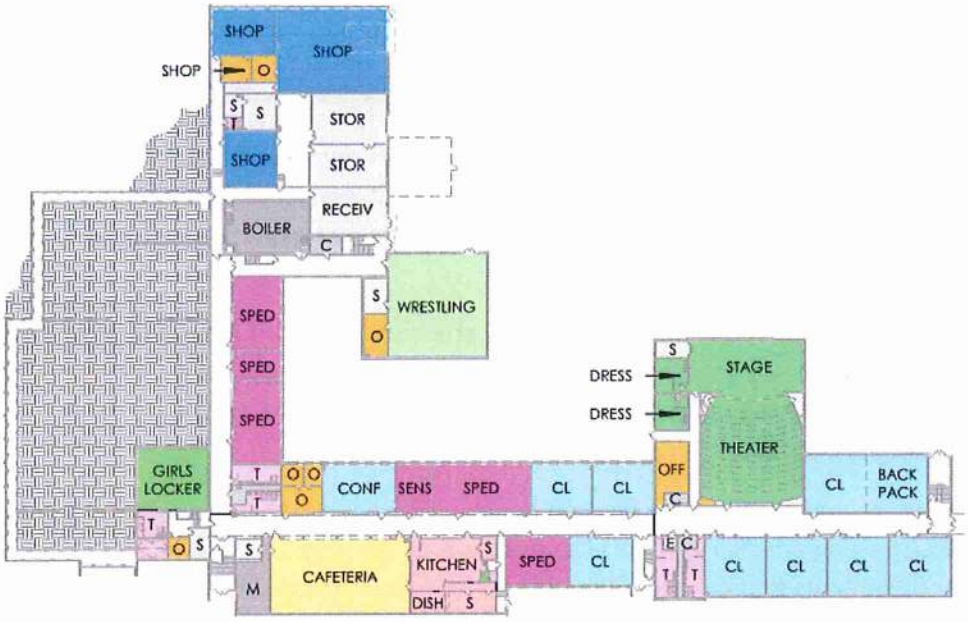
Space Utilization and Educational Adequacy

Apex APEX FACILITY SOLUTIONS
DEVETTER DESIGN GROUP

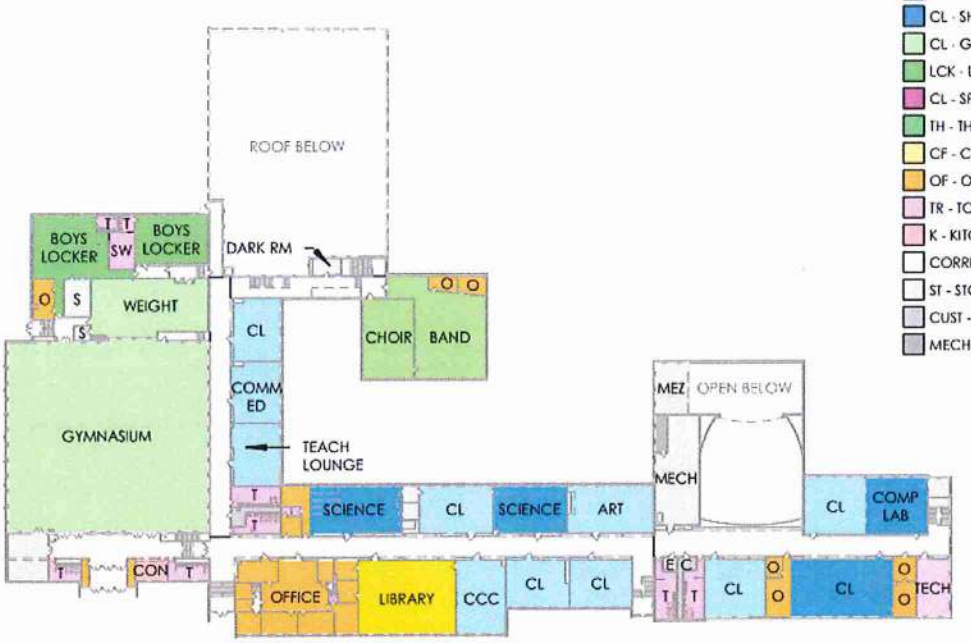
Junior/Senior High School

MADELIA HIGH SCHOOL

ROOM CATEGORIES



HIGH SCHOOL - MAIN LEVEL - ROOM CATEGORIES



HIGH SCHOOL - UPPER LEVEL - ROOM CATEGORIES

ROOM CATEGORIES

- CL - GENERAL
- CL - SHOP/ TECH
- CL - GYM / FITNESS
- LCK - LOCKER
- CL - SPED
- TH - THEATER
- CF - CAFETERIA
- OF - OFFICE
- TR - TOILETS / RESTROOMS
- K - KITCHEN
- CORRIDOR
- ST - STORAGE
- CUST - CUSTODIAN
- MECH / ELECT

Space Utilization Study

As buildings age, educational pedagogy changes, and school districts experience swings in enrollment, school leaders are forced to adapt how they use their facilities. This is compounded by the fact that many of these school buildings were built 60-70 years ago when education standards were different. Most of the time, school districts adapt to these changes without a major capital improvement project. This can lead to inefficiencies in the use of the building because new programs are forced to fit into existing classrooms that were built for different uses.

The following space occupancy study identifies how the students are utilizing the education spaces throughout the day. It graphically shows how efficiently the building is being utilized and identifies potential areas of the building that can be used more effectively. The following data is from the class schedule from the spring of 2022.

Areas shown in blue are areas that do not have students in them during the period of the day the drawing identifies. The diagram also indicates classrooms that are scheduled but not fully utilized based upon the number of students that can adequately fit in the space. The student occupancy is compared to the Minnesota Department of Education Space Square Footage Guidelines.

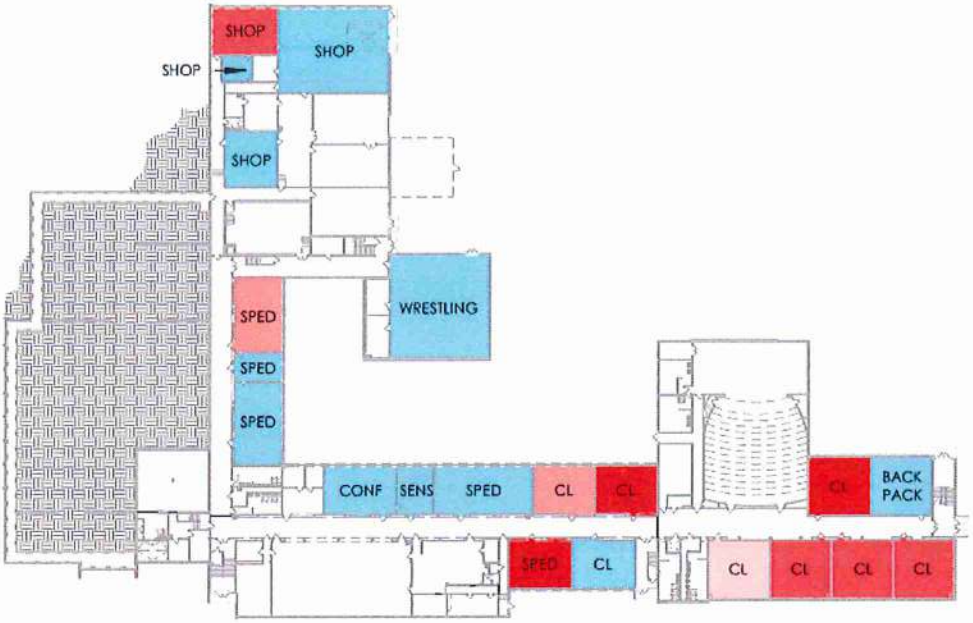
As you review the drawings, you will see that large portions of the educational space are underutilized or not utilized. This indicates that classroom spaces are not being used efficiently and there may be opportunities to use those spaces for other educational purposes.

HIGH SCHOOL - CLASSROOM SCHEDULE - SPRING 2022

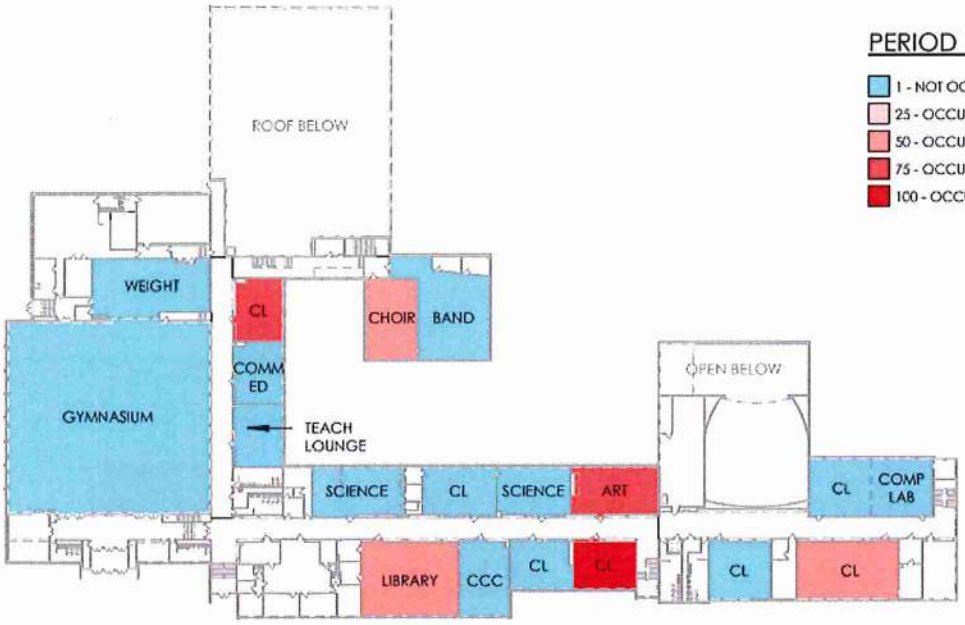
Madelia High School Classroom Use

Notes:
Number of students for each period in classroom
Preps are in classrooms

Teacher	Room/Tm	8:05 - 8:20 BHT	8:24 - 9:06 Period 1	9:10 - 9:52 Period 2	9:56 - 10:38 Period 3	10:42 - 11:24 Period 4	11:28-12:44 Period 5	12:48 - 1:30 Period 6	1:34 - 2:16 Period 7	2:20 - 3:02 Period 8	
Bauman	122	16	15 Prep		25	10 Prep		18	25	4	
Becker	120	17	17	26	15	25 Prep		7	4 Prep		
Berg	114		11 Prep		9	8	6	5	12	3	
Bergeinon	216	16	22	23	21 Prep		25 Prep		22	21	
Caldwell	115	24	10 Prep		21 Prep		6	19	18	10	
Carpenter	217	Prep					16	17 Prep			Uses classroom and gym
Carpenter	Gym			23		20					
Crow	124	19	16	14	25	15	18 Prep		24	12	
Degner	103		7 Prep		9	5	7	3 Prep		6	
Goetz	117/Gym	16	27	22 Prep		24	20	16 Prep		23	Uses 117 for Health and Gym for PE - alternates (schedule varies)
Harstad	201		9	16	18						
Hernandez	203	24	15 Prep		8 Prep		18	12	14	6	
Larsen	113	17	7	16	8 Prep		20	23	2	24	
Lensing	116	24 Prep		13	22	24	22	23 Prep		22	
Runck	217	Prep		13	25	6	22	7 Prep		4	
Sackreiter	211					16	18	23	27 Prep		
Sackreiter	109	15	6	15 Prep							
Schlager	219	10 Prep		12	11	23	21 Prep		9	19	
Schumacher	215	16	11	12	19 Prep	Prep		21	12	6	
Tatro	220	17	23	25 Prep		16 Prep		17	6	24	
Thoelke	101	14 Prep			11 Prep		5	6	13		Uses two rooms
Thoelke	221			19						23	
Zimmerman	203					31	32 Prep				
Wrightson	105	Prep		3 Prep		1	2	9	6	6	
Study Hall	121		26	11	29	23		15	32	22	
Study Hall	Library		19	4	15		12	7	29	3	



HIGH SCHOOL - MAIN LEVEL - PERIOD 1

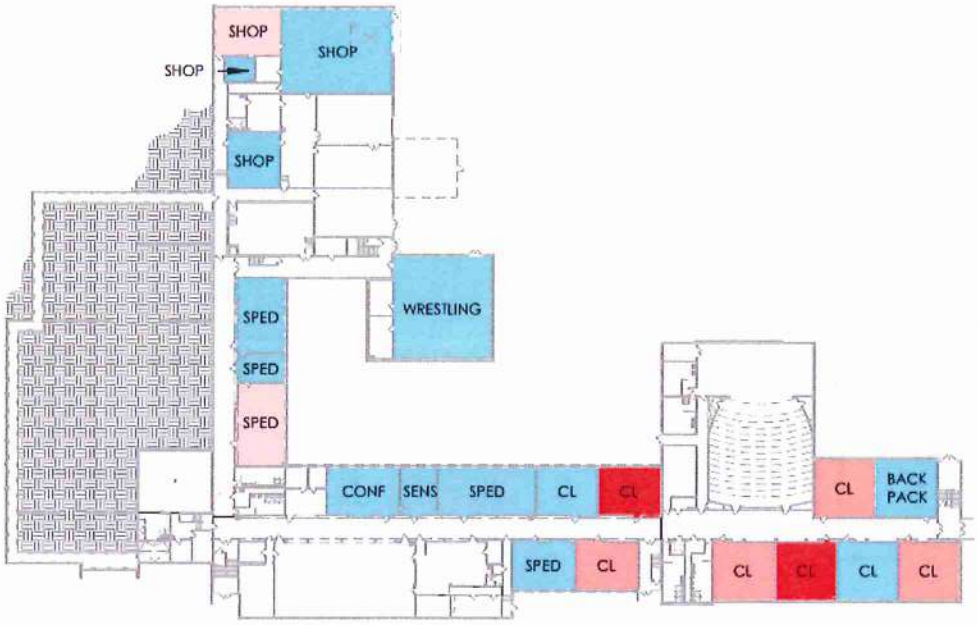


HIGH SCHOOL - UPPER LEVEL - PERIOD 1

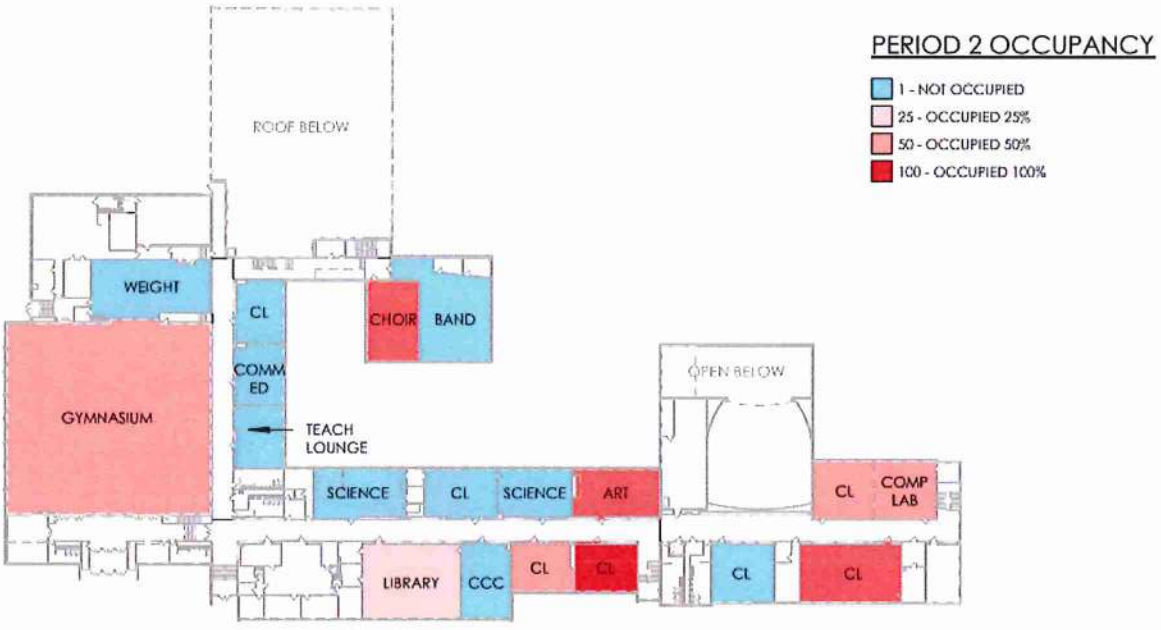
SPACE UTILIZATION AND EDUCATIONAL ADEQUACY

MADELIA HIGH SCHOOL

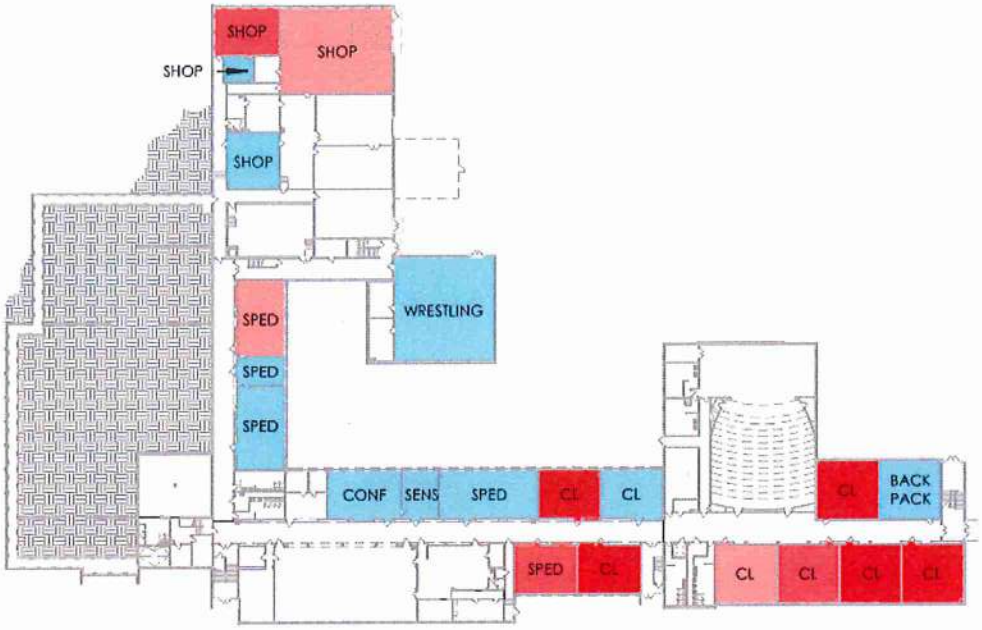
BUILDING EDUCATIONAL SPACE UTILIZATION - PER PERIOD



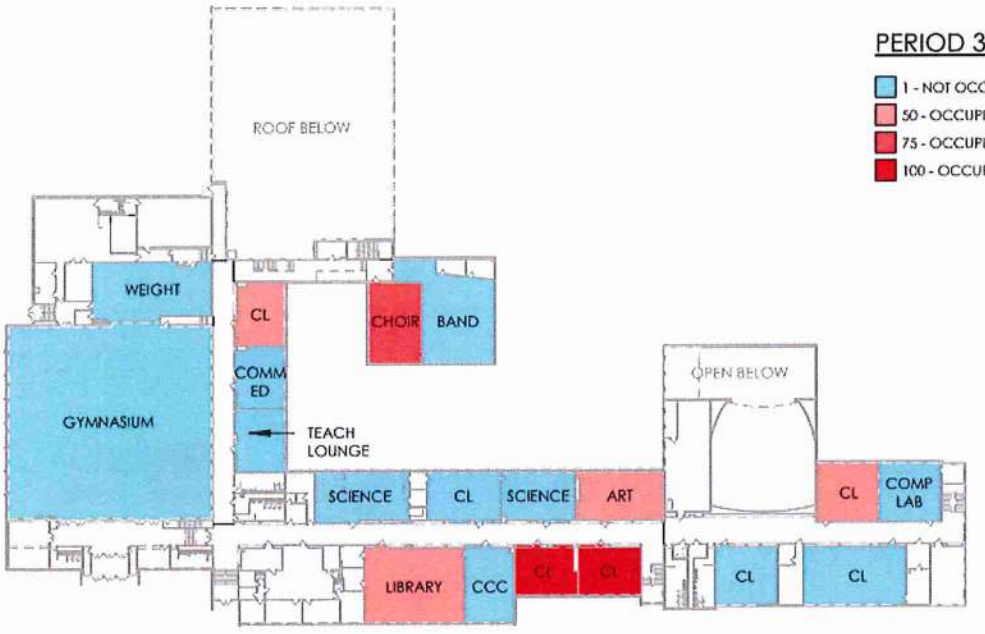
HIGH SCHOOL - MAIN LEVEL - PERIOD 2



HIGH SCHOOL - UPPER LEVEL - PERIOD 2



HIGH SCHOOL - MAIN LEVEL - PERIOD 3

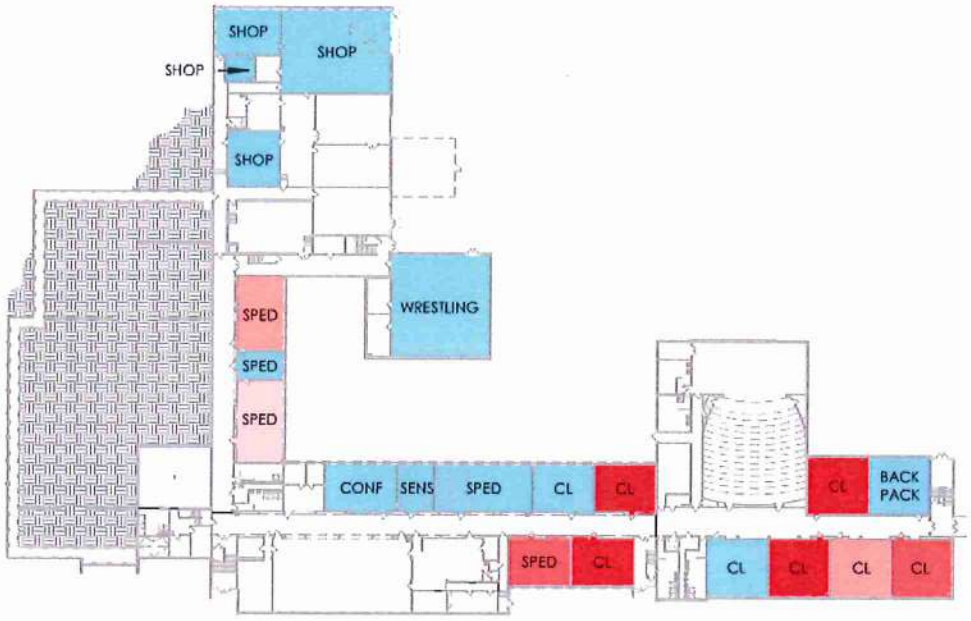


HIGH SCHOOL - UPPER LEVEL - PERIOD 3

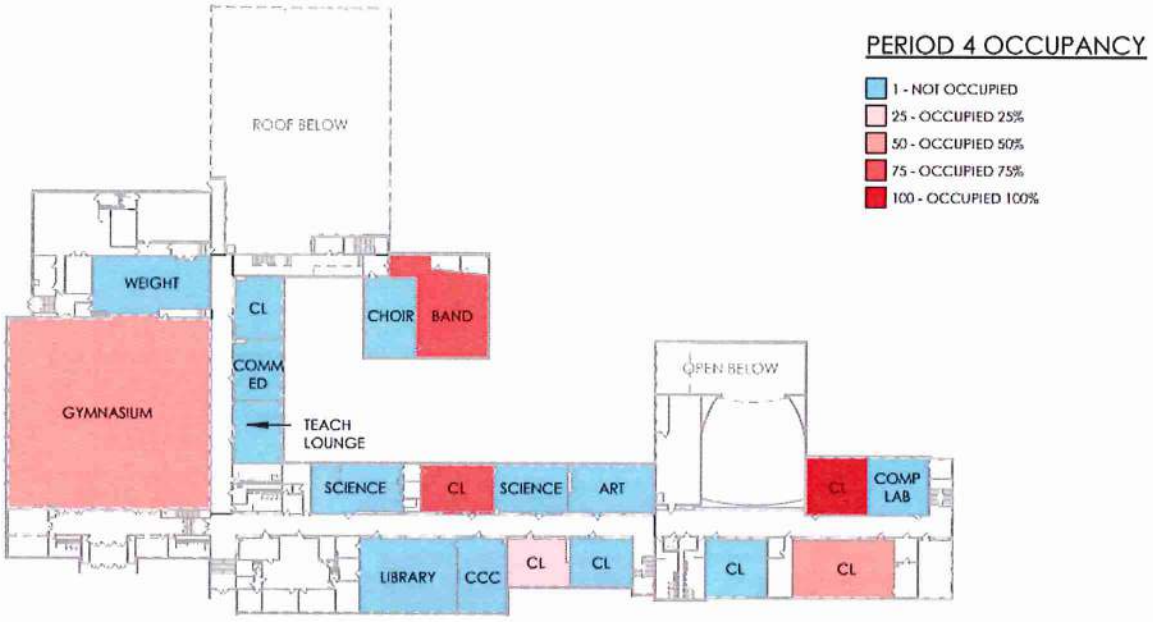
SPACE UTILIZATION AND EDUCATIONAL ADEQUACY

MADELIA HIGH SCHOOL

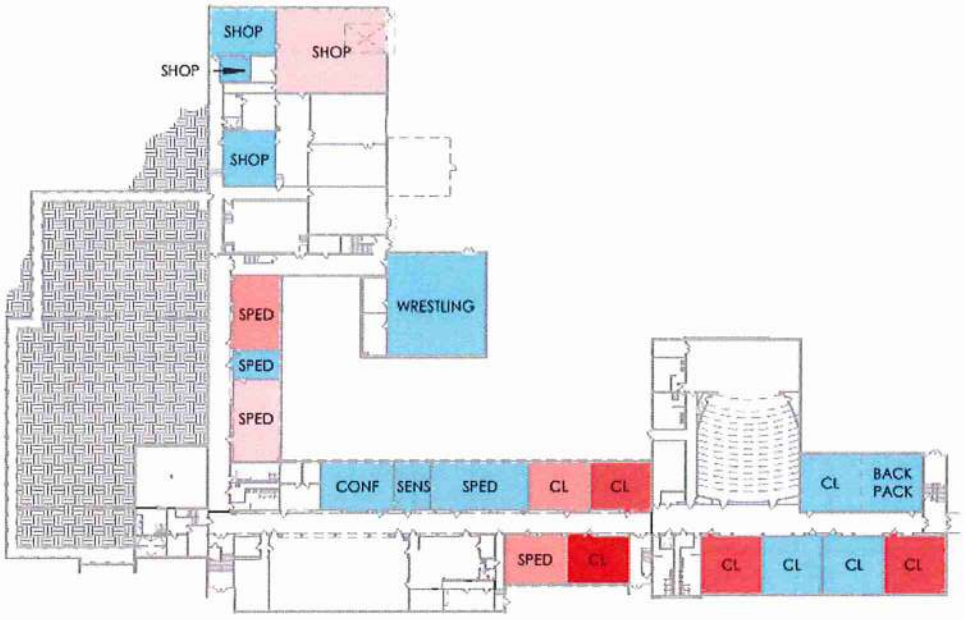
BUILDING EDUCATIONAL SPACE UTILIZATION - PER PERIOD



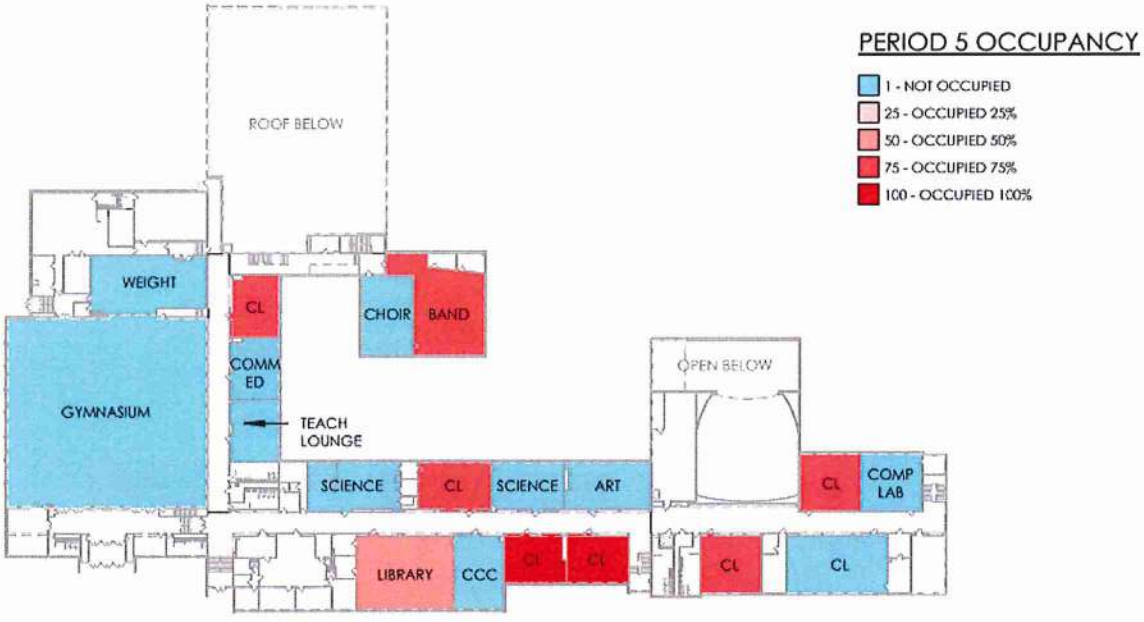
HIGH SCHOOL - MAIN LEVEL - PERIOD 4



HIGH SCHOOL - UPPER LEVEL - PERIOD 4



HIGH SCHOOL - MAIN LEVEL - PERIOD 5

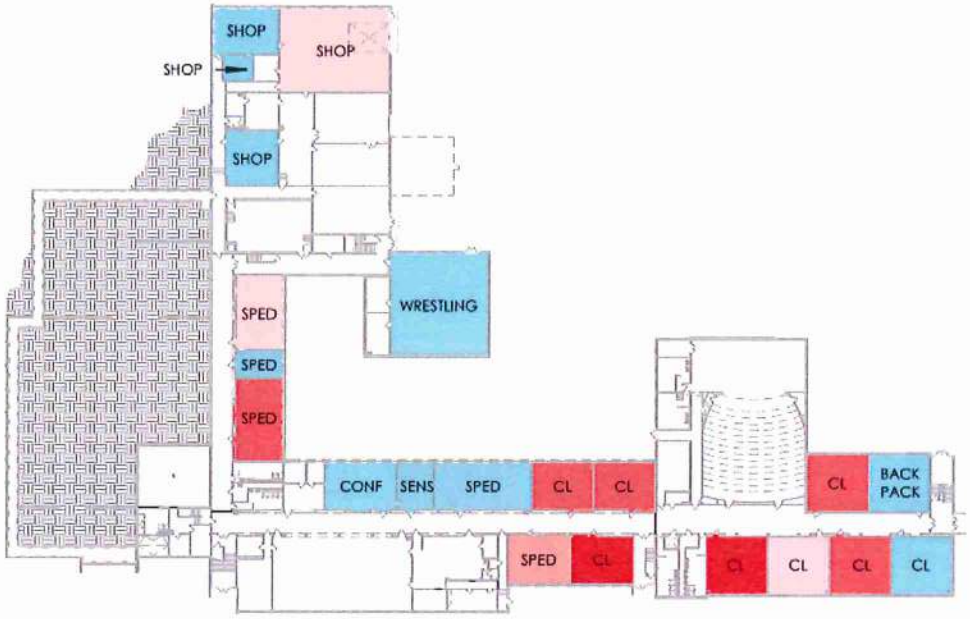


HIGH SCHOOL - UPPER LEVEL - PERIOD 5

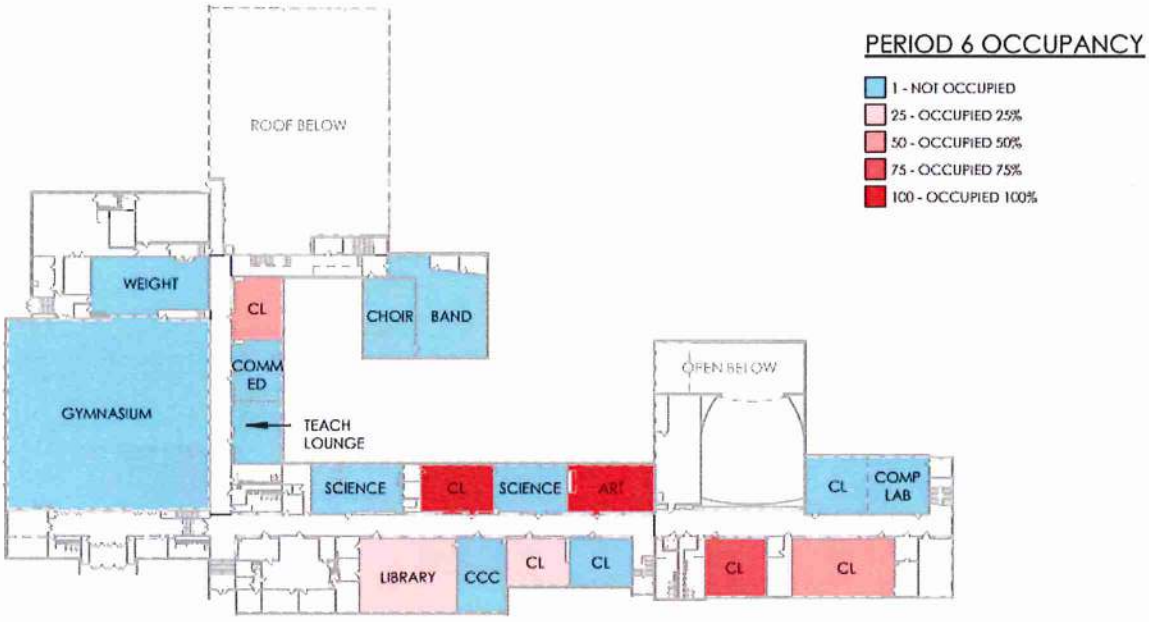
SPACE UTILIZATION AND EDUCATIONAL ADEQUACY

MADELIA HIGH SCHOOL

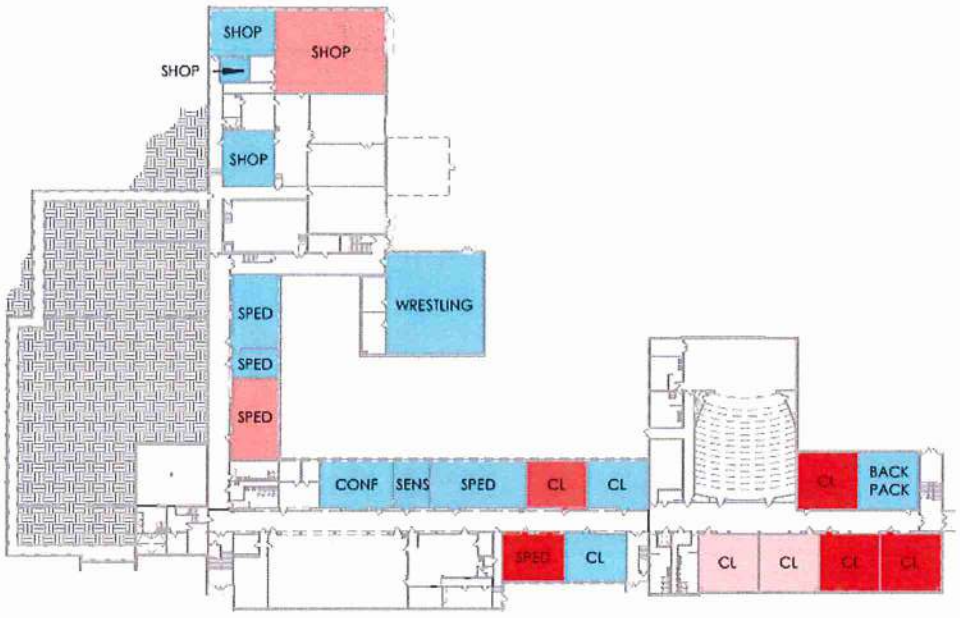
BUILDING EDUCATIONAL SPACE UTILIZATION - PER PERIOD



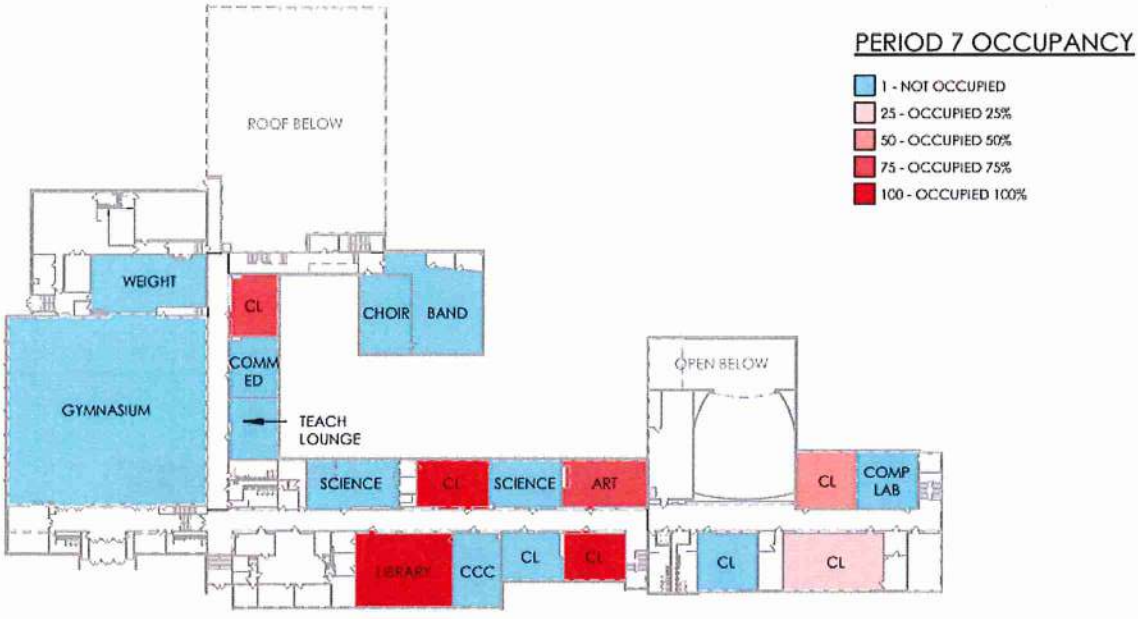
HIGH SCHOOL - MAIN LEVEL - PERIOD 6



HIGH SCHOOL - UPPER LEVEL - PERIOD 6



HIGH SCHOOL - MAIN LEVEL - PERIOD 7

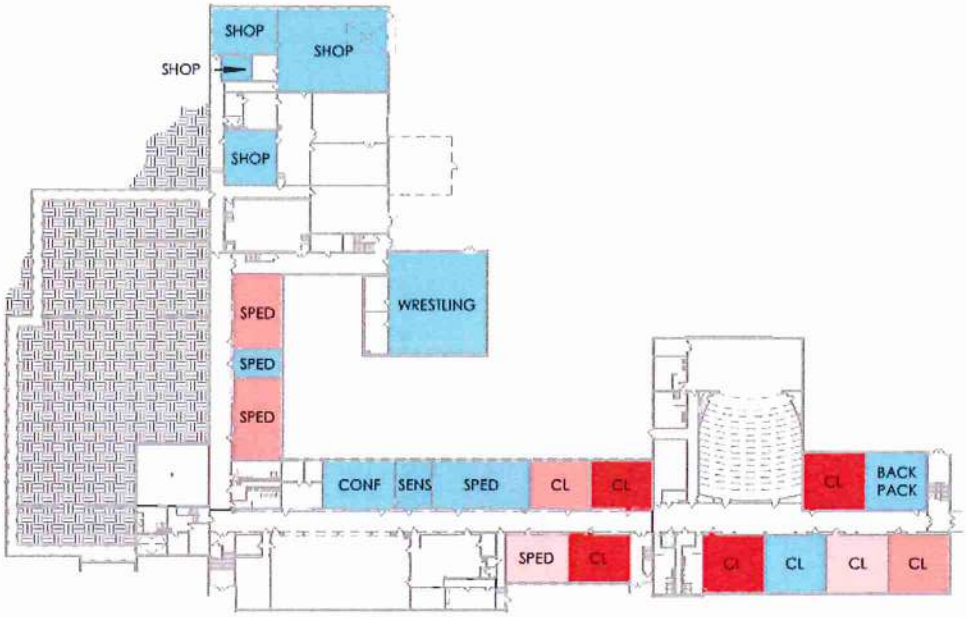


HIGH SCHOOL - UPPER LEVEL - PERIOD 7

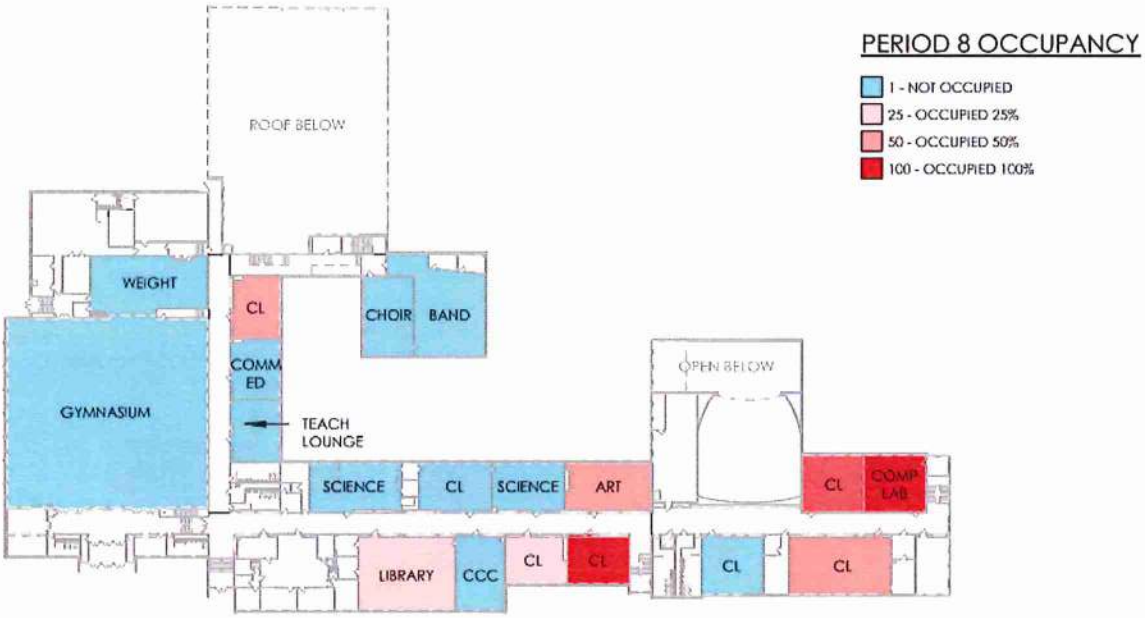
SPACE UTILIZATION AND EDUCATIONAL ADEQUACY

MADELIA HIGH SCHOOL

BUILDING EDUCATIONAL SPACE UTILIZATION - PER PERIOD



HIGH SCHOOL - MAIN LEVEL - PERIOD 8



HIGH SCHOOL - UPPER LEVEL - PERIOD 8

Educational Space & Size Adequacy - Based on Gross Area

Many of the educational spaces in the high school/middle school do not meet today's standard for classroom size because they were built 60-70 years ago when educational standards were different. The following study identifies which classrooms do, and do not, meet the minimum classroom size established by the Minnesota Department of Educational Guidelines. This study is based strictly on classroom area. The study gives us an understanding of how the classroom sizes relate to current education guidelines independent of the number of students in each space.

The result of this study seems to indicate that most of the classrooms are undersized. This would be true if the classrooms contained the 20-28 students indicated in the guidelines. However, most of the classrooms are being utilized by far fewer students than the standard classroom size. Based on the current classroom schedule, many of the classrooms are adequately sized for the number of students using them.

***1 - MINNESOTA STATE GUIDELINE TABLE - EDUCATIONAL SPACES**

MINNESOTA STATE GUIDELINES - SQUARE FOOTAGE PER STUDENT - *HIGH SCHOOL*			
LEARNING SPACE	**CLASSROOM AREA**	**NUMBER OF STUDENTS**	**AREA AVERAGE PER STUDENT**
CLASSROOMS	850 S.F. - 950 S.F.	20 - 28 - STUDENTS	**34 S.F. / 1 STUDENT**
SCIENCE	1,200 S.F. - 1,500 S.F.	20 - 28 - STUDENTS	**54 S.F. / 1 STUDENT**
ART	1,200 S.F. - 1,500 S.F.	20 - 28 - STUDENTS	**54 S.F. / 1 STUDENT**
SHOP/ TECH	2,000 S.F. - 3,000 S.F.	25 - 25 - STUDENTS	**120 S.F. / 1 STUDENT**
COMPUTER LAB	1,000 S.F. - 1,400 S.F.	20 - 30 - STUDENTS	**47 S.F. / 1 STUDENT**
BAND	2,000 S.F. - 2,500 S.F.	60 - 75 - STUDENTS	**33 S.F. / 1 STUDENT**
CHOIR	1,500 S.F. - 1,800 S.F.	60 - 75 - STUDENTS	**24 S.F. / 1 STUDENT**
SPED (SMALL)	450 S.F. - 450 S.F.	5 - 8 - STUDENTS	**56 S.F. / 1 STUDENT**
SPED (LARGE)	800 S.F. - 1,200 S.F.	5 - 8 - STUDENTS	**150 S.F. / 1 STUDENT**
LIBRARY	1,200 S.F. - 1,200 S.F.	30 - 30 - STUDENTS	**40 S.F. / 1 STUDENT**
GYMNASIUM	6,000 S.F. - 7,000 S.F.	20 - 28 - STUDENTS	**250 S.F. / 1 STUDENT**
WEIGHT ROOM	2,000 S.F. - 4,000 S.F.	20 - 28 - STUDENTS	**143 S.F. / 1 STUDENT**
WRESTLING ROOM	3,200 S.F. - 7,200 S.F.	20 - 28 - STUDENTS	**257 S.F. / 1 STUDENT**

SPACE UTILIZATION AND EDUCATIONAL ADEQUACY

MADELIA HIGH SCHOOL

EDUCATIONAL SPACE & SIZE ADEQUACY - BASED ON GROSS AREA

HIGH SCHOOL - MAIN LEVEL - ROOM NUMBERS

MN STATE GUIDELINES - CLASSROOM SQUARE FOOTAGE - MAIN LEVEL

NUMBER	NAME	LEVEL	AREA	MN STATE GUIDELINES AREA	AREA SURPLUS / DEFICIT
100	AG. / WELDING SHOP	MAIN LEVEL	749 SF	850 S.F.	- 101 S.F.
101	WOODS & METAL SHOP	MAIN LEVEL	2214 SF	2,000 S.F.	+ 214 S.F
101A	WOODS CLASSROOM/SHOP	MAIN LEVEL	686 SF	850 S.F.	- 164 S.F.
102	WRESTLING ROOM	MAIN LEVEL	2400 SF	3,200 S.F.	- 800 S.F.
103	SPECIAL ED. CLASSROOM	MAIN LEVEL	866 SF	800 S.F.	+ 66 S.F.
104	SPECIAL ED. STORAGE	MAIN LEVEL	325 SF	450 S.F.	- 125 S.F.
105	SPECIAL ED. CLASSROOM	MAIN LEVEL	946 SF	800 S.F.	+ 146 S.F.
109	CONFERENCE/ CLASSROOM	MAIN LEVEL	836 SF	850 S.F.	- 14 S.F.
111	SENSORY	MAIN LEVEL	411 SF	450 S.F.	- 39 S.F.
113	SPED L.S./ STAFF LOUNGE	MAIN LEVEL	1101 SF	800 S.F.	+ 301 S.F
114	SPECIAL ED. CLASSROOM	MAIN LEVEL	728 SF	800 S.F.	- 72 S.F.
115	CLASSROOM	MAIN LEVEL	697 SF	850 S.F.	- 153 S.F.
116	CLASSROOM	MAIN LEVEL	716 SF	850 S.F.	- 134 S.F.
117	CLASSROOM	MAIN LEVEL	699 SF	850 S.F.	- 151 S.F.
118	CLASSROOM	MAIN LEVEL	839 SF	850 S.F.	- 11 S.F.
120	CLASSROOM	MAIN LEVEL	835 SF	850 S.F.	- 15 S.F.
121	STUDY HALL / CLASSROOM	MAIN LEVEL	838 SF	850 S.F.	- 12 S.F.
122	CLASSROOM	MAIN LEVEL	835 SF	850 S.F.	- 15 S.F.
123	BACKPACK/ STUDENT F.S.	MAIN LEVEL	839 SF	850 S.F.	- 11 S.F.
124	CLASSROOM	MAIN LEVEL	839 SF	850 S.F.	- 11 S.F.

HIGH SCHOOL - UPPER LEVEL - ROOM NUMBERS

MN STATE GUIDELINES - CLASSROOM SQUARE FOOTAGE- UPPER LEVEL					
NUMBER	NAME	LEVEL	AREA	MN STATE GUIDELINES AREA	AREA SURPLUS / DEFICIT
200	BAND	UPPER LEVEL	1642 SF	2,000 S.F.	- 358 S.F.
201	CHOIR	UPPER LEVEL	965 SF	1,500 S.F.	- 535 S.F.
203	CLASSROOM	UPPER LEVEL	705 SF	850 S.F.	- 145 S.F.
204	COMMUNITY ED. / YOUTH SPORTS OFFICE	UPPER LEVEL	698 SF	850 S.F.	- 152 S.F.
205	TEACHER'S LOUNGE/ CLASSROOM	UPPER LEVEL	728 SF	850 S.F.	- 122 S.F.
209	CHEMISTRY LAB	UPPER LEVEL	1068 SF	1,200 S.F.	- 132 S.F.
210	LIBRARY	UPPER LEVEL	1720 SF	1,200 S.F.	+ 520 S.F.
211	CLASSROOM	UPPER LEVEL	845 SF	850 S.F.	- 5 S.F.
212	CCC LAB	UPPER LEVEL	862 SF	850 S.F.	+ 12 S.F.
213	BIOLOGY LAB	UPPER LEVEL	829 SF	1,200 S.F.	- 371 S.F.
214	CLASSROOM	UPPER LEVEL	703 SF	850 S.F.	- 147 S.F.
215	ART CLASSROOM	UPPER LEVEL	946 SF	1,200 S.F.	- 254 S.F.
216	CLASSROOM	UPPER LEVEL	711 SF	850 S.F.	- 139 S.F.
217	CLASSROOM	UPPER LEVEL	839 SF	850 S.F.	- 11 S.F.
219	CLASSROOM	UPPER LEVEL	834 SF	850 S.F.	- 16 S.F.
220	SCIENCE LAB	UPPER LEVEL	1395 SF	1,200 S.F.	+ 195 S.F
221	COMPUTER LAB	UPPER LEVEL	844 SF	1,000 S.F.	- 156 S.F.
224	GYMNASIUM	UPPER LEVEL	9065 SF	6,000 S.F.	+ 3,065 S.F.
235	WEIGHT ROOM	UPPER LEVEL	1534 SF	2,000 S.F.	- 466 S.F.

Educational Space & Size Adequacy - Based on Area per Student

The data from the space and size adequacy study indicates that many of the classrooms are being scheduled during the day, but they are not fully occupied based on the SF/student guidelines from the Minnesota Department of Education.

The following study looks at the relationship of classrooms to standards based on the area per student guidelines. You will see that although the classrooms are undersized based on strictly area/classroom, there are more classrooms adequately sized based on area/student.

The result of this study suggests, based on the current enrollment and how the classrooms are utilized, that the classrooms could be more efficiently used if the if there were multiple sized classrooms. This would allow the district to schedule smaller classes in the smaller classrooms which would allow more classroom space for larger classes or alternative learning experiences.

***1 - MINNESOTA STATE GUIDELINE TABLE - EDUCATIONAL SPACES**

MINNESOTA STATE GUIDELINES - SQUARE FOOTAGE PER STUDENT - *HIGH SCHOOL*

LEARNING SPACE	CLASSROOM AREA	NUMBER OF STUDENTS	AREA AVERAGE PER STUDENT
CLASSROOMS	850 S.F. - 950 S.F.	20 - 28 - STUDENTS	**34 S.F. / 1 STUDENT**
SCIENCE	1,200 S.F. - 1,500 S.F.	20 - 28 - STUDENTS	**54 S.F. / 1 STUDENT**
ART	1,200 S.F. - 1,500 S.F.	20 - 28 - STUDENTS	**54 S.F. / 1 STUDENT**
SHOP/ TECH	2,000 S.F. - 3,000 S.F.	25 - 25 - STUDENTS	**120 S.F. / 1 STUDENT**
COMPUTER LAB	1,000 S.F. - 1,400 S.F.	20 - 30 STUDENTS	**47 S.F. / 1 STUDENT**
BAND	2,000 S.F. - 2,500 S.F.	60 - 75 - STUDENTS	**33 S.F. / 1 STUDENT**
CHOIR	1,500 S.F. - 1,800 S.F.	60 - 75 STUDENTS	**24 S.F. / 1 STUDENT**
SPED (SMALL)	450 S.F. - 450 S.F.	5 - 8 - STUDENTS	**56 S.F. / 1 STUDENT**
SPED (LARGE)	800 S.F. - 1,200 S.F.	5 - 8 - STUDENTS	**150 S.F. / 1 STUDENT**
LIBRARY	1,200 S.F. - 1,200 S.F.	30 - 30 - STUDENTS	**40 S.F. / 1 STUDENT**
GYMNASIUM	6,000 S.F. - 7,000 S.F.	20 - 28 - STUDENTS	**250 S.F. / 1 STUDENT**
WEIGHT ROOM	2,000 S.F. - 4,000 S.F.	20 - 28 - STUDENTS	**143 S.F. / 1 STUDENT**
WRESTLING ROOM	3,200 S.F. - 7,200 S.F.	20 - 28 - STUDENTS	**257 S.F. / 1 STUDENT**

HIGH SCHOOL - MAIN LEVEL - ROOM NUMBERS

MADELIA HIGH SCHOOL - CLASSROOM SQUARE FOOTAGE - MAIN LEVEL							
NUMBER	NAME	LEVEL	*AREA*	*AREA/ STUDENT GUIDELINES* *1 - CALCULATED FROM MN STATE GUIDELINE TABLE	MAX # OF STUDENTS SCHEDULED THROUGH-OUT THE DAY	STUDENTS SCHEDULED x SQUARE FOOTAGE / STUDENT	*AREA SURPLUS / DEFICIT*
100	AG. / WELDING SHOP	MAIN LEVEL	*749 SF*	34 S.F. / 1 STUDENT	15 STUDENTS	510 S.F.	+ 239 S.F.
101	WOODS & METAL SHOP	MAIN LEVEL	*2214 SF*	120 S.F. / 1 STUDENT	13 STUDENTS	1,560 S.F.	+ 654 S.F.
101A	WOODS CLASSROOM/SHOP	MAIN LEVEL	*686 SF*	34 S.F. / 1 STUDENT	0 STUDENTS	0 S.F.	+ 686 S.F.
102	WRESTLING ROOM	MAIN LEVEL	*2400 SF*	257 S.F. / 1 STUDENT	0 STUDENTS	0 S.F.	+ 2,400 S.F.
103	SPECIAL ED. CLASSROOM	MAIN LEVEL	*866 SF*	150 S.F. / 1 STUDENT	8 STUDENTS	1,200 S.F.	- 334 S.F.
104	SPECIAL ED. STORAGE	MAIN LEVEL	*325 SF*	56 S.F. / 1 STUDENT	0 STUDENTS	0 S.F.	+ 325 S.F.
105	SPECIAL ED. CLASSROOM	MAIN LEVEL	*946 SF*	150 S.F. / 1 STUDENT	9 STUDENTS	1,350 S.F.	- 404 S.F.
109	CONFERENCE/ CLASSROOM	MAIN LEVEL	*836 SF*	34 S.F. / 1 STUDENT	0 STUDENTS	0 S.F.	+ 836 S.F.
111	SENSORY	MAIN LEVEL	*411 SF*	56 S.F. / 1 STUDENT	0 STUDENTS	0 S.F.	+ 411 S.F.
113	SPED L.S./ STAFF LOUNGE	MAIN LEVEL	*1101 SF*	150 S.F. / 1 STUDENT	0 STUDENTS	0 S.F.	+ 1,101 S.F.
114	SPECIAL ED. CLASSROOM	MAIN LEVEL	*728 SF*	150 S.F. / 1 STUDENT	12 STUDENTS	1,800 S.F.	- 1,072 S.F.
115	CLASSROOM	MAIN LEVEL	*697 SF*	34 S.F. / 1 STUDENT	21 STUDENTS	714 S.F.	- 17 S.F.
116	CLASSROOM	MAIN LEVEL	*716 SF*	34 S.F. / 1 STUDENT	24 STUDENTS	816 S.F.	- 100 S.F.
117	CLASSROOM	MAIN LEVEL	*699 SF*	34 S.F. / 1 STUDENT	27 STUDENTS	918 S.F.	- 219 S.F.
118	CLASSROOM	MAIN LEVEL	*839 SF*	34 S.F. / 1 STUDENT	24 STUDENTS	816 S.F.	+ 23 S.F.
120	CLASSROOM	MAIN LEVEL	*835 SF*	34 S.F. / 1 STUDENT	26 STUDENTS	884 S.F.	- 49 S.F.
121	STUDY HALL / CLASSROOM	MAIN LEVEL	*838 SF*	34 S.F. / 1 STUDENT	32 STUDENTS	1,088 S.F.	- 250 S.F.
122	CLASSROOM	MAIN LEVEL	*835 SF*	34 S.F. / 1 STUDENT	26 STUDENTS	884 S.F.	- 49 S.F.
123	BACKPACK/ STUDENT F.S.	MAIN LEVEL	*839 SF*	34 S.F. / 1 STUDENT	0 STUDENTS	0 S.F.	+ 839 S.F.
124	CLASSROOM	MAIN LEVEL	*839 SF*	34 S.F. / 1 STUDENT	25 STUDENTS	850 S.F.	11 S.F.

SPACE UTILIZATION AND EDUCATIONAL ADEQUACY

MADELIA HIGH SCHOOL — EDUCATIONAL SPACE & SIZE ADEQUACY - BASED ON AREA PER STUDENT

HIGH SCHOOL - UPPER LEVEL - ROOM NUMBERS

MADELIA HIGH SCHOOL - CLASSROOM SQUARE FOOTAGE - UPPER LEVEL

NUMBER	NAME	LEVEL	*AREA*	*AREA/ STUDENT GUIDELINES* *1 - CALCULATED FROM MN STATE GUIDELINE TABLE	MAX # OF STUDENTS SCHEDULED THROUGH-OUT THE DAY	STUDENTS SCHEDULED x SQUARE FOOTAGE / STUDENT	*AREA SURPLUS / DEFICIT*
200	BAND	UPPER LEVEL	***1642 SF***	33 S.F. / 1 STUDENT	32 STUDENTS	1,056 S.F.	+ 586 S.F.
201	CHOIR	UPPER LEVEL	***965 SF***	24 S.F. / 1 STUDENT	16 STUDENTS	384 S.F.	+ 581 S.F.
203	CLASSROOM	UPPER LEVEL	***705 SF***	34 S.F. / 1 STUDENT	18 STUDENTS	612 S.F.	+ 93 S.F.
204	COMMUNITY ED. / YOUTH SPORTS OFFICE	UPPER LEVEL	***698 SF***	34 S.F. / 1 STUDENT	0 STUDENTS	0 S.F.	+ 698 S.F.
205	TEACHER'S LOUNGE/ CLASSROOM	UPPER LEVEL	***728 SF***	34 S.F. / 1 STUDENT	0 STUDENTS	0 S.F.	+ 728 S.F.
209	CHEMISTRY LAB	UPPER LEVEL	***1068 SF***	54 S.F. / 1 STUDENT	0 STUDENTS	0 S.F.	+ 1,068 S.F.
210	LIBRARY	UPPER LEVEL	***1720 SF***	40 S.F. / 1 STUDENT	29 STUDENTS	1,160 S.F.	+ 560 S.F.
211	CLASSROOM	UPPER LEVEL	***845 SF***	34 S.F. / 1 STUDENT	27 STUDENTS	918 S.F.	- 73 S.F.
212	CCC LAB	UPPER LEVEL	***862 SF***	34 S.F. / 1 STUDENT	0 STUDENTS	0 S.F.	+ 862 S.F.
213	BIOLOGY LAB	UPPER LEVEL	***829 SF***	54 S.F. / 1 STUDENT	0 STUDENTS	0 S.F.	+ 829 S.F.
214	CLASSROOM	UPPER LEVEL	***703 SF***	34 S.F. / 1 STUDENT	25 STUDENTS	850 S.F.	- 147 S.F.
215	ART CLASSROOM	UPPER LEVEL	***946 SF***	54 S.F. / 1 STUDENT	21 STUDENTS	1,134 S.F.	- 188 S.F.
216	CLASSROOM	UPPER LEVEL	***711 SF***	34 S.F. / 1 STUDENT	25 STUDENTS	850 S.F.	- 139 S.F.
217	CLASSROOM	UPPER LEVEL	***839 SF***	34 S.F. / 1 STUDENT	18 STUDENTS	612 S.F.	+ 227 S.F.
219	CLASSROOM	UPPER LEVEL	***834 SF***	34 S.F. / 1 STUDENT	23 STUDENTS	782 S.F.	+ 52 S.F.
220	SCIENCE LAB	UPPER LEVEL	***1395 SF***	54 S.F. / 1 STUDENT	25 STUDENTS	1,350 S.F.	+ 45 S.F.
221	COMPUTER LAB	UPPER LEVEL	***844 SF***	47 S.F. / 1 STUDENT	23 STUDENTS	1,081 S.F.	- 237 S.F.
224	GYMNASIUM	UPPER LEVEL	***9065 SF***	250 S.F. / 1 STUDENT	23 STUDENTS	5,750 S.F.	+ 3,315 S.F.
235	WEIGHT ROOM	UPPER LEVEL	***1534 SF***	143 S.F. / 1 STUDENT	0 STUDENTS	0 S.F.	+ 1,534 S.F.

Building Capacity Study

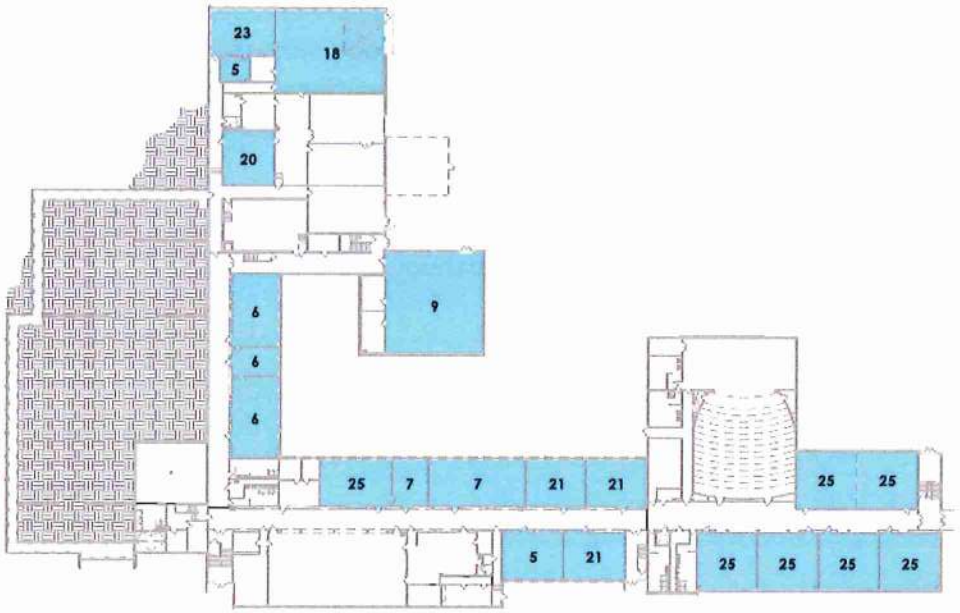
To get an understanding of the potential capacity of the high school/middle school, we determined the maximum density of the classrooms based on the Minnesota Department of Education Guidelines. We used the square foot/student numbers to develop the capacity of the school based on the current program usage of each classroom using the spring 2022 schedule.

The result of this study indicates that the school has enough capacity to incorporate alternate educational opportunities, additional grade levels, or expansion of desired programs.

SPACE UTILIZATION AND EDUCATIONAL ADEQUACY

MADELIA HIGH SCHOOL

BUILDING CAPACITY CALCULATED FROM MN STATE GUIDELINES



HIGH SCHOOL - MAIN LEVEL - EDUCATIONAL CLASSROOMS

DISTRICT OCCUPANCY STANDARD

HIGH SCHOOL CLASSROOM = 28 STUDENTS (MAXIMUM)

BUILDING CAPACITY STUDY

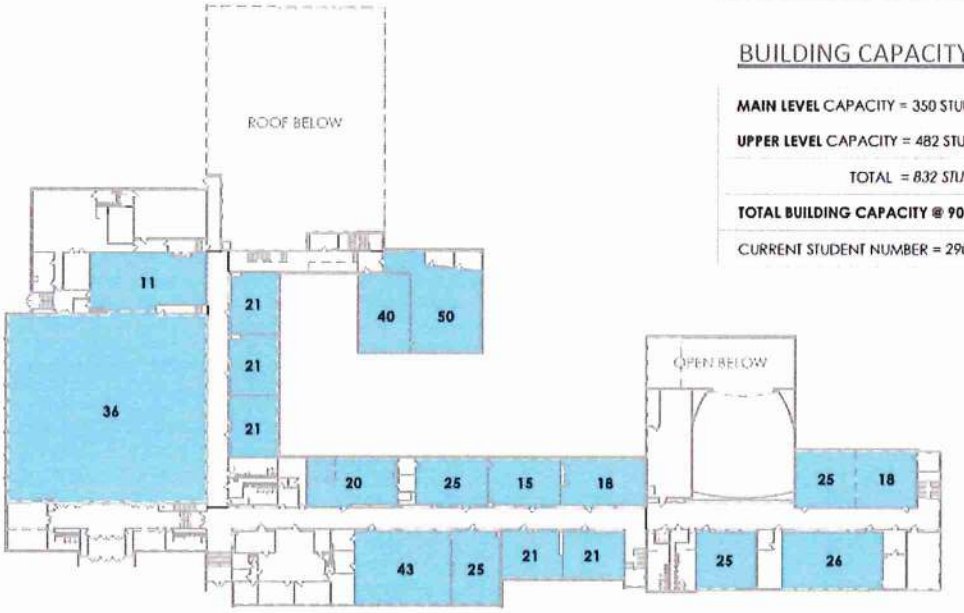
MAIN LEVEL CAPACITY = 350 STUDENTS

UPPER LEVEL CAPACITY = 482 STUDENTS

TOTAL = *832 STUDENTS*

TOTAL BUILDING CAPACITY @ 90% = *749 STUDENTS*

CURRENT STUDENT NUMBER = *290 STUDENTS*



HIGH SCHOOL - UPPER LEVEL - EDUCATIONAL CLASSROOMS

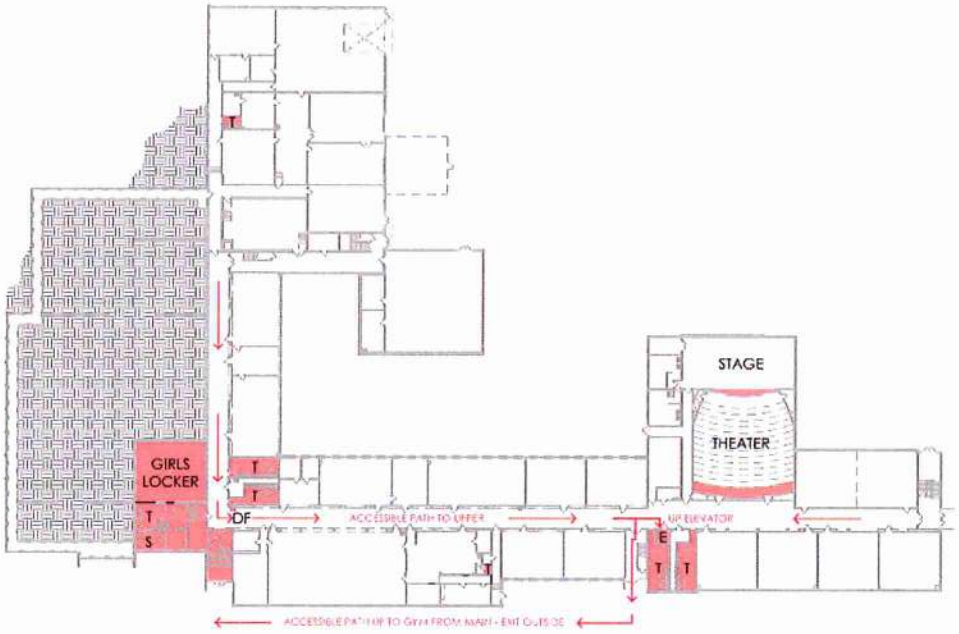
ADA Accessibility Compliance

The following study addresses the buildings ADA Accessibility Compliance. Americans with Disabilities Act (ADA) are regulations intended to make facilities more accessible to students and visitors with disabilities. This information was gathered from an on-site walk-through of the building. The areas identified on the drawings as deficient would need to be updated to meet current ADA code compliance.

From our walkthrough and analysis, we determined that the majority of the building **does not** meet ADA accessibility standards. Listed below are items of concern in the building:

- There are no ADA compliant toilet rooms in the building.
- There are no ADA compliant drinking fountains in the building.
- The majority of the building's door hardware is not ADA compliant.
- The majority of the boys and girls locker room areas are not ADA accessible from the school.
- The gymnasium areas are not ADA accessible from the school.
- The main entrance to the building is not ADA accessible.
- The elevator is not ADA compliant.
- There are no ADA compliant seats in the theater.
- There is no ADA accessible ramp/pathway onto the theater stage from the inside the theater.
- There are no ADA lab stations in the science rooms.

The majority of these issues would need to be addressed if any renovation work is attempted within the school. Most of these issues can be addressed directly with isolated construction projects. For example, the restrooms can each be remodeled individually without impacting adjacent spaces. The more difficult and extensive ADA compliance issues relate to the access to the school from the main entrance, access to the office area from the main entrance, access to the gym spaces from the main school and access to the locker rooms. Each of these will require an extensive renovation/addition project to bring them into compliance.



HIGH SCHOOL - MAIN LEVEL - ADA ACCESSIBILITY COMPLIANCE

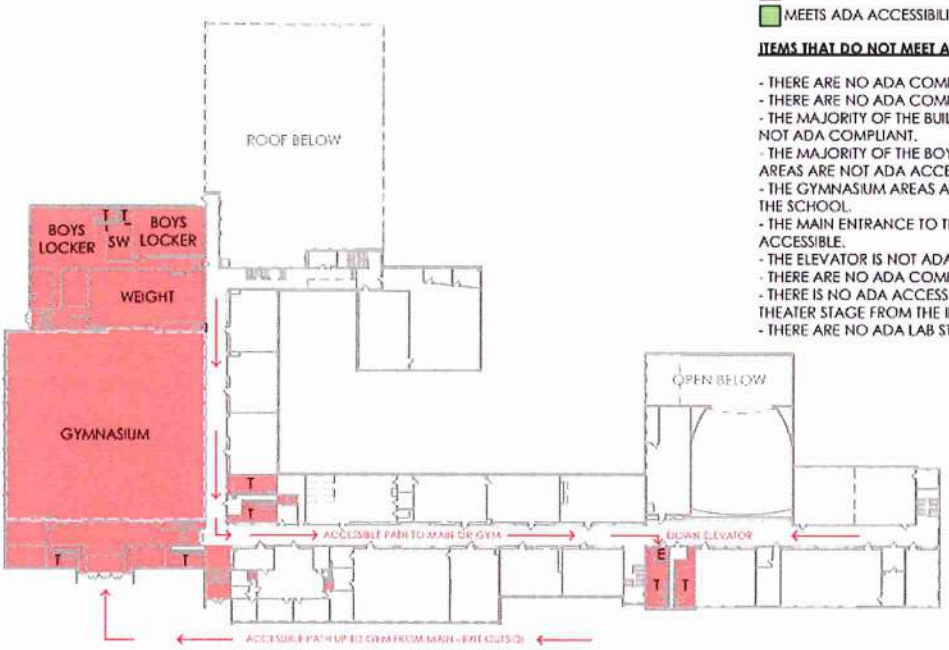
ADA ACCESSIBILITY COMPLIANCE

MEETS ADA ACCESSIBILITY STANDARDS - **NO**

MEETS ADA ACCESSIBILITY STANDARDS - **YES**

ITEMS THAT DO NOT MEET ADA STANDARDS

- THERE ARE NO ADA COMPLIANT TOILET ROOMS.
- THERE ARE NO ADA COMPLIANT DRINKING FOUNTAINS.
- THE MAJORITY OF THE BUILDING'S DOOR HARDWARE IS NOT ADA COMPLIANT.
- THE MAJORITY OF THE BOY'S & GIRL'S LOCKER ROOM AREAS ARE NOT ADA ACCESSIBLE FROM THE SCHOOL.
- THE GYMNASIUM AREAS ARE NOT ADA ACCESSIBLE FROM THE SCHOOL.
- THE MAIN ENTRANCE TO THE BUILDING IS NOT ADA ACCESSIBLE.
- THE ELEVATOR IS NOT ADA COMPLIANT.
- THERE ARE NO ADA COMPLIANT SEATS IN THE THEATER.
- THERE IS NO ADA ACCESSIBLE RAMP/ PATHWAY ONTO THE THEATER STAGE FROM THE INSIDE OF THE THEATER.
- THERE ARE NO ADA LAB STATIONS IN THE SCIENCE ROOMS.



HIGH SCHOOL - UPPER LEVEL - ADA ACCESSIBILITY COMPLIANCE

Educational Adequacy

Cafeteria:

The area of the building that is most concerning to the high school/middle school staff is the size of the cafeteria. Based on the Minnesota Department of Education Guidelines, the cafeteria should be sized to allow for 14-16 square feet per student. The school currently has one lunch period, and the student enrollment is 290 students. This would require a cafeteria of around 4,000 SF. The current cafeteria is approximately 2,700 SF or 65% of the minimum guideline size for a high school. The size issues will be exacerbated in two years because of a projected enrollment increase in seventh grade.

The result of the undersized cafeteria is the need to stagger the release times for earlier grades. Seventh and eighth graders are released five minutes early from their academic classes to the cafeteria. They get their food, eat and then move into the gym to make way for the older grade levels. While the senior class eats lunch in their home room instead of the cafeteria.

Kitchen:

Although the kitchen staff is making the existing kitchen work, it is also undersized based on the National Food Service Management Institute guidelines. The kitchen equipment and the lack of mechanical exhaust is limiting their ability to provide meal choices. The current kitchen is essentially a serving kitchen which limits the choices and quality of the food that staff are able to serve.

The difficulty of getting students through the lunch line during the lunch period could be enhanced with the addition of an additional point of sale station (POS). There is currently only one POS which causes the lunch line to "bottle neck" and slows the serving line down. This not only adds to the time it takes to serve lunches, but also exacerbates congestion problems in the cafeteria.

The receiving area of the kitchen is undersized and inefficient. Deliveries are made through a single door and up the stairs into a small receiving/storage area.

Career Technical Education:

Portions of the Shop/Tech Ed area need to be reorganized and/or remodeled. Technical education is seen as a growth area for Madelia Schools and is supported by community initiatives, but the current shop and its configuration is based on a 1960s idea of "shop class". Current technical education contains more cross-discipline education and collaboration. There is also a higher reliance on clean technologies such as computer aided design, etc. There is a tremendous amount of potential in this part of the school because of the large area it covers and the opportunity it presents for creating a more up to date space that meets the educational needs of students today and into the future.

There are also potentially unsafe conditions in the shop area such as the intermingling of the welding and wood shops that will need to be addressed. These conditions were created over years of reconfiguring the shop area as the educational needs of the school changed. These changes were accomplished without a large outlay of resources and have resulted in the inefficiencies and unsafe conditions in this area.

Science Classrooms:

The science classrooms are not adequately sized and/or configured for the variety of classes taught in them. This is identified in the educational adequacy study and is exacerbated because of the variety of subjects taught in each lab. There are different requirements for a chemistry lab versus a biology lab, and if both are taught in the same room, they would need to be larger to accommodate the required flexibility and meet ADA regulations.

Music:

The acoustic separation between the band and choir rooms needs to be addressed as does the acoustics of both rooms. Acoustic panels that were added to the band room ~~that~~ have been relocated and are not effective. The configuration of the rooms could be improved, especially in choir to allow a more efficient use of the space. Instrument and robe storage is located in each of the rooms and although it is adequate in size, it is old and should be replaced and/or relocated into a secure location.

The larger issue is the adjacency to the performance space. The theater is at the other end of the school which makes practicing for performances inefficient and difficult.

Art:

The art room is too small and should contain separate areas for wet and dry work.

Media Center:

School media centers/libraries have been transforming as schools move away from print media to more technology-based information. They have become centers for collaboration, classroom instruction, and are taking on a more collegiate understanding of how a media center functions. The Madelia High School media center is making that transformation. It is not only used as a library of information, it is currently being used as for study hall, for classroom instruction, for home room, to check out print media and for students who take online classes. It is also frequently used by the community.

The media center is a center of activity for the high school. It can contain up to 50 students during the day which would make it undersized based on a square foot per student basis. The district purchased new furniture for the media center two years ago and the furniture selection is moving the media center towards a collegiate feel. It also incorporated a coffee shop into the space which furthers this feeling. Because new media centers are largely dependent upon technology-based information gathering, they require more power and technology devices than older libraries. To make the media center meet its potential as a learning center, it will need more access to power and technology.

Media centers have a tremendous potential of moving a school in the direction of collaborative learning and the integration of technology. They can also be a resource for collaboration with the community. The Madelia High School media center is currently moving in that direction.

Gymnasiums:

There is a need for a second gymnasium to increase access for athletic practices. Currently the practices run until 10:00 some evenings. Because of the space constraints, the junior high school programs use the gym at the elementary school. This requires the students to walk to the elementary school for games and practice. The gym at the elementary school is not regulation size and has safety concerns. It was part of the original 1950's high school and was designed as multipurpose gymnasium/stage for the theater, so there is a drop off on the edge of the gym into the theater seats.

The gyms are used for a variety of programs such as athletics, physical education, testing, graduation, etc. The heavy use of the limited gym space impacts the ability of the physical education classes to use the gyms during the school day. The limited gym space also restricts the community access to the gymnasiums.

Locker Rooms:

The locker rooms are adequately sized but they are not Title 9 compliant. There are two boys' locker rooms but only one girls' locker room. Although the size is adequate, the instructional staff would like to see the locker rooms configured so that there are separate physical education and athletic locker areas. The locker rooms are also lacking space to address gender neutral students.

Both of the locker rooms are not accessible to students with disabilities from the main portion of the building without leaving the school to walk up the accessible sidewalk. The student would then need to walk across the gymnasium floor to reach the locker rooms. The girls' locker room is not accessible to either the main school or the gymnasium.

Training Room:

There is a need for an athletic training room for both the boys' and girls' athletic programs. There are currently no training rooms so the corridors become makeshift rooms to address training issues.

Coach's Office:

There is also a need for an additional coach's office in each locker room. Half of the coaches are not on staff, so they need a place to reside when they are coaching. There is also a need for space for visiting coaches and officials.

Restrooms:

Public access to restrooms in the competition gymnasium is not adequate. To increase access to restrooms, the majority of the school needs to be open to the public. This increases the potential security risk for the building.

Storage:

There is a need for additional storage for both athletics and physical education. Ideally this storage is separate to help control access and accountability.

Collaborative Learning Spaces:

Current educational pedagogy incorporates more collaborative learning. Since the school was constructed in the 1950's and 1970's, it does not have designated collaborative learning spaces. These spaces allow students different choices in learning style which helps them achieve their learning potential. Because there are no designated spaces for collaborative instruction, teachers try to put 30-50 students into classrooms that are already undersized.

There is also a need for smaller classrooms and private meeting spaces. These spaces can function as not only small group instruction but also as general school meeting spaces. The flexible nature of these rooms will also improve the efficiency of classroom instruction.

Private Meeting Spaces:

The high school is in need of private meeting spaces for both student instructor meetings and parent instructor meetings.

Large Group Instruction:

There are no large group instruction classrooms other than the theater. These classrooms are important to encourage collaborative learning and as a place to hold larger full grade or multi-grade level meetings.

Health Services:

The restroom in the high school nurse's office is not large enough to be ADA compliant which is difficult especially for students who are ill. There is also a need for a handwash sink so the nurse can wash in-between meeting with sick students. There is also a need for a private shower and changing area. The students currently shower in the locker rooms which is problematic if students need adult help or the showers are being used by other students. It is also problematic because there is no accessible route to the locker rooms from the nurse's office.

The school nurse suggested the students need a place to decompress in the high school such as a student commons area. She felt that this would reduce the traffic in the health services office.

Aesthetics:

Although not necessarily directly related to educational adequacy, the building is in need of a finish upgrade. In general, most of the restrooms and public corridors have the original tile and are in need of painting. These all directly affect how students feel about their school environment and affect their academic performance. They also are a reflection of the Madelia Public School brand and directly affect how the public perceives your School District and their decision to send their children to the Madelia High School/Middle School.

The classroom furniture is also antiquated. Most of the furniture appears to be from the original building construction and is of the rigid sled type design. Contemporary classroom furniture contains more soft seating options that are more flexible to use. They give students more choice in seating to better fit their learning style. They also help to promote collaborate learning and give teachers the ability to change their classrooms to better fit their teaching objectives.

Security

The High School is secured during the school day by locking all of the perimeter doors and allowing visitor access to the school only through the main entrance. Upon arrival at the main entrance, a visitor encounters a locked set of doors and must press a video intercom button to reach a staff member to grant them access. The video communication does give the school staff some limited visual control over who enters the building, but there is no ability to scan a visitor's information through visitor check in systems such as Raptors System.

Once access is granted through the locked doors, a visitor is supposed to climb a half flight of stairs and travel south down a corridor to check in at the main entrance. Although this controls most of the inadvertent access to the school, it may not stop an intruder who is intent on harm. Once they pass the secured entrance doors, they have free to access the school. Most secure entrances in school facilities today, force visitors through the office area or adjacent to the office area where they are checked in to the building. This gives the staff more opportunity to control access to the school.

The glass at the main entrance is also vulnerable to forced entrance. This can be improved with the application of security films that increase the time it takes to breach the entrance.

Another area of concern is the control to the other perimeter doors. It is our understanding, through discussions with the staff, that there an unknown number of keys to the exterior doors that are out in the community. This is obviously a security breech. There is also a proclivity of staff to "prop" open doors to allow access to students and staff during the day and after hours. There is no electronic means to monitor these doors which makes it difficult to ensure these doors are secure.

Although many of the corridors in the high school have a very good line of sight that makes them easier to monitor, the school could benefit from having more security cameras installed, especially on the east end of the school in the music and technical education wing. Security cameras can not only help in emergency situations to locate an intruder, but also help to monitor areas of the school during the day and after hours to control adverse student behaviors such as bullying and vandalism.

Summary

The Madelia High School was built in the late 1950's with a substantial addition in the 1970's. It has not undergone any major renovations since then. Because of this, much of the building's educational infrastructure does not meet today's educational standards. Based on current usage, without existing program expansion, it appears the existing building contains enough space within the current building footprint to bring it into alignment, except for the need for additional gymnasium space. However, this will require a significant renovation of the current facility.

The high school lacks the collaborative learning and breakout spaces that are found in contemporary high schools. There is also lack of student commons areas that are conducive to independent and collaborative learning. These types of spaces are necessary to give students and educators choices in delivery and educational learning styles to help students achieve their academic potential.

The cafeteria, which is the main gathering space for students, is too small and it not designed to encourage student interaction. Contemporary cafeterias are designed to function not only as a place for eating but also a place for student gatherings, collaborative learning, classroom instruction and large group and public meetings. They provide varied and flexible seating choices to encourage collaboration and interaction. The current cafeteria is dark because of a lack of adequate daylight and it has outdated finishes. The seating is typical bench type cafeteria tables that are not flexible to multiple group learning configurations and the cafeteria lacks flexible and soft seating areas that encourage collaborative learning.

The kitchen needs a major renovation to correct code issues and to allow the kitchen staff the ability to provide the students with more food choices. Because of mechanical ventilation issues, the kitchen cannot provide "home cooked" meals but is restricted to being strictly a serving kitchen. The lack of food choices limits the success of the food service program and is a reflection on the quality of services provided by the district.

The high school needs additional gymnasium space. This is to accommodate after school use of the gymnasium spaces. The practices currently run into the evening, sometimes until 10:00. The lack of court space forces the middle school athletes to walk to the elementary school for athletic practices. The lack of gym space is also a deterrent to community use of the high school for community education.

There are extensive accessibility (ADA) issues with the current configuration of the building. There is no accessible way to enter the building through the main entrance. A visitor has to either travel up or down a half flight of stairs to enter the building. There is no accessible path between the main school and the gymnasium. A non-ambulatory student, that is in the main classroom area of the building, will need to leave the building on the far south end and travel the length of the school outside to enter the gymnasium or have others help maneuver their wheelchair up and down a flight of stairs to reach the gymnasium and locker rooms. Female students cannot reach their locker room from the gym without descending a flight of stairs. All the restrooms, classroom sinks, drinking fountains, etc. are not ADA compliant nor are most of the existing door hardware.

The building is aesthetically out of date and could use a general refresh throughout the building. All of the public spaces and restrooms have the original tile and finishes from 70 years ago. The classrooms need improvement as well. This is a reflection of the school district and affects the school's brand and how visitors view the district. It will influence parent's decision to send their students to your district. It also has an impact on how the students feel about their educational experience.

Although the classrooms are generally undersized based on current education guidelines based strictly on a square foot per classroom analysis, these guidelines are assuming a class size of 25-28 students. Most of the class sizes in the high school are smaller than 25-28 students and although most of the classrooms are still undersized, they fair better when they are analyzed on square foot/student basis.

When analyzing the class schedule, it is apparent that there is a wide range of number of students in each of the classrooms. They can vary from 5 students to 30 students. The classroom utilization study indicates that the classrooms are not being efficiently used. When analyzing the data, it is apparent the school can be more efficiently scheduled if there are a variety of classroom sizes.

The school is considerably underutilized based on the current enrollment. The capacity of the school based on a 25 student per classroom standard is more than double the current enrollment of the school. This would suggest that there is plenty of space within the current school building to accommodate a renovation to remedy many of the deficiencies that are itemized in the following report, but this will require a substantial renovation to bring the current school building up to contemporary educational standards.