STURGEON BAY SCHOOLS

FACILITIES ASSESSMENT | JULY 2019

EUA PROJECT NO. 318509

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

INTRODUCTION

The Facilities Assessment is a critical first step in the planning process helping school districts and their stakeholders better understand the current state of its facilities and how well these facilities support educational goals. The Facilities Assessment provides an independent, objective analysis of the present conditions and capabilities of the district's facilities and grounds. It also serves as a foundational resource document to support fiscally responsible short and long term facilities planning.

The information presented in this report was gathered through on-site inspections of the sites and buildings, and interviews with various building administrators, teachers, support staff, and maintenance staff. Included in this report is an analysis of:

- Building exterior, interior and mechanical systems and ADA assessments
- Existing building capacities + utilization

Please reference the complete Facilities Assessment Appendix for comprehensive details, supporting data and additional research.

DISTRICT OVERVIEW

Sturgeon Bay Schools Mission Statement

EVERY STUDENT - EVERY DAY

The Sturgeon Bay School District serves approximately 1,200 students in grades 4K-12 in five buildings. The Middle and High Schools share a campus. The others are located on independent sites.

- Sawyer Elementary School (Grades 1 - 2)
- Sunrise Elementary School (Grades 4K - K)
- Sunset Elementary School (Grades 3 - 5)
- T.J Walker Middle School (Grades 6 - 8)
- Sturgeon Bay High School (Grades 9 - 12)

GENERAL SUMMARY / OVERVIEW

The Sturgeon Bay School District is comprised of five buildings ranging in age from 23 years to 65 years. The oldest of these, Sunrise and Sunset Elementaries were constructed in1954, the High School in 1966, T.J. Walker Middle School in 1981 and Sawyer Elementary in 1996. Most have been renovated and/or expanded numerous times since being constructed. Consistent maintenance practices have extended the service of these buildings; however, the oldest two are now in poor to fair physical condition with many essential building systems well past their useful and expected life cycles. While reviewing the physical learning spaces and evaluating how they support the pedagogy, it was found that there were very few updates to the core learning environments since the schools were constructed. Although most of the schools have been updated to provide an increased level of security at the main entrance, the high school could be improved in this category. Finally, a capacity and utilization assessment found that all of the schools are operating under their ideal capacities and although many classrooms are small in size, the low number of students in each room is well under what the rooms can comfortably hold by national standards.

CONDITIONS ASSESSMENT SUMMARY

The summary chart below provides a high level overview of the general condition of key components in each building. More detailed information is provided in section two.

NEW	NEW OR LIKE NEW CONDITION; NO ISSUES; REPLACE IN 8 TO 10 YEARS	5
GOOD	GOOD CONDITOIN, NO REPORTED ISSUES OR CONCERNS. REPLACE IN 6 TO 8 YEARS	4
FAIR	AVERAGE WEAR FOR BUILDING AGE, NOT NEW BUT NO ISSUES TO REPORT. REPLACE IN 4 TO 6 YEARS	3
POOR	WORN FROM USE, END OF EXPECTED LIFECYCLE. REPLACE IN 2 TO 4 YEARS	2
CRITICAL	EXTREMELY WORN OR DAMAGED. REPLACE WITHIN 2 YEARS.	1

Category	Sawyer	Sunrise	Sunset	Middle School	High School
ADA	3.8	2.2	2.3	3.0	2.4
Civil / Site	3.5	3.2	3.3	3.8	3.8
Electrical	3.4	3.4	3.4	3.3	3.4
Exterior Enclosure	2.2	2.0	2.3	2.0	2.8
Foundation	4.0	4.0	3.3	4.0	4.0
Interior	3.8	2.9	2.6	3.0	2.9
Mechanical	3.9	4.0	4.0	3.9	3.9
Miscellaneous	4.5	3.2	2.0	3.4	3.3
Plumbing	4.0	2.2	2.2	2.4	2.5
Roofing	3.5	1.8	3.0	1.0	2.5
Structural System	4.0	4.0	4.0	4.0	4.0
Average Deficency Score by Building	3.6	3.0	3.0	3.2	3.3

RECOMMENDED NEXT STEPS

At the conclusion of a Facilities Assessment, many school districts ask how to best proceed. It is our recommendation that the administration closely review this document and understand the observations and recommendations.

For the Sturgeon Bay School District, the next recommended step will involve sharing the key findings and gathering feedback from the broader community through a community-wide survey in the fall of 2019. It will be very helpful for the school board to gather feedback from a variety of district and community stakeholders in order to establish priorities for long-term facilities planning.

Once broad-based community input has been received, the identified needs and priorities should again be considered and potential solutions evaluated. From there, components of the potential solutions can be isolated, prioritized and shared for further community feedback.

Thank you for the opportunity to participate in this endeavor. If you have any questions or concerns regarding this summary, please feel free to contact the EUA team.

Sincerely,

Eric Dufek AIA, LEED AP
Principal | Stuido Director of Learning Environments

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CONDITIONS ASSESSMENT

PROJECT INTENT

The first step of planning includes the assessment of building and site conditions. The assessment reviews major building systems and building operations:

- Mechanical
- Electrical
- Plumbing
- Building Exterior
- Building Interior
- Site
- Accessibility/ADA
- Building Capacity Analysis

This report is based upon industry standards and practices in architecture and engineering in the areas of mechanical, electrical, plumbing, and fire protection. Observations and recommendations included in this report are based on a cursory visual assessment and interviews on site. It is important to note that the buildings are generally well maintained and maintenance needs have been prioritized based on safety concerns and severity of need.

This assessment *does not* include observations related to compliance with applicable building codes and regulations. Existing buildings may have been designed under building codes that were less stringent. Schools designed today now face significant code compliance issues, such as with the Americans with Disabilities Act (ADA) guidelines. Although older buildings are legally 'grandfathered' by the previous codes, some items will require corrections if renovations or additions are completed in the future.

DATA GATHERING PROCESS

Team site visits took place in June 2019 and included Eppstein Uhen Architects (EUA), Miron Construction, Fredericksen Engineering and Muermann Engineering. The team met with administration and facilities staff to review priorities and concerns, and gather general building information. The team walked through each building to conduct their own observations and analyses. Conditions observed were not field measured and require additional review if future action is to be taken.

UNDERSTANDING THE FACILITY ASSESSMENT

The **Building Condition Assessment** includes a comprehensive review of the building's exterior shell (roof, wall systems, windows/doors, etc.); interior finishes and materials (flooring, casework, etc.); mechanical, electrical, and plumbing systems; and general compliance with the Americans with Disabilities Act (ADA).

- Americans with Disabilities Act Assessment - The Americans with Disabilities Act (ADA) Assessment considers the compliance relative to accepted industry standards. A building's adherence with ADA is based on the review of the accessible routes to and through the building and site, as well as accessible features and accommodations inside the building as defined by ADA design guidelines and the International Building Code.

The **Building Capacity & Utilization Analysis** reviews the student capacity and evaluates the data against several nationally recognized educational planning recommendations. There are three different capacity calculations used that are detailed in the complete Facility Assessment. In general, over the past decade, recommended space provided per student has increased. The major reasons are:

- Space needed to support personalized learning, team teaching, and flexible collaboration in common areas.
- Space to accommodate technology and its infrastructure.
- Space is needed to support children with special needs; students with disabilities, cognitively disabled students, and special education needs.
- Space needed to support specialists in the area of reading, speech, occupational therapy, physical therapy, and Title I programs.
- Space needed to support paraprofessionals, volunteers, and parent support groups.

The building assessment involves visual assessment of current conditions, documentation of observations, and general recommendations for repair and/or replacement of building components or systems where necessary. On-site observations include the review of system and component age, construction methods, material adequacy, and longevity. The Facility Assessment compiles visual assessment data, meeting discussions, and source documents to identify known deficiencies.

The Facility Assessment does ***NOT*** include:

- Detailed validation of as-built conditions
- Hazardous material assessments
- Destructive testing or observation of concealed systems, below grade conditions, or components buried within walls, ceilings, or roofing systems
- Detailed or exhaustive review of ADA/accessibility routes and components
- Specific details about electrical panels, mechanical equipment, or plumbing components that are not readily visible
- Measurement of electrical loads or temperatures of any electrical equipment
- Actual efficiencies or performance testing of HVAC and plumbing equipment (pumps, fans, boilers, etc.)
- Adequacy of fire or life safety components associated with building systems including code requirements, dampers, fire rating of systems, etc.

SAWYER ELEMENTARY SCHOOL

Year Built	1996
Site Size	10.9 Acres
Building Size	40,340 SF
Current Enrollment	134
Grade Levels	1st - 2nd Grades

SUMMARY OF HIGH PRIORITY NEEDS - SAWYER ELEMENTARY SCHOOL

Beyond Useful Life - High Priority Replacement	Sawyer	Sunrise	Sunset	Middle	High
ADA - Entry, hardware, bathrooms, locker rooms, hardware, etc.		X	X	X	X
Site - Sidewalks, pavement, landscaping, playground, drainage, stairs, etc.	X	X	X		X
Electrical - Inefficient lighting, controls, power, communications, switchgear, panels, fire alarm, clocks	X	X	X	X	X
Windows - Unusable, inefficient, leaking, lintel maintenance, etc.		X	X		
Weatherproofing - Sealants, waterproofing, expansion joints, tuckpointing, etc.	X	X	X	X	X
Finishes - Flooring, ceilings, painting, doors, walls, blinds, cabinets, etc.	X	X	X	X	X
Asbestos - Pipe, floor, etc.		X	X		
Mechanical - Inefficient controls, chillers, air conditioning, air handlers, unit heaters, exhaust, etc.	X	X	X	X	X
Miscellaneous - Auditorium equipment, technical education equipment, culinary equipment, toilet partitions, etc.					X
Plumbing - Water heaters, utilities, pumps, valves, piping, fixtures, etc.		X	X	X	X
Roof - Membrane, drains, hatches, etc.		X	X	X	X
Structure - Walls, columns, joists, slabs, etc.					

SAWYER ELEMENTARY SCHOOL

Category	Topic	Comment	Sawyer
ADA	Accessible Entry(s)	- No comment.	4
	Accessible Parking	- No parking identified.	2
	Accessible Restrooms	- No comment.	5
	Accessible Route	- No comment.	4
	Passenger Loading Zone	- No comment.	4
Civil / Site	Athletic Field Support Spaces	- No comment.	4
	Athletic Fields	- No comment.	4
	Gates & Fencing	- No comment.	4
	Landscaping	- Multiple instances of landscaping too close to the building.	2
	Maintenance (Dock, Trash, Util.)	- Gas meter is unprotected.	3
	Pedestrian Access	- No comment.	4
	Playground Equipment	- No accessible playground equipment exists.	3
	Sidewalks & Pavement	- Overall decent condition, some slab upward shifting at transition areas pose tripping hazard - Multiple areas of sidewalk cracking / broken.	3
	Site Amenities (Furniture, etc.)	- No comment.	4
	Site drainage / grading	- No comment.	4
	Site Signage	- Finish showing signs of wear.	3

SAWYER ELEMENTARY SCHOOL

Category	Topic	Comment	Sawyer
Electrical	CCTV	-No CCTV - Classrooms utilize ceiling projectors / smart boards - wired to teacher station and network. Update to LED TV's in areas of work.	4
	Clocks	-Update / replace with new clock system integrated with the paging system.	3
	Communications Systems	-Dukane MCS350 paging - update / replace equipment. Possible option to Carehawk system w/ network and clock system integration.	3
	Data	-Category 5 and 6 data / voice cabling installed. No grounding system. UPS's installed. Install grounding system.	4
	Distribution Panelboards	-Panels to remain - possible update to panels in areas of work if required.	4
	Fire Alarm System	-Update entire fire alarm system.	2
	Keyless Entry	-District wide head end system, readers recently updated. Door contacts not present. Aiphone present at main entrance.	5
	Lighting	-Some new LED is being installed. Mostly 2x4 acrylic fluorescents. Some fluorescent T12 still exists. Continue LED upgrades.	3
	Lighting Control	-No occupancy sensors installed. Update / Install lighting controls in entire school.	1
	Low Voltage Switchgear & Distribution	-Service electrical panel has been updated from original equipment. Correct mounting height of service panel.	4
	Power Devices	-Update devices in areas of remodel work.	3
	Site lighting	-Mostly new LED site lighting installed, some HID still in place. They have been replacing - continue replacement of HID.	4
	Site utilities (transformers, etc.)	-Pad mounted Utility transformer. No recommendations.	4

SAWYER ELEMENTARY SCHOOL

Category	Topic	Comment	Sawyer
Exterior Enclosure	Expansion Joints	- All joint sealants are worn / cracked and should be replaced.	1
	Exterior Cladding	- Multiple locations of cracked / debonded mortar joints. - Multiple areas of spalled masonry. - Multiple locations of missing / obscured masonry vents / weeps.	3
	Exterior Doors	- Finish showing signs of wear. - Multiple frames showing signs of rust / failure.	3
	Exterior Sealants	- All sealant is worn / cracking and should be replaced.	1
	Windows, Storefronts & Curtainwalls	- Storefront framing finish is showing signs of failure at doorways.	3
Foundation	Dampproofing & Waterproofing	- No comment.	4
	Foundation & Frost Walls	- No comment.	4
	Slab on Grade	- No comment.	4
Interior	Casework & Millwork	- Millwork starting to show signs of wear / damage.	3
	Ceiling Finish	- Some damage present from water/pipes.	3
	Fire Doors & Shutters	- No comment.	4
	Floor Finish	- No comment.	4
	Gym/Sports Flooring	- No comment.	4
	Interior Doors, Frames & Hardware	- Few doors and frames starting to show wear / damage.	4
	Wall Finish Condition	- Few areas of masonry damaged throughout interior.	4
	Window Treatments	- No comment.	4

SAWYER ELEMENTARY SCHOOL

Category	Topic	Comment	Sawyer
Mechanical	Air Handlers	-AHU's have been well maintained and are in good condition. Units should continue to serve the building for another 10-15 years.	4
	Air Terminals (VAV, FPVAV)	-Standard wear and tear, but in good condition.	4
	Boilers	-Boilers are firebox-type units and are in good condition. This particular style of boiler should continue to serve the building for another 15 years or more if properly maintained. However, improved energy efficiencies could be realized with a boiler plant upgrade to high-efficiency boilers with variable speed pumping.	4
	Chillers & Cooling	-Roof-mounted air-cooled condensing units are nearing the end of expected service life, but are in good overall condition and should continue to serve the building for another 5-10 years.	4
	Controls	-Well maintained pneumatic control system with an Automated Logic interface for basic start/stop control only. The pneumatic system should be removed and upgraded to a full digital Automated Logic system to improve energy efficiency and control accuracy and reliability.	3
	Ducts & Distribution	-Standard wear and tear, but in good condition.	4
	Exhaust Fans	-Standard wear and tear, but in good condition.	4
	General Ventilation Comments	-Overall, the building HVAC systems are performing well, but improvements with controls and modern ventilation control strategies would greatly improve the energy performance of the building.	4
	Piping/Insulation	-Standard wear and tear, but in good condition.	4
	Pumps	-Pumps are nearing the end of expected service life, but if maintained properly could serve the building for another 5 years or more.	4
	Unit Heaters	-Standard wear and tear, but in good condition.	4
	Wall Fin Radiation	-Standard wear and tear, but in good condition.	4
Miscellaneous	Food Service Equipment	- No comment.	4
	Lockers/Cubbies	- No comment	4
	Toilet Accessories	- No comment.	5
	Toilet Partitions	- No comment.	5

SAWYER ELEMENTARY SCHOOL

Category	Topic	Comment	Sawyer
Plumbing	Fixtures (sinks, toilets, urinals, etc.)	-No issues were reported by the District, and fixtures appeared to be in good working condition. -The emergency fixture appears to be connected to cold water only. The fixtures should be provided with tempered water. The current water distribution system is not adequate to provide hot and cold water at sufficient pressure and flow rates. If these fixtures are relocated or replaced, the water distribution system would need to be evaluated.	4
	Grease Interceptor	-The kitchen is mainly used for after hours event, and no issues were reported with the grease interceptor which serves the 3-pot sink.	4
	Piping & Distribution	-No issues were reported by the owner, and piping appeared to be in good working condition.	4
	Pumps & Valves	-No issues were reported by the owner, and valves appeared to be in good working condition.	4
	Utilities	-No issues with the water service were reported by the staff. If fire protection were to be required with any future work, a new 6" minimum combination service would be required. -No sanitary drain and vent issues were reported. -No issues were reported about the storm system by the owner.	4
	Water Heaters	-Building is served by a single water heater which was installed in 2012 and appears to be in good working condition.	4

SAWYER ELEMENTARY SCHOOL

Category	Topic	Comment	Sawyer
Roofing	Drains, Gutters & Downspouts	- No comment.	4
	Roofing Membrane	- Areas of sealant at flashings and copings showing signs of failure.	3
Structural System	Applied Fireproofing	- No comment.	4
	Structural Framing	- No comment.	4

SUNRISE ELEMENTARY SCHOOL

Year Built	1954
Site Size	2.9 Acres
Building Size	36,700 SF
Current Enrollment	216
Grade Levels	3rd - 5th Grade

SUMMARY OF HIGH PRIORITY NEEDS - SUNRISE ELEMENTARY SCHOOL

Beyond Useful Life - High Priority Replacement	Sawyer	Sunrise	Sunset	Middle	High
ADA - Entry, hardware, bathrooms, locker rooms, hardware, etc.		X	X	X	X
Site - Sidewalks, pavement, landscaping, playground, drainage, stairs, etc.	X	X	X		X
Electrical - Inefficient lighting, controls, power, communications, switchgear, panels, fire alarm, clocks	X	X	X	X	X
Windows - Unusable, inefficient, leaking, lintel maintenance, etc.		X	X		
Weatherproofing - Sealants, waterproofing, expansion joints, tuckpointing, etc.	X	X	X	X	X
Finishes - Flooring, ceilings, painting, doors, walls, blinds, cabinets, etc.	X	X	X	X	X
Asbestos - Pipe, floor, etc.		X	X		
Mechanical - Inefficient controls, chillers, air conditioning, air handlers, unit heaters, exhaust, etc.	X	X	X	X	X
Miscellaneous - Auditorium equipment, technical education equipment, culinary equipment, toilet partitions, etc.					X
Plumbing - Water heaters, utilities, pumps, valves, piping, fixtures, etc.		X	X	X	X
Roof - Membrane, drains, hatches, etc.		X	X	X	X
Structure - Walls, columns, joists, slabs, etc.					

SUNRISE ELEMENTARY SCHOOL

Category	Topic	Comment	Sunrise
ADA	Accessible Entry(s)	- South entry not accessible	3
	Accessible Parking	-Parking not clearly identified and placed.	1
	Accessible Restrooms	-Bathroom stalls in original building not ADA accessible.	2
	Accessible Route	-Route not clearly identified	3
	Exterior Stairs, Ramps & Rails	-Exterior sidewalk/ramp too steep and missing handrails.	2
	Passenger Loading Zone	-Curb and sidewalk needs replacement / steep slopes at loading area.	2
Civil / Site	Athletic Fields	- No comment.	4
	Gates & Fencing	- Multiple areas of fencing require repair and / or replacement.	2
	Landscaping	- Landscaping next to building is overgrown / poses security concern and should be removed	2
	Maintenance (Dock, Trash, Util.)	- No trash enclosure / poses safety concern.	4
	Pedestrian Access	- No comment.	4
	Playground Equipment	- No accessible playground equipment.	3
	Sidewalks & Pavement	- Multiple areas of cracked sidewalks and pavement.	3
	Site Amenities (Furniture, etc.)	- No comment.	4
	Site drainage / grading	- Roof drains on east side of building should be buried and extended underground.	2
	Site Signage	- No comment.	4

SUNRISE ELEMENTARY SCHOOL

Category	Topic	Comment	Sunrise
Electrical	CCTV	-No CCTV - Classrooms utilize ceiling projectors / smart boards - wired to teacher station and network. Update to LED TV's in areas of work.	4
	Clocks	-Update / replace with new clock system integrated with the paging system.	3
	Communications Systems	-Dukane MCS350 paging - update / replace equipment. Possible option to Carehawk system w/ network and clock system integration.	3
	Data	-Category 5 and 6 data / voice cabling installed. No grounding system. UPS's installed. Install grounding system.	4
	Distribution Panelboards	-Panels to remain - possible update to panels in areas of work if required.	4
	Fire Alarm System	-Update entire fire alarm system.	2
	Keyless Entry	-District wide head end system, readers recently updated. Door contacts not present. Aiphone present at main entrance.	5
	Lighting	-Some new LED is being installed. Mostly 2x4 acrylic fluorescents. Some fluorescent T12 still exists. Continue LED upgrades.	3
	Lighting Control	-No occupancy sensors installed. Update / Install lighting controls in entire school.	1
	Low Voltage Switchgear & Distribution	-Service electrical panel has been updated from original equipment. Correct mounting height of service panel.	4
	Power Devices	-Update devices in areas of remodel work.	3
	Site lighting	-Mostly new LED site lighting installed, some older HID still in place. They have been replacing - continue replacement of HID.	4
	Site utilities (transformers, etc.)	-Street / Pole mounted Utility transformers. No recommendations.	4
Exterior Enclosure	Expansion Joints	-Control joint sealants failing and/or missing	2
	Exterior Cladding	-Several areas of spalling and damaged brick -Weep screens/vents missing in multiple locations -Mildew/moss growing on brick where water has overflowed roof	3
	Exterior Doors	-Multiple locations with rusting / failing doors & frames	2
	Exterior Sealants	-All sealants have failed and/or are missing	2
	Louvers & Vents	-Grilles/vents showing signs of wear / improper fit.	2
	Windows, Storefronts & Curtainwalls	-Windows are failing / dangerous to operate and should be replaced -Several locations of rusting lintels -Window frames/trim finish has failed	1

SUNRISE ELEMENTARY SCHOOL

Category	Topic	Comment	Sunrise
Foundation	Dampproofing & Waterproofing	- No comment.	4
	Foundation & Frost Walls	- No comment.	4
	Slab on Grade	- No comment.	4
Interior	Casework & Millwork	- Poor in original building, acceptable in new addition	3
	Ceiling Finish	- Ceiling panels showing sings of failure / sagging from humidity - Some visible water damage / staining	3
	Floor Finish	- Poor in original building, acceptable in new addition	2
	Gym/Sports Flooring	- No comment	4
	Interior Doors, Frames & Hardware	- Poor in original building, acceptable in new addition	2
	Stairs & Handrails	- No comment.	4
	Wall Finish Condition	- Poor in original building, acceptable in new addition	3
	Window Treatments	- Replace shades with window replacements	2
Mechanical	Air Handlers	-Older equipment from 1978 and 1989 is at or near the end of expected service life. Plans for eventual replacement should be made.	4
	Boilers	-Portions of the building are cooled with direct-expansion equipment, but the equipment is 2NA years old and VA marginal condition.	4
	Chillers & Cooling	-Portions of the building are cooled with direct-expansion equipment, but the equipment is 23 years old and in marginal condition.	3
	Controls	-The control system is an Automated Logic digital system and is current.	5
	Ducts & Distribution	- No comment.	4
	Exhaust Fans	- No comment.	4
	Fan Coils, Unit Ventilators	-The unit ventilators were replaced in 2009 and are in good condition.	4
	General Ventilation Comments	-Overall, the ventilation systems are in good condition with a few items to be considered for replacement.	4
	Piping/Insulation	- No comment.	4
	Pumps	-The pumps were replaced in 2009 and are in good condition.	4
	Unit Heaters	- No comment.	4

SUNRISE ELEMENTARY SCHOOL

Category	Topic	Comment	Sunrise
Miscellaneous	Elevator	- Platform lift is in acceptable condition	4
	Food Service Equipment	- No comment.	4
	Lockers/Cubbies	- No comment.	4
	Toilet Accessories	- Limited ADA accessories.	3
	Toilet Partitions	- Partitions showing signs of wear.	1
Plumbing	Fixtures (sinks, toilets, urinals, etc.)	-1954: Many of the fixtures appear to be original to the building. The District did not report major issues with the fixtures, and they appear to be well maintained for their age. Recommend replacement of any fixtures involved in future renovations. -1978 and newer: The fixtures in these area range from serviceable to good working condition. Recommend replacement of any fixtures involved in future renovations.	2
	Piping & Distribution	-Based on the age of the water distribution system in the 1954 portion of the building, it is likely near end of its useful life. Recommend replacement of water distribution mains in this area during any future renovation project. -No issues with the sanitary waste and vent piping have been reported. -Exposed storm conductor piping was not discovered during the walk-thru, but is assumed to be cast iron. There is no overflow system present in the building. The District did not report major issues with the piping.	2
	Pumps & Valves	-Domestic water valves have been reported to no longer function in the 1954 portion of the building. Where plumbing work is required to take place in this area, the entire building's water system may need to be shut down for service. Recommend replacing all valves at fixtures or groups of fixtures with new ball valves in the 1954 area. -No issues were reported with the sump pump in the basement.	1
	Utilities	-No issues with the water service were reported by the District. If fire protection were to be required with any future work, a new 6" minimum combination service would be required. -No sanitary drain and vent issues were reported. -No issues were reported about the storm system by the District.	3
	Water Heaters	-There are three water heaters at this building. Recommend continued maintenance on the water heaters.	3

SUNRISE ELEMENTARY SCHOOL

Category	Topic	Comment	Sunrise
Roofing	Drains, Gutters & Downspouts	-Replace all gutters and downspouts. -Connect downspouts to horizontal leaders or install underground drain system	1
	Ponding Water	-Evidence of ponding water on roof	2
	Roofing Membrane	-Roof has reached end of life and should be replaced	2
	Skylights & Hatches	-Evidence of leaking/failing skylights.	2
Structural System	Structural Framing	- No comment.	4

SUNSET ELEMENTARY SCHOOL

Year Built	1954
Site Size	2.8 Acres (per GIS)
Building Size	27,980 SF (per district)
Current Enrollment	149
Grade Levels	4K - Kindergarten

SUMMARY OF HIGH PRIORITY NEEDS - SUNSET ELEMENTARY SCHOOL

Beyond Useful Life - High Priority Replacement	Sawyer	Sunrise	Sunset	Middle	High
ADA - Entry, hardware, bathrooms, locker rooms, hardware, etc.		X	X	X	X
Site - Sidewalks, pavement, landscaping, playground, drainage, stairs, etc.	X	X	X		X
Electrical - Inefficient lighting, controls, power, communications, switchgear, panels, fire alarm, clocks	X	X	X	X	X
Windows - Unusable, inefficient, leaking, lintel maintenance, etc.		X	X		
Weatherproofing - Sealants, waterproofing, expansion joints, tuckpointing, etc.	X	X	X	X	X
Finishes - Flooring, ceilings, painting, doors, walls, blinds, cabinets, etc.	X	X	X	X	X
Asbestos - Pipe, floor, etc.		X	X		
Mechanical - Inefficient controls, chillers, air conditioning, air handlers, unit heaters, exhaust, etc.	X	X	X	X	X
Miscellaneous - Auditorium equipment, technical education equipment, culinary equipment, toilet partitions, etc.					X
Plumbing - Water heaters, utilities, pumps, valves, piping, fixtures, etc.		X	X	X	X
Roof - Membrane, drains, hatches, etc.		X	X	X	X
Structure - Walls, columns, joists, slabs, etc.					

SUNSET ELEMENTARY SCHOOL

Category	Topic	Comment	Sunset
ADA	Accessible Entry(s)	-Entry stoop slabs are settling causing trip hazard	3
	Accessible Parking	-Parking not clearly identified or placed	2
	Accessible Restrooms	-Bathroom stalls not ADA accessible	1
	Accessible Route	-No comment	3
	Exterior Stairs, Ramps & Rails	-Some damage to exterior steps	3
	Passenger Loading Zone	-Loading zones not identified	2
Civil / Site	Gates & Fencing	-No comment	4
	Landscaping	-Landscaping next to building is overgrown / poses security concern	2
	Maintenance (Dock, Trash, Util.)	- No comment	4
	Pedestrian Access	-No comment	4
	Playground Equipment	-No accessible playground equipment	3
	Sidewalks & Pavement	-Pavement showing signs of cracking and wear	3
	Site Amenities (Furniture, etc.)	-No comment	4
	Site drainage / grading	-Insufficient drainage for parking lot and play area -Incorrect pitch of parking lot away from west side of building	2
	Site Signage	-No comment	4

SUNSET ELEMENTARY SCHOOL

Category	Topic	Comment	Sunset
Electrical	CCTV	-No CCTV - Classrooms utilize ceiling projectors / smart boards - wired to teacher station and network. Update to LED TV's in areas of work.	4
	Clocks	-Update / replace with new clock system integrated with the paging system.	3
	Communications Systems	-Dukane MCS350 paging - update / replace equipment. Possible option to Carehawk system w/ network and clock system integration.	3
	Data	-Category 5 and 6 data / voice cabling installed. No grounding system. UPS's installed. Install grounding system.	4
	Distribution Panelboards	-Panels to remain - possible update to panels in areas of work if required.	4
	Fire Alarm System	-Update entire fire alarm system.	2
	Keyless Entry	-District wide head end system, readers recently updated. Door contacts not present. Aiphone present at main entrance.	5
	Lighting	-Some new LED is being installed. Mostly 2x4 acrylic fluorescents. Some fluorescent T12 still exists. Continue LED upgrades.	3
	Lighting Control	-No occupancy sensors installed. Update / Install lighting controls in entire school.	1
	Low Voltage Switchgear & Distribution	-Service elec. panel has been updated from original equipment. Correct mounting height of service panel. Service size change would be required if AC installed	4
	Power Devices	-Update devices in areas of remodel work.	3
	Site lighting	-Mostly new LED site lighting installed, some HID still in place. They have been replacing - continue replacement of HID.	4
	Site utilities (transformers, etc.)	-Street / Pole mounted Utility transformers. No recommendations	4

SUNSET ELEMENTARY SCHOOL

Category	Topic	Comment	Sunset
Exterior Enclosure	Expansion Joints	-Control joint sealants failing and/or missing	2
	Exterior Cladding	-Multiple areas of cracked masonry joints require tuckpointing -Masonry cladding showing signs of spalling and cracking	3
	Exterior Doors	-Multiple locations with rusting / failing doors & frames	2
	Exterior Sealants	-All sealants have failed and/or are missing	2
	Louvers & Vents	-No comment	4
	Windows, Storefronts & Curtainwalls	-Windows are failing / dangerous to operate and should be replaced -Several locations of rusting lintels -Window frames/trim finish has failed	1
Foundation	Dampproofing & Waterproofing	-Areas on west side of building showing signs of deterioration at lower level	3
	Foundation & Frost Walls	-No comment	4
	Slab on Grade	-Sidewalk slabs shifting at transition areas between building and landscape, causing gap and trip hazard	3
Interior	Casework & Millwork	-Millwork is worn / damaged and failing -Some millwork has asbestos countertops	2
	Ceiling Finish	-Ceiling panels showing signs of failure / sagging from humidity -Some visible water damage / staining	2
	Floor Finish	-Some areas of flooring show damage / chipping / failing -Large areas of asbestos flooring in original building	2
	Gym/Sports Flooring	-No comment	4
	Interior Doors, Frames & Hardware	- Most doors show wear / damage. 50% should be replaced	2
	Stairs & Handrails	-No comment	4
	Wall Finish Condition	-Walls showing signs of wear throughout	3
	Window Treatments	-Replace shades with window replacements	2

SUNSET ELEMENTARY SCHOOL

Category	Topic	Comment	Sunset
Mechanical	Air Handlers	-Older equipment from 1978 and 1989 is at or near the end of expected service life. Plans for eventual replacement should be made.	4
	Boilers	-1995 boilers are nearing life expectancy. The 2007 boiler is in good condition and should continue to serve the building for another 8-13 years.	4
	Chillers & Cooling	-The Principal's Office and Special Education room are both cooled with through-wall packaged heating and cooling units. Units appear to be in satisfactory condition, but are standalone units that are not part of the central control system.	3
	Controls	-Control system is an Automated Logic digital system and is current.	5
	Ducts & Distribution	-No comment	4
	Exhaust Fans	-No comment	4
	Fan Coils, Unit Ventilators	-Unit ventilators were replaced in 2007 and are in good condition.	4
	General Ventilation Comments	-Overall, the ventilation systems are in good condition with a few items to be considered for replacement.	4
	Piping/Insulation	-No comment	4
	Pumps	-Pumps were replaced in 2007 and are in good condition.	4
	Unit Heaters	-No comment	4
Miscellaneous	Lockers/Cubbies	-No comment	4
	Toilet Accessories	-No ADA accessories	1
	Toilet Partitions	-Stalls not ADA accessible	1

SUNSET ELEMENTARY SCHOOL

Category	Topic	Comment	Sunset
Plumbing	Fixtures (sinks, toilets, urinals, etc.)	-1954: Many of the fixtures appear to be original to the building. The owner did not report major issues with the fixtures, and they appear to be well maintained for their age. We recommend replacement of any fixtures involved in future renovations. -1978 and newer: The fixtures in these area range from serviceable to good working condition. We recommend replacement of any fixtures involved in future renovations.	2
	Piping & Distribution	-Based on the age of the water distribution system in the 1954 portion of the building, it is likely near end of its useful life. We recommend replacement of water distribution mains in this area during any future renovation project. -No issues with the sanitary waste and vent piping have been reported. -Storm water is displaced from roof with an exterior gutter system.	2
	Pumps & Valves	-The domestic water valves have been reported to no longer function in the 1954 portion of the building. Where plumbing work is required to take place in this area, the entire building's water system may need to be shut down for service. We recommend replacing all valves at fixtures or groups of fixtures with new ball valves in the 1954 area. -No issues were reported with the sump pump in the basement.	1
	Utilities	-No issues with the water service were reported by the District. If fire protection were to be required with any future work, a new 6" minimum combination service would be required. -No sanitary drain and vent issues were reported. -No issues were reported about the storm system by the District.	3
	Water Heaters	-There are three water heaters at this building. We recommend continued maintenance on the water heaters.	3

SUNSET ELEMENTARY SCHOOL

Category	Topic	Comment	Sunset
Roofing	Drains, Gutters & Downspouts	-Downspouts missing bottom section in several locations. -Gutters failing/undersized and should be replaced. -Missing downspout leaders / splash pads. Consider underground connection for downspouts.	3
	Roofing Membrane	-Roof has reached end of useful life and is showing signs of wear. Approx. 40-50% has been replaced in last 3-5 years.	3
	Skylights & Hatches	-Units old, but haven't started to leak. Anticipate replacement.	3
Structural System	Structural Framing	-No comment.	4

T.J. WALKER MIDDLE SCHOOL

Year Built	1981
Site Size	16.0 Acres
Building Size	61,540 SF
Current Enrollment	254
Grade Levels	6th - 8th Grades

SUMMARY OF HIGH PRIORITY NEEDS - T.J. WALKER MIDDLE SCHOOL

Beyond Useful Life - High Priority Replacement	Sawyer	Sunrise	Sunset	Middle	High
ADA - Entry, hardware, bathrooms, locker rooms, hardware, etc.		X	X	X	X
Site - Sidewalks, pavement, landscaping, playground, drainage, stairs, etc.	X	X	X		X
Electrical - Inefficient lighting, controls, power, communications, switchgear, panels, fire alarm, clocks	X	X	X	X	X
Windows - Unusable, inefficient, leaking, lintel maintenance, etc.		X	X		
Weatherproofing - Sealants, waterproofing, expansion joints, tuckpointing, etc.	X	X	X	X	X
Finishes - Flooring, ceilings, painting, doors, walls, blinds, cabinets, etc.	X	X	X	X	X
Asbestos - Pipe, floor, etc.		X	X		
Mechanical - Inefficient controls, chillers, air conditioning, air handlers, unit heaters, exhaust, etc.	X	X	X	X	X
Miscellaneous - Auditorium equipment, technical education equipment, culinary equipment, toilet partitions, etc.					X
Plumbing - Water heaters, utilities, pumps, valves, piping, fixtures, etc.		X	X	X	X
Roof - Membrane, drains, hatches, etc.		X	X	X	X
Structure - Walls, columns, joists, slabs, etc.					

T.J. WALKER MIDDLE SCHOOL

Category	Topic	Comment	Middle School
ADA	Accessible Entry(s)	Entry stoop showing signs of sinking/settling	3
	Accessible Parking	-No comment	4
	Accessible Restrooms	-Bathroom accessories at the wrong height -Drinking fountains not mounted at ADA height	2
	Accessible Route	-Missing ADA door hardware on interior doors	2
	Passenger Loading Zone	-No comment	4
Civil / Site	Gates & Fencing	-No comment	4
	Landscaping	-No comment	4
	Maintenance (Dock, Trash, Util.)	-Overhead door frames rusting and dented badly. -Dust collector and gas meter are not protected from vehicle damage	3
	Pedestrian Access	-No comment	4
	Sidewalks & Pavement	-Multiple areas of pavement/sidewalk cracking / spalling / deterioration.	2
	Site Amenities (Furniture, etc.)	-Benches outside front entrance in good shape, wooden benches behind school showing signs of wear	4
	Site drainage / grading	-No issues	5
	Site Signage	-No comment	4

T.J. WALKER MIDDLE SCHOOL

Category	Topic	Comment	Middle School
Electrical	CCTV	-No CCTV - Classrooms utilize ceiling projectors / smart boards - wired to teacher station and network.	4
	Clocks	-Time keeping head end equipment recently installed. They are replacing original clocks as they fail to 24v wired American Time clocks. -Update / replace with new clock system integrated with the paging system	3
	Communications Systems	-Dukane Star Call paging - update / replace equipment. Possible option to Carehawk system w/ network and clock system integration.	3
	Data	-Category 5 and 6 data / voice cabling installed. Grounding system installed. UPS's installed. Emergency generator power present in MDF - separate from life safety system. -Possible upgrades: EM generator power to MDF (dedicated generator or ATS). Fiber between MDF to IDF's upgraded from 1G to 10G.	4
	Distribution Panelboards	-Update / replace original distribution panels.	2
	Fire Alarm System	-Fire alarm system serves HS / MS. Head end equipment recently updated. Update devices in areas of remodel work.	3
	Generator System	-Updated aprox. 10 years ago (interior). Serves HS / MS. Appears to serve life and non life safety from same ATS. This should be corrected.	4
	Keyless Entry	-District wide head end system, readers recently updated. Door contacts not present. Aiphone present at main entrance.	5
	Lighting	-Some new LED flat panels are being installed. Mostly 2x4 acrylic fluorescents. Some fluorescent T12 still exists. Continue LED upgrades	3
	Lighting Control	-No occupancy sensors installed. Lighting control system for corridors in place. Update / Install lighting controls in entire school	1
	Low Voltage Switchgear & Distribution	-Appears to be original building equipment. Main service panel to be updated / replaced	2
	Power Devices	-Update devices in areas of remodel work.	3
	Site lighting	-New LED site lighting installed in many locations / some older HID still in place. District has been replacing. Continue replacement of HID.	4
	Site utilities (transformers, etc.)	-Utility transformer will be updated this summer. No recommendations.	5

T.J. WALKER MIDDLE SCHOOL

Category	Topic	Comment	Middle School
Exterior Enclosure	Expansion Joints	-All sealants at joints is worn / cracked and should be replaced	1
	Exterior Cladding	-Some areas of masonry showing signs of damage -Cladding at entry canopy failing	3
	Exterior Doors	-Some exterior doors are rusting/showing signs of failure -Lintels showing signs of rust	2
	Exterior Sealants	-All sealant is worn / cracked and should be replaced	1
	Louvers & Vents	-Exterior unit vent grilles showing signs of wear -Replace metal shop louver	3
	Windows, Storefronts & Curtainwalls	-Spandrel panels at windows are peeling and should be replaced/refinished -Multiple lintels showing rust	2
Foundation	Dampproofing & Waterproofing	-No comment	4
	Foundation & Frost Walls	-No comment	4
	Slab on Grade	-No comment	4
Interior	Casework & Millwork	- FACE casework is not ADA accessible -Science lab casework damaged, chipping, and peeling -Art classroom casework showing signs of wear	3
	Ceiling Finish	-Ceiling tiles in fair condition, some damaged and/or sagging	3
	Ceiling Other	-Gym ceiling finish on structure is failing -Light fixtures and air units are rusting in some locations	2
	Floor Finish	-Areas of damaged/stained carpet tile -Areas of flooring in labs is delaminating	3
	Gym/Sports Flooring	-No comment	4
	Interior Doors, Frames & Hardware	-No ADA hardware on most doors -Multiple doors are worn / damaged	2
	Stairs & Handrails	-Handrails/Guardrails not fully ADA compliant	4
	Wall Finish Condition	-Several large cracks in CMU walls	3
	Window Treatments	-Variety of window treatments in use. Most panel-type units have been abandoned.	3

T.J. WALKER MIDDLE SCHOOL

Category	Topic	Comment	Middle School
Mechanical	Air Handlers	-AHU's are original from 1981 and near the end of expected service life. The units have been well maintained and may continue to serve the building for another 5-10 years, but plans should be made for eventual replacement.	3
	Boilers	-Served by the same 2013 boiler plant that serves the high school.	5
	Chillers & Cooling	-Chiller system was replaced in 2011 and is in good condition. Chiller and outdoor condenser should continue to serve the building for another 20-25 years.	5
	Controls	-Similar to the high school, the controls are primarily Automated Logic digital controls. The remainder of the pneumatic controls should be upgraded to digital to improve energy efficiencies and reliability.	4
	Ducts & Distribution	-Standard wear and tear, but in satisfactory condition.	4
	Exhaust Fans	-Standard wear and tear, but in satisfactory condition.	3
	Fan Coils, Unit Ventilators	-Unit ventilators are original from 1981 and have exceeded expected service life due to a good maintenance program. Plans should be made for eventual replacement.	3
	General Ventilation Comments	-Overall, the systems are performing well based on the original design parameters. However, improvements to the controls and modern control strategies would greatly improve the overall energy performance of the building.	4
	Piping/Insulation	-Standard wear and tear, but in satisfactory condition.	4
	Pumps	-Chilled water pump was replaced in 2011 with the chiller and is in good condition.	5
	Unit Heaters	-Standard wear and tear, but in satisfactory condition.	3
Miscellaneous	Bleachers	-No comment	4
	Classroom Equipment (Hoods, Kilns, etc.)	-FACE hoods acceptable.	3
	Elevator	-Functional but showing signs of wear	4
	Food Service Equipment	-Serving equipment in average condition	3
	Lockers/Cubbies	-Lockers in good condition, new locks	4
	Toilet Accessories	-Some fixtures mounted inconveniently/not at ADA height	3
	Toilet Partitions	-Toilet partitions show typical signs of wear	3

T.J. WALKER MIDDLE SCHOOL

Category	Topic	Comment	Middle School
Plumbing	Fixtures (sinks, toilets, urinals, etc.)	-Many of the fixtures appear to be original to the building. The owner did not report major issues with the fixtures, and they appear to be well maintained for their age. We recommend replacement of any fixtures involved in future renovations. -The emergency fixtures appear to be connected to cold water only. The fixtures should be provided with tempered water. The current water distribution system is not adequate to provide hot and cold water at sufficient pressure and flow rates. If these fixtures are relocated or replaced, the water distribution system and water heater capacity would need to be evaluated.	2
	Piping & Distribution	-No issues with the domestic water piping has been reported and appears to be in serviceable working condition. -No issues with the sanitary waste and vent piping have been reported. -Exposed storm conductor piping was not discovered during the walk-thru, but is assumed to be cast iron. There is no overflow system present in the building. The District did not report major issues with the piping. -The chemical waste system appeared to be in serviceable working condition.	3
	Pumps & Valves	-The domestic water valves have been reported to no longer function. Where plumbing work is required to take place, the entire building's water system may need to be shut down for service. Recommend replacing all valves at fixtures or groups of fixtures with new ball valves.	1
	Utilities	-No issues with the water service were reported by the District. If fire protection were to be required with any future work, a new 6" minimum combination service would be required. -No sanitary drain and vent issues were reported. -No issues were reported about the storm system by the District.	3
	Water Heaters	-The water heater was installed in 2004 and is nearing the end of its expected life.	3

T.J. WALKER MIDDLE SCHOOL

Category	Topic	Comment	Middle School
Roofing	Drains, Gutters & Downspouts	-Refer to comments from SBSD high school scorecard	1
	Ponding Water	-Refer to comments from SBSD high school scorecard	1
	Roofing Membrane	-Refer to comments from SBSD high school scorecard	1
Structural System	Structural Framing	-No comment	4

STURGEON BAY HIGH SCHOOL

Year Built	1966
Site Size	36.4 Acres
Building Size	115,540 SF (per district)
Current Enrollment	400
Grade Levels	9th - 12th Grades

SUMMARY OF HIGH PRIORITY NEEDS - STURGEON BAY HIGH SCHOOL

Beyond Useful Life - High Priority Replacement	Sawyer	Sunrise	Sunset	Middle	High
ADA - Entry, hardware, bathrooms, locker rooms, hardware, etc.		X	X	X	X
Site - Sidewalks, pavement, landscaping, playground, drainage, stairs, etc.	X	X	X		X
Electrical - Inefficient lighting, controls, power, communications, switchgear, panels, fire alarm, clocks	X	X	X	X	X
Windows - Unusable, inefficient, leaking, lintel maintenance, etc.		X	X		
Weatherproofing - Sealants, waterproofing, expansion joints, tuckpointing, etc.	X	X	X	X	X
Finishes - Flooring, ceilings, painting, doors, walls, blinds, cabinets, etc.	X	X	X	X	X
Asbestos - Pipe, floor, etc.		X	X		
Mechanical - Inefficient controls, chillers, air conditioning, air handlers, unit heaters, exhaust, etc.	X	X	X	X	X
Miscellaneous - Auditorium equipment, technical education equipment, culinary equipment, toilet partitions, etc.					X
Plumbing - Water heaters, utilities, pumps, valves, piping, fixtures, etc.		X	X	X	X
Roof - Membrane, drains, hatches, etc.		X	X	X	X
Structure - Walls, columns, joists, slabs, etc.					

STURGEON BAY HIGH SCHOOL

Category	Topic	Comment	High School
ADA	Accessible Entry(s)	-No comment	4
	Accessible Parking	-Parking / van access not clearly identified	2
	Accessible Restrooms	-Bathroom accessories at the wrong height -Drinking fountains not mounted at ADA height -Some doorways not compliant width	2
	Accessible Route	-No ADA door hardware on interior doors	2
	Passenger Loading Zone	-Loading zones not clearly identified.	2
Civil / Site	Athletic Fields	-Significant cracking on tennis court	2
	Gates & Fencing	-No comment	4
	Landscaping	-No comment	4
	Pedestrian Access	-No comment	4
	Sidewalks & Pavement	-Pavement showing wear -Cracks visible -Spalling in areas	3
	Site Amenities (Furniture, etc.)	-Benches outside entrance in good shape -Wooden benches behind school showing signs of wear	4
	Site drainage / grading	-No comment	5
	Site Signage	-No comment	4

STURGEON BAY HIGH SCHOOL

Category	Topic	Comment	High School
Electrical	CCTV	-No CCTV - Classrooms utilize ceiling projectors / smart boards - wired to teacher station and network.	4
	Clocks	-Time keeping head end equipment recently installed. They are replacing original clocks as they fail to 12v wired American Time clocks. -Update/replace with new clock system integrated with the paging system.	3
	Communications Systems	-Dukane Star Call paging - update / replace equipment. Possible option to Carehawk system w/ network and clock system integration.	3
	Data	-Category 5 and 6 data / voice cabling installed. Grounding system installed. UPS's installed. Emergency generator power present in MDF - separate from life safety system. -Possible upgrades: EM generator power to MDF (dedicated generator or ATS). Fiber between MDF to IDF's upgraded from 1G to 10G.	4
	Distribution Panelboards	-Update / replace original distribution panels.	2
	Fire Alarm System	-Fire alarm system serves HS / MS. Head end equipment recently updated. Update devices in areas of remodel work.	4
	Generator System	-Updated aprox. 10 years ago (interior). Serves both HS / MS. Appears to serve life and non life safety from same ATS. This should be corrected.	4
	Keyless Entry	-District wide head end system, readers recently updated. Door contacts not present. Aiphone present at main entrance and back main doors.	5
	Lighting	-Some new LED flat panels are being installed. Mostly 2x4 acrylic fluorescents. Some fluorescent T12 still exists. Continue LED upgrades.	3
	Lighting Control	-Lighting control system for corridors in place. Occ sensors in classrooms only. Update / Install lighting controls in entire school.	1
	Low Voltage Switchgear & Distribution	-Recently installed new exterior service disconnect with busway to original switchgear. Main service panel to be updated / replaced	2
	Power Devices	-Update devices in areas of future remodel / work.	3
	Site lighting	-New LED site lighting installed in many locations / some older HID still in place. District has been replacing. Continue replacement of HID.	4
	Site utilities (transformers, etc.)	-Recently updated Utility transformer.	5

STURGEON BAY HIGH SCHOOL

Category	Topic	Comment	High School
Exterior Enclosure	Expansion Joints	-Expansion joints showing signs of wear	2
	Exterior Cladding	-Rooftop mechanical room cladding is showing signs of wear	3
	Exterior Doors	-Several doors/door frames rusting	3
	Exterior Sealants	-Sealants failing and showing signs of wear	2
	Louvers & Vents	-Louvers show typical signs of wear	3
	Windows, Storefronts & Curtainwalls	-No comment	4
Foundation	Dampproofing & Waterproofing	-No comment	4
	Foundation & Frost Walls	-No comment	4
	Slab on Grade	-No comment	4
Interior	Casework & Millwork	-Millwork in science labs and art room showing signs of wear	3
	Ceiling Finish	-Many areas of ceiling showing signs of wear and water damage.	3
	Fire Doors & Shutters	-Three sets of doors should be replaced in conjunction with fire alarm.	2
	Floor Finish	-Locker/shower room floor is failing in multiple locations	3
	Gym/Sports Flooring	-No comment	4
	Interior Doors, Frames & Hardware	-Missing ADA hardware on doors -Some doors scratched and damaged	1
	Stairs & Handrails	-No comment	4
	Wall Finish Condition	-Several areas with cracking CMU walls	3
	Window Treatments	-Window shades in fair condition	3

STURGEON BAY HIGH SCHOOL

Category	Topic	Comment	High School
Mechanical	Air Handlers	-The 1966 AHU's are well-maintained but have exceeded life expectancy. The Wrestling and Weight Room AHU's were installed in 2002 and are in good condition.	3
	Air Terminals (VAV, FPVAV)	-Standard wear and tear, but in satisfactory condition.	4
	Boilers	-Boiler plant was replaced in 2013 and is in good condition. The addition of a high-efficiency condensing boiler would improve overall efficiency and allow for summer reheat and dehumidification with lower water temperatures.	5
	Chillers & Cooling	-Chiller, cooling tower, and pumps were replaced in 2000. The system has been well maintained and is in good condition.	4
	Controls	-Control system is primarily an Automated Logic digital system. The Gym and the Tech Ed Shops are still pneumatically controlled and should be upgraded to digital to improve energy efficiencies and reliability.	5
	Ducts & Distribution	-Standard wear and tear, but in satisfactory condition.	4
	Dust Collection	-The dust collector was replaced in 2018 with a high performance cartridge filter unit that recirculates the treated air back into the building. This eliminates the need for tempered makeup air.	5
	Exhaust Fans	-Standard wear and tear, but in satisfactory condition.	3
	Fan Coils, Unit Ventilators	-Standard wear and tear, but in satisfactory condition.	4
	General Ventilation Comments	-Overall, the systems are performing well based on the original design parameters. However, improvements to the controls and modern control strategies would greatly improve the overall energy performance of the building.	4
	Kiln Room/Art Room	-No comment	4
	Piping/Insulation	-Standard wear and tear, but in satisfactory condition.	4
	Pumps	-Hot water pumps were replaced in 2013 and are in good condition. Chilled water pumps and condenser water pumps were replaced in 2000 and are in good condition.	4
	Unit Heaters	-Standard wear and tear, but in satisfactory condition.	3
	Wall Fin Radiation	-Standard wear and tear, but in satisfactory condition.	3

STURGEON BAY HIGH SCHOOL

Category	Topic	Comment	High School
Miscellaneous	Auditorium Seating	-Seating is visibly worn	3
	Bleachers	-No comment	4
	Classroom Equipment (Hoods, Kilns, etc.)	-Classroom and lab equipment is in adequate condition	3
	Elevator	-Functional but showing signs of wear	4
	Food Service Equipment	-Food service equipment in acceptable condition	3
	Lockers/Cubbies	-Lockers in good condition, new locks	4
	Stage Curtains	-Curtains are showing signs of wear	3
	Theater & Stage Equipment	-Theater and stage equipment is aging and should be replaced	3
	Toilet Accessories	-No comment	3
	Toilet Partitions	-Toilet partitions show typical signs of wear	3

STURGEON BAY HIGH SCHOOL

Category	Topic	Comment	High School
Plumbing	Fixtures (sinks, toilets, urinals, etc.)	-Many of the fixtures appear to be original to the building. District did not report major issues with the fixtures, and they appear to be well maintained for their age. Recommend replacement of any fixtures involved in future renovations. -Emergency fixtures appear to be connected to cold water only. Fixtures should be provided with tempered water. Current water distribution system is not adequate to provide hot and cold water at sufficient pressure and flow rates. If these fixtures are relocated or replaced, the water distribution system would need to be evaluated.	2
	Grease Interceptor	-Few grease trap was installed at the dishwasher and is said to be in good working condition. There is an older grease trap near the 3-pot sink, and was reported to be in serviceable condition.	4
	Piping & Distribution	We recommend replacement of water distribution mains during any future renovation project. -District indicated that there has been past drain issues from the kitchen area, but they believe it to be fixed with the recent installation of a new grease interceptor. No other issues were reported. -Exposed storm conductor piping was not discovered during the walk-thru, but is assumed to be cast iron. There is no overflow system present in the building. The owner did not report major issues with the piping. -Chemical waste system appeared to be in serviceable working condition.	2
	Pumps & Valves	-Domestic water valves have been reported to no longer function. Where plumbing work is required to take place, the entire building's water system may need to be shut down for service. Recommend replacing all valves at fixtures or groups of fixtures with new ball valves. -Sump pumps appear to be in serviceable condition.	1
	Utilities	-No issues with the water service were reported by the staff. If fire protection were to be required with any future work, a new 6" minimum combination service would be required. -District indicated that there has been past drain issues from the kitchen area, but they believe it may be fixed with the recent installation of a new grease interceptor. No other issues were reported. -No issues were reported about the storm system.	3
	Water Heaters	-Recommend continued maintenance on the existing water heaters. Recommend installation of condensate water neutralizers at each water heater.	3

STURGEON BAY HIGH SCHOOL

Category	Topic	Comment	High School
Roofing	Drains, Gutters & Downspouts	-Drains installed incorrectly, baskets missing, downspouts damage	2
	Ponding Water	-Areas of ponding water due to poor roof drain layout & installation	2
	Roofing Membrane	-Areas of roofing require replacement. -Roof deck at wresting/weight room have multiple areas of small holes -Multiple conditions roof-to-wall transitions are failing	2
	Skylights & Hatches	-No comment	4
Structural System	Structural Framing	-No comment	4

three:

CAPACITY + UTILIZATION

SITE CAPACITY, BUILDING CAPACITY + UTILIZATION ASSESSMENT

This Assessment provides an objective analysis of present site & building capabilities, and is a critical step needed to understand how today's facilities support the goals of the District. The information presented was gathered by EUA's team of professionals through on-site tours, as well as interviews with building administrators. It serves as a foundational resource document to support the development of immediate solutions as well as long-range planning.

SITE CAPACITY METHODOLOGY

The Site is generally referred to the size of the land associated to an educational facility and the improvements made on that land which include buildings, parking lots, athletic fields, etc. The size of the total land often allows or limits the amount of improvements or amenities that can be offered to a specific student population. The information below analyzes the existing site area against the recommended site area for programs of that type. The following school site information comes from the Council of Educational Facility Planners International (CEFPI) Planning Guide 2004 (now referred to as Association for Learning Environments (A4LE)):

- Elementary School sites should be a minimum of 10 acres plus an additional acre for each 100 students.
- Middle School sites should be a minimum of 20 acres plus an additional acre for each 100 students.
- High School sites should be a minimum of 30 acres plus an additional acre for each 100 students.

There are other publications with slight variation on these general rules of thumb, but in our experience, these recommendations have provided a fairly reliable benchmark for assessing general site conditions. Of course specific conditions (e.g. need for stadium parking, on-site septic, well, etc.) may require additional area, and in tight urban sites the benchmark numbers may be unattainable.

It should also be noted that the recommended site size assumes the entire property is buildable. If the site has easements, wetlands, open water, unsuitable soils, or drastic topography that would not lend to the construction of buildings, parking, drives, or play areas the site size would have to increase based on the size of the unbuildable area.

SITE CAPACITY SUMMARY

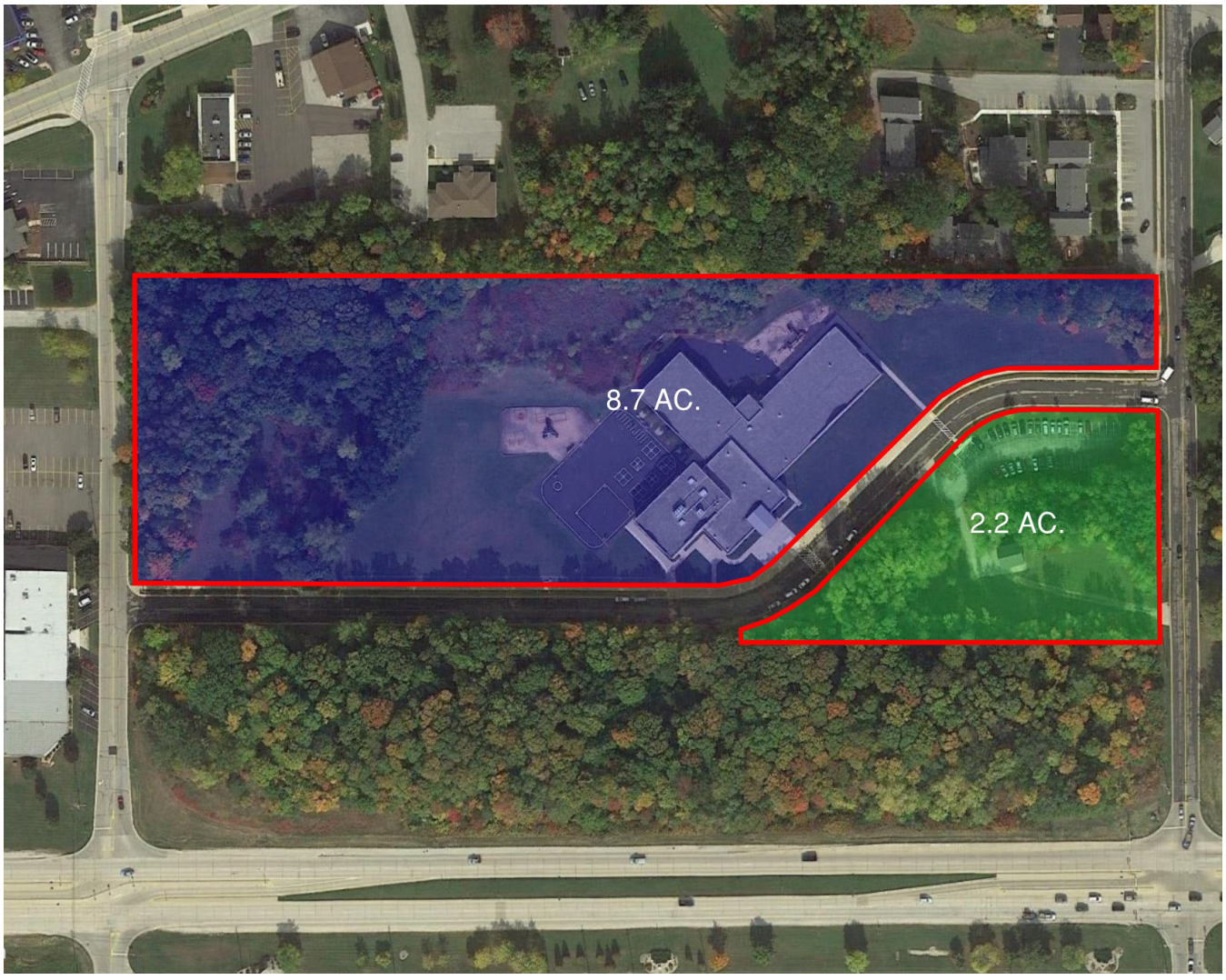
SITE CAPACITY				
BUILDING	EXISTING SITE SIZE	ENROLLMENT (January 2019 DPI)	RECOMMENDED SITE SIZE (BASED ON ENROLLMENT)	EXISTING BUILDING SIZE (SQUARE FEET) [d]
Sawyer Elementary	10.9 acres	134 students	11 acres [a]	40,340 sf
Sunrise Elementary	2.9 acres	216 students	12 acres [a]	36,700 sf
Sunset Elementary	3.6 acres	149 students	11 acres [a]	27,980 sf
T.J. Walker Middle School	16 acres	254 students	22 acres [b]	61,540 sf
Sturgeon Bay High School	36.4 acres	400 students	34 acres [c]	115,540 sf

a. Based on 10 acres plus one additional acre for each 100 students at Elementary School.
b. Based on 20 acres plus one additional acre for each 100 students at Middle School.
c. Based on 30 acres plus one additional acre for each 100 students at High School.
d. Based on 150 SF per student at Elementary, 180 SF per student at Middle School, and 230 SF per student at High School.

SAWYER ELEMENTARY SCHOOL

SITE CAPACITY ANALYSIS

Sawyer Elementary is located on the west side of Sturgeon Bay in a commercial area of the city with very limited residential neighborhoods. The Sawyer site covers 8.7 acres directly around the building and another 2.2 acres associated with a parking lot across the street. Guidelines for a school this size would suggest a minimum of 11 acres which would allow for the recommended space for the building, on-site parking, playgrounds, physical education space, and stormwater retention. Although the site size aligns with the rule-of-thumb for total acreage, this particular site is challenged with steep topography which limits the overall buildable area. Similar to Sunset, this school requires bus and parent traffic to park curbside which can lead to safety challenges associated with parents and students crossing the street to get to parked vehicles.



SUNRISE ELEMENTARY SCHOOL

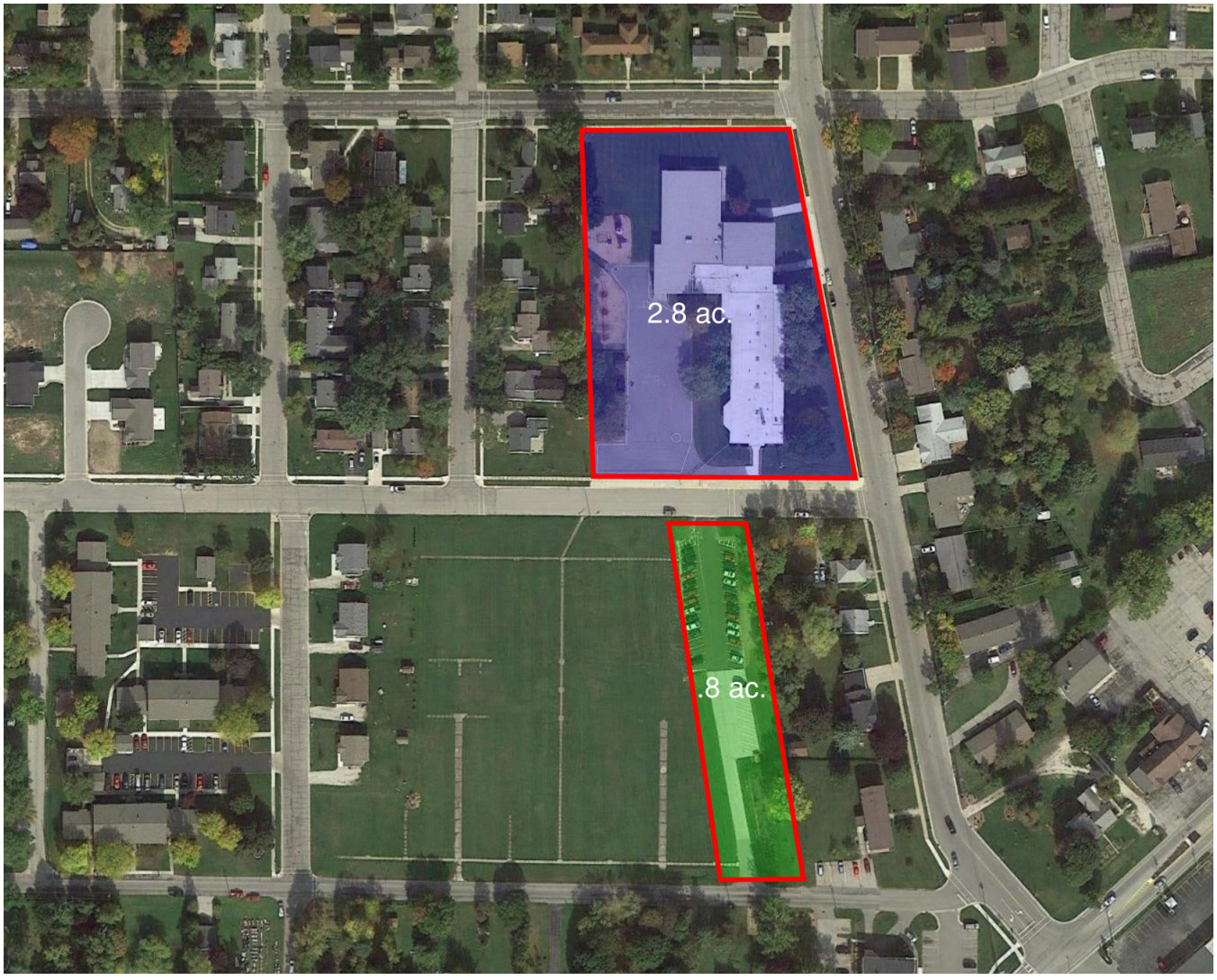
SITE CAPACITY ANALYSIS

Sunrise Elementary is located on the east side of Sturgeon Bay in a residential area of the city near the hospital and the combined Middle/High School. The Sunrise site covers approximately 2.9 acres directly around the building and another 3.5 acres associated with physical education space and the competition soccer field. EUA used the Door County GIS website to obtain the property boundaries and the site acreage. There seems to be a discrepancy in the boundary line associated with the school and the competition soccer field. If future development is considered, this discrepancy should be looked into. Staff parking is in a lot across the street associated with Memorial Field. Guidelines for a school this size would suggest a minimum of 12 acres which would allow for the recommended space for the building, on-site parking, playgrounds, physical education space, and storm water retention. The under-sized site leads to the need for off-site parking and requires bus and parent traffic to be co-located to the curb and adjacent roads. After school pick-up procedures can lead to safety challenges associated with parents and students crossing the street to get to parked vehicles.

SUNSET ELEMENTARY SCHOOL

SITE CAPACITY ANALYSIS

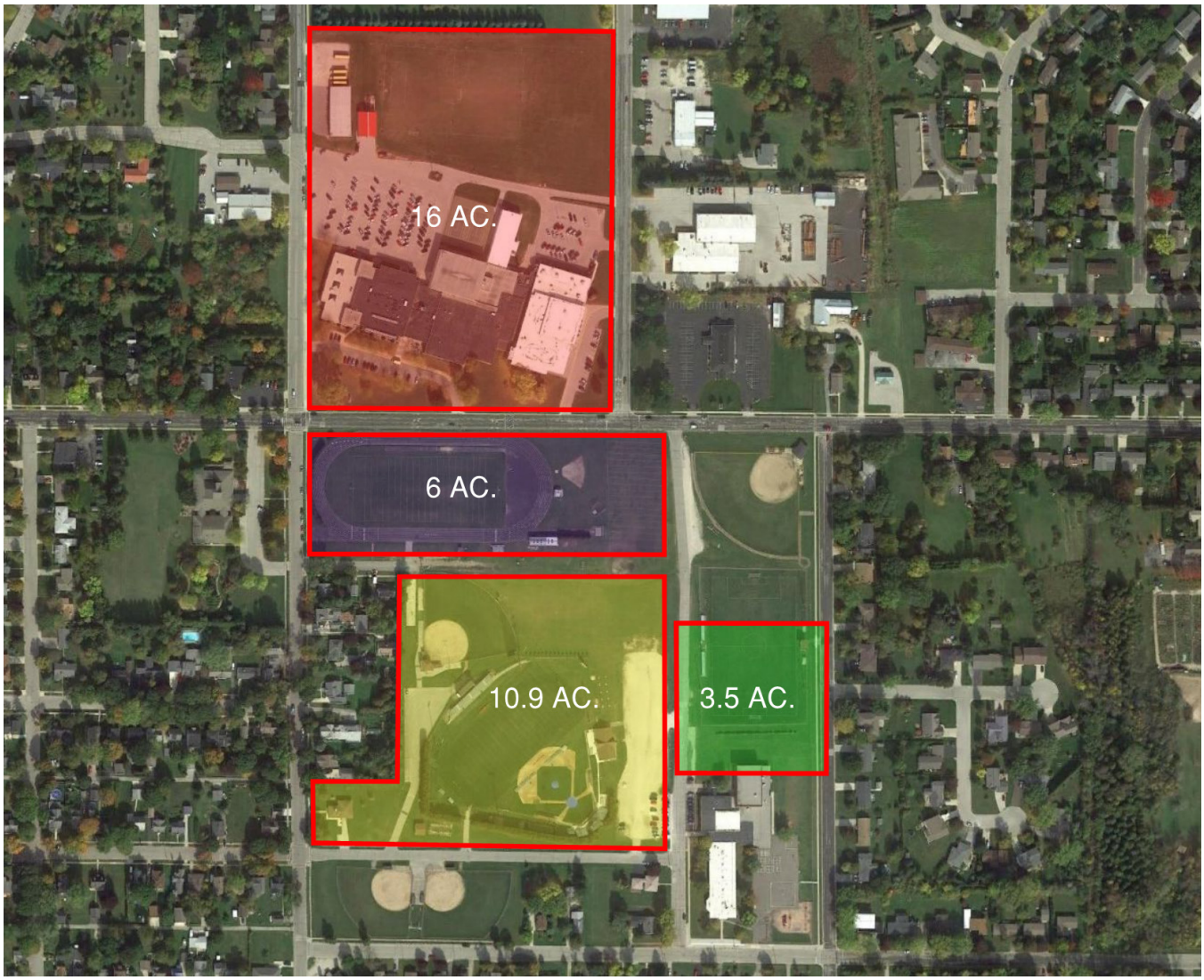
Sunset Elementary is located on the east side of Sturgeon Bay in a residential area of the city near commercial properties along Egg Harbor Road. The Sunset site covers 2.8 acres directly around the building and another 0.8 acres associated with a parking lot across the street. Guidelines for a school this size would suggest a minimum of 11 acres which would allow for the recommended space for the building, on-site parking, playgrounds, physical education space, and stormwater retention. The under-sized site leads to the need for off-site parking and requires bus and parent traffic to be co-located to the curb and adjacent roads. After school pick-up procedures can lead to safety challenges associated with parents and students crossing the street to get to parked vehicles.



T.J. WALKER MIDDLE SCHOOL / HIGH SCHOOL

SITE CAPACITY ANALYSIS

The combined Middle School / High School campus (16 acres) is located on the east side of Sturgeon Bay in a commercial area of the city but is surrounded by residential neighborhoods. The combined site allows access to amenities for the Middle School students that typically are not available for a school of its size. Collectively, the campus with all the athletic fields totals 36.4 acres. This total includes the competition soccer field located adjacent to Sunrise Elementary (3.5 acres), the Memorial Field complex (10.9 acres), and track (6 acres). EUA used the Door County GIS website to obtain the property boundaries and the site acreage. There seems to be a discrepancy in the boundary line associated with Jaycee Field to the north of the competition soccer field. If future development is considered, this discrepancy should be investigated further. The GIS website also clearly calls out an easement associated with the future extension of Oregon Street to South 14th Ave. As a total campus, the acreage is lower than the recommended 56 acres as the chart on page 53 suggests. The under-sized site may contribute to the challenges experienced with the student pick-up process at the end of the school day. A more efficient process for parent and bus pick-up should be considered.



BUILDING CAPACITY METHODOLOGY

As enrollment fluctuations affect school districts nationwide, the physical capability of each building will determine whether or not capacity should increase beyond its present level, or if it will be necessary to move students to other buildings more capable of accommodating such enrollment shifts. This analysis should provide a guide to measure each building's capability to handle a student population and provide a measuring stick to keep up with the changing needs.

Historical Perspective on School Capacity

It is worthwhile to briefly cover why schools are not able to contain the same number of students as when they were originally constructed. America's public schools can be traced back to 1640 when founders assumed families bore the responsibility of raising and educating a child. Gradually, programs were added by Federal and State mandates that have dramatically affected the educational environment. The trend of increasing responsibilities for public schools has accelerated ever since.

1900-1910
- Health Instruction Added

1910-1930
- Physical Education
- Vocational Education

1940's
- Business Education
- Art & Music
- Speech & Drama
- Half-Day Kindergarten
- Lunch Provided

1950's
- Expanded Science & Math
- Expanded Art & Music
- Foreign Language

1960's
- Advanced Placement
- Head Start
- Title I (Reading)
- Consumer & Career Education

1970's
- Special Education

1980's
- Computer Education
- English As A Second Language

1980's Cont.
- Early Childhood
- Full-Day Kindergarten
- At-Risk Programs
- After School Programs

1990's
- Expanded Computer / Internet
- Inclusion Of Special Education Learners In General Classrooms
- School-To-Work Programs

2000's
- Standardized Testing
- Personalized Learning
- Foreign Language For Elementary
- Common Core Standards
- Trans-Gender Amenities
- One To One Initiatives
- Career Readiness
- Maker Spaces
- Breakfast Provided
- Title Ix (Equality For Girl's Athletics)

2010's
- 1:1 Devices
- Flexible Classrooms
- Small Group Rooms, Collaboration Spaces

In many districts, spaces that were once used as standard classrooms have been transformed into multiple educational environments that have to act as offices, teaching space for 4-6 students, and reference libraries for several different areas associated for all learners. One of the most dramatic program requirements of the past 30 years may become obsolete in the near future. Computers first made their presence in schools around 1983 when a single Apple II was assigned to one building. The computer labs created in the 90's and early 2000's are now transitioning as laptops and hand-held tablets become the norm for student production and research. The bottom line is the demand on educational space is always changing, and it should be expected that buildings need to evolve along with those programs.

TYPES OF CAPACITY CALCULATIONS

For this assessment, EUA is using (3) methods to calculate student capacity:

1. Functional Capacity Based on District Desired Class Size

Historically, building capacity has been determined by counting the number of available teaching stations and multiplying by the district's desired number of students per class. The number of students per class is set by the district based on a practical understanding of how many students a teacher can effectively manage while maintaining district expectations for quality and control. The following guidance has been provided by the school district:

STURGEON BAY SCHOOLS - DISTRICT DESIRED CLASS SIZE	
GRADE LEVEL	DESIRED CLASS SIZE
4K	18
Kindergarten	18
Grades 1 - 3	20
Grades 4 - 5	22
Grades 6 - 8	28
Grades 9 - 12	30

At the elementary level, only standard classrooms are included in the capacity analysis because students remain in their assigned classroom most of the day. At the middle and high school level, all regularly scheduled instructional spaces are used in the calculation because students are not expected to return to a homeroom after instruction in other spaces.

Several areas are not included in this calculation:

- Special education rooms are not typically included because it is unlikely that other students would fill the seats of these students while they are receiving additional instruction elsewhere in the building.
- Most resource areas and labs are not factored into this calculation because these areas are intended to supplement instruction for their learning areas located somewhere else in the school. For example, a computer lab dedicated to an English Department is not included because the students are physically leaving one space to use the other as a resource.

The number generated by this calculation is sometimes referred to as the "Maximum Capacity" for the building. This number can be misleading because it is unlikely that every room will be used at 100% capacity all the time. At the middle and high school levels, the capacity calculation needs to account for teacher prep time, bell schedules, and tutoring needs which would drop the total utilization of any one space. Even at the elementary school level, because of fluctuations in student population it is impractical to expect every classroom to be filled completely to maximum capacity in any given school year. Taking school schedules, programmatic issues, and fluctuations in student populations into consideration, the Maximum Capacity is multiplied by a utilization rate to create the final "Functional Capacity."

Utilizations rates can very district-to-district depending on school size, scheduling procedure, and availability of resource space. Target utilization rates, however, generally fall within the following ranges:

- Elementary schools: 90-95% utilization
- Middle and high schools: 70-80% utilization

When the maximum capacity is modified to reflect the appropriate utilization rate, the resulting **Functional Capacity based on District Desired Class Size** provides a reasonably accurate representation of how many students a school can accommodate with little or no change to room configuration or staffing policies.

2. Functional Capacity Based on Learning Environment Area

While class size calculations provide a reasonable estimation of capacity based on current room usage, they do not account for spaces whose physical areas are either too small or too large for their intended uses. They also do not readily account for the potential of non-traditional learning spaces outside of classroom environments. To better understand what a building's potential capacity could be, a space by space analyses of available learning area is often required.

Based on the best practice data currently available, it is possible to define the square footage (SF) per student needed for optimum performance in each learning space:

- Kindergarten Level Learning Areas (4K and 5K): 50 – 60 SF per student
- Elementary Grade Level Learning Areas (1-5): 30 – 40 SF per student
- Middle/High School Level Learning Areas (6-12): 25 – 35 SF per student

Specialty instruction areas like shops, art rooms, and lab spaces have their own "Best Practice" square foot allowances per student. To calculate the total capacity of a building, then, each academic space is analyzed to determine its area in square feet (SF). This area is then divided by the recommended SF/student to determine the maximum number of occupants for each learning space.

The Maximum Capacity can then be calculated by totaling the number of occupants in each individual learning space. As in the previous method, at the elementary level only "homeroom" learning environments are included in the calculation, whereas all available instructional spaces are included at the middle and high school levels. This resulting Maximum Capacity is multiplied by the target utilization rate to determine the final Functional Capacity. The **Functional Capacity based on Learning Area** provides a clearer picture of what a building's capacity could be if all learning areas were utilized at optimal efficiencies. It is important to note that achieving this level of efficiency may have direct impacts on staffing procedures, or even require the reconfiguration of space. For example, two extra large

classrooms may contain enough area within them to support three classes worth of students. To utilize that potential, additional staff may be required to support the unusually large class sizes, or the spaces may need to be reconfigured to create three individual rooms.

3. Capacity Based on Gross Building Area

Gross Building Area refers to the total size of the building including instructional space, support space, mechanical space, circulation and walls. Capacity based on Gross Building Area, then, is a more general calculation which evaluates the capacity based not only on learning space, but on guidelines for total building area per student.

Total building area standards are derived from historic data compilation, optimal planning models for space utilization, and from regional and national educational research and planning organizations. There is no recognized national standard for school size, and only a few states publish area guidelines. The Minnesota Department of Children, Families & Learning - Guide for Planning Construction Projects (published 2002) is one such guideline. It provides a range of acceptable areas based on school size. Smaller schools generally require more area per student than larger schools.

- Elementary School: 125 – 155 sq. ft. per student
- Middle School: 170 – 200 sq. ft. per student
- High School: 200 – 320 sq. ft. per student

We have found these ranges to be reasonably consistent with gross square footage of school building projects built in Wisconsin over the past fifteen years.

- Elementary School: 125 – 170 sq.ft. per student
- Middle School: 150 – 220 sq.ft. per student
- High School: 200 – 260 sq.ft. per student

These two sources of information can be averaged to create a recommended area per student for each building type. The **Capacity based on Gross Building Area** can then be calculated by dividing the existing building SF by the average recommended SF per student. The resulting data can then be used as an indicator for how the school compares with regional norms.

Gross building area per student recommendations are often used as a baseline guide for planning and analysis. For existing schools capacity calculations based on Gross Building Area can serve as indicators for overall building efficiencies. Lower SF to student ratios would typically indicate that there is less auxiliary or support space present within the building. High SF per student numbers may reflect the presence of amenities that may not always be typical for schools of comparable size (i.e. more specialist or intervention space, more gym or cafeteria space, auditorium space, etc.). Smaller schools are typically less efficient than larger schools.

BUILDING CAPACITY

The following table summarizes information of district facilities and current enrollment as of January 2019.

BUILDING CAPACITY				
BUILDING	CURRENT ENROLLMENT	CAPACITY BASED ON DISTRICT DESIRED CLASS SIZE [c]	CAPACITY BASED ON SQUARE FEET PER STUDENT IN LEARNING ENVIRONMENTS[a, b]	CAPACITY BASED ON GROSS SQUARE FOOTAGE OF SCHOOL [d]
Sawyer Elementary School	134	144+ (could be 216)[e]	201+ (could be 296)[e]	269
Sunrise Elementary School	216	248	284	245
Sunset Elementary School	149	178	147	187
T.J. Walker Middle School	254	426	398	342
Sturgeon Bay High School	400	639	610	642
Totals	1,153	1,635 (1,707)[e]	1,640 (1,735)[e]	1,685

a Based on 55 SF per Kindergarten student, 35 SF per student grades 1-5, and 30 SF per student for general classrooms grades 6-12. Science Rooms, FACE Labs, and Art Rooms use 50 SF per student. Tech Ed Lab spaces use 50-100 sq. ft. per student depending on the academic focus.

b. Functional Design Capacity is 90% of maximum capacity at elementary, and 80% of the maximum capacity in middle school and high schools.

c. Based on recommended students per instructor as provided by Sturgeon Bay School District

d. Based on 150 SF per student at Elementary, 180 SF per student at Intermediate, and 230 SF per student at High

e. The capacity could be higher if the available rooms were used as standard classrooms. This number represents the higher capacity.

BUILDING UTILIZATION METHODOLOGY

This section of the report is prepared to provide an objective analysis of the building utilization.

Understanding current building utilization is useful in the facility development process because it allows a true view of what spaces are being used, how often, and to what extent.

The utilization of a school is evaluated based on “Best Practices” or recommendations found in CEFPI (The Council of Educational Facilities Planners International, now Association for Learning Environments, A4LE) and other national publications that primarily focus on the design and evaluation of educational facilities.

There are two important aspects to study when determining the utilization of any school:

1. The first is the **Utilization Factor** which is expressed as a percentage. This percentage provides a facility a certain degree of flexibility in scheduling of teaching stations. Middle and High Schools are typically considered “at maximum recommended utilization” when the average reaches 80 percent based on the teaching stations in the facility.
2. The second aspect of utilization is the **Occupant Capacity** of each educational space per period the space is being used. The school district provided EUA with an occupant count for every space, every period of the day. Although a space may be “occupied” which is reflected in the utilization, it may not be occupied to the space’s full potential or full instructor ratio potential.

Finally, a note about the eventual findings from this analysis. Many school districts are surprised by how low their buildings are utilized and they question the data. Exploratory areas (technical education, agriculture, band, art, etc.) can be particularly challenging for many districts. The physical design of these spaces tends to be highly specialized so that the spaces become limited in their use to one specific function. If staffing or students for those specialized areas are limited, these areas will often calculate out as being underutilized.

Elementary schools do not have a measured utilization because they are not organized around a specific number of periods per day. For the elementary schools, we have included floor plans which provide a graphic understanding of rooms that are:

- Standard classrooms
- Specialty rooms
- Underutilized rooms based on administrative review of how often students are occupying the space

SAWYER ELEMENTARY SCHOOL

BUILDING CAPACITY SUMMARY

Sawyer School serves 1st and 2nd grade in the Sturgeon Bay School District. As of January 2019, enrollment was 134 students. For the purposes of this assessment, capacity was calculated in three different ways:

- Functional Capacity based on District Desired Class Size is the method that most realistically captures capacity numbers for the building in its existing configuration. This calculation yields a functional capacity of 144 students, which would mean that the building is nearing capacity, but could theoretically serve up to an additional 10 students if the classroom populations matched the desired class size. This building was designed to house an additional grade, which means the capacity could equate to 216 students if rooms were better utilized.

- Functional Capacity based on Learning Area yields a greater capacity of 201 students. Based on available learning area, the building could theoretically support up an additional 57 students. The district desired class sizes are a lower number than what could comfortably fit in these classrooms which explains the difference in the calculated capacities. This building was designed to house an additional grade, which means the capacity could equate to 296 students if rooms were properly utilized.

- Capacity based on Gross Building Area suggests a potentially greater capacity of 269 students, which would still theoretically mean that the building could accommodate an additional 125 students. The relative discrepancy between these calculations tends to indicate that the overall size of the building is somewhat larger than what would be expected based on the other capacity calculations. This discrepancy highlights the high number of rooms that could be classrooms but are currently used as offices or support spaces. It is also important to note, for a newer building, that there is very little space in the building dedicated to student breakout and collaboration space outside of the primary classroom environment.

The different capacity totals provide a somewhat mixed picture of capacity at Sawyer Elementary School. There appears to be enough academic space for current enrollment. However, the building is highly underutilized when you consider the low number of standard classrooms being used. As the “newest” school in the district, this building could be expanded and still function well with the shared gym/cafeteria. It should also be noted that each of the elementary schools have dedicated spaces reserved for staff that travels between the buildings. Depending on the day of the week, an entire room may not be used because that staff member is scheduled at a different elementary school. The following diagrams illustrate the current building utilization, and the calculations used to generate each total.

SAWYER ELEMENTARY SCHOOL

BUILDING UTILIZATION PLAN

SAWYER ELEMENTARY SCHOOL

BUILDING UTILIZATION PROGRAM

Revised 5.02.2019

eppstein uhen : architects

Sawyer Elementary

Room Number	Room Name	Room Area (SF)	Capacity by Desired Class Size	Capacity by Learning Area	Capacity by Gross Building Area of 40,340 sf	Notes
101	Conference Room	373				
101A	Principal's Office	162				
101B	Nurse	103				
101C	Toilet					
101D	Office	437				
101E	Counselor	162				
104	Art	910				half day
104A	Art Office/Storage/Kiln					
106	Music	933				half day
106A	Music Office/Storage					
107	Electrical					
109	Maintenance Office					
108	PE Storage					
110	PE Office					
112	Kitchen					
114	Gym/Caf	6000				
114 (2nd Fl)	Machinery Room					
114A (2nd Fl)	Equipment					
201	LMC	2192				
201A	LMC Office	408				
201B	Storage					
202	Intervention Office	261				
204	Staff Work Room	360				
206	1st Grade	900	**20**	**26**		
207	1st Grade	900	**20**	**26**		
208	Open Classroom	900	**20**	**26**		
209	SE	900				large enough for classroom
210	1st Grade	900	**20**	**26**		
211	Special Ed (Open Classrm)	900				large enough for classroom
301	Behavioral Specialist	572				
303	Book Room	258				
304	Janitor					
305	Autism Office (PATH)	780				
305 A	Toilet					
307	Reading/Title 1 (Open Classrm)	900				large enough for classroom
308	PT/OT	344				
309	STEAM (Open Classroom)	900				large enough for classroom
310	Speech & Language	256				
311	2nd Grade	900	**20**	**26**		
312	Title 1	300				
313	2nd Grade	900	**20**	**26**		
314	Counselor	300				
316	2nd Grade	1216	**20**	**35**		
316 A	Storage					
318	2nd Grade	1216	**20**	**35**		
318 A	Toilet					
318B	Special Ed	263				
	Max Capacity		160	224		
	Functional Capacity (90%)		**144**	**201**	**269**	216 & 296 if all rooms used
	Jan 2019 Enrollment	134				

SUNRISE ELEMENTARY SCHOOL

BUILDING CAPACITY SUMMARY

Sunrise School serves 3rd through 5th grades for the Sturgeon Bay School District. As of January 2019, enrollment was 216 students. For the purposes of this assessment, capacity was calculated in three different ways:

- Functional Capacity based on District Desired Class Size is the method that most realistically captures capacity numbers for the building in its existing configuration. This calculation yields a functional capacity of 248 students, which would mean that the building is nearing capacity, but could theoretically serve up to an additional 32 students if the classroom populations matched the desired class size.

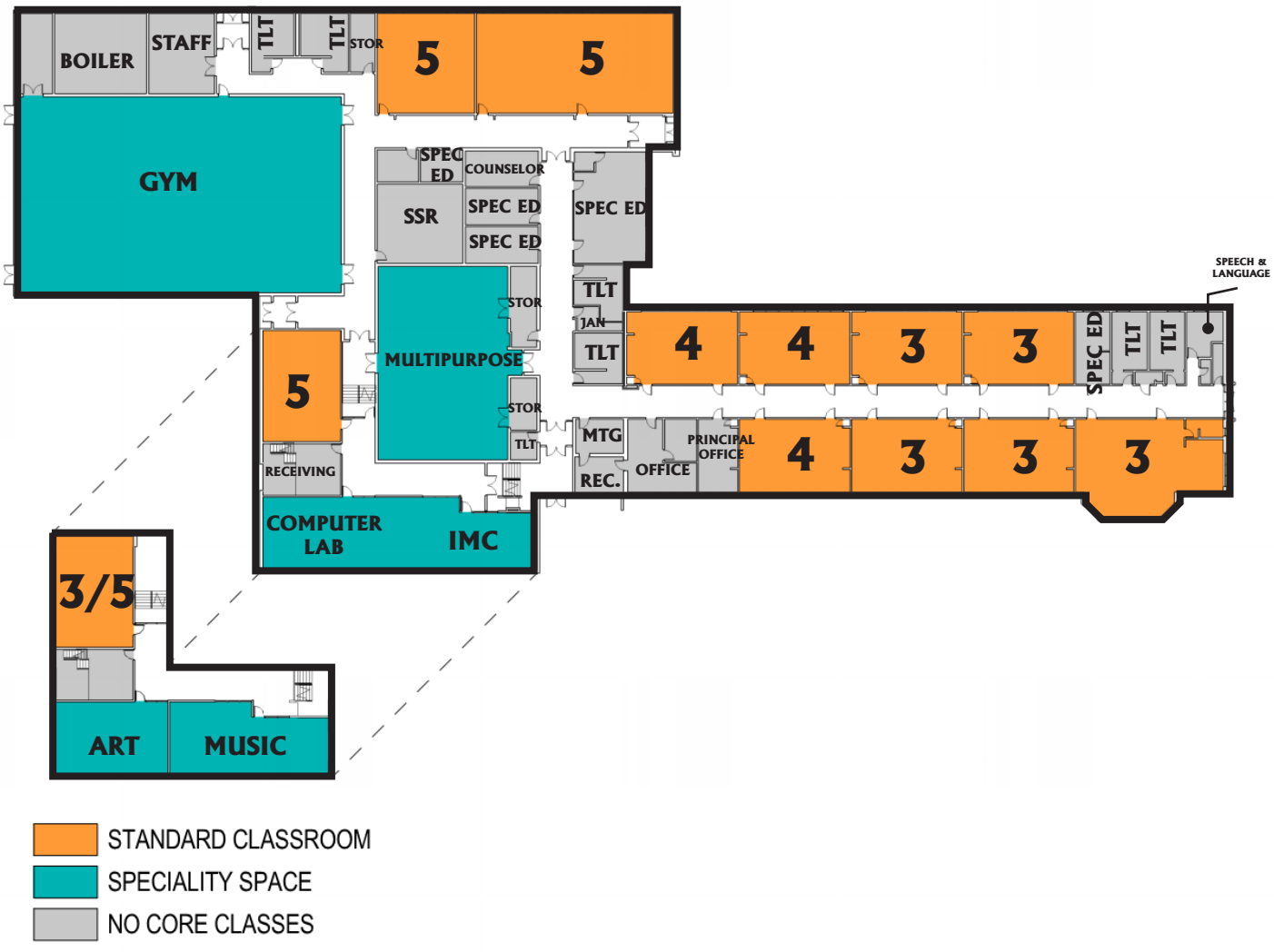
- Functional Capacity based on Learning Area yields a slightly greater capacity of 284 students. Based on available learning area, the building could theoretically support up to an additional 68 students. The district desired class sizes are a lower number than what could comfortably fit in these classrooms which explains the difference in the calculated capacities.

- Capacity based on Gross Building Area suggests a slightly smaller total capacity of 245 students, which would mean that the building could theoretically accommodate an additional 29 students. The relative discrepancy between these calculations tends to indicate that the overall size of the building is somewhat smaller than what would be expected based on the other capacity calculations. This may create some additional pressures on space typically required for support, including circulation, specialists, PE and other amenities. It is also important to note that there is very little space in the building dedicated to student breakout and collaboration space outside of the primary classroom environment.

The different capacity totals provide a clear picture of capacity at Sunset School. Overall, the building is operating near or slightly under its ideal functional capacity, it appears that the oldest classrooms are small but properly sized based on the District desired class size. It should also be noted that each of the elementary schools have dedicated spaces reserved for staff that travels between the buildings. Depending on the day of the week, and entire room may not be used because that staff member is scheduled at a different elementary school. The following diagrams illustrate the current building utilization, and the calculations used to generate each total.

SUNRISE ELEMENTARY SCHOOL

BUILDING UTILIZATION PLAN



SUNRISE ELEMENTARY SCHOOL

BUILDING UTILIZATION PROGRAM

eppstein uhen : architects

Sunrise Elementary

Room Number	Room Name	Room Area (SF)	Capacity by Desired Class Size	Capacity by Learning Area	Capacity by Gross Building Area of 36,700 sf	Notes
2	3rd Grade & Reading Interv.	1058	**20**	**30**		
4	3rd Grade	805	**20**	**23**		
6	3rd Grade	805	**20**	**23**		
8	4th Grade	805	**22**	**23**		
10	Principal	276				
5	Speech & Language	121				
13	Special Ed	253				
15	3rd Grade	805	**20**	**23**		
17	3rd Grade	805	**20**	**23**		
19	4th Grade	805	**22**	**23**		
12	4th Grade	805	**22**	**23**		
29	Special Ed	748				
31	5th Grade	900	**22**	**26**		
33	5th Grade	900	**22**	**26**		half day / traveling staff
35	5th Grade	900	**22**	**26**		
57	3/5 Grade	816	**22**	**23**		
59	Art	748				half day / traveling staff
61	Music	1056				half day / traveling staff
53 & 55	IMC & Comp Lab	1804				
49	5th Grade	816	**22**	**23**		
30	Counselor	242				
28	Reading Specialist/SE	242				
26	Book Room	242				
32	Special Ed	121				
34	Therapist	121				
36	SSR	484				
24	Caf/Multipurpose	2400				
24 A & B	Storage					
18	Conference Room					
20	Reception					
16	Office					
43	Workroom					
45	Boiler					
45b	PE Storage					
47	Gym	6000				
51a	Receiving					
	Max Capacity		276	315		
	Functional Capacity (90%)		**248**	**284**	**245**	
	Jan 2019 Enrollment	216				

Sunrise ES -UtilizationAnalysis.xlsx

SUNSET ELEMENTARY SCHOOL

BUILDING CAPACITY SUMMARY

Sunset School serves 4K and Kindergarten and is one of three elementary schools in the Sturgeon Bay School District. As of January 2019, enrollment was 149 students. For the purposes of this assessment, capacity was calculated in three different ways:

- Functional Capacity based on District Desired Class Size is the method that most realistically captures capacity numbers for the building in its existing configuration. This calculation yields a functional capacity of 178 students, which would mean that the building is nearing capacity, but could theoretically serve up to an additional 31 students if the classroom populations matched the desired class size.

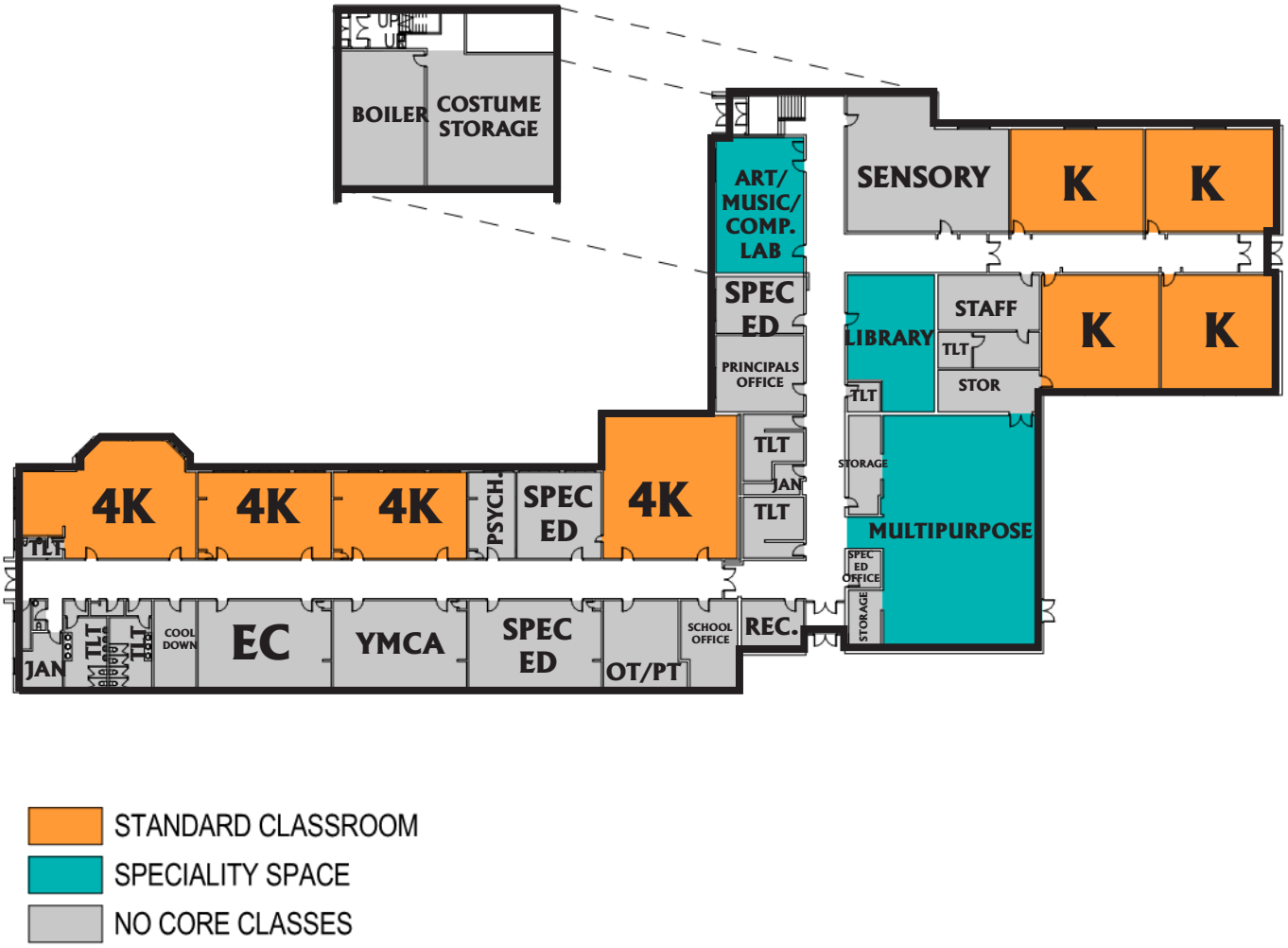
- Functional Capacity based on Learning Area yields a somewhat smaller capacity of 147 students. Based on available learning area, the building is operating at nearly its ideal student capacity. The relative alignment of this capacity total verses the capacity by district desired class size is indicative of classrooms that are near or slightly under the sizes that would be expected to meet the district's desired maximum student counts.

- Capacity based on Gross Building Area suggests a somewhat larger total capacity of 187 students, which would still theoretically mean that the building can accommodate an additional students. The discrepancy between these calculations indicates that the overall size of the building is somewhat larger than what would be expected based on the other capacity calculations. This usually means that support areas including circulation space, specialists, PE, cafeteria and other amenities is greater than is required based on the current capacity. This may allow for the re-purposing of some square footage to create student breakout and collaboration space outside of the primary classroom environment.

The different capacity totals provide a clear picture of capacity at Sunset School. Overall, the building is operating near or slightly under its ideal functional capacity, it appears that the oldest classrooms are slightly undersized based District desired class size. It should also be noted that each of the elementary schools have dedicated spaces reserved for staff that travels between the buildings. Depending on the day of the week, and entire room may not be used because that staff member is scheduled at a different elementary school. The following diagrams illustrate the current building utilization, and the calculations used to generate each total.

SUNSET ELEMENTARY SCHOOL

BUILDING UTILIZATION PLAN



SUNSET ELEMENTARY SCHOOL

BUILDING UTILIZATION PROGRAM

Revised 5.02.2019

eppstein uhen : architects

Sunset Elementary

Room Number	Room Name	Room Area (SF)	Capacity by Desired Class Size	Capacity by Learning Area	Capacity by Gross Building Area of 27,980 sf	Notes
5	Janitor	154				
13	Sensory/Cool Down	253				
2	4K Full Day	1058	**18**	**19**		
4	4K	805	**18**	**15**		
15	Open Classroom	805	**18**	**15**		
6	4K	805	**18**	**15**		
17	Early Childhood 3-5	805	**18**	**15**		
8	Psychologist	276				
19	YMCA After School (Lease)	805	**18**	**15**		
10	Special Ed	506				
21	OT/PT	437				
23	Copy/Mail/Office	322				
12	4K	1260	**18**	**23**		
25	???	150				
27	Special Ed	80				
29	Multipurpose	2400				
29A	Storage	120				
29B	Storage	200				
29C	Storage	260				
20A & B	Principal Office & Special Ed	805				large enough for classroom
22	Art/Music/Computer Lab	805				traveling staff
33	Library	805				
24	Sensory	1264				large enough for classroom
35	Staff Workroom	576				
26	Kindergarten	884	**18**	**16**		
37	Kindergarten	900	**18**	**16**		
28	Kindergarten	884	**18**	**16**		
39	Kindergarten	900	**18**	**16**		
34	Costume Storage/District Use	1089				
32	Not Labeled	253				
36	Boiler Room	748				
	Max Capacity		198	164		
	Functional Capacity (90%)		**178**	**147**	**187**	
	Jan 2019 Enrollment	149				

T.J. WALKER MIDDLE / HIGH SCHOOL

BUILDING CAPACITY SUMMARY

The combined Middle and High School serves grades six (6) through twelve (12) for the Sturgeon Bay School District. As of January 2019, enrollment was 254 students for the Middle School and 400 students for the High School. For the purpose of this assessment, capacity was calculated in three different ways:

- Functional Capacity based on District Desired Class Size is the method that most realistically captures capacity numbers for the building in its existing configuration. This calculation yields a functional capacity of 426 students at the Middle School and 639 students at the High School, which would mean that the building is currently well within capacity, but could theoretically serve up to an additional 172 students at the Middle School and an additional 239 students at the High School. When comparing the district desired class size at the Middle School of 28 students vs the current average number of 17.2 students in each of the rooms for each period of the day, it is easy to see where the additional capacity is. The same can be said for the High School which is a comparison of 30 students vs 18.5 students.

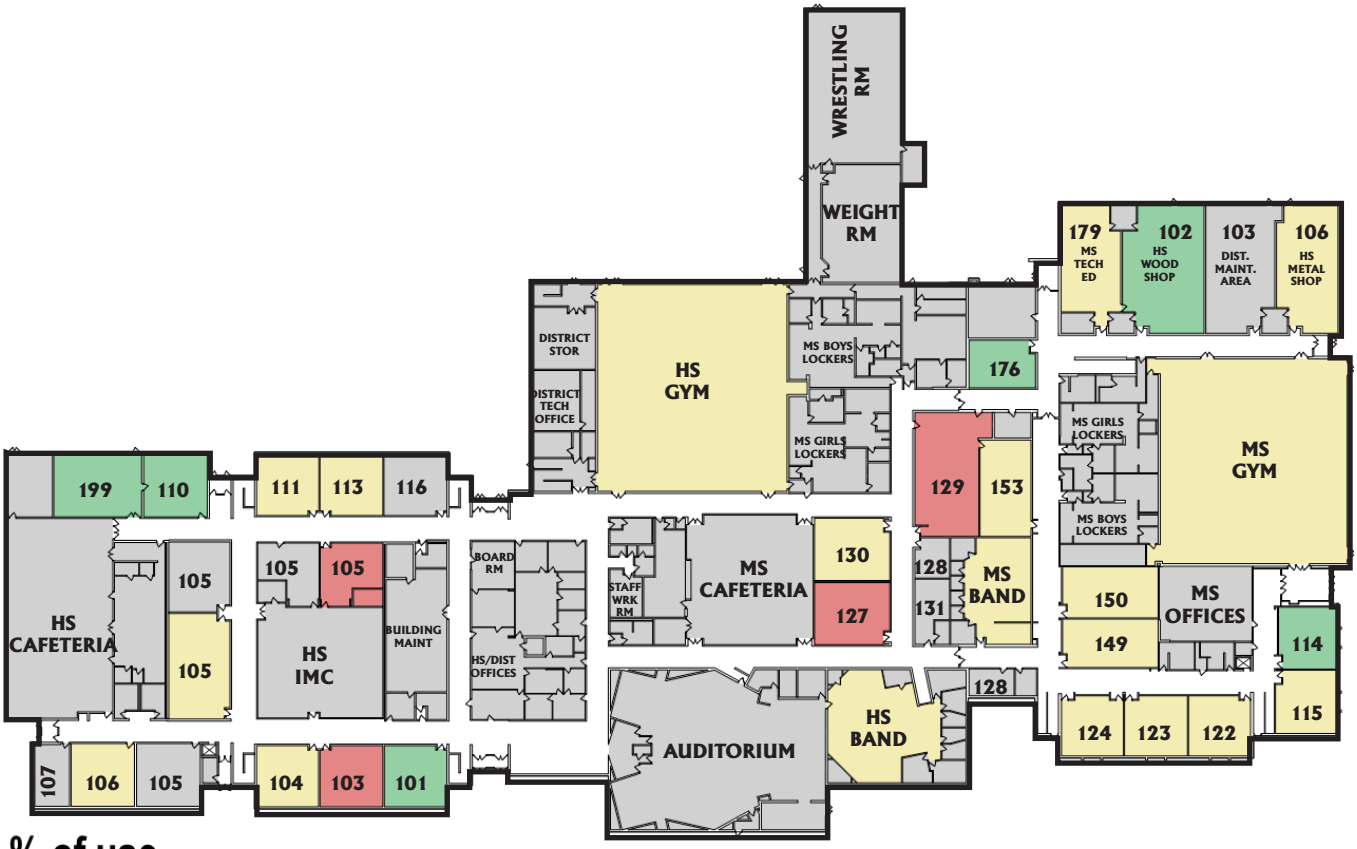
- Functional Capacity based on Learning Area yields a slightly smaller capacity of 398 students at the Middle School and 610 students at the High School. Based on available learning area, the building could support an additional 144 students at the Middle School and an additional 210 students at the High School. The relative alignment of this capacity total verses the capacity by district desired class size is indicative of classrooms that are near or slightly under the sizes that would be expected to meet the district's desired maximum student counts. However, several classrooms in each building are no longer used as core classrooms and several rooms are only used one or two periods per day.

- Capacity based on Gross Building Area suggests a somewhat different total capacity of 342 students at the Middle School and 642 at the High School, which would still theoretically mean that the building is under capacity by 88 students at the Middle School and 242 at the High School. The relative discrepancy between these calculations tends to indicate that the overall size of the buildings is somewhat in alignment with what would be expected based on the other capacity calculations. Having two dedicated cafeterias, gymnasiums, administrative offices, and libraries for a relatively small student population is a luxury compared to many districts in the state. It is also important to note that there is very little space in the building dedicated to student breakout and collaboration space outside of the primary classroom environment.

The different capacity totals provide a clear picture of capacity at the combined Middle / High School. There appears to be enough academic space for current enrollment and there are opportunities to add grades to this building or fundamentally change learning environments to be more collaborative. The following diagrams illustrate the current building utilization, and the calculations used to generate each total. Due to the way the building is shared, there isn't an easy way to show which spaces are used for each school but the room listings on the following pages provides some insight to the separation.

T.J.WALKER MIDDLE / HIGH SCHOOL

BUILDING UTILIZATION PLAN



% of use

- 81-100% UTILIZATION
- 51-80% UTILIZATION
- 0-50% UTILIZATION
- NO CORE CLASSES

T.J. WALKER MIDDLE / HIGH SCHOOL

BUILDING UTILIZATION PLAN

% of use

- 81-100% UTILIZATION
- 51-80% UTILIZATION
- 0-50% UTILIZATION
- NO CORE CLASSES

STURGEON BAY HIGH SCHOOL

BUILDING UTILIZATION PROGRAM

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Sturgeon Bay High School - Utilization Study

						Periods - QUARTER 1								
						1	2	3	4	5	6			
Room No.	Primary Use of Room (Subject)	S.F. Area	District Desired Max Class Size	Available SF per Learning Area	Total Building Area in SF 115,540	Block 1 8:05 - 9:45	Block 2A 10:00 - 10:45	Block 2B 10:50 - 11:35	Block 3A 12:05 - 12:50	Block 3B 12:55 - 1:40	Block 4 1:45 - 3:20	Avrg Class Size	# periods used (X)	% of use (X/6)
101	English	840	30	28		15					13	14	2	33
102	Maintenance	156												
103	English	840	30	28			24	24	22	22	25	23	5	83
104	English	840	30	28		8			16	16	24	16	4	67
105	Special Ed	900				2	6	3	7	17	1			
106	English	900	30	30		28			12	12	21	18	4	67
107	Special Ed	510									7			
108	Business Ed	1,479	30	30		23			20	12	7	16	4	67
109	School Store	840												
110A	CAD Lab	900	30	18			13	13				13	2	33
111	Spanish	840	30	28		23	22	22			31	25	4	67
112	AV Room	840												
113	Spanish	840	30	28			14	18		11	16	15	4	67
114	Online Learning Lab	900	30	18		5	14	10	10	7	6	9	6	100
115	Office Complex & BOE Rm	3,846												
116	Special Ed	840				1	6	5	3	2	2			
126	Band	2,304	30	46		4			65	30	42	35	4	67
126F	Band Office	168												
126G	Band Office	160												
126A	Band Office	128												
126B	Practice Room	100												
126C	Practice Room	36												
126D	Practice Room	36												
126E	Practice Room	80												
	Band storage (3 rooms)	148												
127	Choir	1,015	30	29			2	13	30	3	7	11	5	83
128	Digital Photo Lab	304					11							
129	Art	1,770	30	35		2		14	17	17	22	14	5	83
130	Music	1,015	30	29										0
199/110B	Shared Classroom	1,440	30	34										0
201	Social Science	840	30	28			26	26	7	28	25	22	5	83
202	Chemistry	1,763	30	35		23		12		24	16	19	4	67
203	Social Science	840	30	28			14	14	21	29	12	18	5	83
204	Social Science	840	30	28		29	14			8	21	18	4	67
205	Science	1,302	30	26		21	24	24			24	23	4	67
205A	Science Storage	96												
206	Shared Classroom	841	30	28									0	0
207	Physics	1,479	30	30					14			14	1	17
208	Family and Consumer Ed	1,479	30	30		18			9	17	23	17	4	67
209	Math	870	30	29			17	28	19	22	12	20	5	83
210	Special Ed	1,344				4			3	4	6			
210A	Storage	120												
211	Math	840	30	28		31	22	22	11	14		20	5	83
212	(Doorway to Room 207)													
213	Math	840	30	28		17	19	19			20	19	4	67
214	Science	1,763	30	35		27	17	17			24	21	4	67
216	Math	840	30	28		30	28	28	25	17		26	5	83
M102/182	Wood Shop	2,280	30	23		16					7	12	2	33
M106/186	Metals Shop	1,740	30	17					6	6	14	9	3	50
	Metals Office	132												
M103	Dist. Maintenance	1,920												
Gym	Phy Ed	8,448	30	30		11			31	20	6	17	4	67
WR	Weight Room	1,960				used for PE								
MR	Wrestling (Multi) Room	3,744				used for PE								
NA	Study Hall					24	66	38	30	44	13	36	6	100
Off Campus	Excused Study Hall					12	8	19	6	4	5			
Off Campus	Service Learning					1	6	5	6	1	5			
Off Campus	Work Experience					1	1	1	1	1	2			
Off Campus	Volunteering - Credit						2							
Off Campus	Volunteering - Hours													
Off Campus	Home Construction					5	5	5						
HS Cafeteria		4,700												
Kitchen	Kitchen, storage, offices	2,068												
IMC		3,016												
Maintenece	Building Maint/Motor Room	1,568												
Basement		1,568												
Wind Room		2,000												
Auditorium		3,744												
Auditorium	Right Alcove	574												
Auditorium	Left Alcove	574												
Auditorium	Stage area	1,344												
Auditorium	Right Dressing rm	144												
aud	Stage storage	390												
aud	Left Dressing rm	96												
Locker Rm	Boys	900												
Locker Rm	Varsity/coaches office	782												
Locker Rm	Girls	1,152												
Locker Rm	Girls Office	160												
Locker Rm	Girls Storage	140												
PE office	former staff wkrm	300												
AVERAGE												18.5	3.9	66
	Max Capacity		900	860										
	Functional Capacity (80%)		**639**	**610**	**642**									
	Sept 2019 Enrollment	**400**												
	Actual Hourly Total					381	381	380	391	388	459			

T.J WALKER MIDDLE SCHOOL

BUILDING UTILIZATION PROGRAM

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Sturgeon Bay TJ Walker Middle School - Utilization Study

Room No.	Primary Use of Room (Subject)	S.F. Area	District Desired Max Class Size	Available SF per Learning Area	Total Building Area in SF 61,540	Periods 1 Period 1A 8:05 -8:47	2 Period 1B 8:49 - 9:31	3 Period 1C 9:33 -10:15	4 Period 2A 10:18 - 11:00	5 Period 2B 11:02 - 11:44	6 Period 2C 11:46 - 12:28	8 Period 3A 1:11-1:56	9 Period 3B 1:58-2:40	10 Period 3C 2:42-3:24	Avrg Class Size	# periods used (X)	% of use (X/7)
	Office ??																
	Counselor - Guidance	100															
114	7th Gr. World History	812	28	27											0	0	0
	Reading Specialist						4	4	4	3		2	3	3	3	7	78
115	8th Grade Math	812	28	27		17	17	19	17	17	16		11		16	7	78
122	7th Gr. Math	812	28	27		16			25	25	23	23	23	30	24	7	78
123	8th Gr. English	812	28	27		19	19	17	16	16	20	7			16	7	78
124	8th Gr. Social Studies	812	28	27		17	19	25	19	17	15	8			17	7	78
130	Choir 6-8	1,015	28	29		5	35		21	5	17		15	13	16	7	78
	Band 6-8	1,683	28	34		45			10	35		27	10	10	23	6	67
	Band Office	132															
	Band Office	132															
	Band Practice Room	36															
	Band Practice Room	36															
	Band Practice Room	36															
	Band Practice Room	36															
	Teachers' Lounge																
149	FaCE	990	28	20		9	20	18	19		15	9		13	15	7	78
150	7th Grade Science	1,080	28	22		12	19	18		27	26		24	25	22	7	78
153	Art 6-8	1,080	28	22		15	21	24			17	12	13	13	16	7	78
	Art Storage	216															
176	Health	682	28	23					16				17	17	17	3	33
Gym	PE 6-8	8,448	28	28		18		18	27		18	25		22	21	6	67
	PE Storage	255															
	Girls Locker Room	684															
	Girls Locker Room Office	130															
	Boys Locker Room	684															
	Boys Locker Room Office	130															
206	7th Gr. Special Education	696					3	4	3			4			4	4	44
	Office	144															
	Storage	108															
207	7th Grade English	870	28	29				11	25	25	24	30	30	23	24	7	78
214	Special Education Room	812						3	4			4			4	3	33
215	6th Grade English	812	28	27		22	22	21	5			16	16	19	17	7	78
216	6th Grade Social Studies	812	28	27		18	16	19	12	32		19	26		20	7	78
218	6th Grade Math	816	28	27		21	21	22		4		19	19	16	17	7	78
219	Sensory Room Special Ed	308															
220	Computers	1,102	28	31							15	13		7	12	3	33
221 A & B	8th Gr. Special Education	848					3	3	2	3	3	5	5	5	4	8	89
222	Science 6 & 8	1,368	28	27		19	17		17	19		24	19	16	19	7	78
	IMC	1,836															
	IMC Office	156															
	IMC Workroom	156															
Tech Ed	MS Tech Ed Gr. 6-8	1,680	28	17		7	18	16	17		15		11	13	14	7	78
	BIC Office	130															
	BIC Room	200															
	Hall Storage	450															
	Boiler Room	775															
	FRMR Office = 7th SS & math?																
	Wind Room	418															
AVERAGE															17.2	6.1	68
	Max Capacity		532	498													
	Functional Capacity (80%)		**426**	**398**	**342**												
	Jan 2019 Enrollment	**254**															
	Actual Hourly Total					260	254	242	259	228	224	247	242	245			

four:

BEST PRATICES IN EDUCATIONAL DESIGN

BEST PRACTICES IN EDUCATIONAL DESIGN FOR MODERN LEARNING ENVIRONMENTS

The past several decades have seen incredible changes in the ways we learn and the ways we relate to the broader world. The information revolution and its impacts have also changed the skills necessary to compete in this new world. Educators of today are tasked with developing new 21st century skills in our students in order to allow them to successfully compete in this global environment. Some of these new skills include the ability to be:

- A Critical Thinker
- A Problem solver
- An Innovator
- An Effective Communicator
- An Effective Collaborator
- A Self-Directed Learner
- Information and Media Literate
- Globally Aware
- Civically Engaged
- Financially and Economically Literate

Unfortunately, while our world has changed, our educational institutions are often some of the last places to reflect this change. We believe the learning facility and its infrastructure can play a significant role in helping educators to develop these necessary skills. The built environment can provide the context for these important functions with spaces that support integrated technology, dynamic collaboration,hands-on learning, flexibility, transparency, and private/public partnerships.

This document is a compilation of knowledge learned over many years of experience designing educational facilities at all levels, and from ongoing research into educational trends. The application of these principles can vary greatly but we believe the themes and objectives will remain fairly consistent. These best practices cover general recommendations and considerations for design in the areas of:

- **General Site Design**
- **Security and Safety**
- **Building Configuration and Adjacencies**
- **Main Office/Administration**
- **Student Services**
- **General Learning Environments**
- **Specialty Learning Areas**
- **Students with Disabilities**
- **Common Spaces**
- **Physical Education and Athletics**
- **Performance Spaces**

It is our hope that these best practices will serve to inform both private and public school districts as they seek to create dynamic and authentic learning environments that will impact our students and our future for years to come.

GENERAL SITE DESIGN

One of the most important aspects of school design is the layout and configuration of the site. How the site is used can have significant impacts on opportunities for physical activity, environmental studies, safety, and traffic flow. In rural or suburban environments where more space may be available, solutions can look very different than they might look in tight, urban sites:

Physical Site Attributes: The simplest sites are relatively flat with adequate area for play-fields, greenspace, parking, traffic circulations, and building additions. Wetlands or steep topography can become site assets, but can also create barriers for supervision, use, and site accessibility if not adequately accommodated.

Athletic Areas: Develop age-appropriate fields based on the athletic programs offered, physical education needs, and opportunities for community use. The site is often viewed as a community amenity, and opportunities to share the use of play fields with club sports, or park and recreational departments can help to strengthen community relationships and build good-will. Consider multi-use synthetic surfaces or other strategies to ensure that fields do not become one-dimensional.

Playgrounds (K-8): Playgrounds should consist of hard-surfaced areas, soft-surfaced areas with play structures, and green space. Hard-surfaced areas should be adequately sized for use in inclement weather conditions and should provide for a variety of both structured and non-structured activities. Dynamic play structures need to be age appropriate, and should be surrounded by soft-surfaced areas to minimize injuries. The environment should encourage physical, creative, and imaginative play. Consider incorporating natural elements like boulders and landforms into soft-surface areas to encourage student interaction with nature. Proximity to nature, including trees, garden beds, and landscaped areas should be encouraged.

Structured Outdoor Areas (9-12): For older students, this often takes the form of an outdoor “quad” or “green.” This space should provide an opportunity for student interaction in a natural setting, but should also include hard-surfaced areas that can be used in inclement weather. Inclusion of large trees, landscaped areas, and walls or boulders that encourage student to interact with each other and with their surroundings are encouraged. Best practice would also include a presentation area that can be used as an outdoor classroom.

Natural Areas: As awareness of global and environmental sustainability grows, there is an increased need for students to experience nature first hand. Care should be taken to place these natural areas where they can be easily observed and access can be adequately controlled. Natural prairie, woodlands, and wetland areas are significant assets if these areas can be incorporated into the curriculum and regularly utilized. Garden areas can also be a tremendous opportunity to encourage children to interact with nature and are often much easier to supervise. More and more studies are showing the positive benefits of environmental exposure for the health and well-being of both youth and adults.

SECURITY + SAFETY

As awareness of potential dangers continues to grow, design for security and safety has become paramount. It involves controlling traffic and pedestrian routes to minimize hazards, creating spaces that are deterrents to bullying and other unsafe student interactions, designing for direct and passive supervision, creating safe places for staff and guardian interactions, and creating barriers for potential intruders. It is important to note that no building is perfectly safe or perfectly secure from all threats. The level of safety and security must be carefully balanced with the other desired environmental attributes to develop a solution that best responds to overall priorities and goals. Some general best practices, however include:

Traffic Management: Pick-up and drop-off procedures are often one of the greatest causes of safety concerns on a school site. Guardian or student traffic should be separated completely from bus traffic. This generally requires separate drive lanes for buses and cars. In schools where a large percentage of students arrive by car, care must be taken to ensure adequate queuing distance is provided. Ideally pick-up and drop-off lanes will be one-way, oriented with sidewalks immediately to the passenger side of the vehicle, so students can enter or exit directly without crossing traffic. Most schools choose to directly facilitate the entire student pick-up procedure to ensure that students can be safely released to waiting vehicles without requiring guardians to leave the vehicle. This minimizes congestion, and expedites the process considerably.

Site Security: Consider enclosing areas of the site where students congregate. This is especially appropriate for lower grade levels, and in areas with close proximity to pedestrian or vehicular traffic. Enclosing the perimeter can help keep children in supervised areas, while deterring potential intruders.

Secure Entrance Procedures: All exterior doors should be locked and monitored by electronic door contacts and video surveillance. It is important, however, for visitors to feel welcome. This begins by creating a single, identifiable point of entry. Access is controlled seamlessly at this point so that potential disruptions or dangers can be addressed before contact is made with students or teachers. Consider use of safety-laminated glass to prevent break-ins or other security breaches. A receptionist should be able to observe visitors arriving before allowing the visitor to enter. Once inside the building, visitors should only have access to the reception area. When the reason for the visit is ascertained, if appropriate, the visitor can be released to other portions of the building.

Layers of Security: In the event of an intruder or safety concern, multiple barriers, or layers of security should be utilized to allow emergency personnel the time they need to respond. Typically, locked exterior doors provide the first layer of security. Locked doors from the reception area to the interior of the building form a second layer. Additional security doors between public areas of the facility (cafeteria/commons/gymnasium) and student learning environments should be able to lock electronically in an intruder situation for a third layer of security. In many cases, learning environments can be grouped to form learning neighborhoods which can by automatically locked down for a fourth layer of security. Finally, individual room doors can be locked to form the final barrier.

Transparency and Supervision: One of the most important aspects of safety and security is creating an open environment where nothing can be hidden from view. This leads to an expectation of observation from both staff and students. This level of direct and passive supervision is a major deterrent to bullying and other unsafe student interactions, as well as forming a deterrent for adult to child abuse. Finally, in the event of an intruder situation, the elimination of hiding places is key to a quick response from emergency personnel

BUILDING CONFIGURATION + ADJACENCIES

There are virtually endless options for how a school can be configured, but most current strategies share themes of flexibility, transparency, and spaces that support differentiated learning. This section focuses on a few of the current trends in school organization, but ultimately all concepts must be evaluated based on their support of district goals and priorities:

Learning Neighborhood: This strategy attempts to group students together within the school to create smaller communities. This typically occurs by grade or age, but could also occur based on a subject area. The basic concept is to create a more intimate environment within the school where students and teachers with similar concerns can share common resources and spaces. Consider creating spaces appropriate to the types of instruction that will be provided. This may include large group areas for groups of 60 or more, areas for groups of 20-30, small group areas for 5-10 students, and spaces that can be used for one-on-one instruction or individual work. Access to these different types of spaces should allow students to work in environments most conducive to the work that they are doing or the type of instruction they are receiving. For teaching staff, consider creating shared office/work areas, and common storage areas to further encourage sharing of resources and day-to-day interaction. This can also greatly reduce clutter and maximize flexibility of learning spaces.

School within a School: The school within a school concept draws inspiration from the traditional one-room schoolhouse. Similar to the learning neighborhood strategy, this approach creates smaller, more intimate settings for students and teachers within a larger facility. These smaller communities, however, are organized to create a cross-section of the student body. The range of the cross section could vary from narrower groups of just a few grades, all the way to communities that include kindergarten through 12th grade. The goal of the cross-sectional approach is to encourage upward mobility. By bringing multiple levels together, students can naturally flex to ability groups that match their full potential, rather than being bound by their grade structure. This also opens opportunities for peer-to-peer mentoring as students of different ages and ability levels interact more closely with each other. As in the Learning Neighborhood concept, consider creating a variety of shared learning and resource areas, conducive to the types of activities that will occur in those spaces.

Learning Street: This concept expands on the idea of the circulation corridor, and turns it into a resource for learning. As a great urban street becomes a hub of activity in a community, the learning street becomes an extended common resource for the entire school. The corridor is widened and outfitted with comfortable furniture groupings that students are encouraged to use for socialization and interaction when appropriate. Interactive display boards and teaching walls are incorporated into the corridor so that teachers can utilize the space as break-out learning environments, or places for group work to occur. Transparency between principle learning environments and the learning street is necessary to ensure that the students can move freely between spaces while still being observed.

MAIN OFFICE + ADMINISTRATION

The Main office and administration area often serves as the front door of the building. This is where visitors are welcomed, where meeting are conducted, and where issues are resolved. It must be easy to locate, controlled, and functional. A few specific recommendations include:

Reception: The reception area should be secured as described in the safety and security section. It should have open views both to outside approaching visitors, and to inside approaching students or staff. There should be adequate space for visitors and students to wait and for reception staff to do their work. Ideally, work areas should be obscured from view to minimize clutter, but open enough to allow supervision of the reception area. Consider opportunities for branding and celebration of student work through digital displays.

Offices: Transparency and privacy should be carefully balanced in office areas. Staff should never be isolated with students or visitors, but casual supervision from other students or visitors should be blocked. Provisions should be made for private administration/guardian meetings either with small conference areas within each office, larger shared office areas, or a combination of both. Consider the possibility of creating open office areas to facilitate staff collaboration, with shared conference and meeting rooms.

Health: Health rooms require active supervision. This is simple if a full time nurse or attendant will always be in the health area, but in other circumstances requires supervision from the reception area. Again, privacy and transparency must be balanced.

Attendance: For larger schools, the attendance function often requires separate staff and separate office areas. If this is the case, the attendance area should be readily accessed by students and staff from within the building, and should maintain proximity with other office areas to allow for shared staff resources.

STUDENT SERVICES

Especially for older grade levels, student service areas provide space for students to meet with advisors, counselors, or mental health professionals, access career and college resources, or receive other needed supports.

Location: Student services should be centrally located, easily identifiable, and welcoming. It is important that the space should be designed as a resource for students, and should not carry any stigma associated with entering.

Career Center: The front door to student services may enter directly into a career center. This is often a location for students to access resources, conduct research, or work on career and college applications. It often doubles as a waiting area for students who may be meeting with staff as well. It should be comfortable, welcoming, open, and supervised. Consider creating a presentation area that can be used by college or job recruiters as well.

Offices: Offices should be designed to accommodate private staff work, as well as meeting with students. Again, privacy and transparency must be carefully balanced to avoid isolating staff with students, but still allow for students to receive services discretely when necessary. Consider creating shared conference rooms for larger meetings, IEP's or student/guardian meetings. Access to discretely located toilet facilities is recommended for students who may need to compose themselves or deal with embarrassing personal situations.

GENERAL LEARNING ENVIRONMENTS

As awareness of potential dangers continues to grow, design for security and safety has become As the goals and objectives for 21st century learning have changed, the design of the physical environment needs to change as well. While variations on design concepts are almost limitless, some general design themes have begun to emerge. Modern learning environments need to be flexible, adaptable, collaborative, and transparent, with seamless technology. Student need to learn in places that are bright, filled with natural light, comfortable, and stimulating. Some best practices include designing learning spaces for:

Flexibility and Adaptability: The one constant of modern learning environments seems to be that everything changes. Building flexibility into the space allows for multiple forms of teaching and multiple types of activities. Lightweight furniture that can roll or move easily allows students to constantly reconfigure their environments. Consider movable glass walls or sound-resistive dividers that can allow spaces to be used for small group exercises, or opened up for large group instruction. Consider foregoing the heavy, load-bearing concrete block partitions of the past for lightweight stud walls that can be easily deconstructed and relocated or reconfigured as space needs change.

Collaboration: Modern learning environments have moved away from individual teachers who own their own individual classrooms. Instead, the environment is generally composed of a variety of interwoven spaces, which vary in size and amenities depending on their use. Students move freely from small group rooms to large group instruction areas, or learning commons. The variety of spaces can help facilitate a move towards a more collaborative, project-based learning environment Teachers are also encouraged to collaborate, and shared amenities like office spaces, work areas, and storage space can help to create the desired communal atmosphere.

Creativity: 21st Century learning has moved from a teacher-based model to a student-based learning model. Curriculum is differentiated based on student need, and students are expected to take more control of their own learning. The environment can serve as a tool to empower students and facilitate this shift. Creating an atmosphere that is inspiring, creative, colorful, and comfortable encourages ownership and self-determination. Access to resources like water, physical manipulatives, building supplies, and tools can also help to infuse a hands-on, maker culture within a school.

Transparency and Light: There is a growing body of evidence linking natural light to improved student performance. But transparency is about more than just bringing natural light in. It is about creating connectivity between spaces. Visual connections help to facilitate the collaborative community needed for today's learners. Visual connections also allow for the necessary supervision required for students to work more independently and as groups. The open environment that transparency creates ensures that students and staff alike are less isolated and more aware of the needs of others.

Seamless Technology: Technology should no longer be limited to specific rooms or areas of a building. Learning happens everywhere, and technology is an integral part of that learning. Create information systems that support and encourage the use of personal devices. Interactive technology solutions allow students to move content seamlessly from their individual devices to shared displays, or presentation areas. Consider creative solutions for device charging and electrical access.

SPECIALTY LEARNING AREAS

The basic themes described in general learning environments apply to almost every space where learning happens. But some spaces have more specific needs as well. Some of these needs are outlined by space type below:

Science: As in other learning environments, the themes are flexibility and transparency. Traditionally, science equipment needs (gas, water, casework, hoods) led to spaces that were inefficient and could be used for only one purpose. Today's labs can be much more flexible. Consider placing gas and water services at the perimeter of the room or minimizing the equipment to small islands only. Flexible work surfaces, then, can be reconfigured for either lab or lecture formats, making the space much more usable for a wide range of functions. Consider the use of movable walls between rooms to allow for smaller or larger group formats. This can also allow lab areas to be shared more directly by multiple users. As STEM or STEAM and other multi-disciplinary approaches continue to grow in popularity, consider common resource areas, and breakout spaces that encourage cross-disciplinary work.

Art: Great art spaces need the traditional amenities of wide, deep sinks for cleanup, ample natural light (ideally north facing) and access to equipment for the various art media (kilns, paint hoods, pottery wheels, soldering booths, grinding wheels, etc). Modern art programs need to take advantage of computer based software, and electronic resources as well. Consider opportunities to share amenities with technical education spaces, including metal working and welding capabilities, wood-working tools, 3D printers, and software applications. The amenities of the art room can also be utilized by other programs to assist in project-based, or maker opportunities. Transparency between art rooms and adjacent spaces can aid in creating a more collaborative environment. Mobile furniture and technology can create more flexibility within the space.

Music: Music spaces must be customized to some extent for their specific uses in terms of space, storage, and acoustical needs. Some flexibility, however can be maintained by the use of portable risers, movable band shells, and modern audio capabilities. Proximity to performance spaces is often important and music spaces can often double as green rooms. In some cases, band rooms can also serve as remote orchestra pits for performances. Consider the use of the music spaces themselves as small performance venues when appropriate.

Family and Consumer Education (FaCE): While traditional home economics focused on atomic age home-making skills, modern programs are designed to create career pathways. Physical environments should be designed to reflect real world professional environments. Culinary arts spaces should replicate restaurant kitchens. Fashion Design should happen in a design studio. Consider other career paths like food science, and interior design. Again, collaboration and sharing of resources between departments should be encouraged.

STUDENTS WITH DISABILITIES

Education for students with disabilities was largely non-existent in public schools before 1975 and the passage of the Education for All Handicapped Children Act (EHA) and the Individuals with Disabilities Education Act (IDEA). Since then, strategies and programs have seen substantial improvements. Amendments to the IDEA in 2004 mandated Individualized Education Plans (IEP's) and ensured that students with disabilities are placed in the least restrictive environments possible. The goal is generally inclusion, or to provide specialized education alongside a student's peers. The physical design of both general learning environments, and specialized learning environments can serve an important role in allowing for the effective implementation of these ideas. The learning environment should empower individuals with disabilities to reach their fullest potential and should reinforce the value of each unique individual regardless of their specific abilities. Some best practices for this include:

Variety of Spaces: The first learning environment for a student with disabilities should be the principle learning environment of the student's peers. If these principle learning spaces are designed to allow for differentiated, student-centered learning, this becomes especially enabling for those with the greatest needs. Learning environments that include breakout work areas, small group rooms, and meeting spaces allow for students to work within the environment that best support their needs without the potential stigma of withdrawing from their peers. These types of spaces also enable teachers and specialists to provide specific intervention or assistance within the primary learning environment. In many cases the specialist is able to come to the student, instead of requiring the student to come to them.

Surroundings that Calm: All students need quiet and space for introspection, and all learning environments should be designed to allow for this to some extent. For some students, however, it may become necessary to withdraw more completely. Often, this setting is a separate learning space designed for fewer children and less distractions. These spaces can provide more intimate settings with alcoves or personal pods that can be used to create personal space. Full spectrum, color changing LED lights can be used to create calming effects. Avoid the use of fluorescent lighting which can be prone to flickering or buzzing. These distractions can be very severe for those with autism spectrum disorders. The use of sensory spaces where students can calm themselves with tactile sensory stimulation is also encouraged. Sensory spaces are often separate and distinct rooms, but sensory features can also be incorporated into other learning environments. It should be noted that sensory rooms are not "time-out" rooms and should not be used as such.

Life Skills Training: Part of the IEP for each student involves transition goals for post-secondary training, education, employment, and independent living. While detailed plans are usually not developed until age fourteen, transitional skills training may be appropriate beginning with much younger children. Students should have access to real world work and living amenities appropriate to their age and abilities. Kitchen, laundry, bedroom, and other apartment type settings can be incorporated into the design of spaces to assist in the development of these skills.

Discrete Personal Assistance: For some students, specific goals and training may be needed in the areas of toiletry and personal hygiene. These students may find themselves particularly subject to embarrassment in peer situations. Provisions for bathing and toileting should be easily accessed and discretely located. Provide toilet and shower facilities with ample room for changing tables and personal assistance.

COMMON SPACES

Some of the most underutilized spaces in traditional schools have been the common spaces. Corridors were pathways to get from point A to point B, cafeterias were places in which food was consumed, and libraries were places where books were viewed and stored. With careful design, these areas can become active learning environments, places where students can congregate and socialize, places where knowledge is disseminated, and where student achievements are celebrated. The effective use of these spaces, again, involves the themes of flexibility, creativity, and transparency.

Corridors (Learning Streets): As the need for differentiated learning has increased, corridors have often had to serve the role of de facto breakout space. Students use the corridor for makeup tests, for reading groups, or for socialization. It has been said that in many schools the corridor is the only space that students feel belongs to them (teachers own the classrooms). It is time for the design of the corridor to reflect this reality. By widening the corridors and providing appropriate flexible furniture groupings, the corridor can become a learning street. Windows between the principle learning environment and the corridor allow for supervision, enabling the corridor to function as a regular breakout space. Digital displays can be used to share information, celebrate student achievements, and highlight student work. Socialization and informal learning opportunities should be encouraged.

Cafeteria (Student Commons): With the correct design, a cafeteria can be so much more than a lunch room. In fact, some schools are now eliminating the lunchroom altogether and serving food in classrooms, or learning neighborhoods. If a central cafeteria is maintained, however, best practice is to open the space up to the rest of the school, allowing it to serve as a hub for student activity throughout the day. Breakout groups, club activities, presentations, and class exercises can all happen in this space. For older students especially, the commons can be a place for studying and independent work as well. Consider snack and beverage options which could be facilitated by culinary arts, business, or students with disabilities programs.

Library (Media Center / Information Commons): The information revolution has had one of the most profound impacts on the library. While the library used to be the place where information was received, much of this information is now available digitally anywhere and at any time. As a response to this, the library can be thought of now as an information commons. Rather than a place to GET information, it is a place to USE and process that information. As a result, the physical environment of the library needs to be much more open and collaborative. Consider creating comfortable furniture grouping for individual study or small group work. Glass conference rooms can be used for larger groups, noisier activities, or for quiet study. Consider opportunities for presentation areas within the space. The information commons is usually the place to go for technology related questions, and may house student-staffed help centers. The environment should be comfortable and student-centered. Conceptually, the information commons may be viewed as an extension of the student commons. Provide opportunities for interactive displays, access to electricity for charging personal devices, and video and sound production equipment. Coffee, juice, or healthy snacking may be encouraged.


CAFE

PHYSICAL EDUCATION + ATHLETICS

Growing emphasis on healthy living and lifestyle choices have brought renewed attention in recent years to spaces for physical activity. Indoor physical education and athletic programs often utilize the same spaces, but serve very different purposes. While athletics may only impact a narrow portion of the student body, physical education should affect all students. Look for opportunities to infuse activity and healthy living into all aspects of school design. Depending on the needs of the school, the types of spaces provided may vary greatly, but a few recommendations for specific spaces include:

Gymnasiums: The size, number, and features of a gymnasium depend largely on the activities that will happen in a space. If the gym will also serve as a performance space, this can further complicate the design. A large percentage of a school's design budget will often be spend on gymnasiums, so consider making these spaces as multi-functional as possible. Consider both P.E. and athletic needs. Create spaces that are filled with light for physical activity during the day. Adequate clearances are needed around the perimeter and to the ceiling for the activities that will occur in the space. Look for opportunities to allow for community use, and partnerships with outside groups. Consider positioning the gym so that it can be separated from academic areas to allow for maximum after-hours use. For competition gymnasiums proximity to common areas is often needed during events. Rather than a separate area dedicated to the gymnasium, consider combining this space with other common areas, so that it can be utilized throughout the day.

Fitness Areas: Fitness centers should be designed for the entire student body, and not just for athletic programs. With this broader focus, more emphasis is often placed on aerobic and cardiovascular training rather than weight training alone. The fitness center should be designed to serve as a station for physical education during the day. Before and after-hours use by the entire student body, and potentially the broader community, should also be considered.

Locker Facilities: Locker facilities should be designed for privacy and flexibility. At younger age levels, showers are much less necessary than in years past. At all levels, when showers are provided, individual showers rather than group shower areas should be used. Consider providing options for private changing areas as well, to help create a more inclusive environment. For team locker rooms, consider flexible designs that allow usages to change from season to season. Consider the possibility that locker rooms may need to be able to switch from one gender to the other, depending on seasonal needs for male and female athletics.


HOME OF THE
BAY


Life Fitness
HAMMER STRENGTH

PERFORMANCE SPACES

Performance venues can vary greatly based on the needs of the specific school. While small performance areas for class events can often be incorporated into the learning environment, larger venues for holiday programs, dramatic performances or community events may often be needed. A few things to consider:

Type of Performance: The attributes of the space needed for a school assembly are drastically different than those needed for dramatic production. For elementary schools and general assemblies, portable stages and rented equipment can sometimes be the most flexible and cost-effective solutions. For frequent dramatic productions, however, the needs are more substantial. Consider the number of audience members that should be accommodated carefully, as this will have a major impact on the size of the space. If a fly space is to be provided, the height necessary for the fly space must also be considered. For full dramatic performances, stage construction areas, green rooms, and orchestra pits should all be considered. Recent advances in technology may allow for a remote orchestra pit if space is constrained, rather than a full orchestra pit. Full acoustic modeling and design should be considered.

Frequency of Use: A full dramatic performance venue is a significant resource investment for a school district. To justify this expenditure, performance spaces need to be well-utilized. Design spaces for maximum flexibility. Consider using the venue for student assemblies, video productions, and community events. Stage construction areas can be shared with construction technology spaces. Pursue community partnerships. Shared resources and shared uses benefit both the district and the community, and can help build good will. Community support of the arts is critical to the success of the program.

CONCLUSION

The Facilities Assessment provides an independent, objective analysis of the present conditions and capabilities of the district's facilities and grounds. It also serves as a foundational resource document to support fiscally responsible short and long term facilities planning.

As stated above, this document provides observations from a snapshot in time and creates a baseline to measure progress, changes, or updates in the years to come. Some districts have asked EUA to come back and update the report on a regular basis so the district can better prepare for investments or changes in enrollment. Depending on the rate of change in Sturgeon Bay, that update could be extended out to every five years.

If a capital project moves forward in Sturgeon Bay in the future, many items in this document may be corrected through that investment. It is suggested the district track those items that are corrected and fiscally plan for the items that can be corrected in future years.

Please reference the complete Facilities Assessment Appendix for comprehensive details, supporting data and additional research. Of particular interest is the summary of preliminary cost estimates produced by Miron Construction. This document can provide a guide to the district as it plans for future investments.

At the conclusion of a Facilities Assessment, many school districts ask how to best proceed. It is our recommendation that the Administration closely review the document for content and understand the observations and recommendations.

For the Sturgeon Bay School District, the next recommended step will involve sharing the key findings with the broader community through a community survey in the fall of 2019. It will be very helpful for the school board to gather feedback from a variety of district and community stakeholders in order to establish priorities for long-term facilities planning.

Once broad-based community input has been received, the identified needs and priorities should again be considered and potential solutions evaluated. From there, components of the potential solutions can be isolated and prioritized and shared for further community feedback.

Thank you for the opportunity to participate in this endeavor. If you have any questions or concerns regarding this summary, please feel free to contact the EUA team.

Sincerely,

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Principal | Studio Director of Learning Environments

STURGEON BAY SCHOOLS

FACILITIES ASSESSMENT | JULY 2019

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