NOTICE

SCHOOL DISTRICT OF NEW GLARUS
BOARD OF EDUCATION
FACILITIES, TRANSPORTATION AND TECHNOLOGY COMMITTEE MEETING
MONDAY, FEBRUARY 25, 2019
HIGH SCHOOL CONFERENCE ROOM
6:45 PM

AGENDA

POSTED :

NG HIGH SCHOOL
NG MIDDLE SCHOOL
NG ELEMENTARY SCHOOL
NG POST OFFICE
BANK OF NEW GLARUS
UB&T BANK OF NEW GLARUS
MARINE CREDIT UNION

PUSUANT TO APPLICABLE LAW, NOTICE IS HEREBY GIVEN THAT A QUORUM OR A MAJORITY OF THE NEW GLARUS SCHOOL DISTRICT COMMITTEE MEMBERS MAY ATTEND THIS MEETING. INFORMATION PRESENTED AT THIS MEETING MAY HELP FORM THE RATIONALE BEHIND FUTURE ACTIONS THAT MAY BE TAKEN BY THE NEW GLARUS SCHOOL DISTRICT BOARD. UPON REQUEST TO THE DISTRICT OFFICE, SUBMITTED TWENTY-FOUR (24) HOURS IN ADVANCE, THE DISTRICT SHALL MAKE REASONABLE ACCOMODATIONS INCLUDING THE PROVISION OF INFORMATIONAL MATERIAL IN AN ALTERNATIVE FORMAT FOR A DISABLE PERSON TO BE ABLE TO ATTEND THIS MEETING. THIS AGENDA IS PRELIMINARY AND MAY BE MODIFIED OR SUPPLEMENTED TO PROVIDE THE FINAL AGENDA AND NOTICE FOR THIS MEETING. THE FINAL AGENDA WILL BE POSTED AND DISTRIBUTED AS REQUIRED BY CHAPTER 19 OF THE WISCONSIN STATUTES.

Wide Area Lawn Mower Bids

Dealer	Mower Type	Bid
Sloan Implement, Monroe	John Deer 1570 - 100"	$36,000.00
Sugar River Power Center, New Glarus	Hustler Super - 104"	$23,031.00

*Recommend low bid from Sugar River Power Center, New Glarus

Warranty
3 Year
5 Year

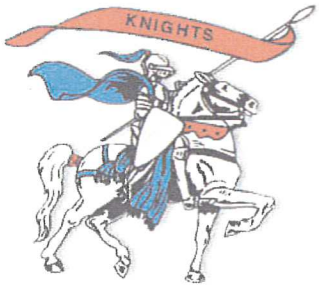
ELEMENTARY & MIDDLE HIGH SCHOOL STUDY

NEW GLARUS SCHOOL DISTRICT

Analysis & Needs Assessment

February 11, 2019

bray architects



ACKNOWLEDGEMENTS

New Glarus School District | Leadership Team
Jennifer Thayer, Superintendent
Tammy Marty, Financial Director
Jeff Eichelkraut, Gifted & Talented Coordinator
Laura Eicher, Transportation Coordinator
Nita Duerst, Human Resources Director
Jennifer Krantz, Director of Special Education
Mark Stateler, Director of Technology

New Glarus High School | Administration
Jeff Eichelkraut, Principal

New Glarus Middle School | Administration
Mark Stateler, Principal

New Glarus Elementary School | Administration
Laura Eicher, Principal

Bray Associates Architects, Inc.
Matthew D. Wolfert, AIA, Principal-in-Charge
Michael A. Hacker, AIA, Associate | Architect

Milwaukee Office
173 N Broadway
Milwaukee, WI 53202

Sheboygan Office
1202A North 8th Street
P.O. Box 955
Sheboygan, WI 53082

Muermann Engineering
W227 N16867 Tillie Lake Court
Suite 202
Jackson, WI 53037

Fredericksen Engineering
12308 Corporate Parkway
Mequon, WI 53092

TABLE OF CONTENTS

DISTRICT INFORMATION: PROCESS

The New Glarus School District is located in northern Green County and includes southern portions of Dane County in southern Wisconsin. The district includes the communities of the Village of New Glarus, Town of New Glarus, Town of Exeter. The school district is comprised of (1) 4k-5th grade elementary school, (1) 6th-8th grade middle school, and (1) 9-12 high school. Of the three schools, the Middle School and High School are adjoined.

New Glarus Elementary School:

1420 2nd Street
New Glarus, WI 53574

New Glarus Middle School:

1619 2nd Street
New Glarus, WI 53574

New Glarus High School:

1701 2nd Street
New Glarus, WI 53574

The 2018-2019 Enrollment:

New Glarus Elementary:	417
New Glarus Middle School:	224
New Glarus High School:	261
Total:	902

Study Objective

In collaboration with the New Glarus School District, Bray Associates Architects has conducted an analysis of the existing elementary, and middle / high schools. Initial efforts are centered around identifying academic and facility needs by recognizing opportunities and challenges at each of the existing facilities. Subsequent phases may consider potential solutions to each of the needs assessed.

Methodology

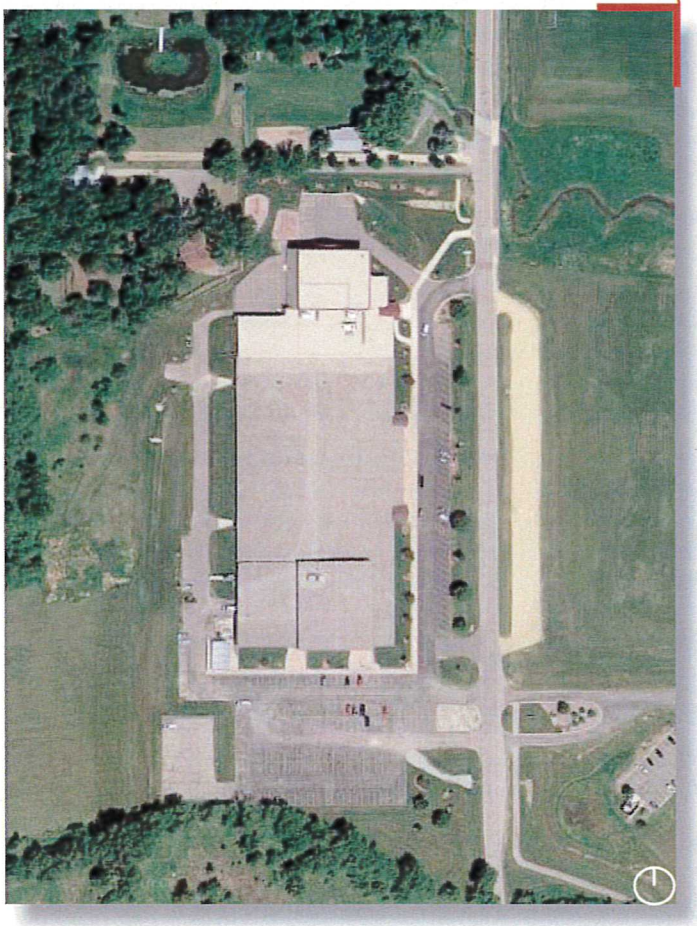
This study process and the documents herein benefit from a wide approach to data collection and analysis.

The campus needs assessment involved interactive work sessions with district leaders, staff and faculty with additional survey input from elementary, middle, and high school educators.

An existing facility condition review was also conducted by Bray Architects. This review was conducted through building tours and review of existing building drawings as well as previous planning and analysis conducted by various engineering firms. Muermann Engineering, was responsible for conducting both the electrical, and plumbing report. As well as, Fredericksen Engineering conducting the HVAC Report.

NEW GLARUS WISCONSIN: SCHOOL LOCATIONS

New Glarus,WI



Aerial View of New Glarus Middle / High School

Aerial View of New Glarus Elementary School

1 New Glarus Middle / High School

A school that the State of Wisconsin has rated, a school that Exceeds Expectations, has be featured in a 2016 U.S. News and World Report rated NGHS as a Silver Medal School. Has been additionally been recognized annually as a P.B.I.S. School of Merit since 2015, and have been nationally certified as a Project Lead the Way School of Excellence.

The School District Mission of All Achieving, Always Growing is centered on learning for not only students but the staff as well. We aim to achieve our mission through collective commitments to our academics and extra-curricular activities, and to each other. Our goal is to become a school that Significantly Exceeds Expectations.

The P.B.I.S. program that has been implemented is centered on Knight P.R.I.D.E. which stands for Perseverance, Respect, Integrity, Dedication and Excellence. With the aim to teach, model and use these character traits on a regular basis and to live our belief in true Knight Pride.

The Middle School in kind then follows these same principles by employing similar mottos that they then expect from the students as well. They teach the students to "Be the Best Knight You Can Be!" With a focus on Being Respectful, Being Safe, and Being Responsible.

BUILDING AREA: 120,882 sq. ft.
STUDENT POPULATION: 485 students
AVERAGE GRADE LEVEL POPULATION SIZE: 69 students
SITE SIZE: 30.29 Acres
GRADES SERVED: 6th - 12th
BUS QUANTITY: 9 large & 2 mini buses

NEW GLARUS MIDDLE / HIGH SCHOOL: SITE ANALYSIS

The existing New Glarus Middle / High School site is a 20 acre parcel directly west of 2nd Street, and northwest of the junction of Highway H and Highway 69. Located east of 2nd Street there is an 10.29 acre adjoing athletic field, that borders Highway 69.

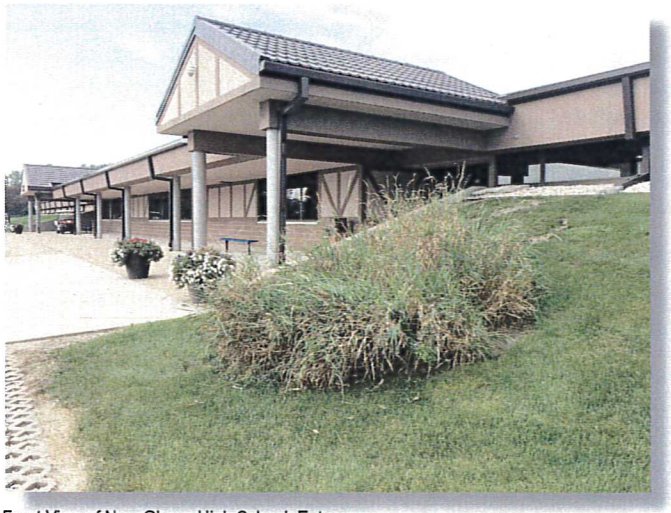
The main site is filled with the building footprint, parking lots, athletic practice / physical education fields, and hardscape recreation pad. Additionally a greenhouse is located on the south west side of the building. The current site does not accommodate competition athletic venues.

From 2nd Street the vehicular access supports the faculty / student parking lots. Student and bus drop off is located at the front of the school parallel to 2nd Street. Where as the majority of the high school students get dropped off on the southern side of the school near the gym.

Faculty Parking:	
North Lot:	8 spaces
East Lot:	65 spaces
South Lot:	20 spaces
West Lot:	20 spaces
Total Faculty:	113 spaces
Student Parking:	155 spaces
Total On-site Parking:	268 spaces

Front View of New Glarus Middle School Offices


Rear View of New Glarus Middle School Gym


Front View of New Glarus High School Entrances

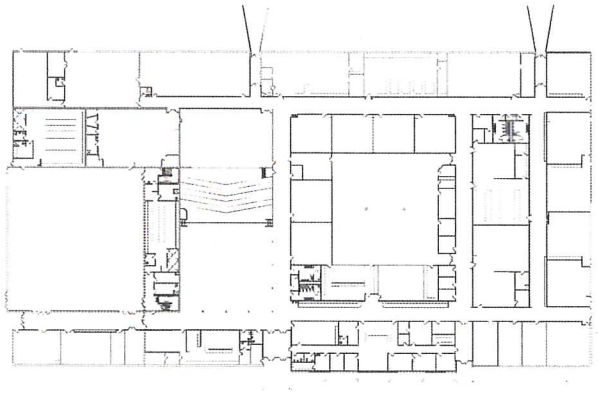
Existing Middle-High School Site Features

NEW GLARUS MIDDLE / HIGH SCHOOL: BUILDING EVOLUTION

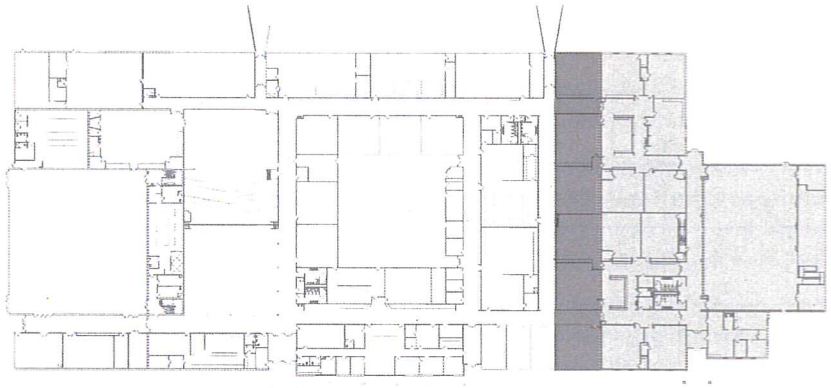
New Glarus Middle / High School is a series of additions to the building, stemming from the original 1994 High School comprising most of the current west wing. In 2012, New Glarus Middle School was built on the east side of the then campus. Followed by a 2016 core office renovation between the two adjoining two buildings.

The following building evolution diagrams outline the original buildings and additions made over time to accommodate student enrollment growth.

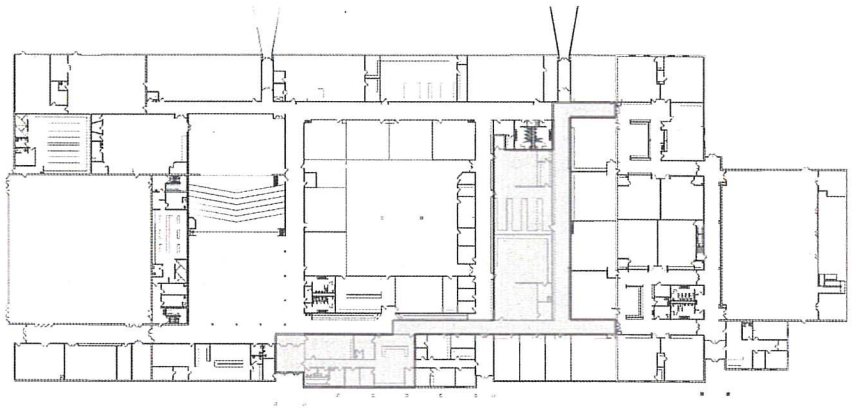
The aging facility is showing signs of needing core building system updates, finish replacements, code compliance, energy efficiency upgrades, and general maintenance renovations.



1994:
Original High School

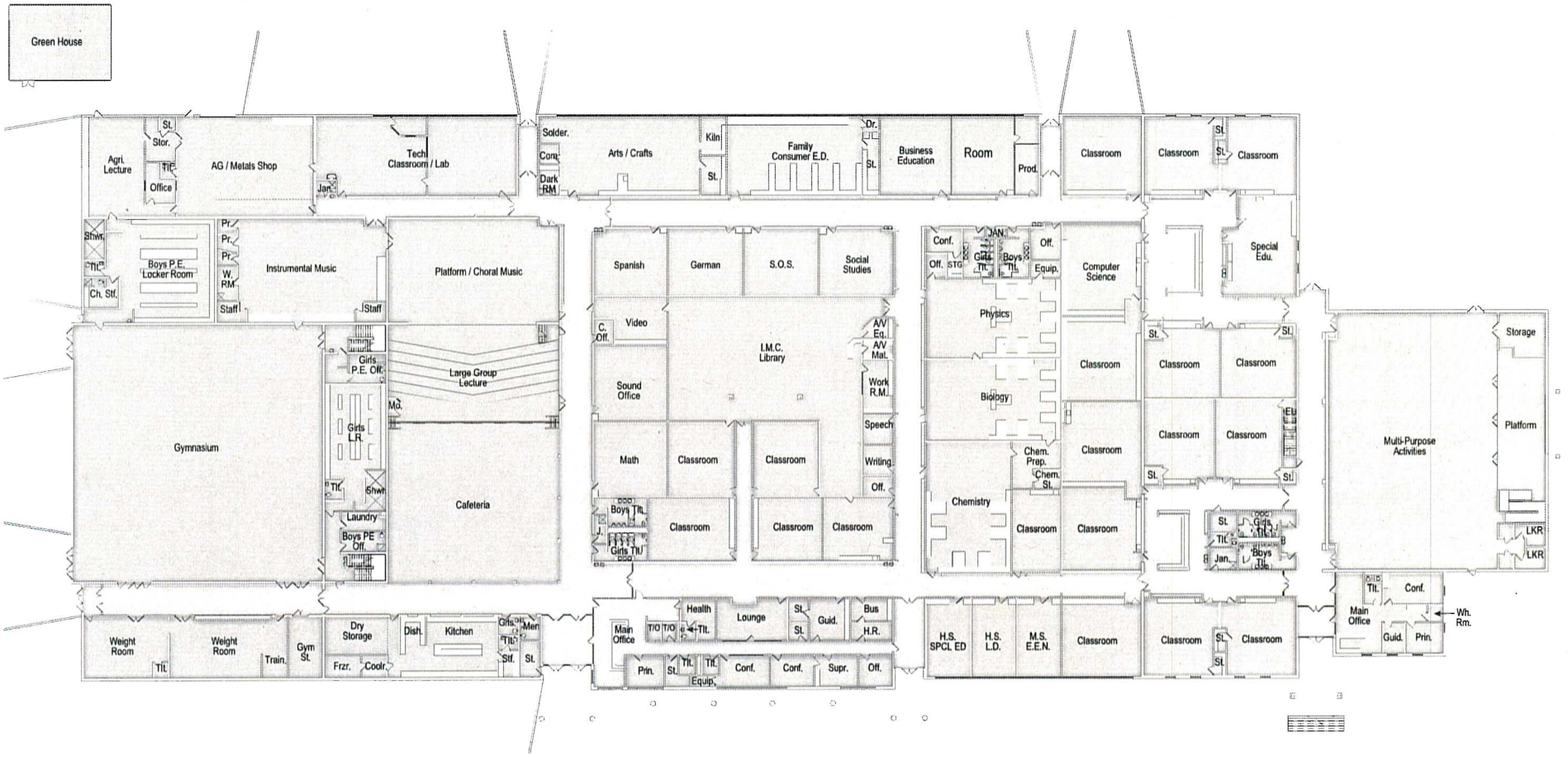


2012:
Middle School
Add-on & Renovation

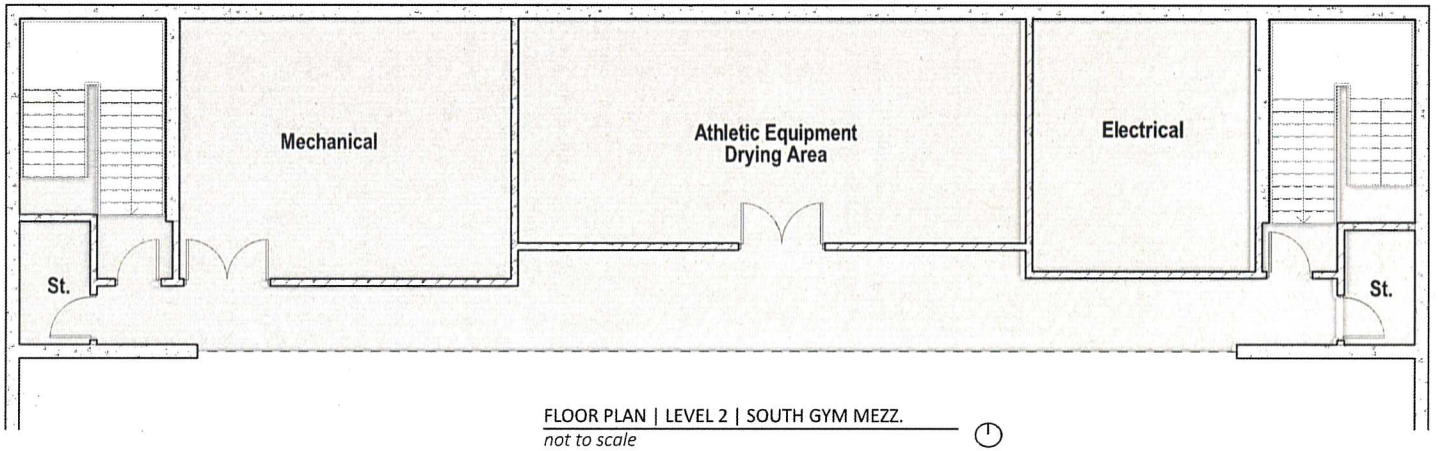


2016:
High School Core
Remodel

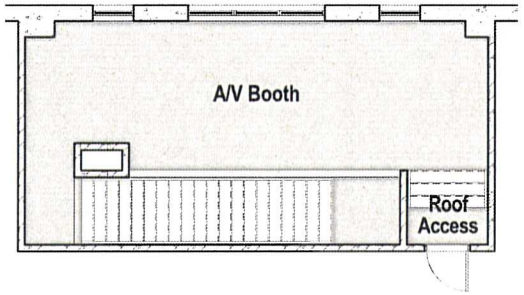
NEW GLARUS MIDDLE / HIGH SCHOOL: EXISTING FLOOR PLAN



FLOOR PLAN | LEVEL 1
not to scale



FLOOR PLAN | LEVEL 2 | SOUTH GYM MEZZ.
not to scale



FLOOR PLAN | LEVEL 2 | NORTH GYM MEZZ.
not to scale

No.	Door Type	Frame Type
1	Aluminum	Aluminum Storefront
2	Aluminum	Aluminum Storefront
3	Aluminum	Aluminum Storefront
4	Hollow Metal	Hollow Metal
5	Hollow Metal	Hollow Metal
6	Aluminum	Aluminum Storefront
7	Hollow Metal	Hollow Metal
8	Hollow Metal	Hollow Metal
9	Hollow Metal	Hollow Metal
10	Hollow Metal	Hollow Metal
11	Hollow Metal	Hollow Metal
12	Hollow Metal	Hollow Metal
13	Hollow Metal	Hollow Metal
14	Aluminum	Aluminum Storefront
15	Hollow Metal	Hollow Metal
16	Hollow Metal	Hollow Metal
17	Hollow Metal	Hollow Metal


1a


1b


1e

1. Exterior Needs Analysis:

WALLS

a. Exterior masonry walls are cracked, chipped, and damaged.

b. Some exterior walls are stained with tar and rust.

WINDOWS

c. Some windows are dated, worn, single pane, drafty, and in need of repair or replacement.

d. Some window sills have instances of damage.

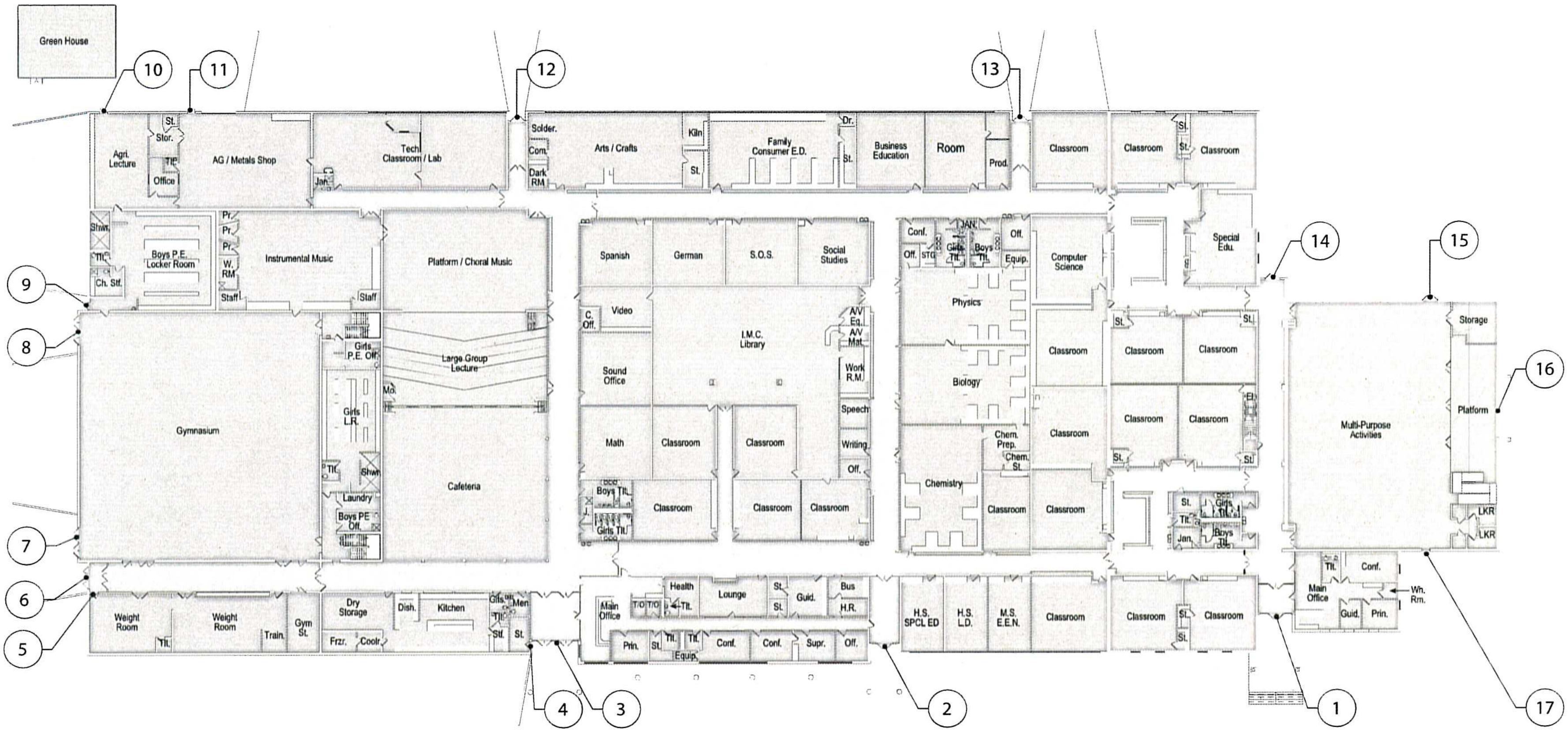
DOORS

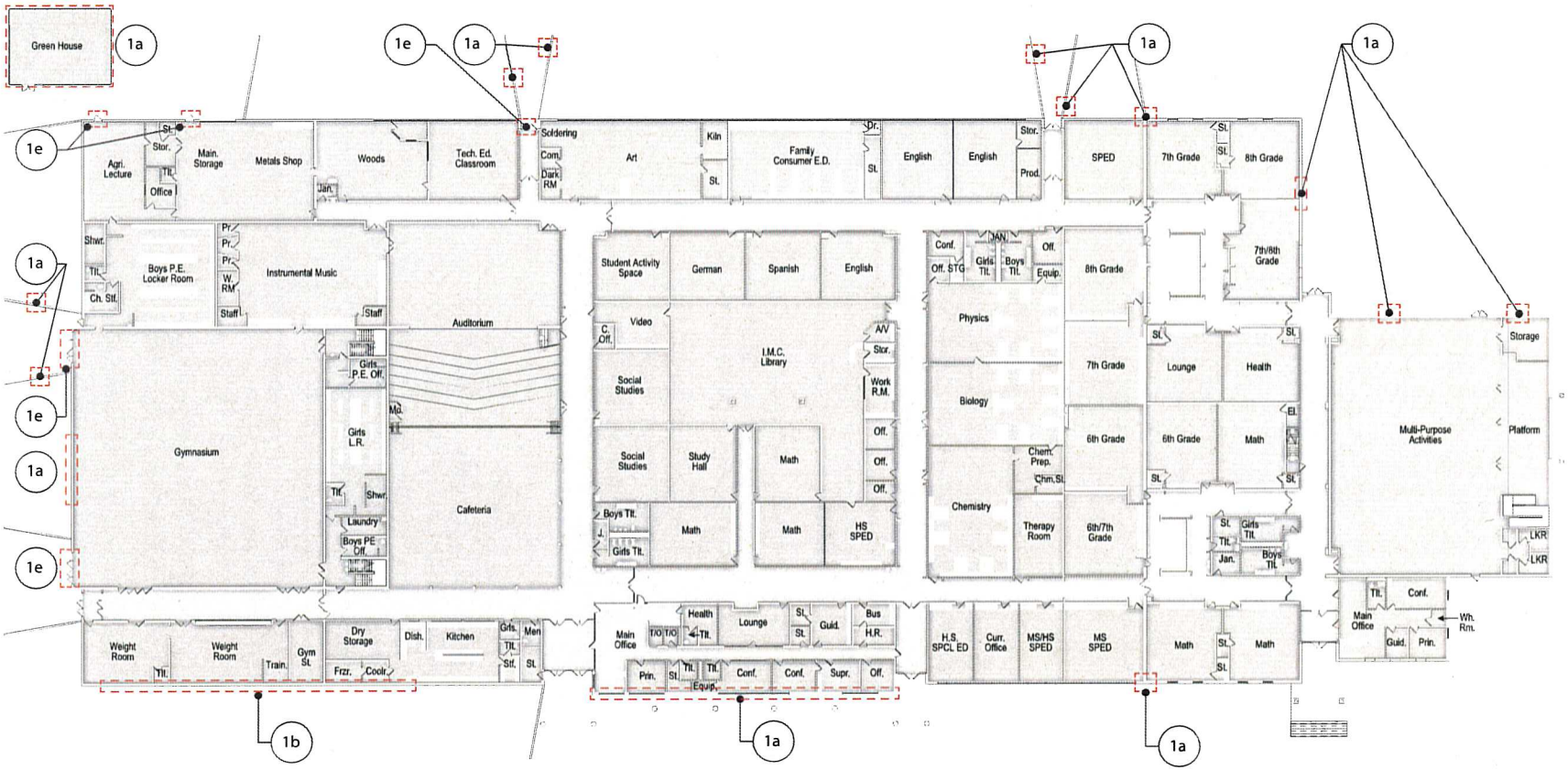
e. Some exterior doors are dated, worn, and rusted. Many are original to their respective existing building.

MISCELLANEOUS

f. Some canopy columns are worn, rusted, and in need of repair.

NEW GLARUS MIDDLE / HIGH SCHOOL: DOOR ANALYSIS




Green House
1a
1e
1b
Agri. Lecture
Stor.
Main. Storage
Metals Shop
Woods
Tech. Ed. Classroom
Soldering
Com.
Dark. RM
Art
Kiln
Family Consumer E.D.
Dr.
English
English
Stor.
Prod.
SPED
7th Grade
8th Grade
Office
Jan.
Shwr.
Tlt.
Ch. Stl.
Boys P.E. Locker Room
Pr.
W. RM
Staff
Instrumental Music
Auditorium
Gymnasium
Girls P.E. Off.
Girls L.R.
MD.
Cafeteria
Laundry
Boys PE Off.
Student Activity Space
German
Spanish
English
Video
C. Off.
Social Studies
I.M.C. Library
AV
Work R.M.
Off.
Study Hall
Math
Boys Tlt.
Girls Tlt.
HS SPED
Conf.
Off. STG
Girls Tlt.
Boys Tlt.
Equip.
8th Grade
7th/8th Grade
Physics
Biology
Chemistry
Chem. Prep.
Chm. St.
Therapy Room
6th/7th Grade
7th Grade
6th Grade
Lounge
Health
Math
El.
Storage
Multi-Purpose Activities
Platform
LKR
Weight Room
Train.
Gym St.
Dry Storage
Frzr.
Coolr.
Dish.
Kitchen
Grls.
Men
Stf.
Main Office
T/O
Lounge
Guid.
Bus
H.R.
Prin.
Equip.
Supr.
H.S. SPCL ED
Curr. Office
MS/HS SPED
MS SPED
Wh. Rm.

1. Interior Needs Analysis:

WALLS

a. Interior walls are stained, cracked, dated or damaged.

CEILING

b. Indicated interior ceilings are damaged by water spots, broken /warped ceiling tile, missing tile.

FLOORS

c. Interior Floors are dated, worn out carpet, chipped tile.

1a

1b

1c

1c


Green House
1b
1b
1a
1a
1c
1a
1b
1c
1b
1a
1a
1c
Agri. Lecture
Main. Storage
Metals Shop
Woods
Tech. Ed. Classroom
Soldering
Art
Kiln
Family Consumer E.D.
English
English
SPED
7th Grade
8th Grade
Boys P.E. Locker Room
Instrumental Music
Auditorium
Student Activity Space
German
Spanish
English
Video
I.M.C. Library
Social Studies
Social Studies
Study Hall
Math
Math
Math
HS SPED
Physics
Biology
Chemistry
Therapy Room
8th Grade
7th Grade
6th Grade
6th/7th Grade
7th/8th Grade
Lounge
Health
Math
Gymnasium
Cafeteria
Girls L.R.
Girls P.E. Off.
Laundry
Boys PE Off.
Weight Room
Weight Room
Dry Storage
Kitchen
Main Office
Health
Lounge
Guid.
Bus
Prin.
Conf.
Conf.
Supr.
H.S. SPCL ED
Curr. Office
MS/HS SPED
MS SPED
Math
Math
Multi-Purpose Activities
Storage
Platform
Main Office
Conf.
Guid.
Prin.

NEW GLARUS MIDDLE / HIGH SCHOOL: ADA NEEDS ANALYSIS

The following is an analysis of Southern Door Elementary / Middle / High School in regards to meeting building code requirements under the Americans with Disability Act (ADA) and regulated by the American National Standard (ANSI) Accessible and Usable Buildings and Facilities. This is not intended to be a comprehensive list, but an analysis as identified by architects gathered through extensive tours and assessment of the existing building facility.

1. Building Entrance:

There is at least (1) accessible route of travel. Entry at grade level or ramps with slope no greater than 1:12, an has 5'-0" long landings every 30'-0".

1a. The building has multiple accessible entrances at this level that meet the above criteria for accessibility standards.

2. ADA Parking:

Designated/marked ADA stalls are located near the entrance of the building and have 5'-0" access aisles between stalls (502.4.1; 502.4.2).

2a. The site contains marked ADA stalls near the nearest accessible entrance.

3. Ramps & Lifts:

There is at least (1) accessible route to each floor level. Changes in level greater than 1/2" in height shall be ramped (303); ramps have a slope no greater than 1:12 and have 5'-0" long landings every 30'-0" (405.2).

3a. There are areas of limited accessibility where the building does not meet the criteria for accessibility standards.

4. Railings:

Handrails shall be provided on both sides of stairs and ramps, except for aisle stairs and ramps, which may be provided with a handrail either at the side or within the aisle width (505.2). Ramp runs with a rise greater than 6 inches shall have handrails (405.8).

Ramp handrails shall extend horizontally above the landing 12 inches minimum beyond the top and bottom of ramp runs. Extensions shall return to a wall, guard, or floor, or shall be continuous to the handrail of an adjacent ramp run.

Handrails shall be continuous within the full length of each stair flight or ramp run. Inside handrails on switchback or dogleg stairs or ramps shall be continuous between flights or runs, except for handrails in aisles serving seating (505.3).

At the top of a stair flight, handrails shall extend horizontally above the landing for 12 inches minimum beginning directly above the nosing. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight (505.10.2).

At the bottom of a stair flight, handrails shall extend at the slope of the stair flight for a horizontal distance equal to one tread depth beyond the bottom tread nosing. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight (505.10.3).

4a. There are handrails that do not meet the above criteria for accessibility standards.

5. Maneuvering, Thresholds, & Push/Pull:

On the pull side, a minimum clearance of 18" is required parallel to the doorway. On the push side, a minimum of 12" is required parallel to the doorway (404.2.3.1). Distance between two hinged or pivoted doors in series shall be 48" minimum plus the width of any door swinging into the space (404.2.5). Doors have a minimum 32" wide clearance. Maneuvering clearances on either side of the door are a minimum of 60" from the pull side and 48" from the push side.

Thresholds at doorways shall be maximum 1/2" high otherwise a ramp is required (303.2; 303.3).

5a. There are areas where the requirements for push/pull do not meet the above criteria for accessibility standards.

5b. There are areas where the requirements for maneuvering meets the above criteria for accessibility standards.

5c. There are areas where the requirements for thresholds do not meet the above criteria for accessibility standards.

6. Door Hardware & Panic Hardware:

Doors have open, lever-styled hardware (no round/knob hardware) (404.2.6). Egress doors have panic hardware.

6a. Doors do not meet the above criteria for accessibility standards

7. Restrooms:

Public restrooms have at least 5'-0" clearance space for a wheelchair to turn around, at least (1) ADA accessible stall (sized 60" min. depth x 56" min. width, for wall-mounted stalls, and 59" min. depth for floor-mounted stalls) with 5'-0" clearance (604.3.1), and at least (1) sink at a 34" maximum height (606.3). The compartment door clearance between the door side of the compartment and any obstruction shall be 42" minimum. Compartment doors shall not swing into the required minimum area of the compartment (604.9.3)

There is at least (1) unisex restroom per floor level, and unisex restrooms have at least 5'-0" clearance space for a wheelchair to turn around, as well as a sink/counter-top height at a maximum of 34".

Mirrors located above the sink or counter shall have the bottom edge at a maximum height of 40" above the floor. Mirrors not located above a sink or counter shall have a bottom edge at a maximum height of 35" above the floor (603.3).

Fixed stall grab bars shall be 42" minimum in length located 12" maximum from the rear wall. Vertical fixed grab bars shall be 18" minimum in length, the bottom edge of the bar shall be 39" to 41" above the floor, and 39" to 41" from the rear wall (604.5.1). Rear fixed grab bars shall be 36" minimum in length and extend 12" from the centerline of the toilet. Rear grab bars shall be 24" minimum in length centered from where wall space doesn't permit 36" grab bar (604.5.2).

Bottom edge of urinals shall be 17" maximum above the floor (604.10.4).

ADA showers shall be 36" by 36" minimum with an entry of 36" by 48" minimum. A 36" minimum depth shall be provided adjacent to the open face of the compartment (608.2.1). A roll in shower shall be 60" x 30" minimum with a 60" minimum opening adjacent to the stall (608.2.2). A seat shall be 24" minimum to 36" maximum in length shall be provided at the entry side of the compartment (608.2.3).

Horizontal shower grab bars shall be provided across the control wall and on the back wall to a point 18" from the control wall (608.3.1.1). Vertical shower grab bars shall be 18" minimum in length on the control wall and 3" minimum to 6" maximum above the horizontal grab bar and 4" maximum inward from the front edge of the shower (608.3.1.2).

7a. There are areas where wheelchair clearance for restrooms do not meet the above criteria for accessibility standards.
7b. There are areas where ADA accessible stall for restrooms do not meet the above criteria for accessibility standards.
7c. There are areas where unisex restrooms do not meet the above criteria for accessibility standards.
7d. There are areas where grab bars for restrooms do not meet the above criteria for accessibility standards.
7e. There are areas where showers do not meet the above criteria for accessibility standards.

8. Drinking Fountains & Protruding Objects:

At least (1) fountain has a clear foot space of at least 30" x 48" in front and has a spout height at a maximum of 36" off the ground. Children's fountain spout shall be 30" maximum above the floor. Wheelchair fountain spout shall be 36" maximum and standing 38" to 43" above the floor (602.4).

Objects more than 27" and not more than 80" above the floor shall protrude 4" maximum into the circulation path (307.2). Objects shall not reduce clear width required for accessible routes (307.5). Guardrails or other barriers shall be provided where object protrusion is beyond the limits allowed, and where the vertical clearance is less than 80 inches above the floor. The leading edge of such guardrail or barrier shall be 27 inches maximum above the floor (307.4).

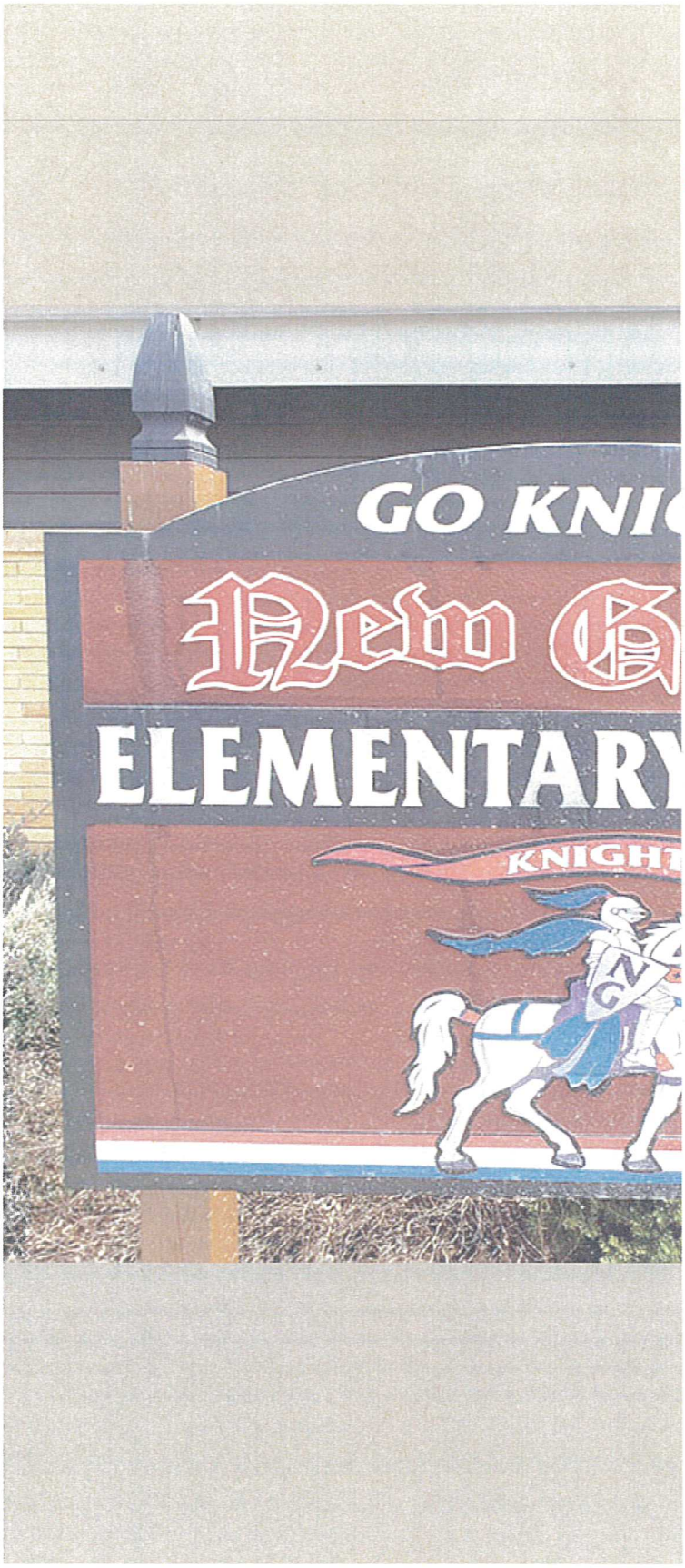
8a. There are drinking fountains that do not meet the above criteria for meeting accessibility standards.

9. Casework,Transaction Counters, & Counters with Sinks:

Counter-tops have a maximum 34" height, and transaction counters have an accessible portion that is at a maximum 34" height for wheelchair accessibility (606.3). Counters and work surfaces for children's use shall be 26" minimum and 30" maximum above the floor (902.4.2).

9a. There are transaction counter-tops that do not meet the above criteria for meeting accessibility standards.
9a. There are workstation counter-tops that do not meet the above criteria for meeting accessibility standards.
9c. There are counter-tops with sinks that do not meet the above criteria for meeting accessibility standards.


Green House
3a
9b
7a
3a
9b
Agri. Lecture
Stor.
Tlt.
Office
Main Storage
Metals Shop
Woods
Jan.
Tech. Ed. Classroom
Soldering
Com.
Dark RM
Art
Kiln
St.
Family Consumer E.D.
Dr.
St.
English
English
Stor.
Prod.
SPED
7th Grade
St.
8th Grade
Shwr.
Tlt.
Ch. Stf.
Boys P.E. Locker Room
Pr.
Pr.
Pr.
W. RM.
Staff
Instrumental Music
Staff
Auditorium
Student Activity Space
German
Spanish
English
Conf.
Off. STO
Girls Tlt.
Boys Tlt.
DAN.
Off.
Equip.
8th Grade
7th/8th Grade
C. Off.
Video
I.M.C. Library
A/V
Stor.
Work R.M.
Social Studies
Physics
7th Grade
Lounge
Health
St.
St.
Girls P.E. Off.
Md.
Gymnasium
Girls L.R.
Social Studies
Study Hall
Math
Off.
Off.
Off.
Biology
6th Grade
6th Grade
Math
El.
Chem. Prep.
Chm.St.
St.
St.
Tlt.
Shwr.
Laundry
Boys PE Off.
Cafeteria
Boys
Girls Tlt.
Math
Math
HS SPED
Chemistry
Therapy Room
6th/7th Grade
St.
Girls Tlt.
Jan.
Boys Tlt.
Storage
Multi-Purpose Activities
Platform
LKR
LKR
Tlt.
Conf.
Main Office
Wh. Rm.
Guid.
Prin.
3a
Weight Room
Weight Room
Tlt.
Train.
Gym St.
Dry Storage
Frzr.
Coolr.
Dish.
Kitchen
Girls
Men
Tlt.
Stf.
St.
Main Office
T/O
T/O
Health
Tlt.
Lounge
St.
St.
Guid.
Bus
H.R.
Prin.
St.
Tlt.
Equip.
Tlt.
Conf.
Conf.
Supr.
Off.
H.S. SPCL ED
Curr. Office
MS/HS SPED
MS SPED
Math
St.
St.
Math
9b
4a



2 New Glarus Elementary School

New Glarus Elementary School provides a comprehensive transitional program for meeting the academic, personal/social and career/ vocational needs of middle level learners. At New Glarus Elementary, "The Knight Way is the Right Way!" Our Positive Behavior Intervention and Support plan centers on helping children to learn to Be Respectful, Be Responsible, and Be Safe.

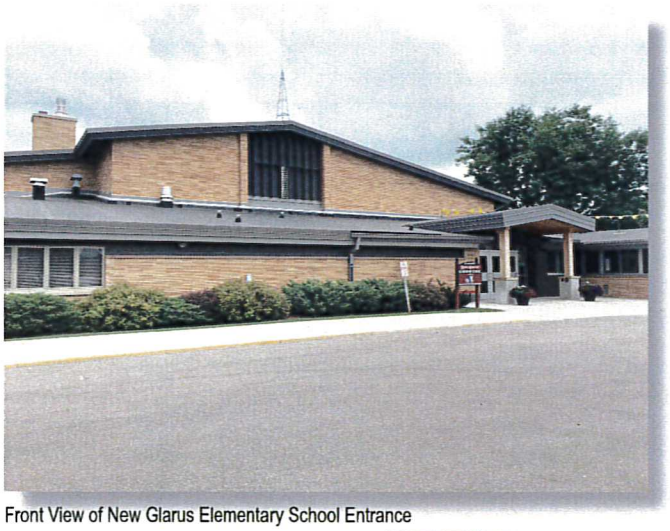
BUILDING AREA: 88,310 sq. ft.
STUDENT POPULATION: 417 students
AVERAGE GRADE LEVEL POPULATION SIZE: 59 students
SITE SIZE: 19 Acres
GRADES SERVED: 4K-5th
BUS QUANTITY: 9 large buses, 2 mini buses

The existing New Glarus Elementary School site is on 19 acres immediately South of 14th Avenue and between Hwy 69 and 2nd Street. The site is adjacent to a residential area, and north east of the high school.

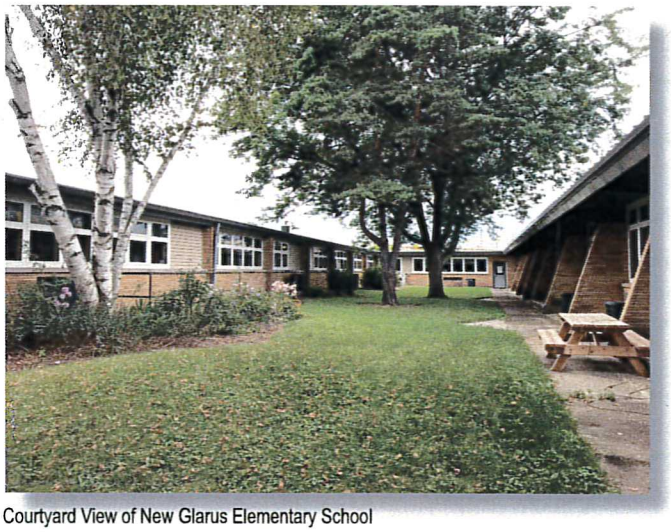
An athletic field and trampled grass track surface has been developed immediately north of the elementary school. Dedicated elementary school parking lots are located near the respective main entries, as well as another staff parking to the south of the school. The most southern ball fields are on 8.79 acres of School District/City joint use property.

The site has three access points, all along 2nd Street. Parent drop-off, and pick-up is controlled through one-way site movement with parent vehicles entering at the middle entry and exiting at the northern access point. The current interaction of parent and bus traffic is limited to merging at the central entrance/exit with the majority of this shared circulation adequately separated while within the site.

Faculty Parking:	
North Lot:	35 spaces
East Lot:	30 spaces
South Lot:	50 spaces
West Lot:	16 spaces
Total Faculty:	131 spaces
Bus Parking:	10 spaces
Total On-site Parking:	141 spaces

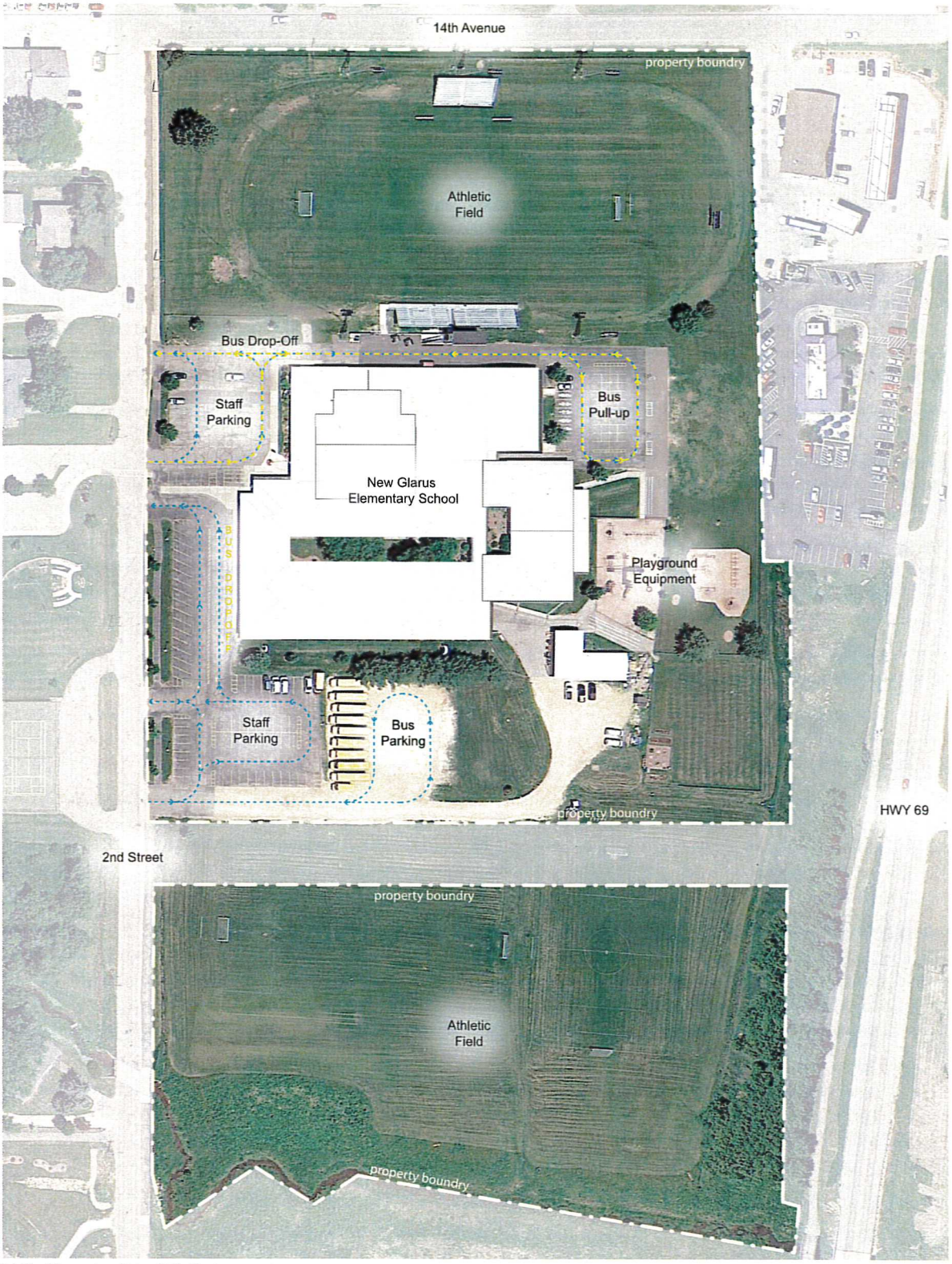


Front View of New Glarus Elementary School Entrance



Courtyard View of New Glarus Elementary School

Southern Exterior View of New Glarus Elementary School Classrooms



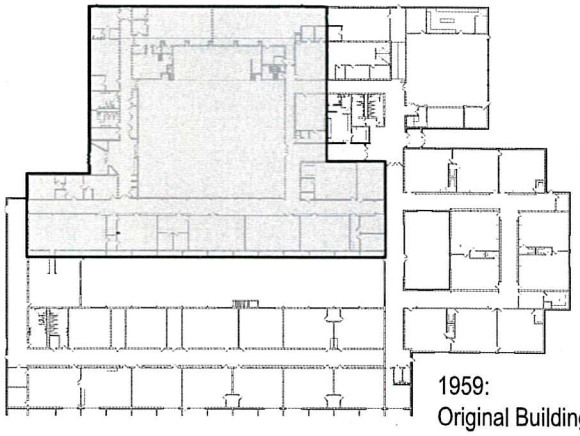
Existing Elementary School Site Features

NEW GLARUS ELEMENTARY SCHOOL: BUILDING EVOLUTION

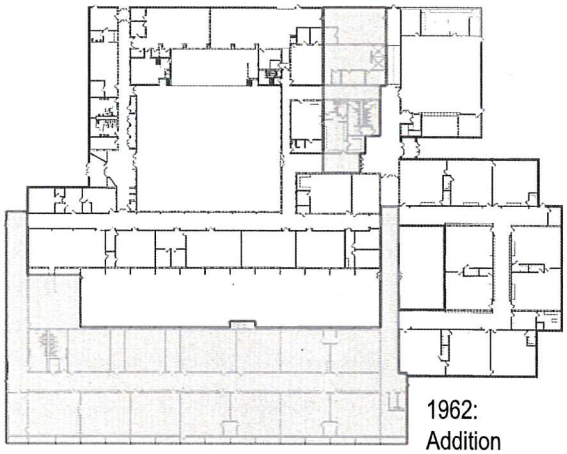
The New Glarus Elementary School is a series of additions to the building, stemming from the original 1959 high school comprising most of the current southern portion. In 1962, an extra classroom addition was built on the south side of the then campus. Thirty years later in 1995 the high school was converted into the elementary school with mulitple renovations to spaces within, when the new high school was constructed. The last major addition happened in 1999 when another classroom wing was added to the east, as well as a new cafeteria. The final renovation to the space was 2016 when the school renovated their front office space, and added a secure entry.

The following building evolution diagrams outline the original buildings and additions made over time to accommodate student enrollment growth.

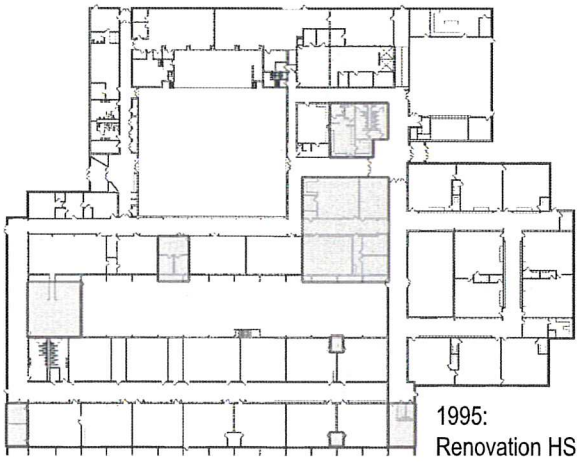
The aging facility is showing signs of needing core building system updates, finish replacements, code compliance, energy efficiency upgrades, and general maintenance renovations.



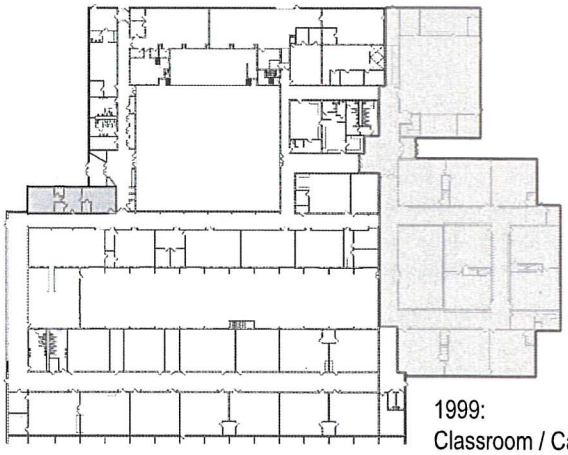
1959:
Original Building



1962:
Addition



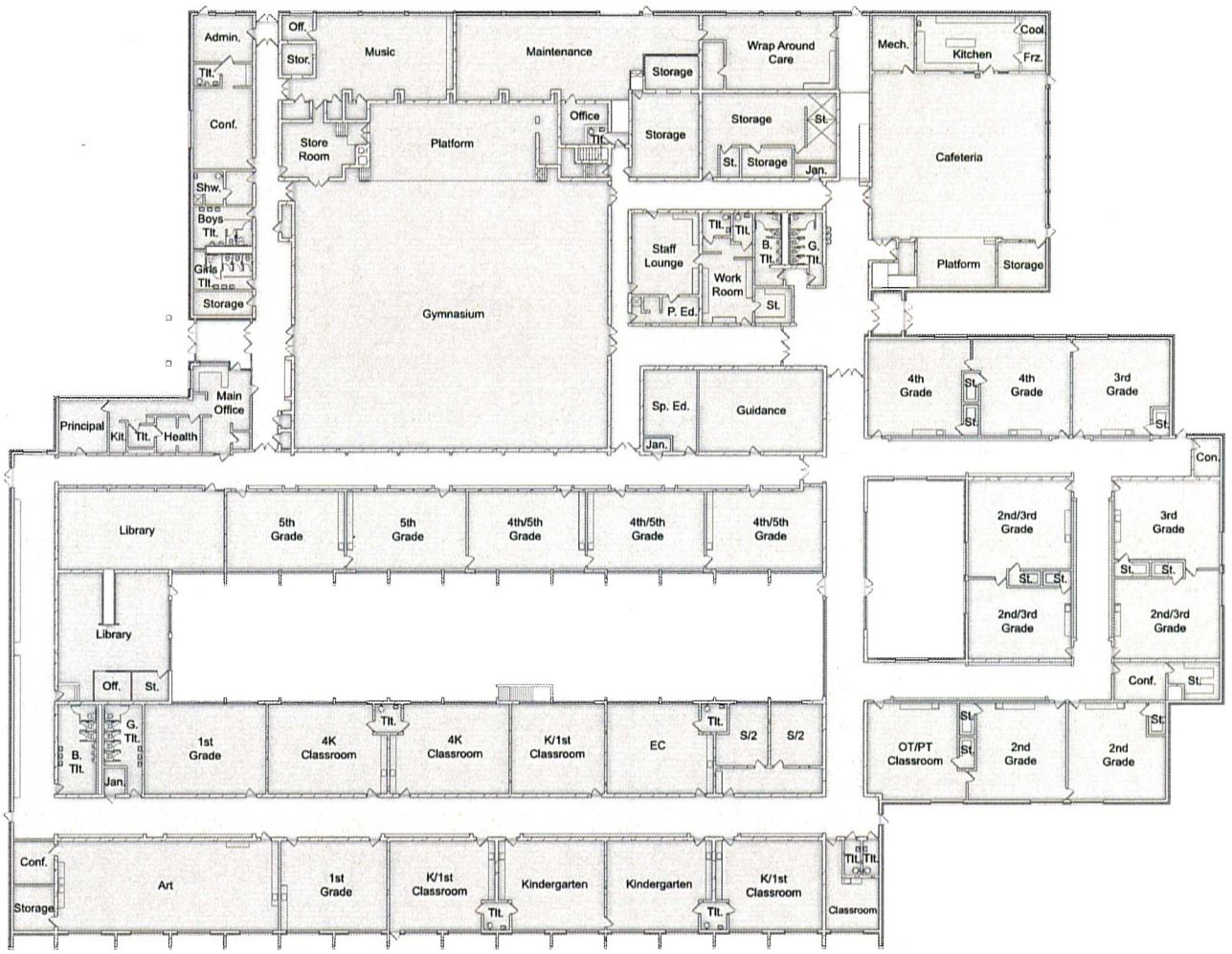
1995:
Renovation HS to EMS



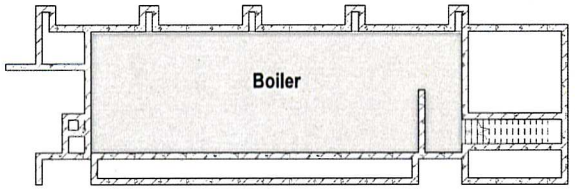
1999:
Classroom / Cafeteria Building Addition

2016:
Final Building Renovation
This represents the state of the building today.

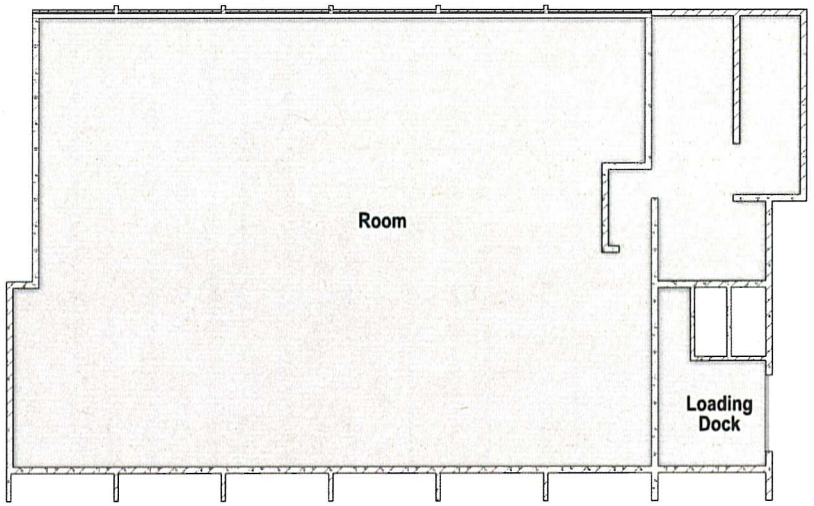
NEW GLARUS ELEMENTARY SCHOOL: EXISTING FLOOR PLAN



FLOOR PLAN | LEVEL 1
not to scale



FLOOR PLAN | BASEMENT
not to scale



FLOOR PLAN | BASEMENT
not to scale

No.	Door Type	Frame Type
1	Aluminum	Aluminum
2	Hollow Metal	Hollow Metal
3	Hollow Metal	Hollow Metal
4	Aluminum	Garage Door
5	Hollow Metal	Hollow Metal
6	Hollow Metal	Hollow Metal
7	Hollow Metal	Hollow Metal
8	Hollow Metal	Hollow Metal
9	Aluminum	Aluminum
10	Hollow Metal	Hollow Metal
11	Hollow Metal	Hollow Metal
12	Hollow Metal	Hollow Metal
13	Hollow Metal	Hollow Metal
14	Hollow Metal	Hollow Metal
15	Hollow Metal	Hollow Metal
16	Hollow Metal	Hollow Metal
17	Hollow Metal	Hollow Metal


1a


1b


1e

1. Exterior Needs Analysis:

WALLS

a. Exterior masonry walls are cracked, chipped, and damaged.

b. Some exterior walls are stained with tar and rust.

WINDOWS

c. Some windows are dated, worn, single pane, drafty, and in need of repair or replacement.

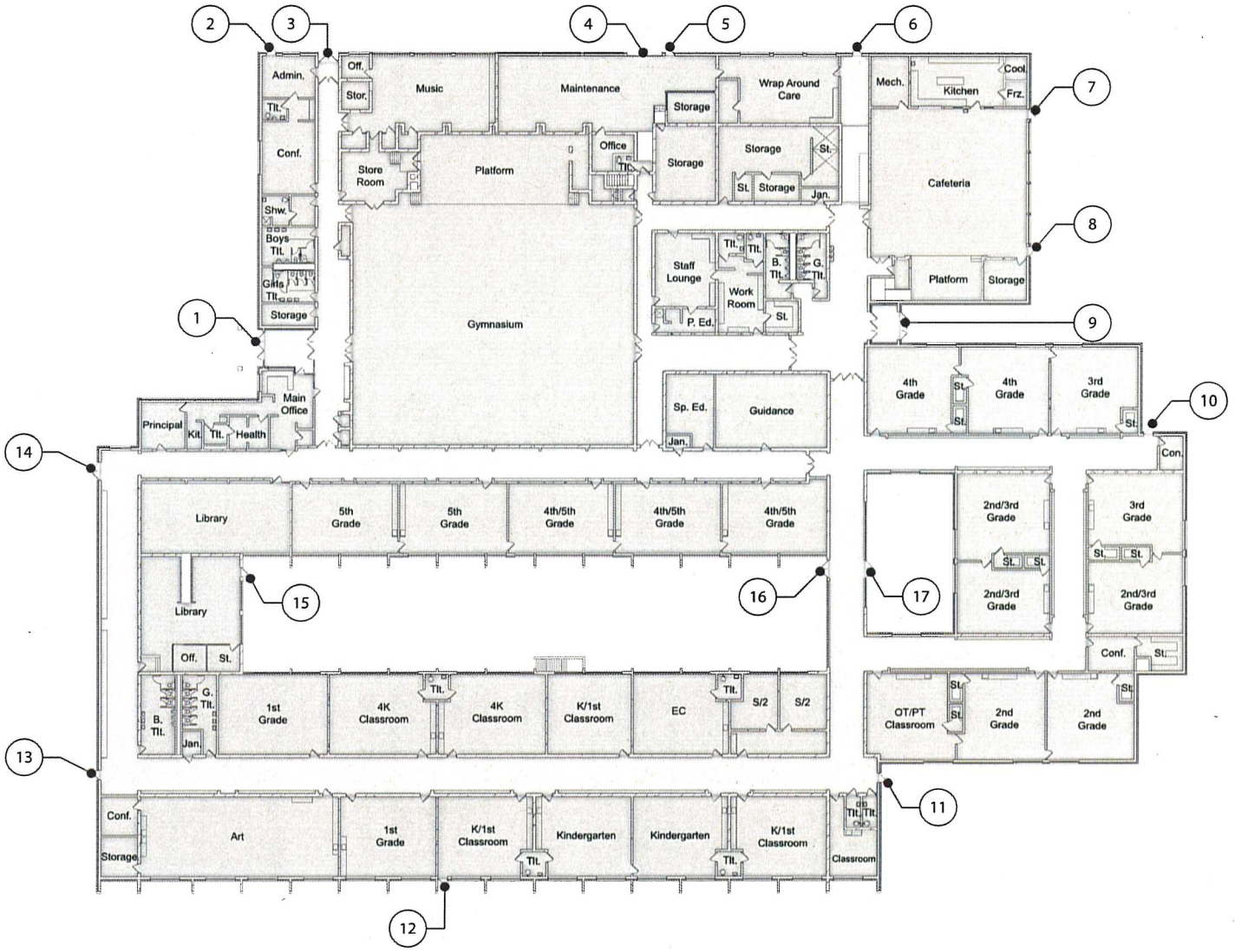
d. Some window sills have instances of damage.

DOORS

e. Some exterior doors are dated, worn, and rusted. Many are original to their respective existing building.

MISCELLANEOUS

f. Some canopy columns are worn, rusted, and in need of repair.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Conf.
Shw.
Boys Tlt.
Girls Tlt.
Storage
Off.
Stor.
Music
Maintenance
Storage
Wrap Around Care
Store Room
Platform
Office
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Storage
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St.
Storage
Jan.
Mech.
Kitchen
Cool.
Frz.
Cafeteria
Platform
Storage
Staff Lounge
Tlt.
Tlt.
B. Tlt.
G. Tlt.
Work Room
P. Ed.
St.
Gymnasium
Main Office
Principal
Kit.
Tlt.
Health
Sp. Ed.
Guidance
Jan.
4th Grade
St.
St.
4th Grade
3rd Grade
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Con.
Library
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4th/5th Grade
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G. Tlt.
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4K Classroom
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4K Classroom
K/1st Classroom
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2nd/3rd Grade
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St.
2nd/3rd Grade
3rd Grade
St.
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2nd/3rd Grade
Conf.
St.
OT/PT Classroom
St.
St.
2nd Grade
2nd Grade
St.
Conf.
Storage
Art
1st Grade
K/1st Classroom
Tlt.
Kindergarten
Kindergarten
Tlt.
K/1st Classroom
Tlt.
Tlt.
Classroom


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Tlt.
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Shw.
Boys Tlt.
Girls Tlt.
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Music
Maintenance
Store Room
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Wrap Around Care
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Kitchen
Cool
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Cafeteria
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Staff Lounge
Work Room
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G. Tlt.
Gymnasium
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Kit.
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Health
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G. Tlt.
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1st Grade
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OT/PT Classroom
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Conf.
Storage
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Tlt.
Kindergarten
Kindergarten
Tlt.
K/1st Classroom
Tlt.
Tlt.
Classroom
1a
1b
1c
1d
1e
1f

1. Interior Needs Analysis:

WALLS

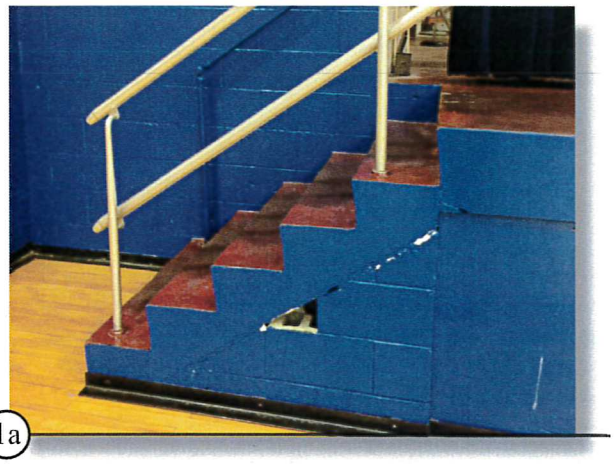
a. Interior walls are stained, cracked, dated or damaged.

CEILING

b. Indicated interior ceilings are damaged by water spots, broken /warped ceiling tile, missing tile.

FLOORS

c. Interior Floors are dated, worn out carpet, chipped tile.



1a

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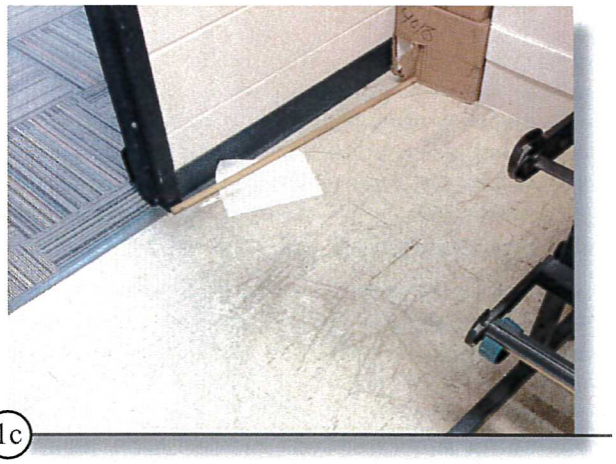

1c


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Boys Tlt.
Girls Tlt.
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Music
Maintenance
Storage
Wrap Around Care
Store Room
Platform
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Cafeteria
Staff Lounge
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3rd Grade
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2nd/3rd Grade
Library
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G. Tlt.
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K/1st Classroom
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Storage
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K/1st Classroom
Kindergarten
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K/1st Classroom
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Classroom
1a
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NEW GLARUS ELEMENTARY SCHOOL: ADA NEEDS ANALYSIS

The following is an analysis of Southern Door Elementary / Middle / High School in regards to meeting building code requirements under the Americans with Disability Act (ADA) and regulated by the American National Standard (ANSI) Accessible and Usable Buildings and Facilities. This is not intended to be a comprehensive list, but an analysis as identified by architects gathered through extensive tours and assessment of the existing building facility.

1. Building Entrance:

There is at least (1) accessible route of travel. Entry at grade level or ramps with slope no greater than 1:12, an has 5'-0" long landings every 30'-0".

1a. The building has multiple accessible entrances at this level that meet the above criteria for accessibility standards.

2. ADA Parking:

Designated/marked ADA stalls are located near the entrance of the building and have 5'-0" access aisles between stalls (502.4.1; 502.4.2).

2a. The site contains marked ADA stalls near the nearest accessible entrance.

3. Ramps & Lifts:

There is at least (1) accessible route to each floor level. Changes in level greater than 1/2" in height shall be ramped (303); ramps have a slope no greater than 1:12 and have 5'-0" long landings every 30'-0" (405.2).

3a. There are areas of limited accessibility where the building does not meet the criteria for accessibility standards.

4. Railings:

Handrails shall be provided on both sides of stairs and ramps, except for aisle stairs and ramps, which may be provided with a handrail either at the side or within the aisle width (505.2). Ramp runs with a rise greater than 6 inches shall have handrails (405.8).

Ramp handrails shall extend horizontally above the landing 12 inches minimum beyond the top and bottom of ramp runs. Extensions shall return to a wall, guard, or floor, or shall be continuous to the handrail of an adjacent ramp run.

Handrails shall be continuous within the full length of each stair flight or ramp run. Inside handrails on switchback or dogleg stairs or ramps shall be continuous between flights or runs, except for handrails in aisles serving seating (505.3).

At the top of a stair flight, handrails shall extend horizontally above the landing for 12 inches minimum beginning directly above the nosing. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight (505.10.2).

At the bottom of a stair flight, handrails shall extend at the slope of the stair flight for a horizontal distance equal to one tread depth beyond the bottom tread nosing. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight (505.10.3).

4a. There are handrails that do not meet the above criteria for accessibility standards.

5. Maneuvering, Thresholds, & Push/Pull:

On the pull side, a minimum clearance of 18" is required parallel to the doorway. On the push side, a minimum of 12" is required parallel to the doorway (404.2.3.1). Distance between two hinged or pivoted doors in series shall be 48" minimum plus the width of any door swinging into the space (404.2.5). Doors have a minimum 32" wide clearance. Maneuvering clearances on either side of the door are a minimum of 60" from the pull side and 48" from the push side.

Thresholds at doorways shall be maximum 1/2" high otherwise a ramp is required (303.2; 303.3).

5a. There are areas where the requirements for push/pull do not meet the above criteria for accessibility standards.

5b. There are areas where the requirements for maneuvering meets the above criteria for accessibility standards.

5c. There are areas where the requirements for thresholds do not meet the above criteria for accessibility standards.

6. Door Hardware & Panic Hardware:

Doors have open, lever-styled hardware (no round/knob hardware) (404.2.6). Egress doors have panic hardware.

6a. Doors do not meet the above criteria for accessibility standards

7. Restrooms:

Public restrooms have at least 5'-0" clearance space for a wheelchair to turn around, at least (1) ADA accessible stall (sized 60" min. depth x 56" min. width, for wall-mounted stalls, and 59" min. depth for floor-mounted stalls) with 5'-0" clearance (604.3.1), and at least (1) sink at a 34" maximum height (606.3). The compartment door clearance between the door side of the compartment and any obstruction shall be 42" minimum. Compartment doors shall not swing into the required minimum area of the compartment (604.9.3)

There is at least (1) unisex restroom per floor level, and unisex restrooms have at least 5'-0" clearance space for a wheelchair to turn around, as well as a sink/counter-top height at a maximum of 34".

Mirrors located above the sink or counter shall have the bottom edge at a maximum height of 40" above the floor. Mirrors not located above a sink or counter shall have a bottom edge at a maximum height of 35" above the floor (603.3).

Fixed stall grab bars shall be 42" minimum in length located 12" maximum from the rear wall. Vertical fixed grab bars shall be 18" minimum in length, the bottom edge of the bar shall be 39" to 41" above the floor, and 39" to 41" from the rear wall (604.5.1). Rear fixed grab bars shall be 36" minimum in length and extend 12" from the centerline of the toilet. Rear grab bars shall be 24" minimum in length centered from where wall space doesn't permit 36" grab bar (604.5.2).

Bottom edge of urinals shall be 17" maximum above the floor (604.10.4).

ADA showers shall be 36" by 36" minimum with an entry of 36" by 48" minimum. A 36" minimum depth shall be provided adjacent to the open face of the compartment (608.2.1). A roll in shower shall be 60" x 30" minimum with a 60" minimum opening adjacent to the stall (608.2.2). A seat shall be 24" minimum to 36" maximum in length shall be provided at the entry side of the compartment (608.2.3).

Horizontal shower grab bars shall be provided across the control wall and on the back wall to a point 18" from the control wall (608.3.1.1). Vertical shower grab bars shall be 18" minimum in length on the control wall and 3" minimum to 6" maximum above the horizontal grab bar and 4" maximum inward from the front edge of the shower (608.3.1.2).

7a. There are areas where wheelchair clearance for restrooms do not meet the above criteria for accessibility standards.
7b. There are areas where ADA accessible stall for restrooms do not meet the above criteria for accessibility standards.
7c. There are areas where unisex restrooms do not meet the above criteria for accessibility standards.
7d. There are areas where grab bars for restrooms do not meet the above criteria for accessibility standards.
7e. There are areas where showers do not meet the above criteria for accessibility standards.

8. Drinking Fountains & Protruding Objects:

At least (1) fountain has a clear foot space of at least 30" x 48" in front and has a spout height at a maximum of 36" off the ground. Children's fountain spout shall be 30" maximum above the floor. Wheelchair fountain spout shall be 36" maximum and standing 38" to 43" above the floor (602.4).

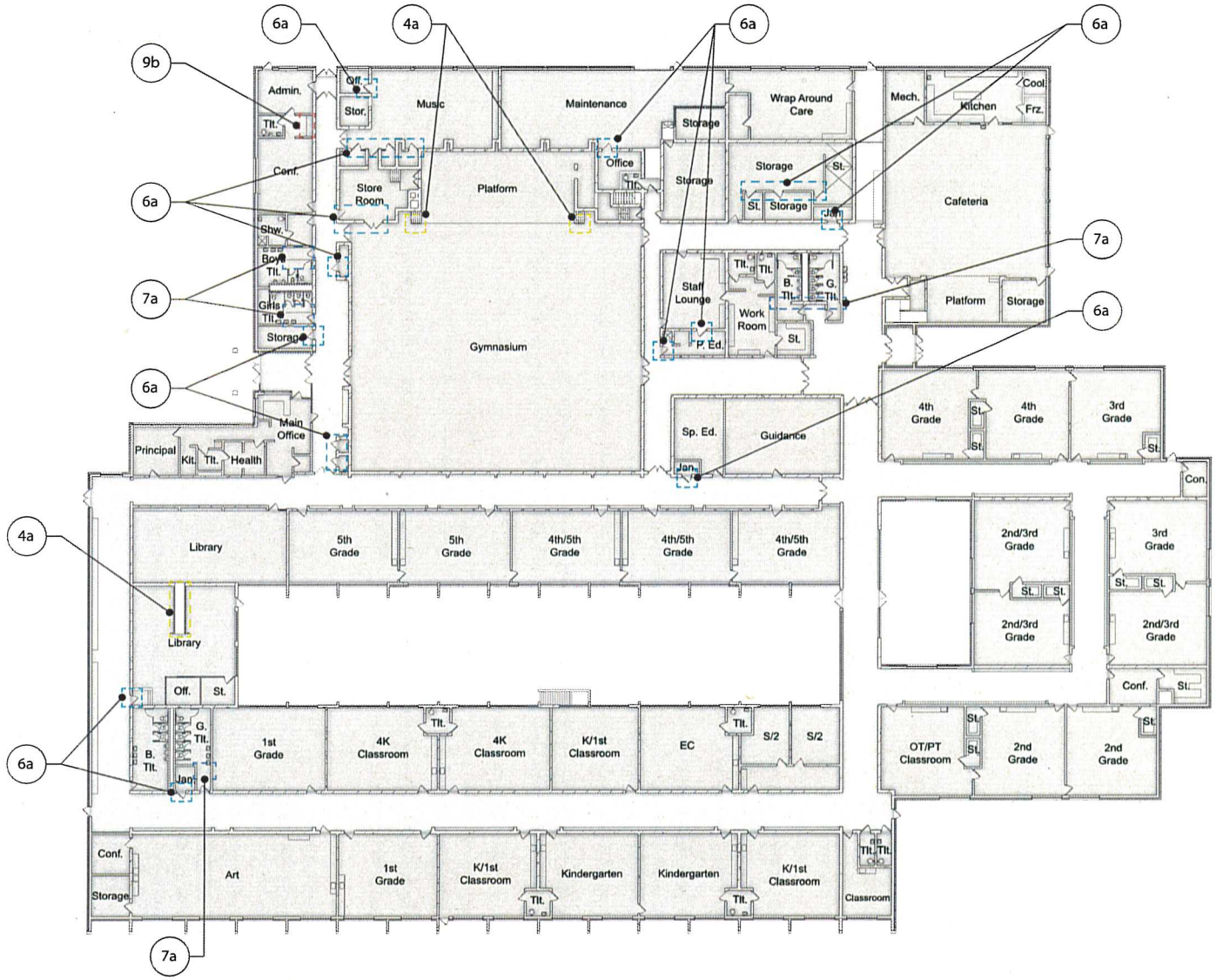
Objects more than 27" and not more than 80" above the floor shall protrude 4" maximum into the circulation path (307.2). Objects shall not reduce clear width required for accessible routes (307.5). Guardrails or other barriers shall be provided where object protrusion is beyond the limits allowed, and where the vertical clearance is less than 80 inches above the floor. The leading edge of such guardrail or barrier shall be 27 inches maximum above the floor (307.4).

8a. There are drinking fountains that do not meet the above criteria for meeting accessibility standards.

9. Casework,Transaction Counters, & Counters with Sinks:

Counter-tops have a maximum 34" height, and transaction counters have an accessible portion that is at a maximum 34" height for wheelchair accessibility (606.3). Counters and work surfaces for children's use shall be 26" minimum and 30" maximum above the floor (902.4.2).

9a. There are transaction counter-tops that do not meet the above criteria for meeting accessibility standards.
9a. There are workstation counter-tops that do not meet the above criteria for meeting accessibility standards.
9c. There are counter-tops with sinks that do not meet the above criteria for meeting accessibility standards.


6a
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Wrap Around Care
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Cool.
Frz.
Tlt.
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Work Room
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P. Ed.
Gymnasium
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Main Office
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Health
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Guidance
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K/1st Classroom
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Kindergarten
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K/1st Classroom
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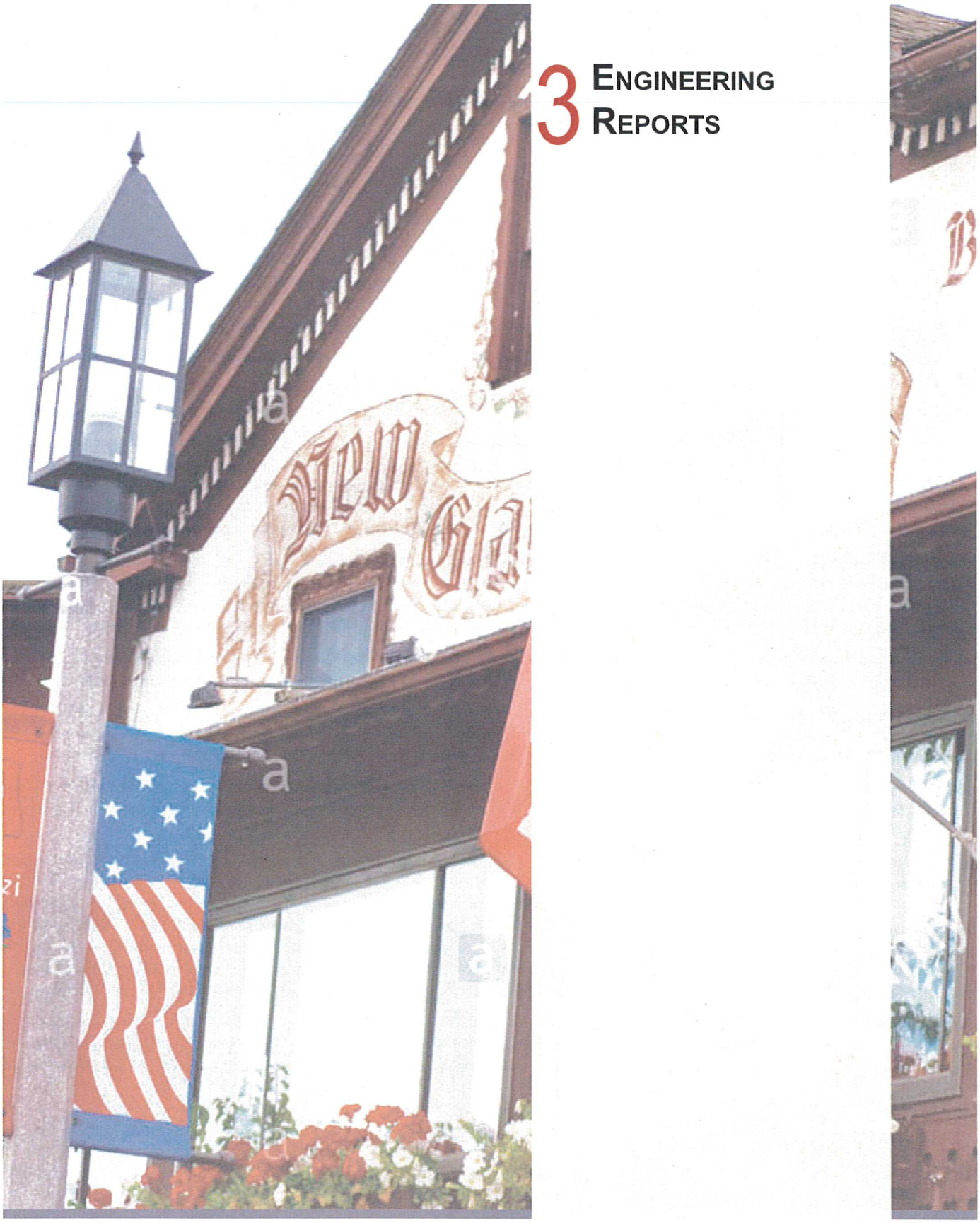
7a



3 Engineering Reports

High School / Middle School Building Study
New Glarus, WI

Electrical System Review:

The following report is the result of a site visit by Tony Ritchie of Muermann Engineering, LLC that occurred on August 15, 2018. Site observations and interviews with staff were all used in the preparation of this report.

The original high school was constructed in 1994 with a Middle School addition in 2012. The high school office was remodeled in 2016 to create a secure entry.

Main Electrical Service

Observations

A. The service is fed underground from pad mounted transformer. CT's and meter are located on the exterior wall.

B. The electrical service is 1200A 277/480 Volt 3-phase, 4-wire. The main switchboard (MD) is a GE and is estimated to be original to the building. The main switchboard is located inside the building adjacent to the exterior mounted CT cabinet. The main switchboard (MD) has little room for expansion.

C. The main switchboard (MD) feeds the main distribution switchboard (MDP-1).

D. The main distribution switchboard (MDP-1) feeds the High School via a 800A 277/480 Volt 3-phase, 4-wire switchboard located in the upper mezzanine electrical room. The main distribution switchboard (MDP-1) is a GE and is estimated to be original to the building. The switchboard has limited room for expansion.

E. The main distribution switchboard (MDP-2) feeds the Middle School addition via a 1200A 120/208 Volt 3-phase, 4-wire switchboard located in the middle school addition. The middle school switchboard (MDP-2) is an Eaton and is original to the middle school addition. The middle school panelboard has limited room for expansion

F. The main service switchboard (MD) does have an integral surge protection device.

G. The main distribution switchboards (MDP-1) and (MDP-2) do not have a surge protection device.

MDP-1 MDP-2

MD

Recommendations

A. The main switchboard (MD) is in good condition and can remain. If a large building addition or additional air conditioning is added, a new service upgrade may be required.

B. The High School distribution switchboard (MDP-1) and Middle School distribution switchboard (MDP-2) are in good condition and can remain.

MUERMANN ENGINEERING
Solid planning, superior solutions

High School / Middle School Building Study
New Glarus, WI

Panelboards

Observations

A. We noted some newer but mostly original GE panelboards throughout the High School building. We also noted some newer Square D panelboards at the High School. The Middle School addition is primarily Eaton panelboards.

B. The majority of the original GE panelboards are full and do not have space for additional circuit breakers.

Recommendations

A. The GE and Square D panelboards at the original High School building are in good working order and can remain. The Eaton panelboards at the middle school addition are in good working order and can remain.

B. Additional panelboards may need to be added where new circuits are required.

Generator

Observations

A. There is an interior Kohler natural gas fueled generator located in upper mezzanine electrical room. There is only (1) Kohler automatic transfer switch. The emergency panels have egress lighting, exit lights, HVAC, server room power and fire alarm circuits only which is not code compliant. The staff indicated that the generator was installed in 2012.

B. We noted battery powered egress lighting units in some locations. It is unclear how much of the of the facility lighting and exit lights are connected to the emergency panels.

Recommendations

A. Due to the type of loads served by the generator and that there is only (1) transfer switch we would recommend replacement of the existing generator. The new generator unit would be located at the exterior of the building.

B. We recommend (2) automatic transfer switches; (1) for life safety loads and (1) for non-life safety loads. Non-life safety loads could include circulating pumps and boilers for minimal heat, data rooms, AC for data rooms, sump pumps, kitchen coolers and freezers.

Lighting Fixtures and Controls

Observations

A. The majority of the High School and Middle School is fluorescent T8-lamp light fixtures in classrooms, offices, gym and other support spaces. Occupancy sensors have been utilized in some areas.

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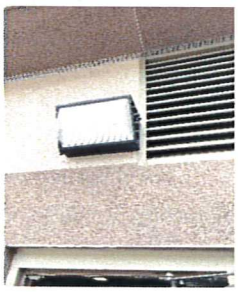

B. The majority of the corridors have been upgraded to lay-in type LED fixtures controlled via wall switches. Occupancy sensors have not been utilized. We noted battery powered egress lighting units in some locations. It is unclear how much of the of the facility lighting is connected to the emergency panels.

C. The Cafeteria has some LED light fixtures.

D. The main office pod including the offices within the main office area have been upgraded to LED light fixtures. Occupancy sensors have been utilized in some areas.

E. The Auditorium seating area has compact fluorescent cans.

F. Exit lights are in good condition. It is unclear how much of the of the facility's exit lights are connected to the emergency panels.

G. Exterior canopy, building mounted and parking lot lighting have been upgraded to LED light fixtures.

Recommendations

A. A possible upgrade to all LED interior lighting may be considered.

B. A possible upgrade in the Auditorium is to replace compact fluorescent cans with LED type.

C. Where a new generator with multiple transfer switches is provided, a possible upgrade is to remove battery powered egress lighting units and connect corridor lighting to emergency power.

D. Where a new generator with multiple transfer switches is provided, a possible upgrade is to replace battery powered exit lights with new LED type and connect exit lights to emergency power.

E. Where not already located, provide dual technology occupancy sensors in classrooms and offices to provide automatic lighting shut-off when rooms are unoccupied which will result in energy savings.

F. Provide ultrasonic occupancy sensors in corridors to provide automatic lighting shut-off when corridors are unoccupied which will result in energy savings.

G. Provide high bay occupancy sensors in gyms to provide automatic lighting shut-off when gyms are unoccupied which will result in energy savings.

Wiring Devices

Observations

A. We did not observe any receptacles and toggle switches in need of replacement.

Fire Alarm System

Observations

A. Fire alarm system is a combination of an older Faraday zoned system at portions of the high school tied to a newer Simplex addressable system at the middle school addition.

B. Pull stations are located at most exterior doors.

C. Most corridors have adequate horn/strobe coverage.

D. Most classrooms have notification devices.

E. Magnetic hold open locations at fire walls have local smoke detection.

F. There are some duct smoke detectors at air handling units.

G. The school expressed concerns about the service provided by Simplex.

Recommendations

A. The entire facility should be evaluated to ensure that the fire alarm system in all areas are code compliant with current standards.

B. We recommend upgrading the entire facility to a new fully addressable system. A complete upgrade of the fire alarm system would require a voice annunciated system to meet current codes.

Intercom System

Observations

A. The current intercom system is a Simplex 5100 Series head end and is original to the facility.

B. The School District is currently in the process of upgrading the intercom system to a Valcom system at the Elementary school. Once completed, the same upgrade process will be completed at this facility and tied back to the Elementary School system.

C. Currently there are a combination of wall mounted speakers, wall mounted surface combination clock/intercom boxes and recessed ceiling mounted speakers throughout the facility.

D. We observed call-in button in some locations.

Recommendations

A. Expand system as required to any new or remodeled areas.

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High School / Middle School Building Study
New Glarus, WI

Clock System

Observations

A. A Primex wireless clock system was installed in 2016. The facility has battery operated clocks with the school's logo. No problems were noted by staff with the clock system.

Recommendations

A. Additional clocks can be added to the existing system.

Phone System

Observations

A. The facility has a Nuvia VOIP phone system upgraded in 2012.

Recommendations

A. Expand system as required to any new or remodeled areas.

Data System

Observations

A. The facility has incoming fiber to the facility. Fiber is also routed from this facility to Elementary School as an interconnection between schools.

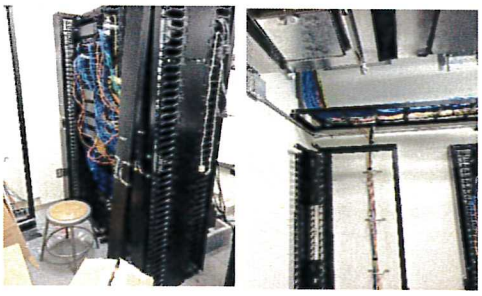
B. This facility contains a main data closet serving the High School portion of the facility and (1) remote data closet serving the Middle School portion of the facility.

C. Both data rooms have open type floor mounted data racks. The main data room has limited rack space for expansion but has the room to add an additional rack. The remote data closet has space available in the existing racks.

D. Data closets are connected with multimode fiber.

E. We noted Cat 5e cables installed with the majority of the cables being non-plenum rated. There was very little plenum rated cables.

F. The data closets are in conditioned spaces.



Recommendations

A. If plenum spaces are utilized for the HVAC system within the facility, plenum rated data cable is required.

B. Additional rack may be added to the main data closet if a large amount of data cabling is added.

C. Additional data can be added to the remote data closet's existing racks.

D. If a building addition would require that the data cable have a total installed length of over 300 feet, then an additional remote data closet will be required.

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High School / Middle School Building Study
New Glarus, WI

CATV System

Observations

A. There is CATV service to this building and distribution throughout.

B. Staff indicated CATV is no longer utilized.

Recommendations

A. Remove used cables as part of renovated spaces.

Security Camera System

Observations

A. There is an IP based Brivo exacqVision camera system in the facility consisting of a cameras located primarily in corridors. The system was installed in 2016.

B. The staff did not indicate any problems with this system.

Recommendations

A. Expand system as required to any new or remodeled areas.

Access Control System

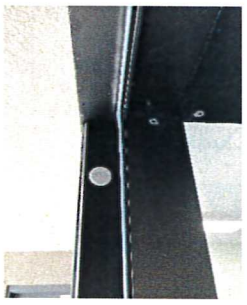
Observations

A. There is a Brivo Aparato access control system in the facility consisting of a card readers and door contacts at select exterior doors. The system was installed in 2012.

B. The staff did not indicate any problems with this system.

Recommendations

A. Expand system as required to any new or remodeled areas.



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HVAC SYSTEM

The following report is the result of a site visit by Jason Testin of Fredericksen Engineering that occurred on August 14, 2018. Site observations, construction plan review, and interviews with staff were all used in the preparation of this report.

The original building was constructed in 1994, with additions being constructed in 2012 and a renovation in 2016.

1.1 Heating System

A. Existing Data

1. One boiler plant serves the building. The boiler plant was installed in 2007 and consists of two PK Modufire hot water boilers, each fired with natural gas. Each boiler has an input capacity of 1,500,000 btu and an output capacity of 1,275,000 btu.
2. The piping and pumping system for the boilers consists of a single circuit system with a stand-by pump. If the primary pump fails, the secondary (stand-by) pump will provide hot water circulation to the system.

B. Observations

1. According to information obtained by the Owner, the boiler plants have no reserve capacity at this point, as all boilers are brought online during periods of colder weather.
2. The boiler plant is in good condition. With recommended maintenance, the boiler should continue to serve the facility for several more years. The estimated life expectancy of the boilers are 20 years.
3. The Owner did indicate that there has been some repair work done on the boilers but are operating well.
4. The boiler system pumps were installed in 2014 and are in good condition. The pumps have an estimated life expectancy of 20 years.
5. Boiler water chemical systems are in place and appear to function as intended.
6. Insulation at observed piping is of adequate thickness and in good condition.
7. Piping is adequately supported where observed.
8. The Owner has indicated that there are no current concerns or issues with the heating supply system.

C. Recommendations

1. Continue preventative maintenance on the system.
2. Any future additions or construction will require the addition of boiler capacity to serve the additional spaces.

1.2 Ventilation and Air Conditioning Systems

A. Existing Data

1. There are two systems that provide ventilation for the facility. The two systems are variable air volume systems and constant volume air handling systems.
2. The High School classrooms, tech shops, locker rooms, offices, weight rooms, kitchen, auditorium and cafeteria are served by two variable air volume indoor air handling units. A variable air volume air handling unit consists of a central supply

fan, hot water heating coil, chilled water cooling coil, outside air damper, return air damper and relief fan. Hot water variable air volume boxes are added to the ductwork to provide individual room temperature control.

3. The gym is served by a constant volume rooftop unit. Constant volume systems consist of a central supply fan, gas fired heat exchanger, packed DX cooling section, fresh air and return air dampers. A room thermostat is used to control the temperature of the air supplied to the space.
4. The AG/Metals shop is served by a constant volume gas fire makeup air unit. A gas fired makeup air unit consists of a central supply fan, gas fired heat exchanger, fresh air damper and return air damper. A room thermostat is used to control the temperature of the air supplied to the space.
5. The AG classroom is served by a constant volume fan coil unit. A fan coil unit consists of a supply fan, hot water heating coil, DX cooling coil, remote condensing unit, fresh air damper and return air damper. A room thermostat is used to control the temperature of the air supplied to the space.
6. The Middle School classrooms are served by a variable air volume rooftop unit. A rooftop unit consists of a central supply fan, gas fired heat exchanger, packaged DX cooling section, fresh air damper and return air damper. Hot water variable air volume boxes are added to the ductwork to provide individual room temperature control.
7. The Middle School offices are served by a variable air volume rooftop unit. A rooftop unit consists of a central supply fan, gas fired heat exchanger, packaged DX cooling section, fresh air damper and return air damper. Hot water variable air volume boxes are added to the ductwork to provide individual room temperature control. A roof mounted energy recovery unit is also connected to the rooftop unit's ductwork system.
8. The Middle School multipurpose room is served by two constant volume rooftop units. A rooftop unit consists of a supply fan, gas fired heat exchanger, packaged DX cooling section, fresh air damper and return air damper. A room thermostat is used to control the temperature of the air supplied to the space.
9. Cooling for the air handling units is provided by an air cooled glycol chiller. The chiller is located on the roof and has a 35% propylene glycol solution.

B. Observations

1. The air handling units serving the High School classrooms, tech shops, locker rooms, offices, weight rooms, kitchen, auditorium and cafeteria are original to the building but were refurbished in 2016 and are in good condition. The units have an estimated life expectancy of 25 years.
2. The rooftop unit serving the gym was installed in 2016 and is in good condition. The unit has an estimated life expectancy of 15 years.
3. The gas fired makeup air unit serving the AG/Metals shop was installed in 2016 and is in good condition. The unit has an estimated life expectancy of 25 years.
4. The fan coil unit serving the AG classroom was installed in 1994 and is in fair condition. The unit has exceeded the estimated life expectancy of 15 years.
5. The rooftop unit serving the Middle School classrooms was installed in 2012 and is in good condition. The unit has an estimated life expectancy of 15 years.

6. The rooftop unit serving the Middle School offices was installed in 2012 and is in good condition. The unit has an estimated life expectancy of 15 years.
7. The two rooftop units serving the Middle School multipurpose room were installed in 2012 and are in good condition. The units have an estimated life expectancy of 15 years. The Owner noted that typically only one unit is needed to heat/cool the space.
8. The chiller was installed in 2016 and is in good condition. The unit has an estimated life expectancy of 25 years.

C. Recommendations

1. Plans should be made for the replacement of the aging fan coil unit serving the AG classroom.
2. Continue preventative maintenance on the systems.

1.3 Control Systems

A. Existing Data

1. An Alerton digital control system serves the entire building.

B. Observations

1. The Alerton digital control system was installed by Masters Building Solutions.

C. Recommendations

1. Continue to maintain and operate the digital control system.

High School / Middle School Building Study
New Glarus, WI

Plumbing System Review:

The following report is the result of a site visit by Juli Simonet of Muermann Engineering, LLC that occurred on August 15, 2018. Site observations, exiting plan review and interviews with staff were used in the preparation of this report. The facility was built in 2006 with the Middle School addition in 2012.

Domestic Water

Observations

A. Water is supplied to the building by what appears to be a 4" water service which connects to the Municipal water system. There is a 3" Badger compound water meter and by-pass installed on this water service. The water meter is located in the Storage Room across from the Main Office.

B. The exposed water distribution piping in the building appears to be copper tube and fittings. The water distribution piping appears to be in fair condition.

C. This building is non-sprinklered.

Water Meter

Recommendations

A. The existing water distribution piping should continue to be monitored and repaired or replaced as necessary.

B. If a fire sprinkler system is required for any future additions, a new 6" water service will be required.

Sanitary and Storm Piping

Observations

A. The sanitary waste from the building flows by gravity out the building and connects to the Municipal sanitary sewer system. The staff did not report any issues with the sewer system.

B. The sanitary waste and vent piping in the building appears to be cast iron or schedule 40 PVC pipe and fittings.

C. The science rooms have acid resistant countertops and integral bowl sinks. The waste piping is acid resistant piping. There are visible acid neutralization basins in the Prep Rooms.

D. The building has a full production kitchen with a 4-compartment pot and pan sink with disposal, prep sink, hand lavatory and commercial dishwasher. There is an exterior grease interceptor provided for the kitchen. The grease interceptor is in good condition.

E. The existing roof water is collected by internal roof drains and conductors which flow by gravity out the building and connect to the Municipal storm sewer system.

F. The storm waste piping in the building appears to be schedule 40 PVC pipe and fittings.

Acid Basin

Recommendations

A. The acid dilution basins should be monitored and maintained as required.

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B. Provide continuous maintenance on the exterior grease interceptor, including regular scheduled cleanings.

Plumbing Equipment

Observations

A. The High School has two (2) Lochinvar AWN601PM hot water boilers providing domestic hot water to (2) A.O. Smith TJV 120A storage tanks. The hot water system is located in Mezzanine Mechanical Room by the Gym and provides hot water to the entire High School. The water heaters and storage tanks are in fair condition. There is a Taco hot water circulation pump which is in fair condition. The circulating pump is in good condition.

B. The Middle School addition has a water heater system that serves this addition. A Professional Advantage single tank water softener provides conditioned water to a Bradford White LD40S33B090 40-gallon electric water heater. The equipment is in good working condition.

C. The Hobart C-44 commercial dishwasher has an electric booster heater. It is a Hatco booster heater. Both units are in fair condition.

D. The High School has a water softening system. The water softener is a single tank system with brine tank. This water softener provides conditioned water for the water heaters only.

E. The existing science rooms have natural gas piped to gas turrets located in the casework. There is a Beacon Medaes gas shut-off panel located in the rooms.

HS Water Heaters

HS Storage Tanks

MS Water Heater

Dishwasher & Booster

HS Water Softener

Gas Shut-Off

Recommendations

A. The existing hot water systems are in good condition and can remain.

B. The existing kitchen booster heater is in good condition and can remain.

C. The existing water softening systems are in good condition and can remain.

Plumbing Fixtures

Observations

A. The existing plumbing fixtures in the building are a combination of various styles. Most of the fixtures are original to the building age. The plumbing fixtures appear to be water efficient and ADA compliant.

Water Closet

Water Closet 2

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New Glarus, WI

B. The water closets are wall hung with sensor operated or manual flush valves. Some are tank type toilets. The water closets do appear to be water conserving and ADA compliant. The fixtures are in fair condition.

C. The urinals in the building are floor mount with a sensor operated flush valve. The urinals do appear to be water conserving and ADA compliant. The fixtures are in fair condition. The owner did report issues with the sanitary downstream of the main toilet rooms.

D. The lavatories in the building are wall hung or drop-in style with multiple styles of faucets. Some lavatories have wrist blade handle faucets, lever handle faucets or sensor operated faucets. The lavatories do appear to be water conserving and ADA compliant. The fixtures are in fair to good condition.

E. The showers in the locker rooms are pole type, multiple head units. There is a separate ADA shower station provided in each shower room, with no handheld shower but does have a lowered shower head. The fixtures are in fair condition.

F. The drinking fountains in the building are wall hung electric water coolers. The fixtures are water conserving and ADA compliant. The fixtures are in fair condition. Some of the fixtures have been replaced with a wall hung, dual height electric water coolers with bottle filler. The fixtures are newer and in good condition.

G. The janitor's sinks in the building are floor set polypropylene mop basins with wall mounted service sink faucets with spout outlet vacuum breaker. The fixtures are in fair condition.

H. The science room sinks are single bowl, integral bowl with gooseneck laboratory faucet with wristblade handles. The fixtures are in good condition.

I. The science rooms have emergency eyewash / drench shower units with a floor drain. The fixtures appear to be ADA compliant and are tied to an activation alarm. The fixtures are in good condition.

J. The Art Room sinks are large single compartment, stainless steel sinks with gooseneck faucets. There is a solids trap on the waste piping. The fixtures are in fair condition.

K. The FACE room has stations with 2-compartment stainless steel drop-in sinks with lever faucets. There is an ADA station in this room. No of the sinks are routed through a grease interceptor.


Urinals


Lavatory


Lavatory 2


HS Showers


HS ADA Shower


Water Coolers


Mop Sink


Science Room Sink


Emergency Eyewash

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High School / Middle School Building Study
New Glarus, WI

Recommendations

A. The existing plumbing fixtures in the building can remain. They should continue to be monitored and repaired or replaced as necessary.

B. Floor mount urinals should be replaced with wall hung fixtures – this will help the issues with the sanitary system downstream of the restrooms.

C. If any issues occur with the waste piping from the FACE room, a grease interceptor would be recommended for these sinks.

Art Room Sinks

ADA FACE Sink

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New Glarus Elementary School Building Study New Glarus, WI

Electrical System Review:

The following report is the result of a site visit by Tony Ritchie of Muermann Engineering, LLC that occurred on August 15, 2018. Site observations and interviews with staff were all used in the preparation of this report.

The original facility was constructed in 1958 with an addition in 1962 and a Cafeteria / Classroom addition in 1999.

Main Electrical Service

Observations

A. The service is fed underground from pad mounted transformer. CT's and meter are located on the exterior wall. Upgraded service was installed in 1999.

B. The electrical service is 1600A 120/208 Volt 3-phase, 4-wire. The main switchboard (MD) is Cutler-Hammer and was installed in 1999. The main switchboard (MD) is located inside the building adjacent to the exterior mounted CT cabinet. The main switchboard has limited room for expansion.

C. The main switchboard (MD) feeds the main distribution switchboard (MDP).

D. The main distribution switchboard (MDP) is an 800A 120/208 Volt 3-phase, 4-wire switchboard located in the lower level electrical room. The main distribution switchboard (MDP) is Cutler-Hammer and was installed in 1999. The switchboard has no room for expansion.

E. The main service switchboard (MD) has an integral surge protection device.

F. The main distribution switchboard (MDP) has a remote surge protection device.




MD

MDP

Recommendations

A. The main switchboard (MD) is in good condition and can remain. If a large building addition or additional air conditioning is added, a new service upgrade may be required.

B. The main distribution switchboard (MDP) is in good condition and can remain.




Panelboards

Observations

A. We noted some newer but mostly older Cutler-Hammer and Square D panelboards throughout facility. We also noted some older Kinney and Siemens panelboards.

B. The majority of the panelboards are full and do not have space for additional circuit breakers.

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New Glarus Elementary School Building Study
New Glarus, WI

Recommendations

A. We recommend replacing all older Cutler-Hammer, Square D, Kinney and Siemens panelboards.

B. The newer Cutler-Hammer and Square D panelboards are in good working order and can remain.

C. Additional panelboards may need to be added where new circuits are required.

Generator

Observations

A. There is an exterior Gillette natural gas fueled generator located outside the lower level storage entrance. There is only (1) automatic transfer switch. The staff indicated that the generator was installed in 2016 and is only used to serve the data/network equipment.

B. We noted battery powered egress lighting units and exit lights throughout the facility that confirms the generator is not being used for life-safety loads.

Recommendations

A. If a new generator is desired, we would recommend replacement of the existing generator. The new generator unit would also be located at the exterior of the building.

B. If a new generator is desired, we recommend (2) automatic transfer switches; (1) for life safety loads and (1) for non-life safety loads. Non-life safety loads could include circulating pumps and boilers for minimal heat, data rooms, AC for data rooms, sump pumps, kitchen coolers and freezers.

Lighting Fixtures and Controls

Observations

A. The majority of the facility is fluorescent T8-lamp light fixtures in classrooms, offices, gym and other support spaces. We observed a combination of both surface mounted and recessed light fixtures throughout. Occupancy sensors have been utilized in some areas.

B. The corridors have a combination of both surface mounted and recessed fluorescent T8-lamp fixtures. Some areas have been upgraded to LED fixtures. Corridors are controlled via wall switches. Occupancy sensors have not been utilized.

C. The Cafeteria has LED light fixtures.

D. The mechanical areas have compact fluorescent fixtures.

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New Glarus Elementary School Building Study
New Glarus, WI

E. Battery powered egress lighting units are utilized in the corridors.

F. Exit lights are in good condition but types and styles vary throughout facility.

G. Exterior canopy, building mounted and parking lot lighting have been upgraded to LED light fixtures.

Recommendations

A. A possible upgrade to all LED interior lighting may be considered.

B. A possible upgrade in the mechanical spaces to replace compact florescent fixtures with LED type.

C. Where a new generator with multiple transfer switches is provided, a possible upgrade is to remove battery powered egress lighting units and connect corridor lighting to emergency power.

D. Where a new generator with multiple transfer switches is provided, a possible upgrade is to replace battery powered exit lights with new LED type and connect exit lights to emergency power.

E. Where not already located, provide dual technology occupancy sensors in classrooms and offices to provide automatic lighting shut-off when rooms are unoccupied which will result in energy savings.

F. Provide ultrasonic occupancy sensors in corridors to provide automatic lighting shut-off when corridors are unoccupied which will result in energy savings.

G. Provide high bay occupancy sensors in gyms to provide automatic lighting shut-off when gyms are unoccupied which will result in energy savings.




Wiring Devices

Observations

A. We did not observe any receptacles and toggle switches in need of replacement.


Fire Alarm System

Observations

A. Fire alarm system is a Simplex 4020 addressable system.

B. Pull stations are located at most exterior doors.

C. Most corridors have adequate horn/strobe coverage.

D. Most classrooms have notification devices.

E. The school expressed concerns about the service provided by Simplex.


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New Glarus Elementary School Building Study
New Glarus, WI

Recommendations

A. The entire facility should be evaluated to ensure that the fire alarm system in all areas are code compliant with current standards.

B. We recommend maintaining the existing system and only adding new devices where required.

C. Upgrading the entire facility would require a new voice annunciated addressable system to meet current codes. The new system would require the removal of all existing equipment and devices.

Intercom System

Observations

A. The School District is currently in the process of upgrading their intercom system to a Valcom system. Once completed, the same upgrade process will be completed at the Middle/High school and tied back to the Elementary School system.

B. Currently there are a combination of wall mounted speakers, wall mounted surface combination clock/intercom boxes and recessed ceiling mounted speakers throughout the facility.

Recommendations

A. Expand system as required to any new or remodeled areas.

Clock System

Observations

A. A Primex wireless clock system was installed in 2016. The facility has battery operated clocks with the school's logo. No problems were noted by staff with the clock system

Recommendations

A. Additional clocks can be added to the existing system.

Phone System

Observations

A. The facility has a Nuvia VOIP phone system upgraded in 2012.

Recommendations

A. Expand system as required to any new or remodeled areas.

New Glarus Elementary School Building Study

New Glarus, WI

Data System

Observations

A. The facility has incoming fiber from the Middle/High School.

B. This facility contains a main data closet and (2) remote data locations.

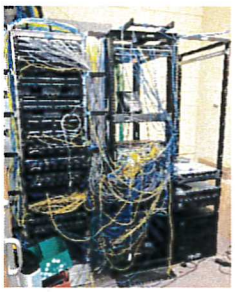
C. The main data closet is located near the library. There is an existing data rack that has room for expansion. This data closet is in a conditioned space.

D. The first remote data location is near the cafeteria and is in a shared space with a staff's office. The existing data rack has no room for expansion.

E. The second remote data location is in the lower level electrical area and is in a shared space with electrical distribution equipment. The existing data racks have limited room for expansion.

F. Data closets are connected with multimode fiber.

G. We noted Cat 5e cables installed with the majority of the cables being non-plenum rated. There was very little plenum rated cables.



Main Data Room

Cafeteria Data Room

Lower Level Data Room

Recommendations

A. If plenum spaces are utilized for the HVAC system within the facility, plenum rated data cable is required.

B. Existing main data closet can remain. Additional data can be added to the main data closet's existing racks.

C. We recommend providing dedicated remote data closets that are not shared with other equipment or staff and are properly exhausted or air conditioned for network equipment in the room.

D. Additional racks may need to be added to the remote data locations if a large amount of data cabling is added.

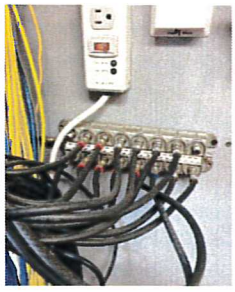
E. If a building addition would require that the data cable have a total installed length of over 300 feet, then an additional remote data closet will be required.

CATV System

Observations

A. There is CATV service to this building and distribution throughout.

B. Staff indicated CATV is no longer utilized.



Recommendations

A. Remove used cables as part on renovated spaces.

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New Glarus Elementary School Building Study
New Glarus, WI

Security Camera System

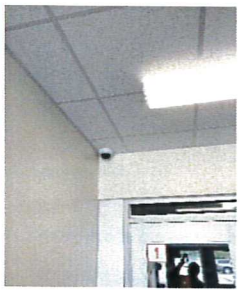
Observations

A. There is an IP based Brivo exacqVision camera system at the Middle/High School and tied to this facility. Cameras are primarily located in corridors. The system was installed in 2016.

B. The staff did not indicate any problems with this system.

Recommendations

A. Expand system as required to any new or remodeled areas.



At High School

Access Control System

Observations

A. There is a Brivo Aparato access control system in the facility consisting of a card readers and door contacts at select exterior doors. The system was installed in 2012.

B. The staff did not indicate any problems with this system.

Recommendations

A. Expand system as required to any new or remodeled areas.

Ft Ay cMc. Hn

The following report is the result of a site visit by Jason Testin of Fredericksen Engineering that occurred on August 14, 2018. Site observations, construction plan review, and interviews with staff were all used in the preparation of this report.

The original building was constructed in 1959, with additions being constructed in 1962, 1999 and 2016.

Ymf Feahg3 cSshei

Am Hx,shg3 Daha

1. A single boiler plant serves the building. The boiler plant was installed in 2004 and consists of two PK Modufire hot water boilers, each fired with natural gas. Each boiler has an input capacity of 1,500,000 btu and an output capacity of 1,275,000 btu.
2. The piping and pumping system for the boilers consists of a single circuit system with a stand-by pump. If the primary pump fails, the secondary (stand-by) pump will provide hot water circulation to the system.

Bm ObservahCgs

1. According to information obtained by the Owner, the boiler plants have no reserve capacity at this point, as all boilers are brought online during periods of colder weather.
2. The boiler plant is in good condition. With recommended maintenance, the boiler should continue to serve the facility for several more years. The boilers have an estimated life expectancy of 20 years.
3. The hot water system pumps were installed in 2016 and are in good condition. The pumps have variable frequency drives and have an estimated life expectancy of 20 years.
4. Boiler water chemical systems are in place and appear to function as intended.
5. The piping run in the tunnels to serve the unit ventilators is original to the building. Piping has an estimated life expectancy of 40 years.
6. The Owner has indicated that there are no current concerns or issues with the heating supply system.
7. Currently, there is only one exit out of the boiler room. Current code requires two exits if a piece of equipment is above 400,000 btu and the room is larger than 500 sqft. If boilers are replaced or added to the boiler plant, the boiler plant should be moved to another location or a second exit should be created to comply with the current code.

ym ReoCi i egWahCgs

1. Continue preventative maintenance on the system.
2. Any future additions or construction will require the addition of boiler capacity to serve the additional spaces.
3. Plans should be made to replace the aging hot water piping in the tunnels.

Yn2 t eghlahCg agWA,r y CgWhCg,g3 cSshei s

Am Hx,shg3 Daha

1. There are three systems that provide ventilation for the facility. The three systems are unit ventilators, variable air volume systems and constant volume systems.
2. The 1959 and 1962 classrooms are served by unit ventilators. Unit ventilators house a fan, hot water heating coil, DX cooling coil, remote mounted condensing unit, fresh air damper and return air damper. Hot water piping is run to each unit ventilator through the tunnels. A room thermostat is used to control the temperature of the air supplied to the space.
3. The cafeteria is served by a constant volume rooftop unit. A rooftop unit consists of a central supply fan, gas fired heat exchanger, packaged DX cooling section, fresh air damper and return air damper. A room thermostat is used to control the temperature of the air supplied to the space.
4. The gym is served by a constant volume indoor air handling unit. An air handling unit consists of a central supply fan, hot water heating coil, DX cooling coil, remote mounted condensing unit, fresh air damper and return air damper. A room thermostat is used to control the temperature of the air supplied to the space.
5. The 1999 classrooms are served by a variable air volume rooftop unit. A rooftop unit consists of a central supply fan, gas fired heat exchanger, packaged DX cooling section, fresh air damper and return air damper. Hot water variable air volume boxes are added to the ductwork to provide individual room temperature control.
6. The offices are served by a constant volume fan coil unit. A fan coil unit consists of a central supply fan, hot water heating coil, DX cooling coil, remote mounted condensing unit, fresh air damper and return air damper. A room thermostat is used to control the temperature of the air supplied to the space.
7. The conference room and Psychologist office are served by a constant volume blower coil unit. A blower coil unit consists of a supply fan, hot water heating coil, fresh air damper and return air damper. A room thermostat is used to control the temperature of the air supplied to the space.
8. The basement storage area is ventilated by an inline exhaust fan and fresh air damper.

Bm ObservahCgs

1. The unit ventilators serving the classrooms were installed in 2012 and are in good condition. The unit have an estimated life expectancy of 25 years.
2. The rooftop unit serving the cafeteria was installed in 1999 and is in fair condition. The unit has exceeded the estimated life expectancy of 15 years.
3. The air handling unit serving the gym was installed in 2016 and is in good condition. The unit has an estimated life expectancy of 25 years.
4. The rooftop unit serving the 1999 classrooms was installed in 2016 and is in good condition. The unit has an estimated life expectancy of 15 years.
5. The fan coil unit serving the offices was installed in 2016 and is in good condition. The unit has an estimated life expectancy of 15 years.
6. The blower coil unit serving the conference room and psychologist office was installed in 1999 and is in fair condition. The unit has exceeded the estimated life expectancy of 15 years.

7. Door transfer grilles are currently utilized to transfer relief air from the 1999 classrooms to the corridor. It was noted that other classrooms in the 1959 building did not have any transfer pathway for relief.
8. The Owner indicated that two 1999 rooftop units have trouble communicating with the new digital control system.

y m ReoCi i egWahCgs

1. Plans should be made for the replacement of the aging rooftop unit serving the cafeteria.
2. Plans should be made for the replacement of the aging blower coil unit serving the conference room and psychologist office.
3. With any remodel or renovation, plans should be made to replace the door transfer grille relief system with a code approved system. The current building code does not allow transfer air into a path of emergency egress.
4. With any remodel or renovation of the 1959 classrooms, plans should be made to install a relief system.

Yn5 y CghrCl c Sshei s

Am Hx,shg3 Daha

1. An Alerton digital control system serves the entire building.

Bm ObservahCgs

1. The Alerton digital control system was installed by Masters Building Solutions.

y m ReoCi i egWahCgs

1. Continue to maintain and operate the digital control system.

New Glarus Elementary School Building Study
New Glarus, WI

Plumbing System Review:

The following report is the result of a site visit by Juli Simonet of Muermann Engineering, LLC that occurred on August 15, 2018. Site observations, existing plan review and interviews with staff were all used in the preparation of this report. The facility was built in 1958 with an addition in 1962 and a Cafeteria / Classroom addition in 1999.

Domestic Water

Observations

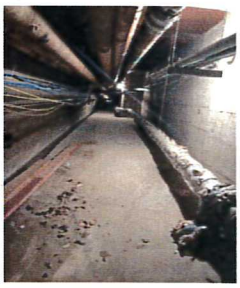
A. Water is supplied to the building by what appears to be a 4" water service which connects to the Municipal water system. There is a Badger 3" compound water meter installed on this water service that is located in the basement tunnel. There is no bypass in the water meter.

B. The water piping in the building appears to be a combination of galvanized and copper pipe and fittings. The original building water piping is routed through tunnels at the building perimeter.

C. The existing water piping at the water heater is not insulated.

D. The existing building does not have a fire sprinkler system. If a fire sprinkler system is desired, the existing water service is not large enough.

Water Meter



Water Piping at Tunnels

Recommendations

A. The existing water distribution piping in original building tunnels should be replaced.

B. Provide bypass piping with shut-off on building water meter.

C. The uninsulated water piping at the water heater should be insulated as required.

Sanitary and Storm Piping

Observations

A. The sanitary waste from the building flows by gravity out the building and connects to the Municipal sanitary sewer system. The staff did not report any issues with the sewer system.

B. The sanitary waste and vent piping in the building appears to be a combination of hub and spigot cast iron pipe and fittings and schedule 40 PVC pipe and fittings.

C. The building has a prep kitchen with a 4-compartment pot and pan sink, commercial dishwasher, pre-rinse sink and hand lavatory. There is an interior grease interceptor provided for the pot and pan sink and dishwasher. The grease interceptor appears to be in good condition.

D. The existing roof water is collected by gutters and downspouts that outlet to grade at the building perimeter.

Kitchen Grease Interceptor

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Recommendations

A. We would recommend the existing cast iron sanitary sewer located below the floor be inspected with a camera. Repair and replace pipe and fittings as required after inspection.

B. Provide continuous maintenance on the interior grease interceptor, including regular scheduled cleanings.

Plumbing Equipment

Observations

A. The building has one (1) central hot water system providing domestic hot water to the building. The hot water system is located in the basement boiler room. The water heater is a Bradford White Model M1TW50S6FBN, gas-fired, 50-gallon water heater. The water heater is in fair condition. A single tank Addie water softener provides conditioned water for the water heater. The softening system appears to be in good condition. There is a Bell & Gossette NBF-36 recirculation pump on the domestic hot water system. The pump appears to be in good condition.

B. The kitchen has a separate hot water system. The hot water system is located in the mechanical room adjacent to the kitchen. The water heater is a Bradford White Model M2TW75T6BN, gas-fired, 75-gallon water heater. The water heater is in fair condition. A single tank Addie water softener provides conditioned water for the water heater. The softening system appears to be in good condition. There is no hot water recirculation on this system.

C. The Hobart commercial dishwasher has an electric booster heater. It is an AM-14 booster heater. Both units are in fair condition.

D. There is a sump pump installed in the basement boiler room. The system appears to be in good working condition.

E. The basement at the south building addition contains several sump pumps. The pumps appear to be in good working condition.

Recommendations

A. The existing hot water systems are in good condition and can remain.

B. The existing water softening systems are in good condition and can remain.

C. The existing kitchen booster heater is in good condition and can remain.

D. Provide continued maintenance on the building sump pumps.

Building Water Heater

Building Water Softener

Recirculation Pump

Kitchen Water Heater

Kitchen Water Softener

Dishwasher Booster Heater

Basement Sump Pump

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New Glarus Elementary School Building Study
New Glarus, WI

Plumbing Fixtures

Observations

A. The existing plumbing fixtures in the building are a combination of various styles and ages. Most of the fixtures are original to the building age in which they were installed. Some of the fixtures have been replaced with newer water efficient and ADA compliant fixtures.

B. The water closets are floor set or wall hung with a hand operated flush valve. The fixtures vary in age and are in fair to good condition.

C. The urinals in the building are floor set with sensor operated flush valves. The urinals are ADA compliant, but do not appear to be water conserving. The fixtures are in fair condition.

D. The main toilet room lavatories are solid surface 2-station washfountains that are sensor activated. Other lavatories in the building are wall hung with multiple styles of faucets. The fixtures vary in age and are in fair condition.

E. The drinking fountains in the building are wall hung electric water coolers. Most of the units are ADA compliant and are in good condition. Some of the drinking fountains have been replaced with wall hung electric water coolers with bottle fillers. The fixtures are in good condition.

F. The janitor's sinks in the building are floor set service sinks with wall mounted service sink faucets with elevated vacuum breaker. The fixtures are old and in fair condition.

G. The classroom sinks are single bowl, stainless steel drop-in sinks with gooseneck faucet and drinking fountain fitting. The fixtures are in fair condition.

H. The Art Room sinks are a large trough-type single bowl, stainless steel drop-in sink with several faucets. There is a solids trap on the waste piping. The fixtures are in good condition.

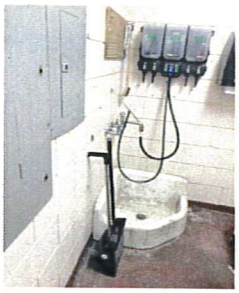
Water Closets

Water Closet 2

Urinals

Main Toilet Room Lavatories

Bottle Filler



Mop Sink

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New Glarus Elementary School Building Study
New Glarus, WI

Recommendations

A. The water closets should be replaced with new water conserving and ADA compliant fixtures.

B. The urinals should be replaced with new water conserving and ADA compliant fixtures. Floor mount urinals should be replaced with wall hung urinals.

C. The lavatories should be replaced with new water conserving and ADA compliant fixtures.

Classroom Sink

Art Room Sink

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