 / SF	\$268,702					\$268,702
Add additional outlets throughout the school and upgrade related circuits as needed	69	77,911 SF	\$11.91 / SF	\$928,244					\$928,244
Relocate exposed electrical distribution equipment and disconnects that out in the open for anyone to operate to the back of the house areas	70	77,911 SF	\$1.21 / SF	\$94,059					\$94,059
Upgrade of all interior lighting to energy-efficient LED lighting	71	77,911 SF	\$4.39 / SF	\$341,985					\$341,985
Add egress lighting to doors to exterior as is required by Building Code	72	77,911 SF	\$1.21 / SF	\$94,059					\$94,059
Upgrade of all interior lighting controls throughout to digital lighting management	73	77,911 SF	\$2.51 / SF	\$195,420					\$195,420
Upgrade of all exterior lighting controls throughout to digital lighting management	74	77,911 SF	\$0.25 / SF	\$19,542					\$19,542
Update the existing intercom system with a new IP system throughout entire school.	75	77,911 SF	\$3.76 / SF	\$293,130					\$293,130
Add additional door security all exterior doors with access control and monitoring	76	77,911 SF	\$1.21 / SF	\$94,059					\$94,059
Upgrade the fire alarm system to a voice-capable system as is currently required by the North Dakota Building Code	77	77,911 SF	\$0.69 / SF	\$53,740					\$53,740
Electrical Upgrades Subtotal		77,911 SF	\$30.59 / SF						\$2,382,941
Mechanical Upgrades									
Add sprinklers to the building (except the 2001 and 1998 additions) including a new water service line	78	66,381 SF	\$13.05 / SF	\$866,408				X	\$866,408
Replace all sewer piping throughout the building that is in poor condition and is deteriorated. Costs include removal and replacement of the concrete and incidental damaged finishes	79	77,911 SF	\$24.38 / SF	\$1,899,404				X	\$1,899,404

**Valley Middle School
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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
Add and replace the storm and groundwater drainage system that traditionally has been a large issue at this school.	80	77,911 SF	\$2.51 /SF	\$195,420				X	\$195,420
Replace domestic water piping throughout the school. Add a water treatment system (e.g., a water softener).	81	77,911 SF	\$9.48 /SF	\$738,668				X	\$738,668
Fixtures, in general, are in a reasonable condition however, there are not enough fixtures to serve the occupant load of the building. Also, fixtures should be equipped with automatic sensors for improved health and safety. It is likely that all restrooms in the school need a complete renovation in order to meet the code-required fixtures for the number of occupants and bring the facilities to a modern standard	82	77,911 SF	\$0.00 /SF					X	
Replace existing water heaters are with new high-efficiency, sealed combustion, natural gas water heaters.	83	77,911 SF	\$1.19 /SF	\$92,824					\$92,824
Replace kitchen plumbing fixtures and piping that are in poor condition	84	77,911 SF	\$1.10 /SF	\$85,895					\$85,895
Boys and girls locker rooms and showers that are in poor condition are including in code compliance items above. The showers should be replaced, and additional restroom fixtures should be added but only if architectural changes are made to the locker rooms to address code issues.	85	77,911 SF	\$0.00 /SF					X	
Replace the entire HVAC system (equipment and ductwork) in this building that allows for air conditioning to be installed, and improve indoor air quality. Costs include replacement of incidental damaged finishes caused by this work and related electrical work	86	77,911 SF	\$67.72 /SF	\$5,276,336				X	\$5,276,336
Heating for the building comes from four (4) non-condensing low-pressure steam boilers. Boilers are at least 20 years old and are past the end of their useful life. There are a number of condensate pumps throughout the building which return back to the boiler room. There is one existing boiler feed tank in the boiler room that is also past the end of its useful life. The steam system piping is original to the year the building or addition was constructed. This places a large fraction of the piping at 44 years old or older. Facilities staff have reported a number of piping leaks in the building.	87	77,911 SF	\$0.00 /SF						
Steam is delivered to heating coils in air handling units, unit ventilators, steam fin-tube radiation, and other terminal heating devices. The steam fin-tube radiation throughout the school has been noted to leak as well as make noise that disturbs the learning environment. Steam coils subject to outside air, such as in air handling units and unit ventilators, have been noted to freeze and crack. This leads to the coils being repaired or replaced or no longer having a heating coil for use in this equipment.	88	77,911 SF	\$0.00 /SF						
Overall, the entire steam heating system for this building is well past its useful life, of antiquated design, and needs to be replaced with a new more efficient, easier-to-maintain system.	89	77,911 SF	\$0.00 /SF						
The school has 18 different indoor air handling units, over 30 different exhaust fans, and many different unit ventilators. All air handling units and unit ventilators are steam heated and have no air conditioning. The HVAC equipment is largely original to the year the building or addition was constructed. This places a large fraction of the equipment at 44 years old or older which is well past its useful life. Many of the units are not fully functional, if functional at all, which results in poor air movement and indoor air quality.	90	77,911 SF	\$0.00 /SF						
Ductwork throughout the building does not effectively distribute air. The ductwork itself is at the end of its useful life and will have excessive leakage.	91	77,911 SF	\$0.00 /SF						

COST ANALYSIS CONTINUED

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



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
With the exception of a few, small, standalone, air conditioning units the school has no air conditioning. It is highly recommended the school have an air conditioning system installed that is integrated into the school's HVAC systems. Replace all existing pneumatic controls with a direct digital control system	92	77,911 SF	\$0.00 / SF						
Mechanical Upgrades Subtotal	93	77,911 SF	\$11.99 / SF	\$934,098					\$934,098
Total Capital Maintenance		77,911 SF	\$225.41 / SF	\$11,821,204	\$5,510,327	\$0	\$230,020		\$17,561,551
Total Construction Cost		131,114 SF	\$322.66 / SF	\$16,521,691	\$5,510,327	\$0	\$20,272,781		\$42,304,799
*** All above estimated costs are total construction costs. These include general conditions, CM fees, permits, insurances, bonds, taxes									
Contingencies & Soft Costs									
Design Contingency	94	5.0%		\$826,084.55	\$275,516.33	\$0.00	\$1,013,639.04		\$2,115,240
Construction Contingency	95	5.0%		\$826,084.55	\$275,516.33	\$0.00	\$1,013,639.04		\$2,115,240
Escalation	96	0.0%		\$0.00	\$0.00	\$0.00	\$0.00		\$0
A & E Fees	97	7.0%		\$1,156,518.37	\$385,722.86	\$0.00	\$1,419,094.66		\$2,961,336
FF & E	98	2.0%		\$330,433.82	\$110,206.53	\$0.00	\$405,455.62		\$846,096
Owner Contingency	99	1.5%		\$247,825.37	\$82,654.90	\$0.00	\$304,091.71		\$634,572
Total Contingencies & Soft Costs				\$3,386,947	\$1,129,617	\$0	\$4,155,920		\$8,672,484
Total Facility Assessment Cost Estimate		131,114 SF	\$388.80 / SF	\$19,908,638	\$6,639,944	\$0	\$24,428,701		\$50,977,282
Total Critical & Educational Adequacy		131,114 SF	\$338.16 / SF						\$44,337,339