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NOVEMBER 06, 2024

Job #24.108

MUSKEGON COMMUNITY COLLEGE

CAMPUS PLAN REPORT

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01

INTRODUCTION + EXECUTIVE SUMMARY

INTRODUCTION

In the spring of 2024, Muskegon Community College (MCC) contracted with TowerPinkster to develop a new Facilities Assessment (FA), ADA Assessment, and Campus Facilities Plan. Muskegon Community College has been serving students from Muskegon County and surrounding areas since 1926. The College has undergone various expansions and renovations to meet the evolving educational needs of students over its nearly 100-year history.

The following report will focus on the Main Muskegon Community College Building. The College has expanded its footprint with newer facilities, but this Plan is based on a 10-year horizon for potential projects and is primarily focused on the main campus. While the College has accommodated enrollments as high as 5,200 students in 2002, the need to optimize space remains. The development of a new Campus Facilities Plan will allow for a reexamination of space allocation to ensure effective use and operational efficiency. The College's enrollment during the development of the report was approximately 3,700 students.

This new plan includes three major components that builds on the success of the previous 10-year plan, which was supported by the voters of Muskegon County, highlighting the community's ongoing commitment to the College's growth and modernization.

Facilities Assessment

ADA Assessment

Campus Facilities Plan

In support of these three major components, the team worked with Muskegon Community College to deliver a process that focused on engagement and defining the College's 10-year planning goals.

Facilities Assessment
The Facilities Assessment provides a comprehensive evaluation of the College's existing buildings and infrastructure. This analysis identifies areas of need, ensuring that Muskegon Community College's facilities can meet the evolving needs of students, faculty, and staff. The goal is to maximize the use of current spaces while identifying key areas for modernization and enhanced functionality.

ADA Assessment
The ADA Assessment focuses on ensuring that Muskegon Community College remains accessible to all individuals, in compliance with the Americans with Disabilities Act. This component evaluates the accessibility of all buildings, outdoor spaces, and pathways across campus. Recommendations are focused on improving access and ensuring all students, staff, and visitors have equal opportunities to navigate and use campus facilities with ease.

Campus Facilities Plan
The Campus Facilities Plan offers a long-term vision for the development and improvement of the College's infrastructure. This plan incorporates feedback from students, faculty, and the community, focusing on the future growth of the institution. It includes strategic goals for upgrading classrooms, enhancing communal spaces, and improving campus sustainability. The plan sets a roadmap for the College's future capital projects and development efforts.

Three components provide a roadmap and provide support to create a more inclusive, efficient, and future-focused campus environment. The proposed planning responses aim to support the continued success of students at Muskegon Community College by improving their access to state-of-the-art facilities, resources, and services.

Existing Aerial Photo

COLLEGE SUMMARY

Muskegon Community College opened in 1926 to provide education to Muskegon County and surrounding areas as its Primary Service Area. Since its inception, the College has grown from a modest student body to approximately 3,700 students today. Over its nearly 100-year history, the main campus has undergone numerous additions and renovations (the most recent being the Health and Wellness Center in 2019) to meet the needs of an evolving and diverse student population.

The current campus design, completed in the mid-20th century, featured a central courtyard surrounded by academic buildings, with a focus on creating a compact and accessible campus layout. The initial building footprint was significantly smaller than today's facility. Many of the original architectural features are still visible, giving the campus a blend of mid-century and more contemporary. Along with ADA accessibility improvements, this Campus Plan will explore opportunities to implement current "best practices" for student-centered spaces, aligning with modern learning environments.

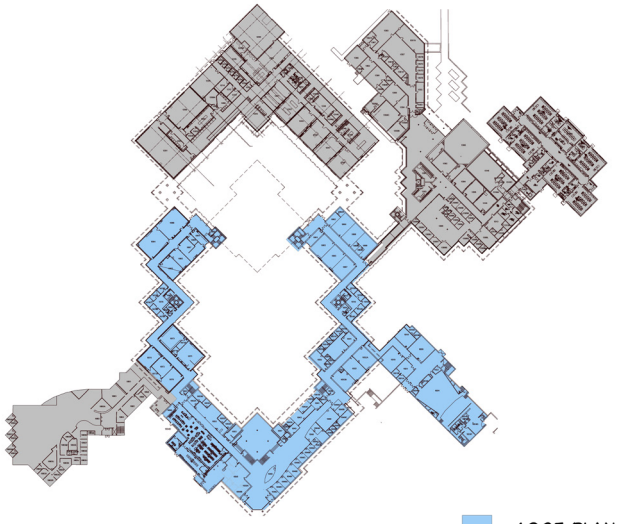
Since its early expansions, the main building area has grown significantly. Today, the campus encompasses over 270,000 square feet of academic and support space. As Muskegon Community College has expanded, care has been taken to ensure architectural consistency across new and renovated areas. Some notable areas, like the Hendrik Meijer Library, have a unique architectural character suited to their specialized functions.

Other campus facilities include the Stevenson Center for Higher Education, the Science Center, the Art and Music Building, the Frauenthal Foundation Fine Arts Center, the Hendrik Meijer Library and Information Technology Center, the Automotive Building, the Bartels-Rode Gymnasium, the Health and Wellness Center, and various administrative and maintenance buildings, all contributing to the comprehensive environment that serves the needs of the College's students and staff.

Off-Campus Facilities

In addition to the main campus, MCC operates three major satellite facilities, further extending its reach:

Sturrus Technology Center: Located in downtown Muskegon, this center was established as part of MCC's expansion to accommodate applied technology programs. It houses programs in CAD, Electronics/Automation, Machining, Metal Casting, and Welding. The Sturrus Center plays a critical role in MCC's efforts to provide advanced training and career preparation in technical fields, particularly for the region's growing manufacturing sector.



First Floor Plan

Ottawa Center: Situated in Grand Haven, the Ottawa Center serves MCC's long-standing mission to offer higher education opportunities to the northern parts of its service area. The facility provides a range of general education classes, supporting students who wish to complete courses closer to home.

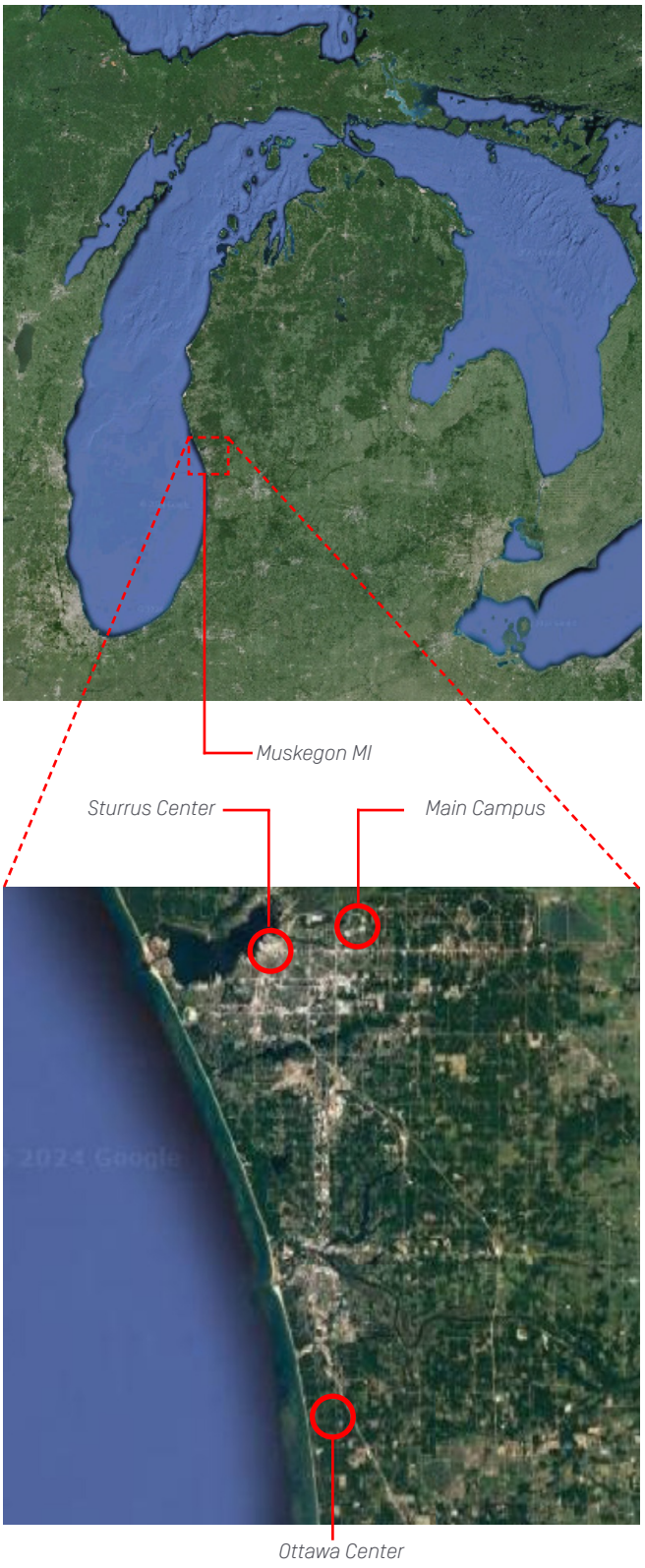
Newaygo County Center: The Newaygo facility extends MCC's services into the more rural areas of its region, offering workforce development programs, academic courses, and training opportunities. This center helps bridge the education gap in rural communities, giving students greater access to higher education and career pathways without the need to travel to the main campus.

With these multiple facilities, MCC continues to meet the evolving educational and career needs of its students, both on the main campus and through strategically placed satellite locations.

EXECUTIVE SUMMARY

The Campus Plan for Muskegon Community College is focused primarily on the main campus at 221 S. Quarterline Rd, Muskegon, MI. This plan centers around three key components: Facilities Assessment, ADA Assessment, and the Campus Facilities Plan, all aimed at supporting the College's growth and adaptability over the next 10 years.

Muskegon Community College has a long-standing commitment to empowering individuals through educational programs that serve the local community. The College is now focusing on strategic internal renovations to optimize its existing spaces, rather than pursuing large-scale expansions. The new Campus Plan emphasizes enhancing the campus experience and addressing the evolving needs of students and staff. This approach builds on the success of the College's previous master plan, which was fully accomplished, supported by Muskegon County voters, and included significant updates that helped MCC meet its educational goals over the past decade. The new plan seeks to build on that foundation by ensuring future facilities meet the demands of modern learning environments and accessibility standards.



1. Facilities Assessment

The Facilities Assessment evaluates the current condition and usage of Muskegon Community College's buildings and infrastructure. The assessment identifies areas for improvement, modernization, and expansion, ensuring the facilities align with future educational demands. A comprehensive utilization study, outlined on page 22 of this report, highlights opportunities to repurpose underutilized spaces. The shift toward online and hybrid learning has reduced the demand for physical classroom space, opening the door for more flexible uses of existing infrastructure to support today's strategic goals.

2. ADA Assessment

The ADA Assessment focuses on ensuring that Muskegon Community College complies with the Americans with Disabilities Act (ADA), guaranteeing accessibility across the entire campus. This assessment reviews all campus buildings, pathways, and public spaces to identify barriers that could limit access for individuals with disabilities. By addressing these barriers, the College aims to provide an inclusive environment where all students, faculty, and visitors can easily navigate and engage with campus resources. Recommendations from this assessment will inform future renovations and upgrades. The overall campus has a mix of accessible and non-compliant spaces that require attention to meet ADA standards.

EXECUTIVE SUMMARY

3. Campus Facilities Plan

The Campus Facilities Plan outlines a vision for the development and improvement of Muskegon Community College's infrastructure over the next decade. This plan incorporates feedback from a wide range of stakeholders, including students, faculty, and staff, to ensure it aligns with the needs of the entire campus community. Key initiatives include:

Entrance and Lobby Updates: Redesigning the main entrances and lobbies to enhance accessibility, create a welcoming atmosphere, and improve the overall student and visitor experience. These updates will also focus on clarifying navigation within the building.

More Student Collaboration Space: Expanding areas for students to collaborate, study, and engage in group work. These spaces will be designed to foster community, create spaces for students to wait between classes, and support both informal and formal learning environments.

More Student Resource Space: Increasing the availability of centralized spaces where students can access critical support services, such as academic advising, tutoring, and career counseling, to reduce barriers and improve student outcomes.

Food Service Support: Developing a new cafeteria or food service area to provide students with more on-campus dining options. This space will be designed to serve as a social hub where students can gather, eat, and relax between classes.

ADA Updates: Implementing upgrades across campus to ensure full compliance with the Americans with Disabilities Act (ADA). These updates will focus on making buildings, pathways, and public areas fully accessible to all students, staff, and visitors.

Staff Hoteling Space: Introducing flexible, shared workspaces for staff members, particularly for those who do not require a permanent office. This "hoteling" concept will create more efficiency in office space usage and accommodate the growing trend of remote or hybrid work models.

Cohesive Campus Connectivity: Enhancing the physical connectivity between buildings, creating better circulation routes, and ensuring seamless transitions between different areas of the campus. This will not only improve navigation but also foster a more cohesive campus environment.

Through these strategic updates and renovations, the Campus Facilities Plan aims to support the evolving needs of the College's students and staff while ensuring a more efficient, modern, and accessible campus environment.

One Stop Student Center

Blue and Gold Room

Outdoor Learning

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02

PROCESS

PROCESS

For this campus plan to be a success MCC was focused on including a wide range of stakeholders. This engagement provides an informative cross-section of data to develop the Guiding Themes and Principles that facilitate the planning responses.

The Request for Proposal (RFP) outlined the major goals that the TowerPinkster team leveraged to develop the plan. These priorities included:

1. Facility Assessment of all current College Assets
2. Determine "Highest and Best Use" for existing facilities
3. Utilization study of existing education spaces
4. Development of project budgets based on proposed scopes of work
5. Propose asset management recommendations
6. Develop a priority list of projects for the 10-year time horizon

These major scope goals were developed to reinforce the College's strategic plan. State goals of the strategic plan for the college include:

- Improve the student experience
- Increase persistence, retention, and completion rates
- Make data accessible, understandable and usable
- Reduce equity and achievement gaps
- Remove barriers to access and success

The asset management plan, ADA improvements and campus planning responses focus on these strategic goals. The ADA assessments and recommendations promote universal design principles to make the buildings more accessible for all of MCC's users. The Facility Assessment describes current areas for improvement for the existing facilities. These improvements can make the buildings operate more efficiently, reducing costs, improve occupant comfort (improving success for students, faculty and staff). The Campus Planning focuses on making improving student collaboration spaces, creating moments of respite and embracing the campus' natural beauty to enhance the student experience. For this campus plan to be a success, MCC was focused on including a wide range of stakeholders. This engagement provides an informative cross-section of data to develop the Guiding Themes and Principles that facilitate the planning responses.

The MCC locations were each walked through with the TowerPinkster / Prein&Newhof team as well as representatives of the College's Facilities Department. The technical teams then documented observed conditions and used information provided by MCC staff to complete the assessments. The following MCC locations were included in the study:

- Arts + Music Building
- Automotive + Grounds Building
- Bartles-Rode Gymnasium
- Health + Wellness Center
- Kasey Hartz Natural Area
- Kraft Alumni House
- Life Science Center
- MCC Main Building + Property
- MCC Observatory
- MCC Ottawa Center
- Meijer Library
- Overbrook Theatre
- Stevenson Center
- Sturrus Technology Center
- STC Garage
- University Park Golf Course Maintenance Building
- University Park Golf Course Pro Shop
- University Park Golf Course Pump House

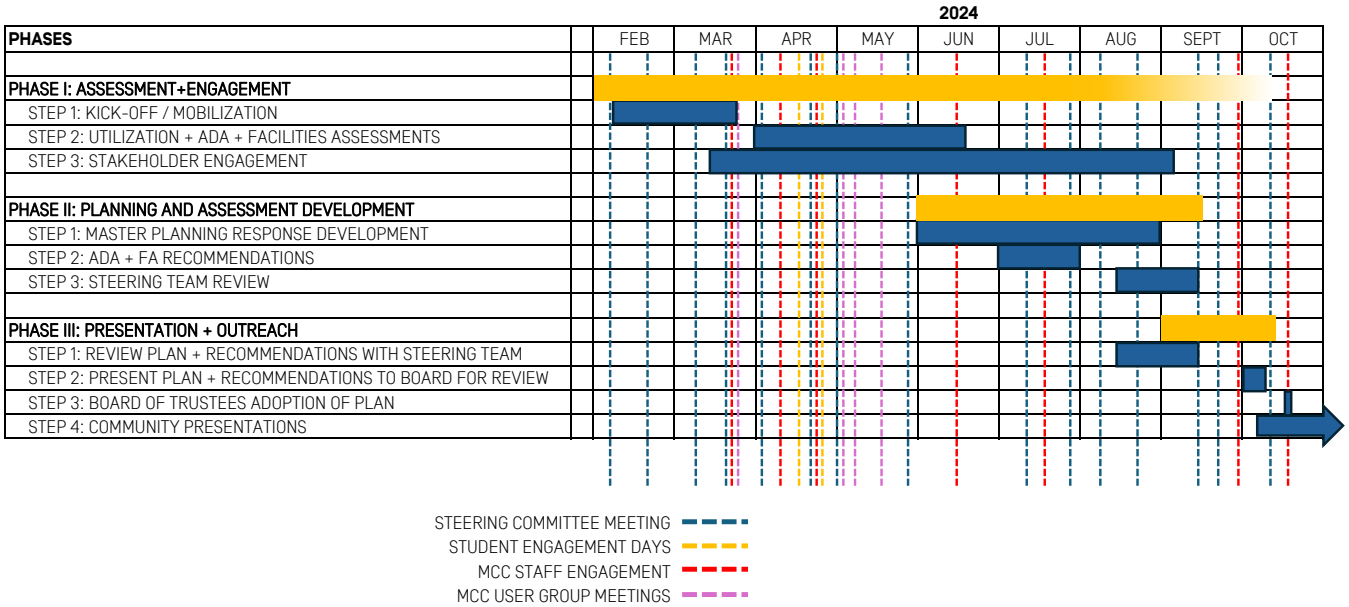
Along with the buildings, each location had a review done of the surrounding property including paving conditions, exterior lighting, and ADA accessibility.

PROCESS

MCC prioritized the scheduling for the plan by working with the team to develop a schedule that allowed for the stakeholder engagement while completing the planning and budgeting process quickly. The process was divided into three major Phases:

1. Assessment + Engagement
2. Planning
3. Presentation + Outreach

These three Phases each were built up from a series of smaller Steps that focused on gathering, processing and producing the planning responses as well as the FA and ADA recommended improvements.



Student Destress Event

PROCESS

There were a wide range of User Groups and Stakeholders that were given a series of questions to prompt the feedback that became the Themes and Guiding Principles and Critical Success Factors. This feedback was gathered through multiple channels including in-person meetings with faculty, staff and most importantly, students.

Typically, in-person meetings were a combination of listening sessions to gather open feedback and then “live-polling” session that used Mentimeter polling to provide additional insights. Along with these sessions, there were three on-line surveys that were kept open to gather additional input from people who were not able to meet in person.

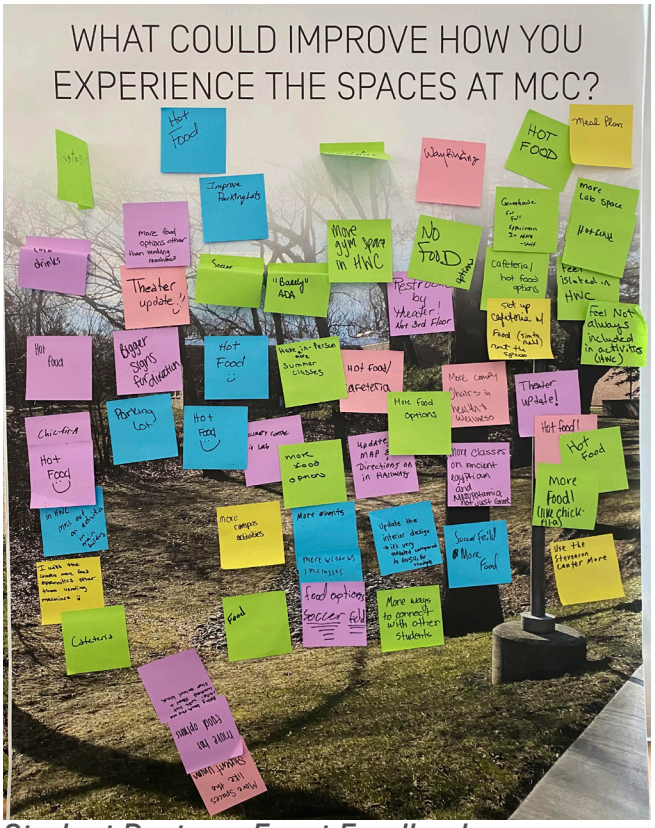
The “Top Ten” Common Themes from these engagement sessions included:

1. Food Service and Amenities
2. Safety and Security
3. Space Optimization and Expansion
4. Accessibility and ADA Compliance
5. Wayfinding and Signage
6. Modernization and Technology Upgrades
7. Community Engagement and Events
8. Comfort and Aesthetics
9. Student Services and Support
10. First Impressions and Campus Appearance

The three main questions that were used to start larger discussions about the planning were:

1. What is the most important thing you would like to have the Facilities Plan Address?
2. What are other Critical Success Factors?
3. What about your space is working well?

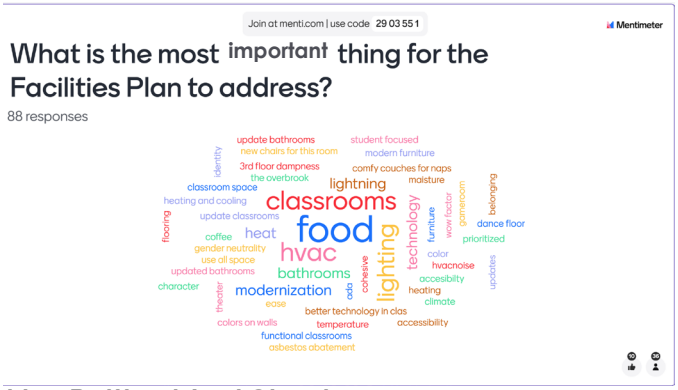
The goal of the last question is to ensure that we are leaning into the strengths of the College and using the Campus Plan as a tool to support those aspects of MCC.



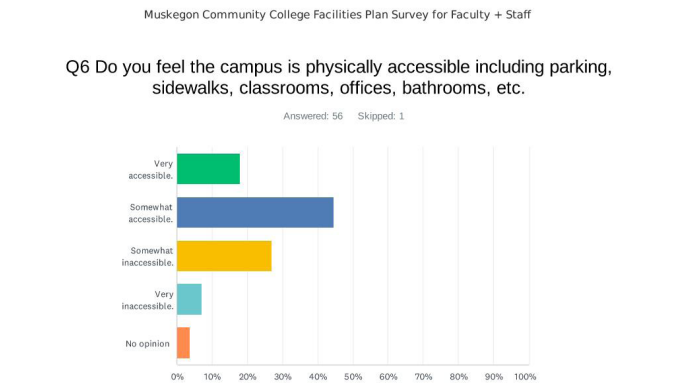
Student Destress Event Feedback

Student Destress Event Feedback

PROCESS

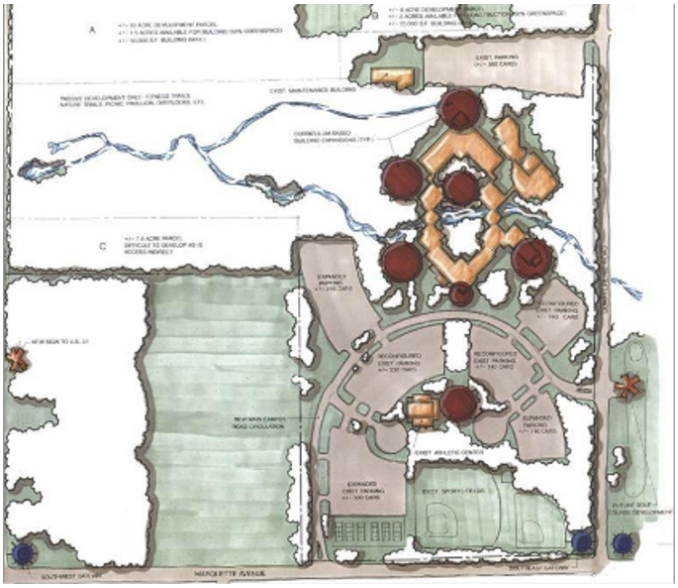


Live Polling Word Cloud



ANSWER CHOICES	RESPONSES	
Very accessible.	17.86%	10
Somewhat accessible.	44.64%	25
Somewhat inaccessible.	26.79%	15
Very inaccessible.	7.14%	4
No opinion	3.57%	2
TOTAL		56

Faculty Survey Question



Previous Master Plan

There were a wide range of User Groups and Stakeholders that were engaged for the process these groups included:

- College Administration
- The President's Cabinet
- Board of Trustees
- Students
- Faculty from all Academic Units
- College Staff
- Athletics
- Auxiliary Services
- Community Partners
- Local Citizens

These groups each brought unique insights to the process and the general tenor of the comments supported the strategic goals of the College.

The digital surveys were conducted via SurveyMonkey and engaged several different stakeholder groups. This included a student survey, faculty and staff, community members, and strategic planning partners. This allowed for internal and external groups to provide critical insights on the current and emerging needs for the future of the College.

The College prioritized student input to ensure that the plan is addressing their needs. There were several student engagements throughout the process. The De-Stress Event at the end of the Winter 2024 semester provided a format for students to "drop-in" and provide post-it-note comments about what is working well and what could be enhanced. There was a listening session with the Christian Fellowship Club, another session with the Baseball Team, and a session with one of Dr. Budimir's sociology classes. Each of these different engagements provided unique filters for students to provide a wide range of insights.

Notably, the College's previous master plan, which was voter-approved, was successfully accomplished, showcasing the institution's commitment to aligning campus improvements with community and student needs.

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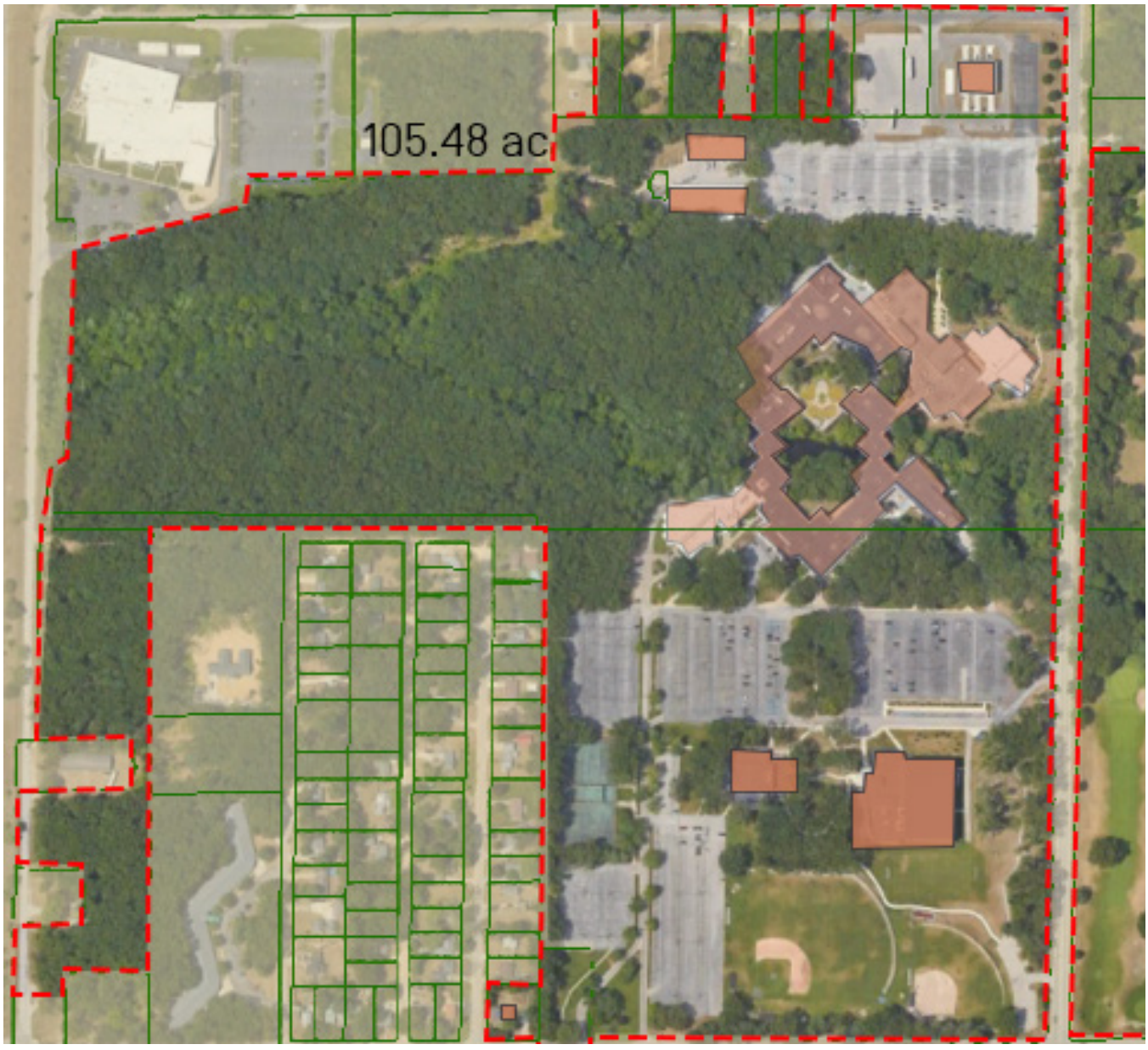
03

CAMPUS PLANNING

CAMPUS PLANNING

Muskegon Community College's main campus property is approximately 106 acres, located at 221 S. Quarterline Rd, Muskegon, MI. The campus is bordered by S. Quarterline Road to the east and Marquette Avenue to the south, with nearby residential neighborhoods and commercial areas adding to its community-centered feel. There are approximately 1,200 existing parking spaces available for students, faculty, and visitors, with plenty of room for expansion if necessary.

The campus grounds include a variety of athletic and recreational facilities, such as the Bartels-Rode Gymnasium, outdoor tennis courts, baseball and softball fields, and the scenic University Park Golf Course, which provides a unique amenity for both the college and the surrounding community. The campus is known for its extensive green spaces, featuring well-maintained lawns, tree-lined walkways, and outdoor seating areas that encourage both relaxation and study.



MCC Property Description

CAMPUS PLANNING

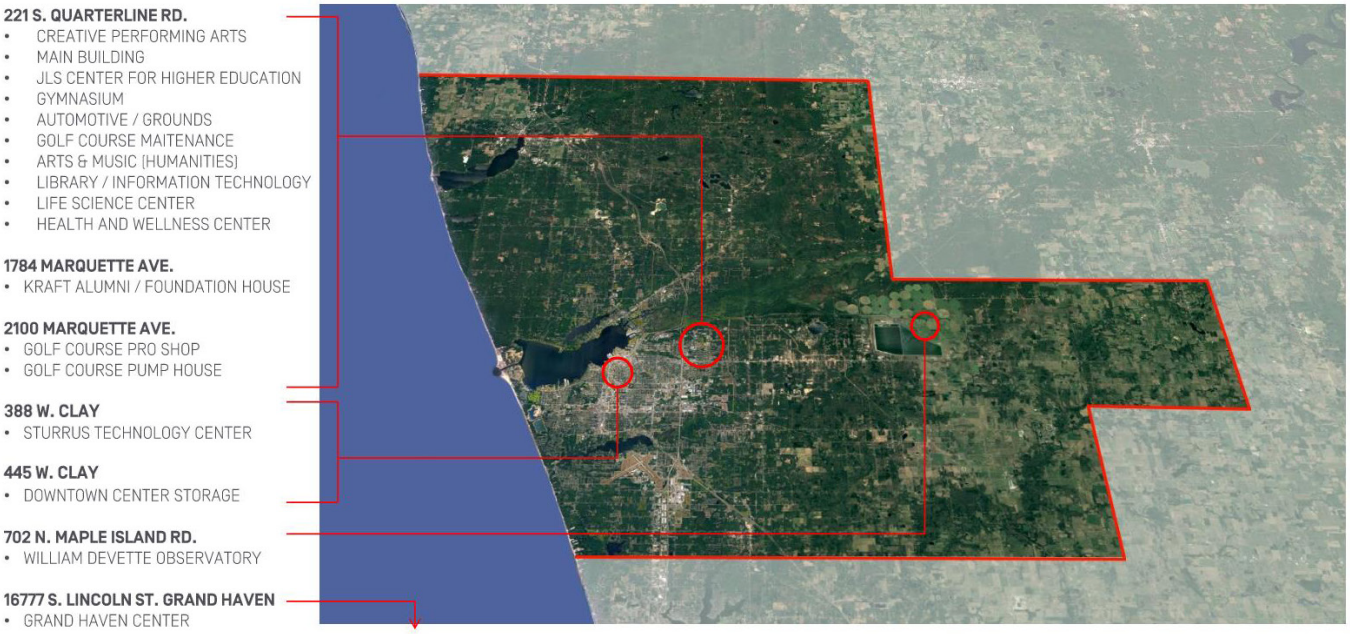
In addition to the athletic facilities, Muskegon Community College's Nature Trail offers students, staff, and visitors a peaceful opportunity to explore the campus's natural surroundings. Winding through wooded areas, the trail provides a serene environment for walking, jogging, birdwatching, and serves as an outdoor classroom for environmental science and biology students. This trail highlights the natural beauty of the campus, which is bordered by a mix of residential areas, woodlands, and other natural features.

The campus also has strategically located stormwater management systems, including bioswales and retention ponds, designed to preserve the local watershed and enhance the environmental sustainability of the college. The mix of natural landscapes and well-designed infrastructure reflects the college's commitment to both education and environmental stewardship.

Additionally, the University Park Golf Course, a nine-hole course located on campus, offers both recreational and instructional opportunities for the community and the College's golf program. The course is open to the public and contributes to the campus's well-rounded recreational offerings.

The campus is not only an educational hub but also a space that promotes physical activity and outdoor exploration through its sports facilities, Nature Trail, and golf course, making it a key community asset.

University Park Golf Course Property



Campus Locations and Addresses

CAMPUS PLANNING

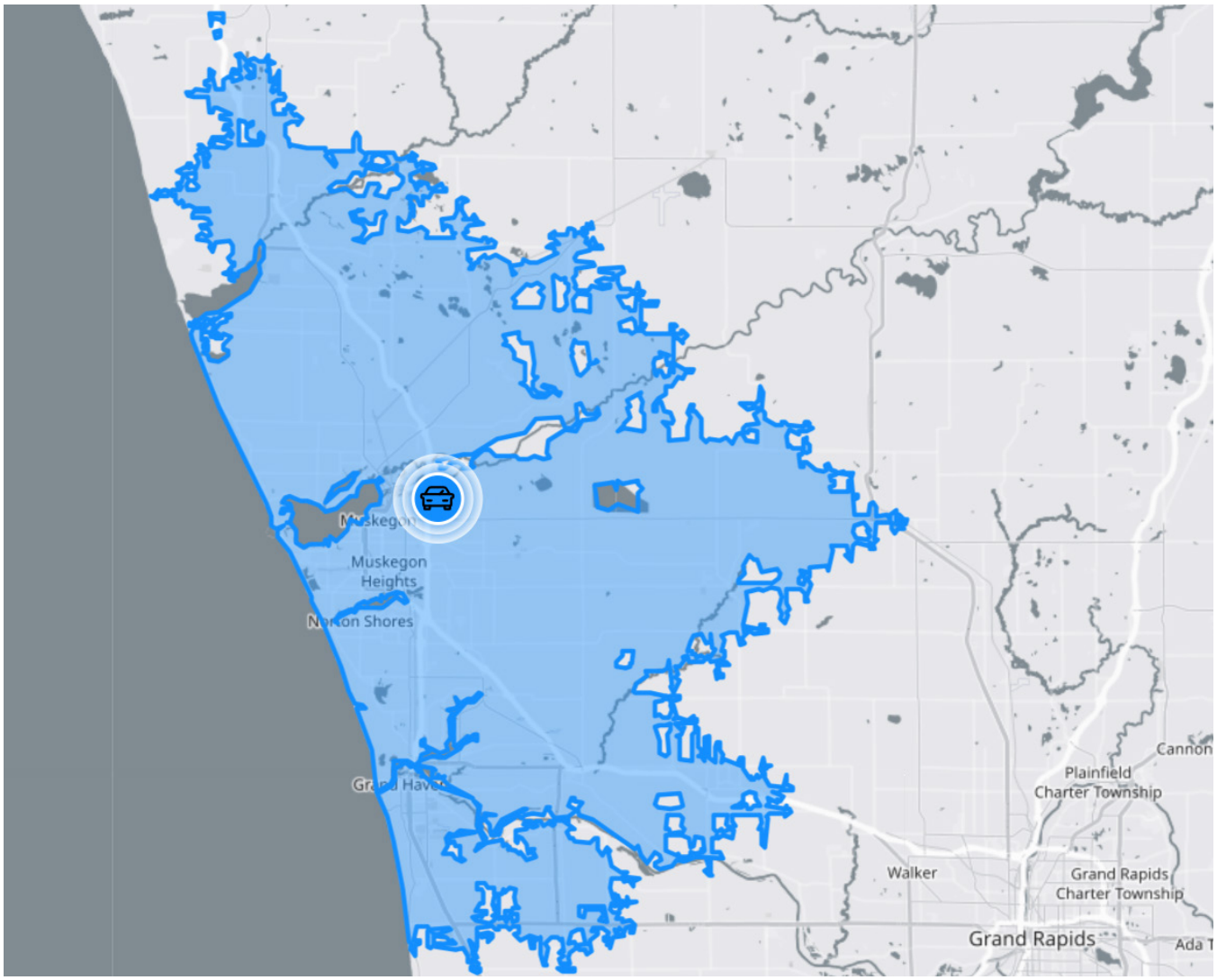
The main entrance to the campus from S. Quarterline Road provides a clear entry point and an attractive approach to the main building. Additional entrances on the north, east, and south provide easier access to the other buildings on campus. The campus property offers extensive potential for future development and expansion on the existing land. The grounds surrounding the main building are well-maintained, with multiple outdoor spaces that contribute to the pleasant environment Muskegon Community College is known for.

Campus Map

CAMPUS PLANNING

As part of the campus planning, it is important to understand where the Muskegon Community College users are coming from. The majority of the main campus users travel by car. The diagram below represents a 30-minute travel time by car. This visualization helps graphically describe the main Muskegon Community College service area. For in-person classes, it ensures that the College can effectively serve its local community, making education accessible to those within a half-hour journey. In the context of hybrid classes, it aids in planning synchronous sessions and in-person components, ensuring they are convenient for the majority of students. Ensuring manageable travel times enhances student engagement, attendance, and overall satisfaction.

Along with vehicular travel, there are several dedicated bus routes that serve the campus. The College has prioritized public transit options as an important support tool for people coming to campus who may not have reliable transportation options. Bus routes from the Muskegon Area Transit System (MATS) serve the campus, helping to make the college more accessible. While there are no dedicated bicycle lanes, the surrounding area does allow for biking, although distance may limit this option for some students.



30 Minute Travel Time

CAMPUS PLANNING - PLUMBING COUNTS

Muskegon Community College conducted a comprehensive review of its plumbing fixture count, comparing the existing facilities to the Michigan Plumbing Code requirements. A detailed table was created to evaluate the current number of fixtures in relation to the code, factoring in student and staff populations.

Despite making ADA updates to several restrooms, including the conversion of gender-specific restrooms into unisex facilities, the College continues to maintain the correct number of fixtures required by the code. The proposed upgrades and renovations ensure that MCC not only meets accessibility standards but also adheres to state plumbing regulations without any reduction in necessary fixtures.

MUSKEGON COMMUNITY COLLEGE - MAIN CAMPUS PLUMBING COUNT

	PLUMBING COUNT				EXISTING/PLANNED UPDATES			
FIRST FLOOR	**Water Closet - Male**	**Water Closet - Female**	**Lavatory - Male**	**Lavatory - Female**	**Water Closet - Male**	**Water Closet - Female**	**Lavatory - Male**	**Lavatory - Female**
Art and Music	4	4	3	3	4	4	3	3
Stevenson Center	4	4	3	3	9	10	6	6
Science Center	3	3	2	2	3	3	2	2
Main Building	5	5	4	4	8	6	5	5
Library	1	2	1	1	2	3	2	3
Bookstore	1	1	1	1	1	1	1	1
Overbrook Theater	2	3	1	1	2	3	2	3
TOTAL	20	22	15	15	29	30	21	23

SECOND FLOOR	**Water Closet - Male**	**Water Closet - Female**	**Lavatory - Male**	**Lavatory - Female**	**Water Closet - Male**	**Water Closet - Female**	**Lavatory - Male**	**Lavatory - Female**
Main Building	7	7	5	5	13	12	10	8
Stevenson Center	3	3	2	2	9	9	5	6
Library	1	1	1	1	1	2	1	2
Overbrook Theater	1	1	1	1	4	5	4	5
TOTAL	12	12	9	9	27	28	20	21

THIRD FLOOR	**Water Closet - Male**	**Water Closet - Female**	**Lavatory - Male**	**Lavatory - Female**	**Water Closet - Male**	**Water Closet - Female**	**Lavatory - Male**	**Lavatory - Female**
Main Building	5	5	4	4	5	5	4	5
Stevenson Center	4	4	3	3	9	9	5	6
Overbrook Theater	1	1	1	1	1	1	1	1
Library	1	1	1	1	1	2	1	2
TOTAL	10	10	8	8	15	15	10	12

CAMPUS PLANNING - EXISTING UTILIZATION

Muskegon Community College's (MCC) main building is organized around various departments that play an essential role in its overall organization and wayfinding. These departments are primarily dedicated to classrooms and instructional spaces. In the post-pandemic era, higher education has seen reduced on-campus utilization due to the growing demand for online and hybrid learning options. This trend is expected to persist or even increase. However, there is still a notable demand for in-person classes and faculty engagement.

MCC's space utilization data for the 2022-2023 academic year reflects these changes in learning preferences. Each assigned space had 1,400 available hours during the academic year, and utilization percentages were calculated by comparing the actual use of these spaces with their availability.

The College's data aligns with trends from peer institutions, providing insights into how MCC can optimize its space allocation, adapt underutilized areas, and ensure that its facilities align with current and future academic needs. This information is essential for campus planning and maximizing the effective use of instructional spaces to meet the evolving demands of the student population.

Library

Bookstore

MAIN BUILDING UTILIZATION

FIRST FLOOR	COMBINED
Art and Music	42%
Stevenson Center	56%
Science Center	48%
Main Building	38%
Library	50%
Overbrook Theater	53%
TOTAL	48%

SECOND FLOOR	COMBINED
Main Building	43%
Stevenson Center	57%
Library	23%
Overbrook Theater	63%
TOTAL	47%

THIRD FLOOR	COMBINED
Main Building	54%
Stevenson Center	50%
Overbrook Theater	19%
TOTAL	41%

OVERALL	COMBINED
First Floor	48%
Second Floor	47%
Third Floor	41%
TOTAL	45%

CAMPUS PLANNING - EXISTING UTILIZATION

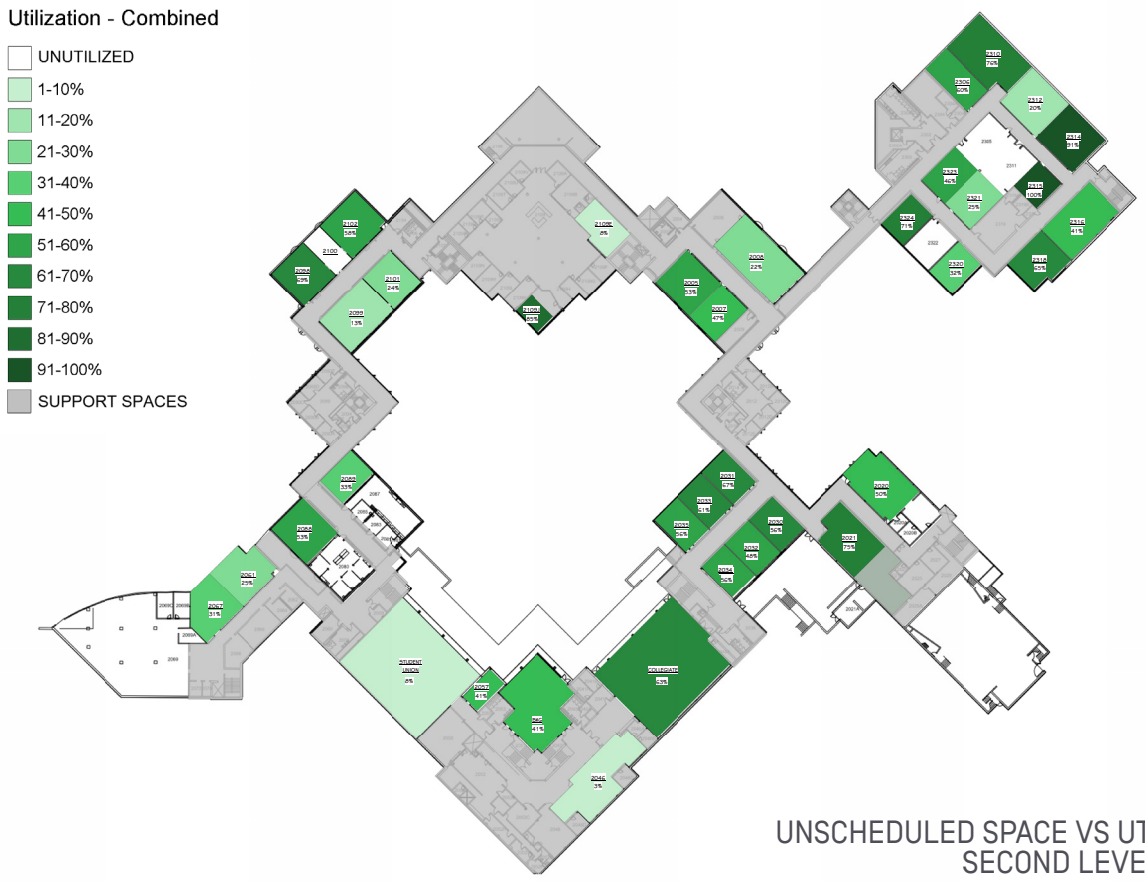
During the 2022-2023 school year, Muskegon Community College's (MCC) overall building utilization was 45%, with the first floor utilized at 48%, the second floor at 47%, and the third floor at 41%. These percentages were calculated based on spaces included in the central schedule for the college.

Space utilization was assessed in three different ways: classroom time, event time, and a combined overall utilization of both. By examining classroom use, MCC was able to determine how frequently instructional spaces were occupied during scheduled courses. Event time focused on the availability and use of spaces for campus activities, meetings, or non-classroom functions. The combined overall utilization provided a broader perspective on how spaces serve the dual purposes of academics and campus events.

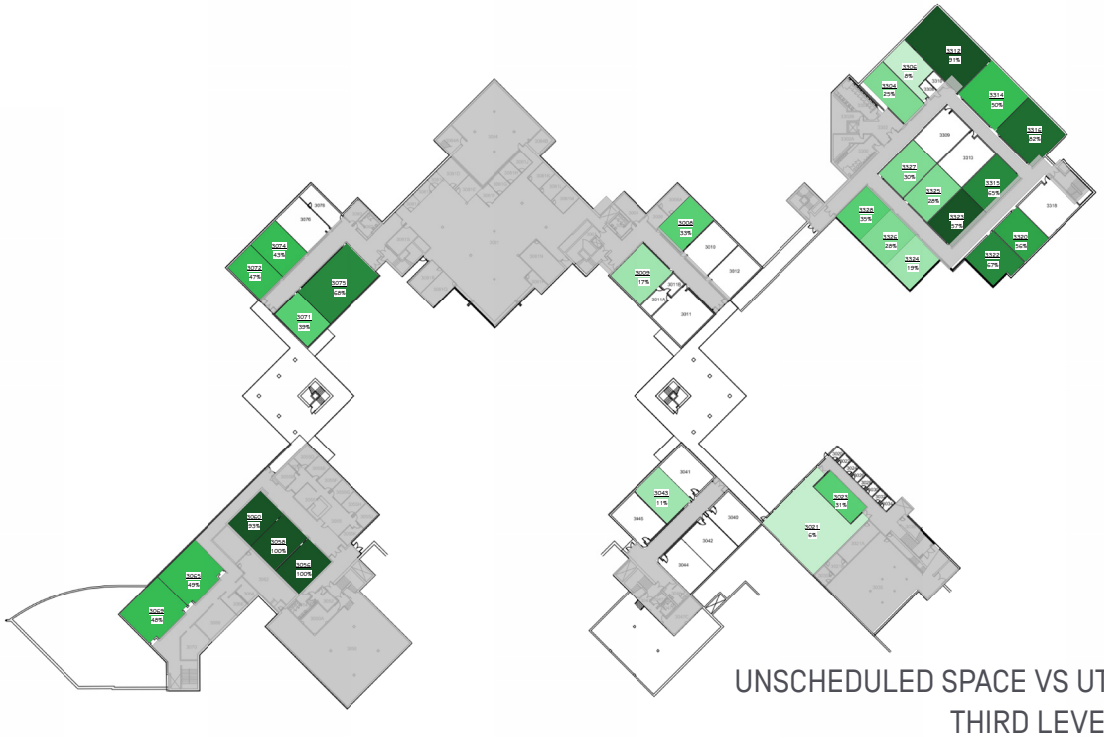
This comprehensive data highlights opportunities to optimize space use, especially as higher education continues to shift toward online and hybrid learning. While on-campus space demand has decreased, there remains a strong need for in-person learning environments. This analysis will inform future planning efforts, ensuring MCC can adapt its facilities to balance these evolving academic and extracurricular needs.

UNSCHEDULED SPACE VS UTILIZED SPACE
FIRST LEVEL UTILIZATION

CAMPUS PLANNING - EXISTING UTILIZATION



UNSCHEDULED SPACE VS UTILIZED SPACE
SECOND LEVEL UTILIZATION

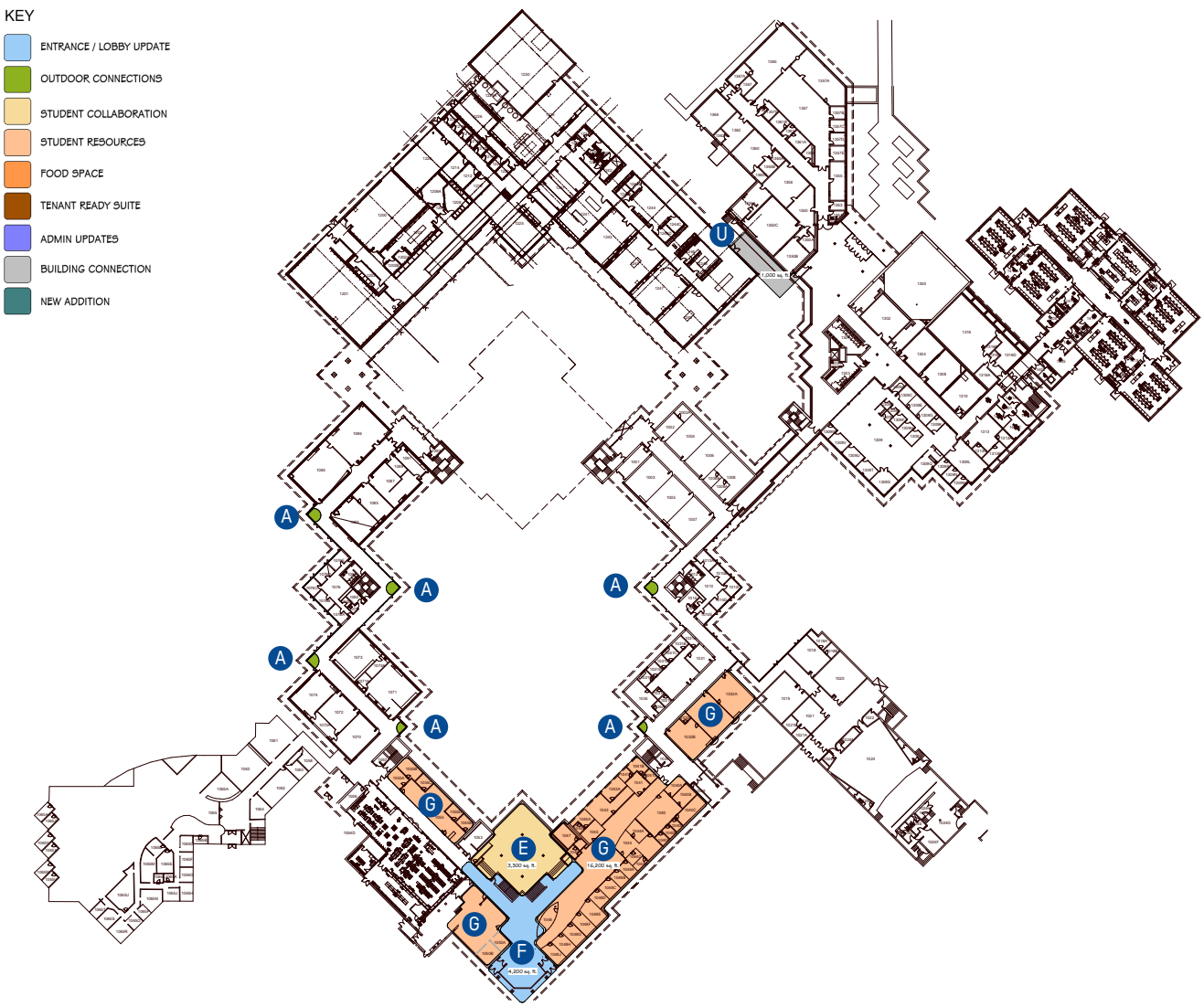


UNSCHEDULED SPACE VS UTILIZED SPACE
THIRD LEVEL UTILIZATION

CAMPUS PLANNING: IMPROVEMENTS

As part of Muskegon Community College's forward-thinking Campus Planning initiative, we've identified key areas where strategic improvements and updates are essential to enhancing the student and staff experience. The accompanying map highlights several proposed upgrades, including lobby renovations for a more welcoming entrance, the addition of outdoor connection spaces with seating, expanded student collaboration and resource areas, modernized food spaces, ADA accessibility updates, and staff hoteling zones, building connections, and new additions. These planned improvements aim to create a more inclusive, efficient, and engaging campus environment, aligning with MCC's mission to foster innovation and community within its spaces.

In addition, wayfinding improvements will guide visitors seamlessly through key areas such as the lobby, Gerber Lounge, and the Student Services One Stop, ensuring easy navigation and enhancing the overall experience for students, staff, and visitors alike.



First Floor Building Improvements

CAMPUS PLANNING: IMPROVEMENTS

Building Improvements

A: Student Collaboration Areas

An opportunity to enhance indoor-outdoor connections by converting underused corners into functional zones using furniture-only improvements. These spaces, already featuring storefront windows that overlook the outdoors, and could be equipped with comfortable seating, modular tables, and adaptable lounge furniture. This creates inviting areas that encourage both relaxation and collaboration, transforming them into vibrant, student-friendly zones without the need for major structural changes.

A: Furniture for Outdoor Connection

E: Gerber Lounge Renovation

The Student Commons could enhance the student experience with a floor infill and updated finishes to revitalize the space. New student collaboration areas featuring comfortable seating and flexible layouts, which could foster both academic and social interactions. These improvements can be used to create a modern, inviting environment that enhances student engagement and connectivity.

F: New Entry Lobby Experience

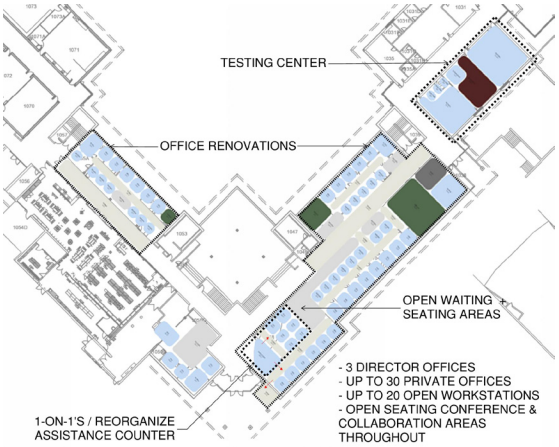
The lobby and entrance can be enhanced with new finishes, upgraded lighting, and convenient charging stations. Prominent signage could clearly signify the main entry, creating a welcoming and engaging arrival experience for students, staff, and visitors.

G: Student Services / One-Stop Renovation

G: Student Services / One-Stop Renovation

The Student Services / One-Stop space could be completely updated, transforming it into a vibrant Student Collaboration Hall. The redesigned area will feature modern furnishings, creating an inviting environment where students can interact, collaborate, and relax.

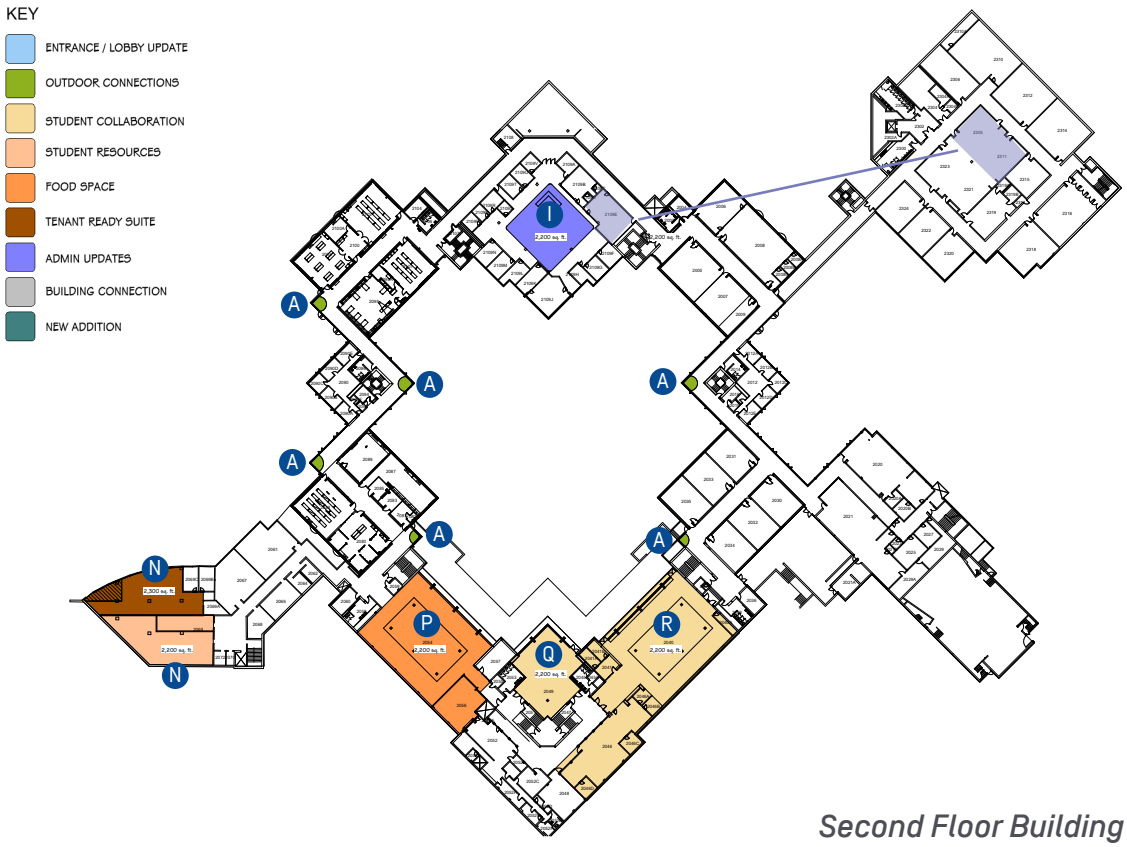
MCC's "One-Stop" area provides a consolidated experience for accessing services. Since MCC developed this space, many other peer institutions have developed a similar model. The renovations proposed for this space would allow for a programmatic re-envisioning of the operations of the One-Stop. To best serve MCC students, there are changes that could be developed to improve access, provide more confidentiality and update the spaces to be more universal for students and staff. The original concept for the space has served MCC well, but as higher education continues to evolve, the existing space could be updated to support those changes in service delivery.



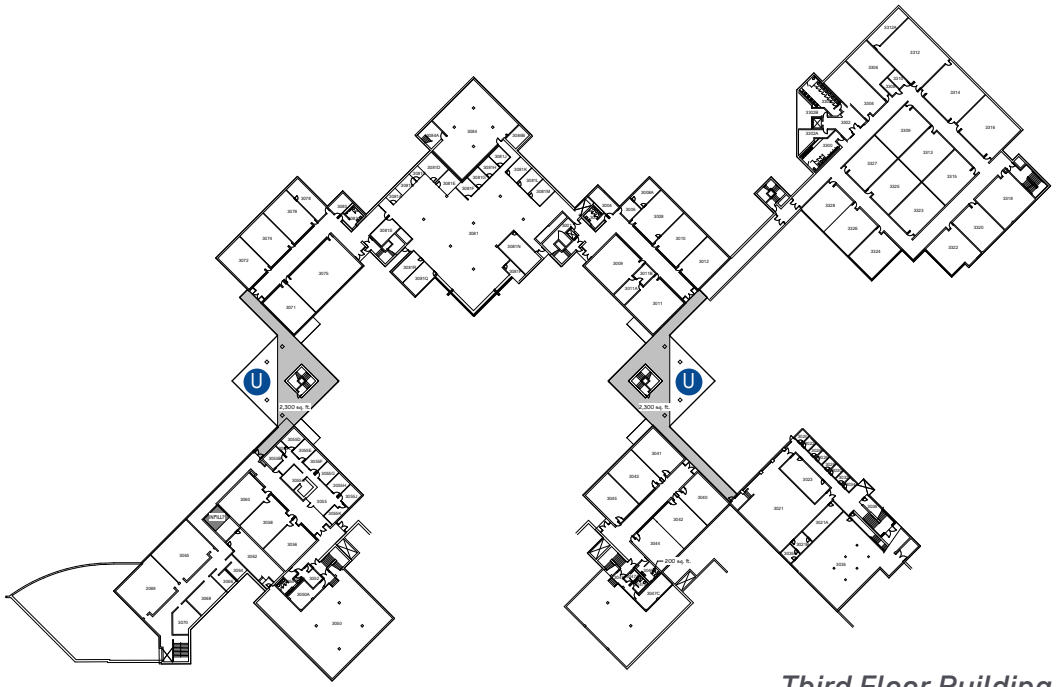
G: Student Services / One-Stop Test-Fit

These renovation scope could also include the Mechanical and Electrical upgrades that are itemized in the Facilities Assessment Report. The improvements that are shown in the budget allow for a complete reorganization of the space, including walls, ceilings, flooring, and improvements to the furniture to allow for improved staff collaboration and student service.

CAMPUS PLANNING: IMPROVEMENTS



Second Floor Building Improvements



Third Floor Building Improvements

CAMPUS PLANNING: IMPROVEMENTS

Building Improvements (Continued)

I: Administration Renovation

The College will add flexible workstations for staff, designed for short-term use. These spaces will help staff easily transition between locations, boosting efficiency and collaboration. Additionally, the existing board room will be renovated into two conference rooms, and the board room will be relocated to rooms 2305/2311. This new board room will feature folding partitions and be conveniently situated near the elevator.

N: Student Study Space /Incubator Suite

The space will be converted into a tenant suite, providing a flexible, rentable area for external organizations or businesses to utilize, offering additional services and opportunities for the campus community. Student resource spaces will be upgraded with more support services, study areas, and technology, providing a central hub to help students succeed.

P: Jayhawk Cafe Renovation

In response to student and staff requests for healthier and more satisfying dining options, the Jayhawk Café renovation will introduce a variety of hot meal choices that prioritize both nutrition and quality. The updated café will provide more diverse and appealing menu selections, ensuring that students and staff have access to good, wholesome meals throughout the day. A

Q: Blue and Gold Room Renovation

The Blue and Gold Room renovation will transform the existing space into a dynamic student collaboration hub. New comfortable seating arrangements and flexible layouts will be introduced to accommodate both academic study groups and informal social interactions. The design aims to create an inviting atmosphere where students can easily transition between work and leisure, fostering engagement, creativity, and community building.

R: Student Space Collaboration

The renovation of the Student Collaboration Hall will introduce a vibrant and modern environment for student interaction. Outfitted with contemporary furnishings and adaptable workstations, the space will encourage teamwork, group discussions, and individual study. It will serve as a central hub for students to collaborate on projects, host meetings, or simply unwind between classes.

U: New Door Entry Hardware

To improve campus navigation and accessibility, new door entry hardware will be installed across campus buildings. This update focuses on streamlining movement between key areas, making it easier for students, faculty, and staff to access various spaces. The upgraded hardware will not only enhance building connections but also contribute to a more unified campus environment, supporting the College's goal of improving flow and accessibility throughout the campus.

N: Student Resource Space

Q: Student Collaboration Space

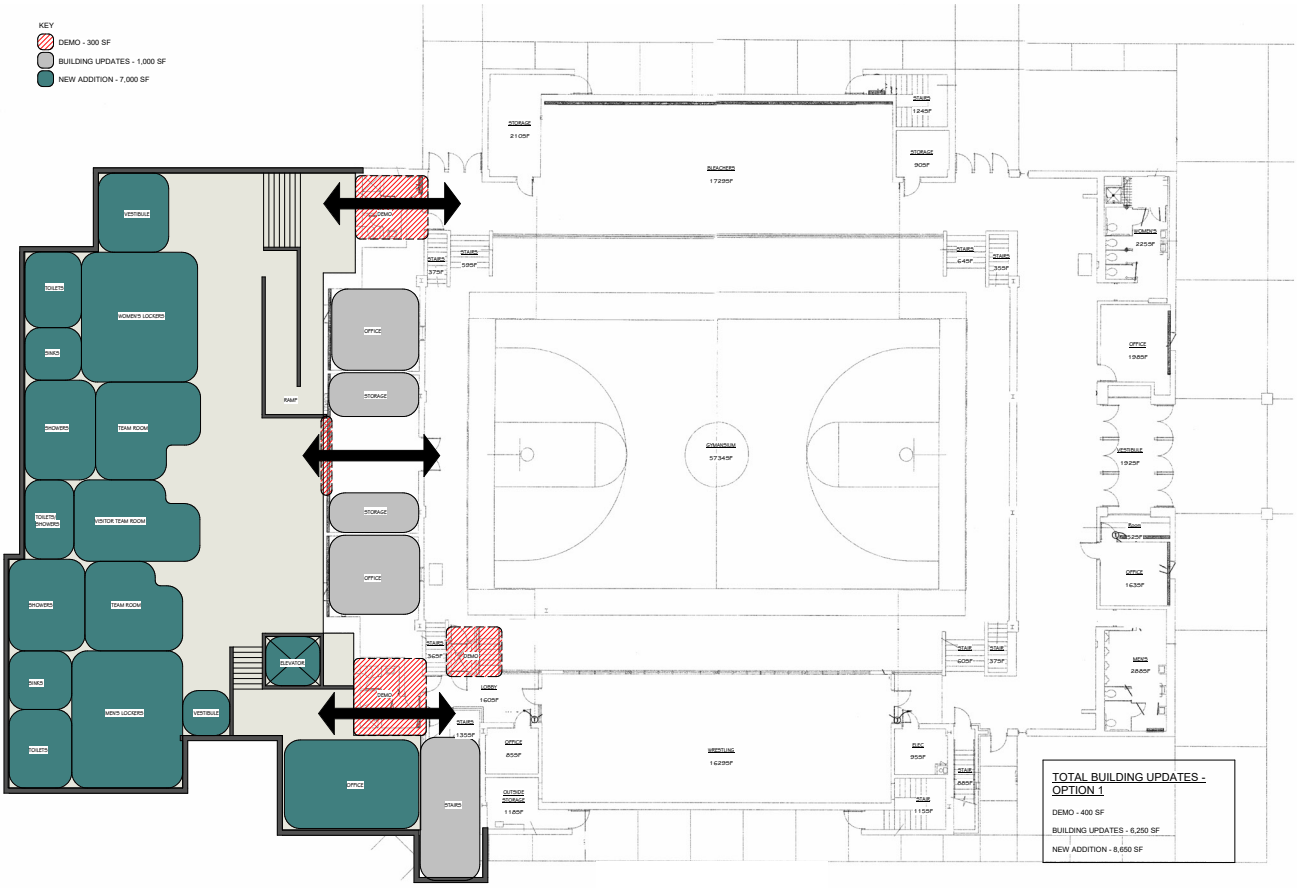
P: Cafeteria

Q: Student Collaboration Space

CAMPUS PLANNING: IMPROVEMENTS

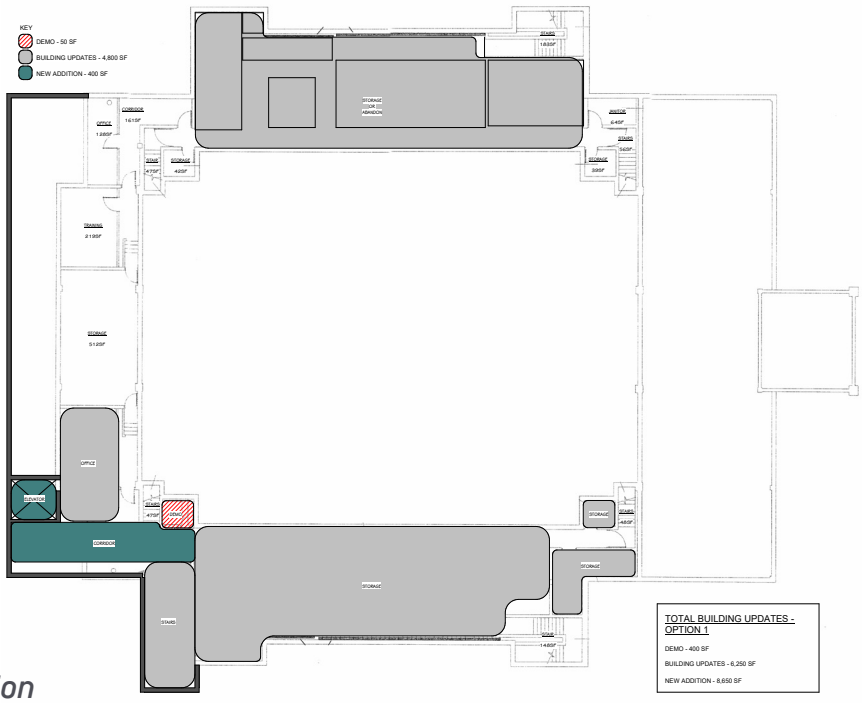
The Bartels-Rode Gymnasium, originally built in the 1960s, is set to receive comprehensive renovations to better serve the growing needs of Muskegon Community College's students, staff, and visiting teams. As part of the campus improvement plan, a 6,000-square-foot addition will be constructed, alongside 2,500 square feet of building updates, with approximately 400 square feet of existing space being demolished to accommodate these changes.

The renovations will relocate the locker rooms and team rooms from the basement to the first floor of the new addition, significantly improving accessibility for athletes and guests. The addition will also feature an ADA-compliant elevator, ensuring inclusivity and ease of access. In addition, some of the existing stairways will be updated, new office spaces will be created, and some of the existing offices and storage will be updated and moved around to create a central entry into the main gymnasium space. These improvements will enhance the overall functionality and comfort of the gymnasium, supporting a more welcoming and efficient environment for students, staff, and visiting teams.

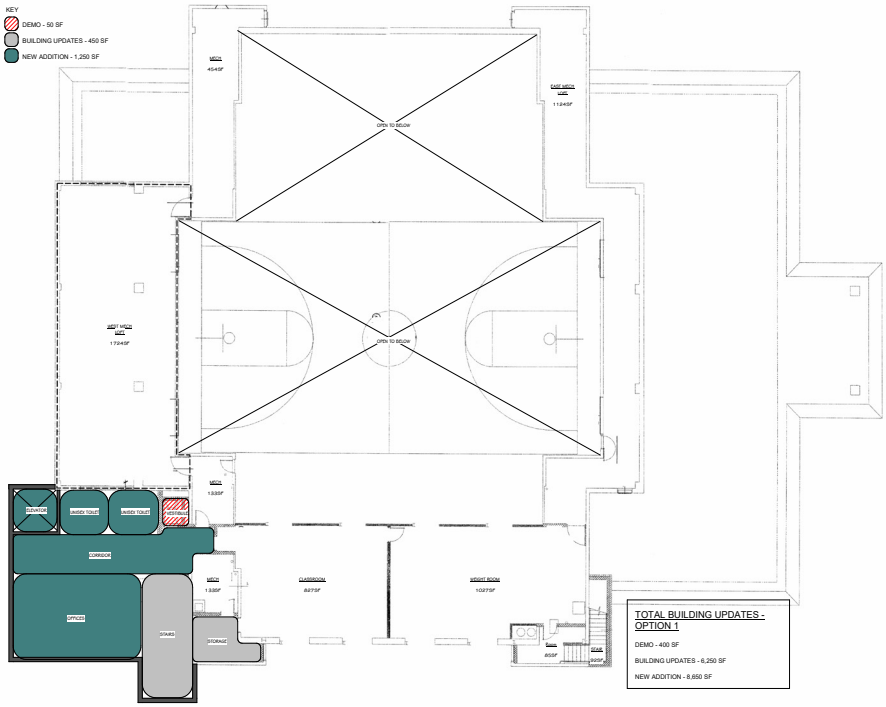


BR Gymnasium Addition
First Floor Plan

CAMPUS PLANNING: IMPROVEMENTS



BR Gymnasium Addition
Basement Floor Plan

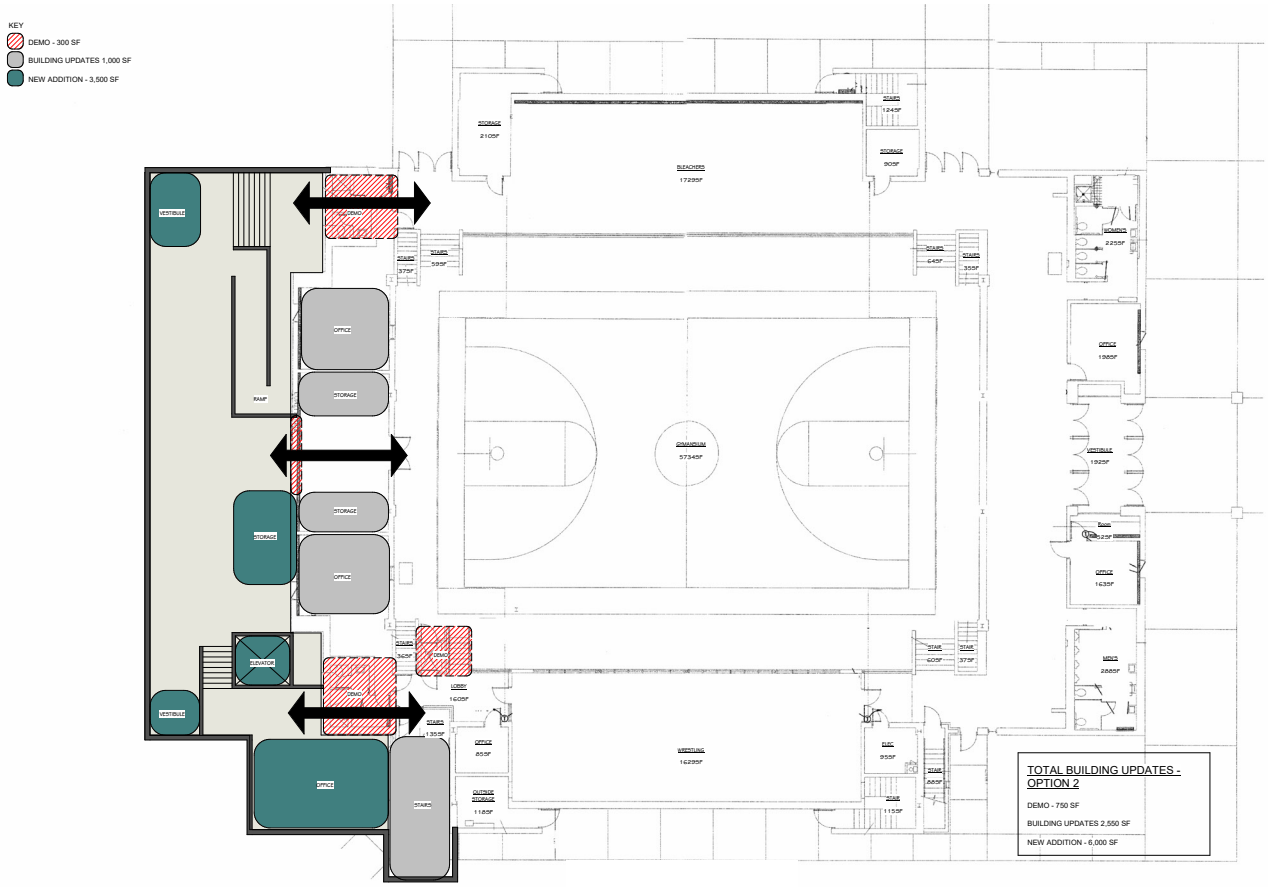


BR Gymnasium Addition
Second Floor Plan

CAMPUS PLANNING: IMPROVEMENTS

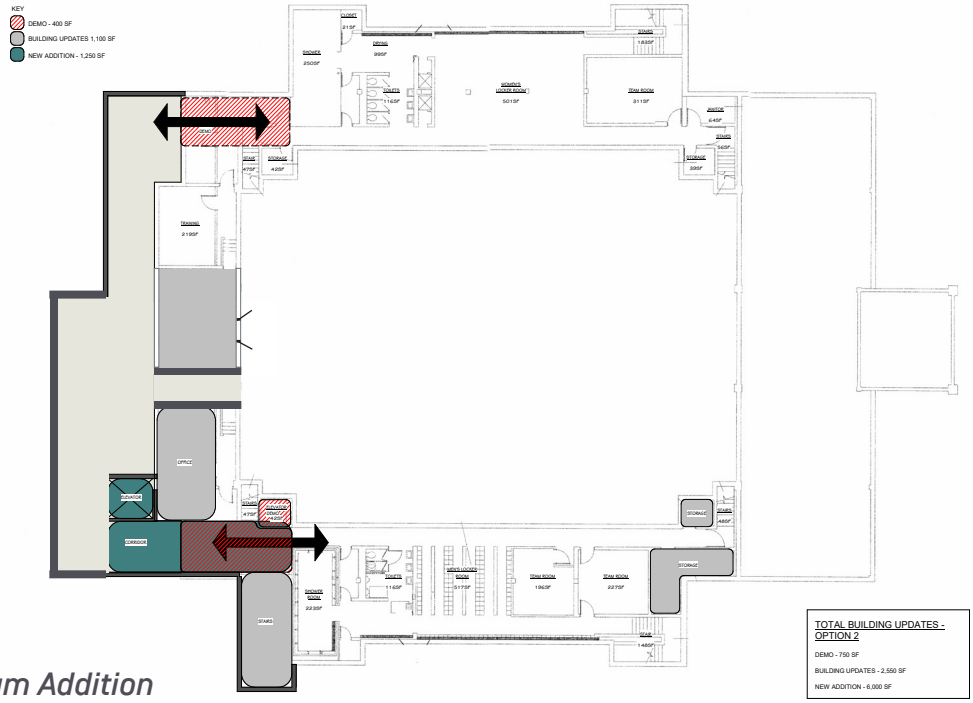
An alternate concept to improve accessibility at the Bartels-Rode Gymnasium would be to develop a more discreet scope that would renovate the existing facility and propose a smaller addition that would provide ADA access. This concept would update finishes in the existing locker rooms, add ramping and elevator access for the locker rooms, and improve access for mobility-limited users and update key spaces. This concept would require less capital investments up front while providing ADA compliance for the facility.

This concept would also be more impactful to ongoing operations at BRG. The renovations would require closure of locker rooms during renovations which would limit the ability for the facility to host events. The previous option that adds new locker rooms would impact operations but the phasing could possible allow for less down-time at the facility. This reduced-scope option could provide an option that reduces the overall capital investments of the planning.

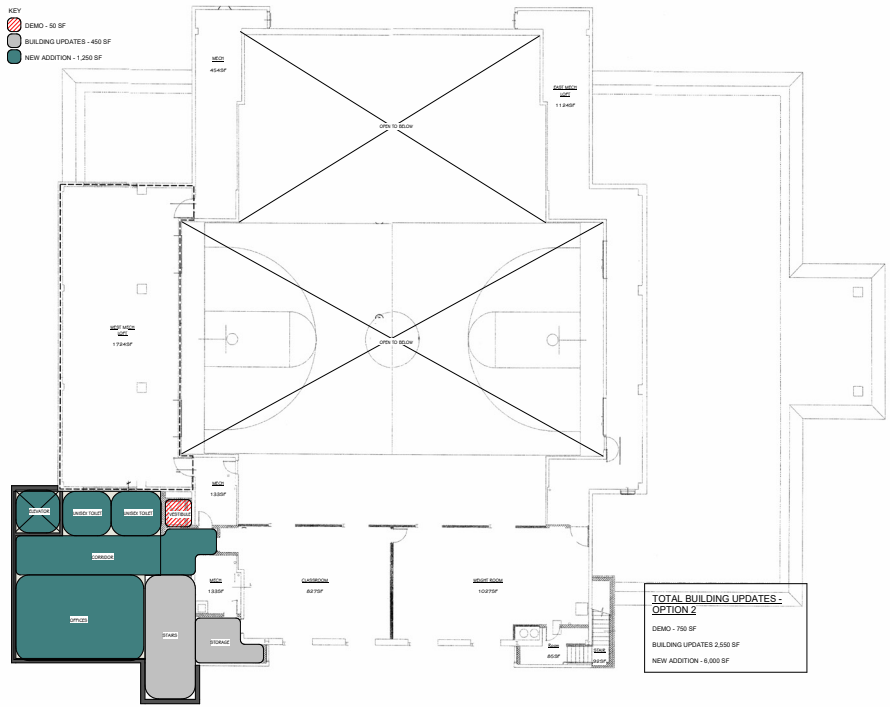


BR Gymnasium Addition
First Floor Plan

CAMPUS PLANNING: IMPROVEMENTS



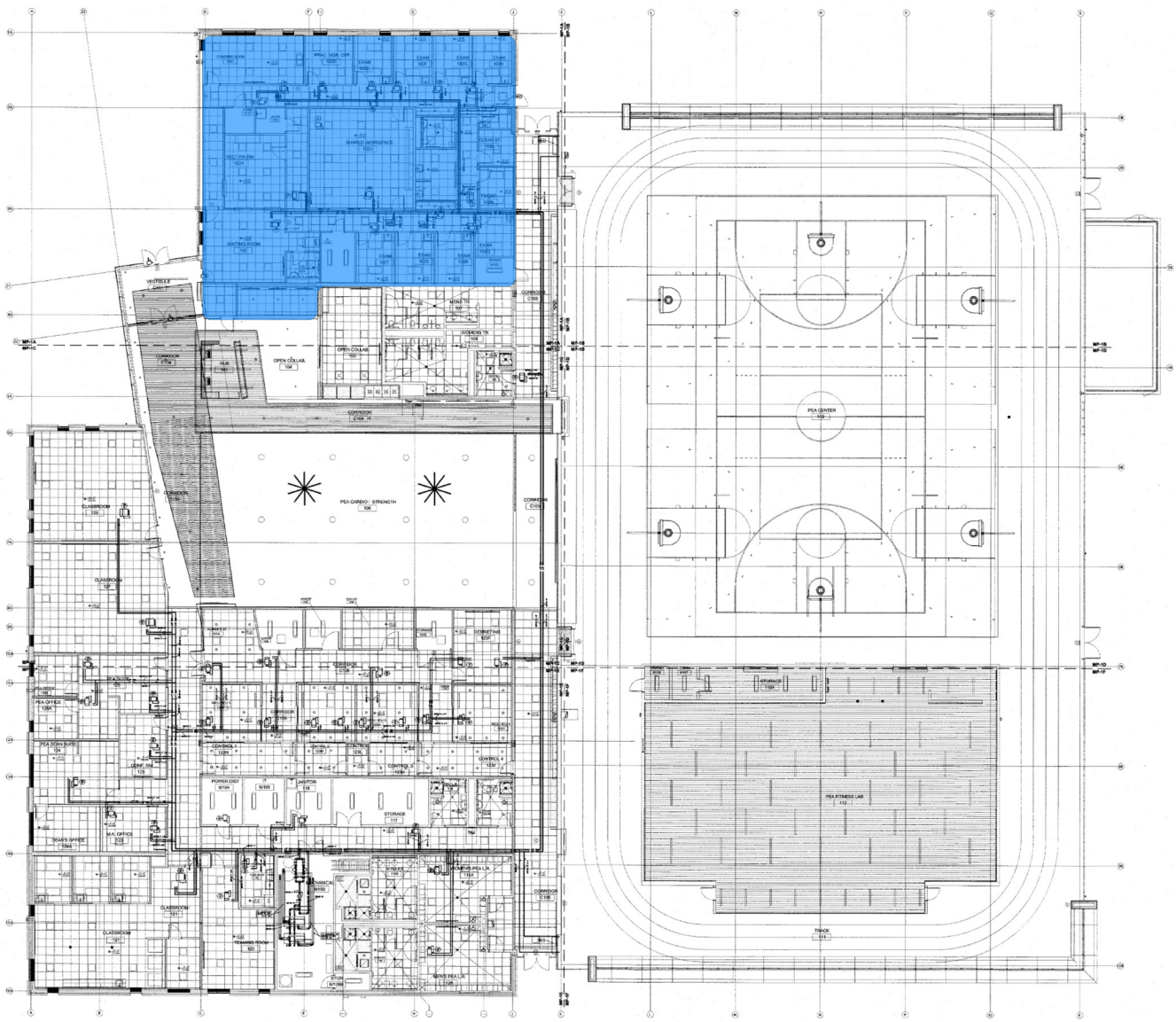
BR Gymnasium Addition
Basement Floor Plan



BR Gymnasium Addition
Second Floor Plan

CAMPUS PLANNING: IMPROVEMENTS

The Health and Wellness Center at Muskegon Community College has 4,800 square feet of space highlighted on the campus plans. This space could be used to accommodate the expected growth in health professions classes by adding more dedicated teaching spaces and small group areas. The changes could support academic instruction and provide environments for students to engage in collaborative learning. By expanding capacity for both clinical and small group settings, the space could be a key resource for student success as the campus grows.



Health and Wellness Center Improvements

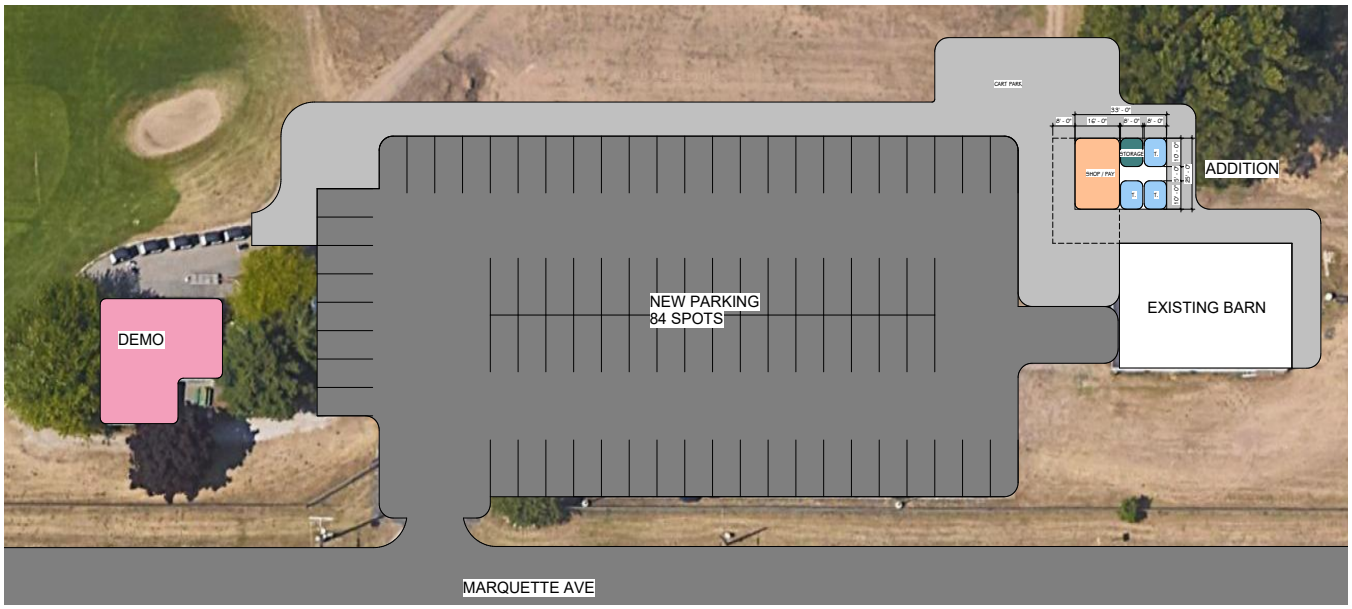
CAMPUS PLANNING: IMPROVEMENTS

The University Park Golf Course (UPGC) has an aging clubhouse that has several infrastructure needs. There are opportunities to improve services by demolishing the existing clubhouse and developing a new facility to better serve visitors and golfers. The new addition could be located just north of the existing barn, which currently houses the golf carts.

The updated facility would improve services with new bathrooms and a small sales area, enhancing both functionality and convenience for guests. This development is aimed at creating a more modern and efficient space, offering essential amenities while maintaining a streamlined layout. The new location ensures better accessibility, while the addition of the sales area could provide a space for purchasing refreshments and other golf-related items.

To support a potential new facility, there would need to be relocation of site utilities from the existing building to the new location. The budgeted amount would allow for demolition of the existing facility, relocation of the gas lines, water lines, sanitary sewer and storm sewer. The new facility would be CMU construction, with a surrounding sloped canopy for shelter. It would be designed to have mechanical systems to provide seasonal cooling, and tempering heat for operations during the shoulder seasons.

University Park Golf Course Addition Precedent



University Park Golf Course Improvements

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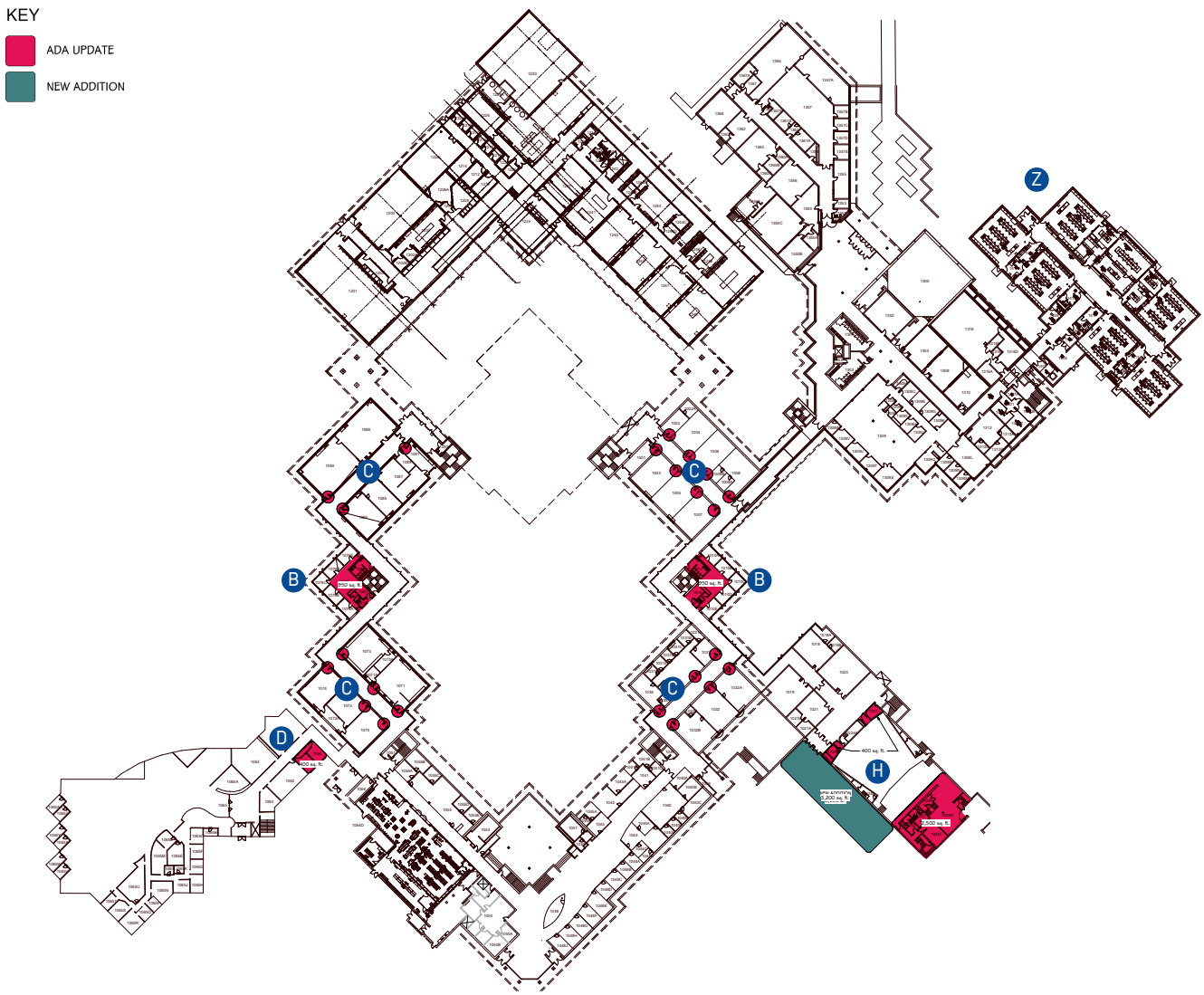
04

ADA + FA SUMMARY

ADA SUMMARY

TowerPinkster conducted a comprehensive facilities assessment of all buildings at Muskegon Community College, identifying areas in need of ADA compliance upgrades. Based on the assessment, several key improvements have been suggested, which are highlighted in red on the campus improvement plans. These updates are aimed at ensuring the College meets current ADA standards and fosters a more inclusive and accessible environment for all students, staff, and visitors. The proposed improvements include ADA-compliant bathroom upgrades with accessible fixtures, widening doorways and installing automatic openers for easier access, and adding ramps to improve access between different areas of the campus. Additionally, a new theater addition will feature an elevator, ensuring full accessibility for individuals with mobility challenges. These changes are critical for making the campus more inclusive, allowing everyone to comfortably navigate the facilities while keeping the College in line with modern ADA regulations.



First Floor ADA Updates

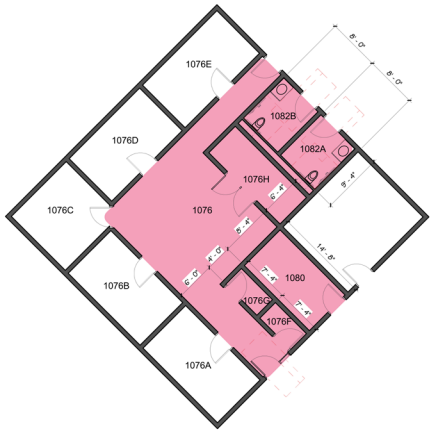
ADA SUMMARY

ADA Updates

B: Suite Updates (1010, 1076, 2012, & 2090)

Suites 1010 and 1076 currently do not meet ADA standards. As shown on the example, Suites in this configuration would need a wider door entrance and a reconfiguration of the office adjacent and janitor space to create a wider hallway. Additionally, the current gendered restrooms can be replaced with two new non-gendered restrooms, and a larger storage closet will be added for enhanced functionality.

Suites 2012 and 2090, with similar layouts to the first floor suites, would need the same renovations, ensuring a consistent approach to accessibility improvements across the campus to meet ADA standards.



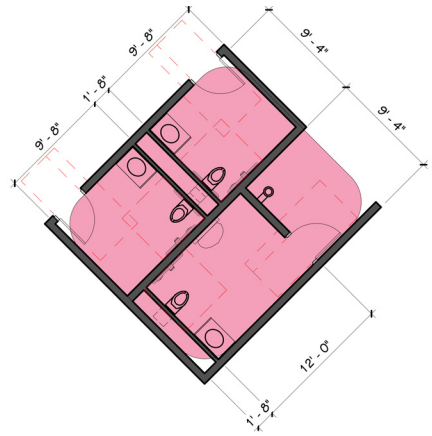
B: 1076 ADA Suite Updates

C: Door/Door Opening Updates

The areas highlighted in red on the plan indicate locations where ADA updates can be updated to meet compliance standards, including widening door openings and installing automatic openers. These improvements can enhance accessibility and ensure ease of movement throughout the space for all individuals.

D: Bathroom Updates

Several restrooms throughout the main building and the library currently do not meet ADA standards. Highlighted in red and marked as “D” on the plans, the restrooms in rooms 1058, 1060, 2038, 2058, 2062, 2064, 2106, 3046, 3054, 3064, and 3066 are identified for renovation. The proposal includes converting these gender-specific restrooms into non-gendered facilities. Upgrades would require ADA-compliant fixtures, grab bars, and wider stalls to ensure full compliance with accessibility guidelines. These improvements provide a more inclusive and accessible environment for all users, enhancing the functionality and comfort of the restroom facilities.



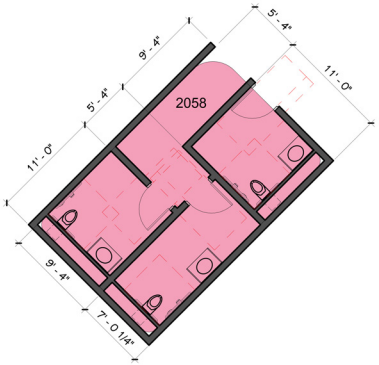
D: 1058 ADA Bathroom Updates

X: ADA Ramp for Building Connection

Currently, a grade change between two key campus buildings creates a barrier to easy accessibility. To address this issue, we propose the addition of an ADA-compliant ramp to seamlessly connect these buildings. This solution involves renovating an existing classroom space to accommodate the ramp, ensuring a smooth and accessible transition between the two structures and enhancing overall campus inclusivity.

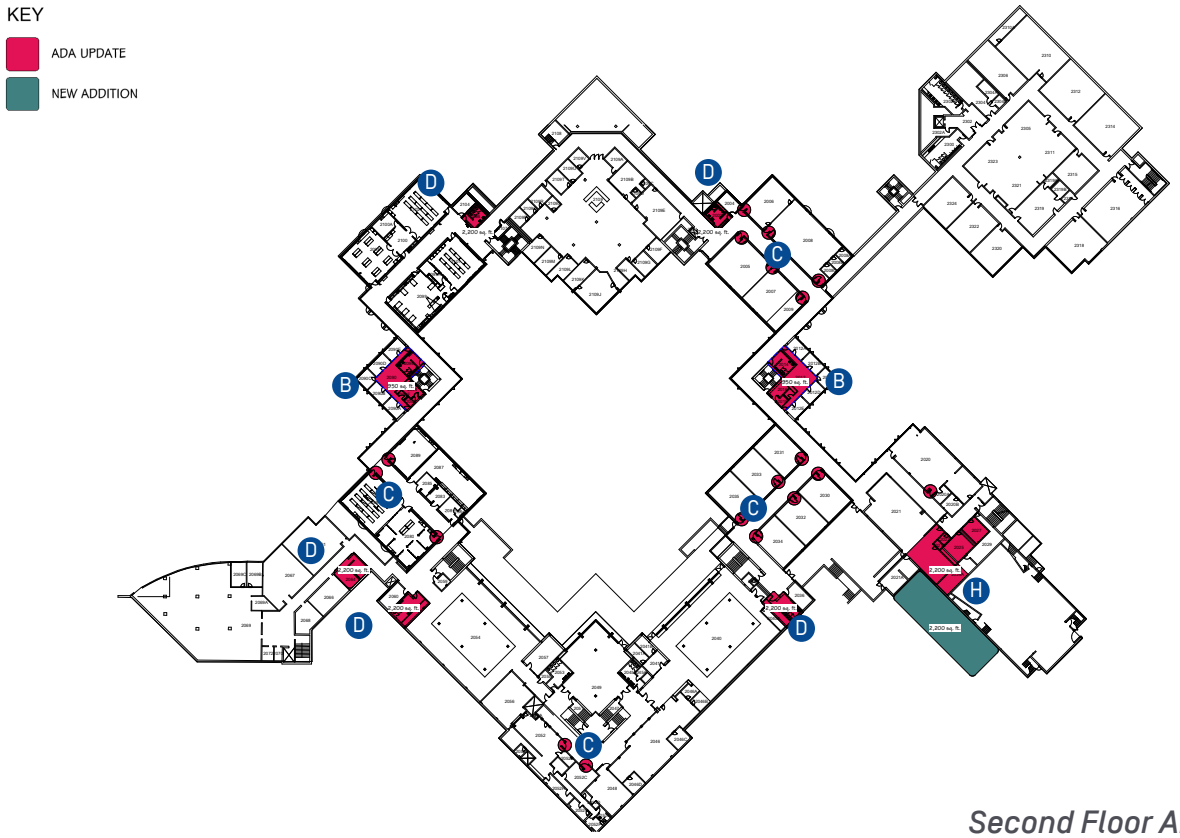
Z: ADA Benches in Lab Stations

In the Science Center laboratories, ADA-compliant benches will be installed to provide accessible workstations for all students. These benches will allow for greater ease of use by individuals with mobility challenges, ensuring that lab environments are inclusive and supportive of diverse student needs, while maintaining functionality for all users.

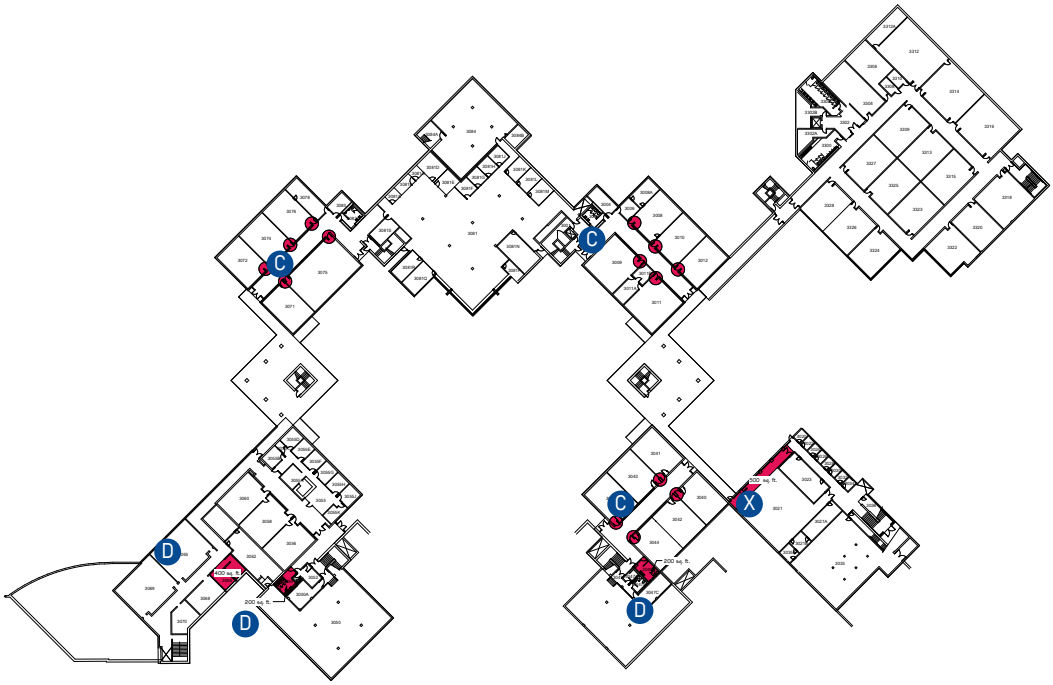


D: 2058 ADA Bathroom Updates

ADA SUMMARY



Second Floor ADA Updates

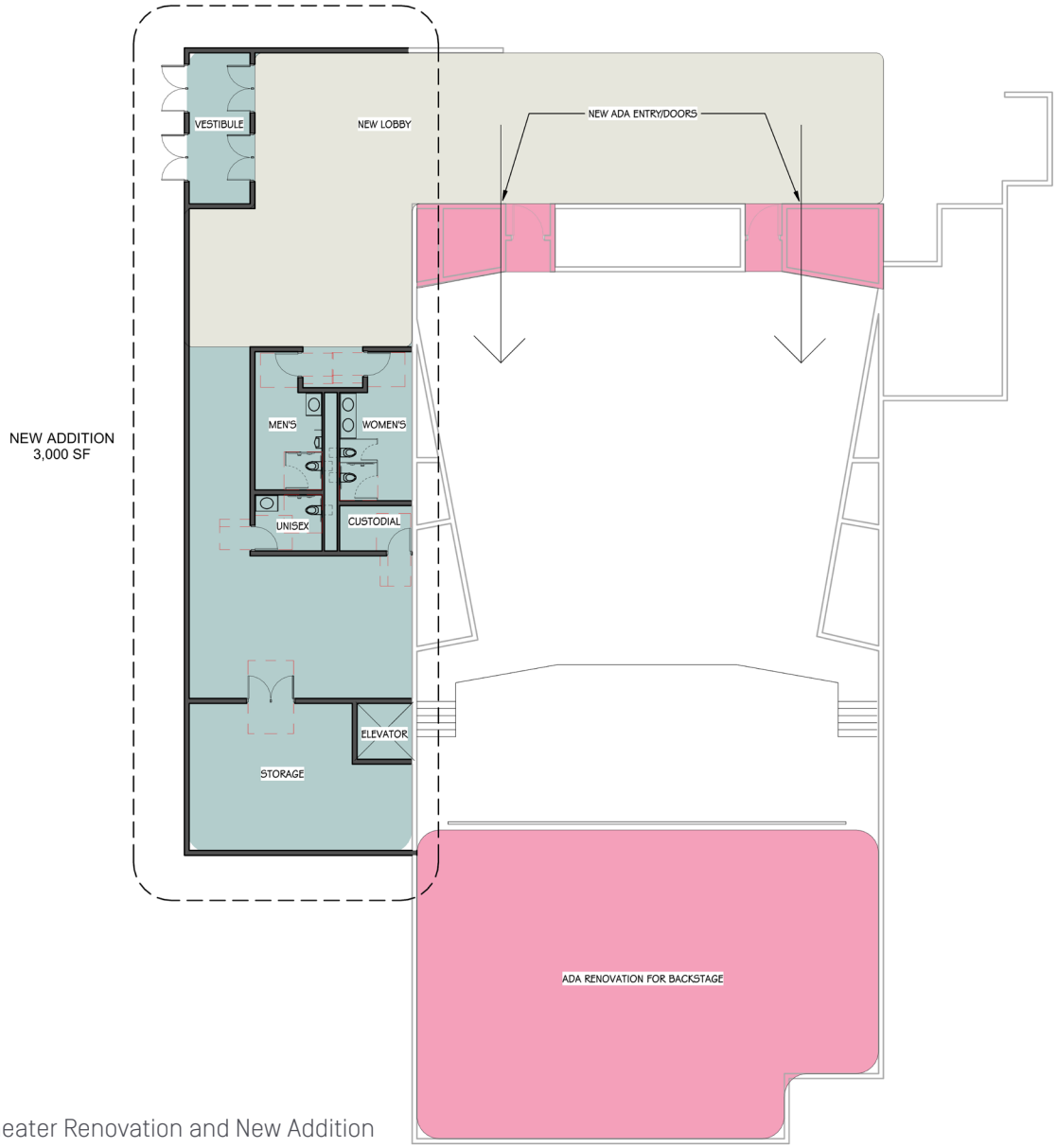


Third Floor ADA Updates

ADA SUMMARY

H: Theater Renovations and New Addition

The proposed theater renovations will significantly improve accessibility and functionality. The main entrance will be reconfigured into a new, art-friendly lobby space that connects seamlessly to a new addition. The existing doors to the theater will be upgraded to meet ADA standards, and backstage areas will undergo necessary updates to improve access. A major concern was the lack of wheelchair access to the stage, as the grade level lowers towards the stage. To address this, the new addition will include an elevator to facilitate access for individuals with disabilities, allowing them to move between the lobby and stage levels. The addition will also feature a new vestibule, two gendered restrooms, one unisex restroom, a janitor's closet, and a storage room, enhancing both the functionality and inclusivity of the theater space.



H: Theater Renovation and New Addition

FA SUMMARY

Overall Campus Site and Building Assessment Summary

The Tower Pinkster team conducted a full facility assessment and Barrier Free Accessibility Assessment. The team toured and inspected all Muskegon College Facilities and documented their findings in a Facilities Assessment Data Report. The list of facilities include:

- Main Campus located at 221 South Quarterline Road, Muskegon, MI
    - Main Building
    - JLS Center for Higher Education
    - Bartels Rode Gymnasium
    - Automotive/Grounds
    - Arts and Humanities
    - Overbrook Theater
    - Library Information Technology
    - Life Science Center
    - Health and Welness Center
- Golf Course Maintenance, Pump and Clubhouse buildings
- Observatory (William Devette) located at 702 North Maple Island Road, Muskegon, MI
- Grand Haven Center located at 16777 South Lincoln Street, Grand Haven, MI
- Sturrus Technology Center located at 388 West Clay, Muskegon, MI
- Downtown Center Storage located at 445 West Clay, Muskegon, MI
- Kraft Alumni/ Foundation House located at 1784 Marquette Ave, Muskegon, MI

The assessment data report and narratives include recommendations and estimated budgets for improvements, replacements and continued maintenance. In addition to the data report is the ADA Accessibility summary that identifies areas of non compliance and provides plan concepts to renovate and meet compliance requirements. Estimated costs for each non-compliance is itemized in the summary.

FA SUMMARY

Mechanical: The college has received energy audits (assessments) from utility companies to reduce building energy usage, and has found the recommendations unobtainable due to negative effects on the building occupants and the existing buildings and their systems after applying the recommendations. The college should consider developing into their project proposals, a customized level 2 energy audit (assessments) for any proposed building use changes, building envelope changes/improvements, HVAC replacements/improvements, domestic water replacements/improvements, or lighting replacements/improvements. This will help the college understand the actual energy implications or improvements associated with the changes/replacements/improvements occurring to their buildings. The existing buildings on campus already have a significant amount of building documentation and trending implemented to allow a customized level 2 energy audit (assessment) to be performed based on project programming needs.

The college should consider requesting proposals to help the college develop a campus building design guideline for new buildings and renovations, if not for mechanical and plumbing only starting out. Part of developing this guideline should include building commissioning agents and testing/balancing contractors that can represent the college, as these services are required by current energy codes and will become more stringent within the year. Additionally, you'll find the following recurring implied standards already taking place on campus within the assessment of the buildings, and additional items may be included after review with facility maintenance staff:

- Building Controls by (Controls Resource | Hurst Mechanical) and their involvement during building design/renovation/construction.
- High failure rate occurring on motorized valves and are being replaced with Belimo valves.
- Variable frequency drives by 'ABB'
- Standardize on condensate neutralization tanks that can be cleaned and top loaded with neutralization media.
- Condensate line and traps from cooling coils were commonly found missing, broken, or without cleanouts.
- Wind affecting gas regulator venting on gas fired appliances.
- Plumbing fixture manufacturers.
- Mechanical equipment manufacturers.

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05

BUDGET SUMMARY

BUDGET SUMMARY

The campus planning responses described above will help MCC as it moves forward into the next ten years. To support these goals, there has been supporting budgets developed to provide high-level, approximate costs. Since 2020, there has been unpredictable escalation, and bidding volatility in construction. These budgets are presented at a high level. Typically, the larger the scope of a project, we find there is less bidding variance and better overall value.

The costs are largely derived by a "cost per square foot" model. This uses construction costs developed with Concord Group and applies that to the nominal area that each of the projects would likely include. Once the construction cost is established, a series of project cost multipliers are added to reach a total project cost. We recommend that MCC review individual projects to verify current costs before an RFP is issued.

These projects have been budgeted based on the Third Quarter of 2024 approximate costs. As mentioned above, escalation has been variable over the past several years post-pandemic. Currently, escalation is at about 3-5% per year. Consequently, every year beyond 2024, projects budgets would need to have additional escalation associated with their budgets.

If multiple projects are packaged together, there is an opportunity to get more aggressive bids from contractors. The costs associated with the Facility Assessment are packaged with that document, but it would be anticipated that when individual projects can combine those scopes, they would be packaged together to maximize efficiency in bidding and minimize disruption.

The following budget summary show potential projects based on the feedback from the stakeholder input and the Facility Assessment and ADA Assessment. The planning and ADA upgrades are the upper section of the summary and ranges about to $26.2 to $31.4 million. The includes twenty-four potential projects. The range is the result of two options for the Bartles-Rode Gymnasium concepts. The Facilities Assessment improvement suggestions are broken up by location and then by when the project is recommended to be completed. The total costs for all suggested projects is about $18.4 million.

The total conceptual budgets for the entire 10-year study is approximately $44.6 to $49.9 million dollars.

MUSKEGON COMMUNITY COLLEGE - CAMPUS PLAN + ADA UPGRADES + FACILIITIES ASSESSMENT - CONCEPT BUDGET

TOWERPINKSTER / CONCORD GROUP #24-108 - 11/22/2024

Mark	Project Description				
	ADA UPGRADES - CAMPUS PLANNING OPPORTUNITIES	**UNITS**	**UNIT COSTS**	**PROJECT COSTS**	**BRG Reduced Scope Option**
A	STUDENT COLLABORATION AREAS (CORRIDORS) - FURNITURE ONLY	12	$ 8,000	$ 96,000	
B	ROOMS #1076 + #1010 ADA UPGRADES TO SUITE	2	$ 400,000	$ 800,000	
C	ADA DOOR RENOVATIONS - 1ST FLOOR	24	$ 22,500	$ 540,000	
D	ROOMS #1085 + #1060 ADA RESTROOM UPGRADES	1	$ 240,000	$ 240,000	
E	GERBER LOUNGE RENOVATION	3,365	$ 280	$ 942,200	
F	NEW ENTRY LOBBY EXPERIENCE (RENOVATIONS)	4,140	$ 330	$ 1,366,200	
G	STUDENT SERVICES / ONE-STOP RENOVATIONS	16,300	$ 290	$ 4,727,000	
H/H1	OVERBROOK THEATER ADA UPGRADES + ADDITIONS	11,775	$ 480	$ 5,652,000	
I	ADMINISTRATION FINISH UPGRADES + NEW BOARD ROOM	3,400	$ 150	$ 510,000	
J	ROOMS #2106 + 2002 ADA RESTROOM UPGRADES	2	$ 155,000	$ 310,000	
K	**not used**	-	$ -	$ -	
L	ROOMS #2090 + #2012 ADA UPGRADE	2	$ 400,000	$ 800,000	
M	ADA DOOR RENOVATIONS - 2ND FLOOR	18	$ 22,500	$ 405,000	
N	STUDENT STUDY / INCUBATOR SPACE (2ND FLOOR UNDER LIBRARY)	4,750	$ 250	$ 1,187,500	
O	ROOMS #2050 + #2038 ADA UPGRADES	2	$ 235,000	$ 470,000	
P	JAYHAWK CAFÉ FINISH UPGRADES	6,400	$ 135	$ 864,000	
Q	BLUE + GOLD ROOM FINISH UPGRADES	2,350	$ 110	$ 258,500	
R	STUDENT STUDY SPACE FINISH UPGRADES	9,750	$ 110	$ 1,072,500	
S/S1	OVERBROOK THEATER ADA UPGRADES + ADDITIONS (INCLD. IN H/H1)	-	$ -	$ -	
T	ADA DOOR RENOVATIONS - 3RD FLOOR	14	$ 22,500	$ 315,000	
U	NEW DOOR KEYKARD ACCESS	4	$ 5,250	$ 21,000	
V	ROOMS #3066 + #3064 ADA RESTROOM UPGRADES	1	$ 240,000	$ 240,000	
W	ROOMS #3046 + 3054 ADA RESTROOM UPGRADES	1	$ 150,000	$ 150,000	
X	GOLF COURSE SHOP AND SUPPORTING INFRASTRUCTURE	1	$ 660,000	$ 660,000	
X1	GOLF COURSE PARKING LOT	1	$ 1,060,000	$ 1,060,000	BRG Reduced Scope
Y	BARTELS-RODE GYMNASIUM LOCKER ROOM ADDITIONS + RENOVATIONS (7,800 reduced scope)	14,900	$ 585	$ 8,716,500	$ 4,563,000
	SUBTOTAL:			**$ 31,403,400**	$ 26,177,400
	FACILITIES ASSESSMENT PROJECTS	**1-YEAR**	**2-4 YEARS**	**5-10 YEARS**	
FA.1	FACILITIES ASSESSMENT (FA) - MAIN CAMPUS - SITE	$ 880,680	$ 899,000	$ 803,000	
FA.2	FA - MAIN CAMPUS - MAIN BUILDING	$ 15,600	$ 6,965,450	$ -	
FA.3	FA - LIFE SCIENCE CENTER	$ 126,100	$ -	$ -	
FA.4	FA - HENDRICK MEIJER LIBRARY	$ 80,000	$ 220,000	$ -	
FA.5	FA - STEVENSON CENTER	$ 119,000	$ -	$ -	
FA.6	FA - OVERBROOK THEATER	$ 1,585,500	$ 611,000	$ -	
FA.7	FA - BARTELS-RODE GYMNASIUM	$ 1,882,500	$ -	$ 180,000	
FA.8	FA - ARTS AND MUSIC BUILDING	$ 1,480,000	$ -	$ -	
FA.9	FA - AUTOMOTIVE BUILDING AND GROUNDS BUILDING	$ 95,750	$ -	$ -	
FA.10	FA - GOLF COURSE (IRRIGATION)	$ 635,000	$ -	$ -	
FA.11	FA - STURRUS TECHNOLOGY CENTER	$ 463,250	$ 1,288,500	$ -	
FA.12	FA - GRAND HAVEN CENTER	$ 87,000	$ -	$ 115,000	
FA.13	FA - KRAFT ALUMNI HOUSE	$ 16,200			
	SUBTOTALS:	**$ 7,466,580**	**$ 9,983,950**	**$ 1,098,000**	
	FACILITIES ASSESSMENT 10-YEAR TOTAL			**$ 18,548,530**	
CAMPUS PLAN + ADA UPGRADES + FACILITIES ASSESSMENT PROJECTS - TOTAL				**$ 49,951,930**	$ 44,725,930

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APPENDIX

Main Building

Built: 1966
Total Building Area: 214,490 sf.

Site:
Parking:

- The north parking lot is in fair condition with extensive cracking throughout. It is recommended to crack seal and paint new striping. Some sections of curb are damaged and should be replaced. The parking drive is not delineated from the parking lanes causing visitors to scatter once they enter the parking lot. It is recommended to install parking islands along the north drive. The barrier free parking and stop signs are movable with concrete bases. It is recommended to replace them with permanent signs.
- The south parking lot is in fair condition with extensive cracking throughout. It is recommended to crack seal and paint new striping. Some sections of curb are damaged and should be replaced. The parking spaces along the tennis courts have trees growing into the parking area. It is recommended to remove the north 15' of parking and add topsoil and seed. The south entrance is too narrow for 2-way traffic and is not signed for 1-way traffic. One way signs and entry and exit signs should be added. The north end or the parking near the gymnasium is failing and should be repaved.
- The main entrance parking lots are in fair to poor condition with extensive cracking throughout. It is recommended to crack seal and paint new striping for all. The east two parking lots fave failed payments around catch basins and more significant cracking. These should be considered to be full milled and fill with new asphalt. There is also some portions of the curb that should be repaired/replaced.
- The Automotive parking lot has poor drainage and surfaces that are failing. It is recommended to reconstruct and provide improvements to the drainage..
- The Arts and Music parking lot poor drainage, standing water along curb line, settling along edge, and cracking. It is recommended to crack seal and paint new striping.
- The receiving parking is in good condition. The entrance has drainage and settling concerns. It should be monitored for further issues.
- The bookstore parking has significant cracking and alligatoring. It is recommended to crack seal and paint new striping.. It should be considered to have full mill and fill of new pavement. The drive is recommended to provide crack seal.
- The south entrance drive pavement is in fair condition. The "stop" sign and "do not enter" sign are damaged. The north end of the drive near the main parking lot has catch basin curb inlet damage and should be replaced.
- The main entrance drive is in poor condition with significant damage. It is recommended to replace the pavement

- The northeast entrance is in poor condition with significant cracking. It is recommended to replace the pavement.

Sidewalks:

- The sidewalk ramp in the southeast corner of the north parking lot is damaged and should be replaced.
- The sidewalk on the north side of the south parking lot near the gymnasium needs better access from the parking lot.
- Three portions of the sidewalks have heaved and created a tripping hazard. 1. Between art and music and the main building, 2. outside the third level near the pond on the west side, 3. Outside the third level near the pond on the southwest side.
- Portions of the sidewalks at the main entrance to the gymnasium should be replaced along with portions near the tennis courts.
- The sidewalk at the south entrance is in poor condition and dead ends at Marquett Ave. There is no crosswalk at that location. It is recommended to remove the sidewalk or replace the sidewalk and add a crosswalk.

Athletic Fields:

- Softball and baseball infields need top dressing.
- Softball and baseball fencing and gates have damage and should be repaired
- Tennis courts need to be resurfaced and striped. Could consider striping for pickleball.

Accessibility:

- The sidewalk north of the main parking lot has a low curb with no access for wheelchair users. Sidewalk ramps should be added.
- Barrier free parking spaces in the receiving parking area are not barrier free compliant with required minimum cross slope.
- The bookstore barrier free parking pathway has transition issues (not smooth).
- The barrier free parking at the baseball and softball fields does not have pathway to the bleachers and diamonds. Additional sidewalk should be installed.
- The accessible route from the south parking to the gymnasium has issues with slope and raised edges.

Nature Trail:

- Entrance and wayfinding improvements are needed
- Improve and extend the barrier free walking path.

Utilities:

- The fire hydrant on the north side of the main parking lot is exposed to traffic and should be protected with new bollards.

Architecture:

Roofing:

There is heavy caulking at the green roof above level 2. This may be due to flashing going bad. New flashing should be installed. Roofing is in fair condition and the school has records of roof warranty dates & should consider roof replacement when warranties expire. Suggest adding additional roof insulation when replacing (min. R-20 at drains sloping 1/8"/Ft. to edge)
Exterior Walls:
The building is a steel framed structure with concrete masonry block and brick veneer non bearing exterior walls. The interior walls are concrete masonry block. The exterior brick overall, is in good shape. The only concern is that there are no weeps in the brick at the base of the exterior walls causing moisture to get trapped in the wall cavity that can cause the brick to crack and deteriorate. This is something that should be monitored for signs of blocked moisture. Most of the original exterior walls at the main campus were constructed without weeps at the base of the wall. Typical for 1960's construction.
Windows/Glazing and Doors
All Common space & Corridors have single pane glass, in some cases but glazed corners. Classroom windows are a mixture of insulated glass awning or non-insulated casement windows. Further energy modeling should be considered to determine the potential pay-back of installing insulated windows throughout. Some of the exterior doors have un-insulated glazing and some have insulated glazing. It should be considered to replace the uninsulated glazing.
Trim, Fascia and Soffits:
Standing seam metal mansard roof w/ DEFS fascia & soffits at the entry areas do not have vents. The exterior mansard standing seam roofs do not have gutters or snow guards. It should be considered to add vents to the soffits and install gutter and snow guards.

Interiors:
Interior flooring includes carpet tile with rubber wall base in the corridors and offices. The classrooms, labs and training rooms have carpet tile or vinyl plank tile. The lobby has tile. The kitchen lab has quarry tile. The flooring is in good condition throughout.

Interior walls are either brick, painted gypsum drywall or painted CMU. The walls are in good condition throughout.

The ceilings are lay-in acoustical tile. All ceilings are in fair or good condition.

Accessibility:

The building entries, corridors and most classrooms and restrooms comply with barrier free accessibility requirements. The majority of non conforming spaces are toilet rooms, classrooms and staff office suites. In most cases the doorway to the spaces do not meet the required clearances for barrier free accessibility. In some cases the toilet rooms have not been renovated to provide a barrier free toilet compartment. Some of the non conforming toilet rooms recommend renovating to provide multiple single use toilet rooms. The ADA summary identifies the locations and provides recommendation sketches to meet ADA requirements.

Structural:

The building is a steel framed structure, with slab on grade, non bearing CMU and brick veneer walls and steel joist and metal deck with poured concrete floors. There are no visible issues with the building's structure.

Mechanical:

Plumbing Systems: The storm systems, sanitary systems, and domestic water piping systems along with their specialties date to 1967 are in poor condition, and will require replacement alongside building renovations. Regular maintenance and inspection should continue on these systems until renovation.

Plumbing fixtures, flush valves, faucets, showers, and drinking fountains date to 1967 are past their useful life with indication of various replacements over years. Replacement of these fixtures will be required alongside building renovations.

Fire Protection System: The fire protection system is in fair condition and maintained by Brigade Fire Protection. Continue with regular maintenance and inspections. Coordinate replacement alongside building renovations.

Mechanical Systems: Heating plant equipment is located within and served from the Arts & Music building. Hot water heating piping dating to 1967 throughout the building is past its useful life and rotting out. Replacement of hot water heating piping and the hot water heating pumps will need to coincide with air handling equipment, terminal unit replacements, and alongside building renovations. Maintenance staff desires that other buried hydronic piping on campus needs to be inspected and replaced before failure occurs during seasonal shutdown of heating system. Continue with regular piping, piping accessories, and water quality maintenance and inspections.

The following cooling plant equipment and their operating conditions service this building.

- 2016 Trane "RTWD180" chiller. Unit is in fair condition with continued regular maintenance and inspections.
- 2021 Multistack "CICD-30X3" chiller. Unit is in fair condition with continued regular maintenance and inspections.

Chilled water piping dating to 1967 throughout the building is past its useful life and rotting out. Replacement of chilled water piping and the chilled water pumps will need to coincide with air

handling equipment, terminal unit replacements, and alongside building renovations. Maintenance staff desires that other buried hydronic piping on campus needs to be inspected and replaced before failure occurs during seasonal shutdown of cooling system. Continue with regular piping, piping accessories, and water quality maintenance and inspections.

The following air handling and ventilation equipment with their operating conditions services this building.

- Indoor Modular Air Handling Units:
    - Five (5) 1967 American Standard air handling units are past their replacement life and rotting out, with replacement parts of fans, coils, and casings needing to be custom ordered due to current energy regulations and replacement limitations.
- Fan Coil Units:
    - Six (6) 1967 fan coil units are past their replacement life, with replacement parts of fans, coils, and casings needing to be custom ordered due to current energy regulations and replacement limitations.
- Vertical Unit Ventilators:
    - Sixty-five (65) 1967 Changeair vertical unit ventilators are past their replacement life, with replacement parts of fans, coils, and casings needing to be custom ordered due to current energy regulations and replacement limitations. Maintenance staff currently repairs units with parts from other failed units on campus. Controls keep the outdoor air damper open when the unit is powered off and should be reviewed by Control Resource to prevent coils from freezing.
- Exhaust Fans:
    - Twenty (20) roof exhaust fans dating to 1965 are in poor condition with continued regular maintenance and inspections. Coordinate replacements alongside building renovations.

The following room level terminal equipment was found within this building.

- Mixing Box Terminal Units:
    - Sixty-two (62) 1967 Dual duct air terminal units. Terminal units are past their replacement life, and replacement parts must be custom ordered due to current energy regulations and replacement limitations.
- Cabinet Unit Heaters:
    - Twenty-three (23) 1967 Nesbitt Cabinet Unit Heaters, Hot Water Coils. Cabinet unit heaters are past their replacement life, and replacement parts of fans, coils, and unit casings must be custom ordered due to current energy regulations and replacement limitations.
- Radiant Heating Units:
    - 1967 Fin Tube & Enclosures are in fair condition. Replacement will coincide with building renovation. Continue with regular maintenance and inspections.

Building Management System/Controls: Pneumatic controls, standalone thermostats, and associated devices are present on site and require replacement which will coincide with

replacement of mechanical equipment. Maintenance staff has indicated there is a high failure rate occurring on motorized valves throughout all buildings on campus. Hurst Mechanical (Control Resource) has been replacing failed valves with Belimo valves. College to coordinate with TowerPinkster if the college has access to programming software for Distech Controllers (Enertemp) or if the software can be obtained by the college so Enertemp's programming to the mechanical equipment can be accessed. Replacement of Enertemp's Distech control devices with control devices from Control Resource will need to occur during replacement of mechanical equipment. Controls, maintained, and connected to the campus control system by Control Resource.

Facility natural gas system is in fair condition consisting of piping and specialties dating to 1967. Coordinate replacement alongside building renovations. Monitor gas service piping thru pavement for corrosion. Monitor gas fired equipment and appliance operation issues that may occur with DTE switching from high gas pressure service to medium gas pressure service. Continue with regular maintenance and inspections of facility natural gas systems.

Electrical:
Most interior and exterior lighting fixtures are fluorescent and should be replaced or retrofitted with LEDs. Exit signage is adequate. Most interior lighting controls are toggle switches and need to be updated to modern controls with dimming to meet current energy codes for dimming and automatic control. Emergency lighting is via battery backups. A small number of inverters are present, but inverters should be standardized or a generator installed to supply EM lighting.

The majority of the panelboards are in good condition, but should be tested and refurbished as necessary. A fire alarm system is present, but should be verified for code compliance and updated accordingly.

A generator should be considered and installed to supply power in the event of a utility outage.

Life Science Center

Built: 2014
Total Building Area: 17,680 sq. ft.

Site:
The Library site is integrated into the overall main Campus located at 221 Quarterline Rd, Muskegon. The Arts and Music site assessment narrative is included in the “Main Building” narrative.

Architecture:

The Life Science Center is a one story addition to the stevenson center built back in 1993. The overall building envelope is in good condition. The exterior walls are CMU with brick veneer. The windows are insulated glass in aluminum storefront frames. The doors are storefront entrances with insulated glass. The roof is a membrane roof that is still under warranty. The building envelope is in great condition.

Interiors:
All interior finishes are in great condition.

Accessibility:

The library meets all the barrier free accessibility requirements. Our assessment did not find any issues in regards to accessibility other than there are no barrier free lab stations in any of the labs. All counter tops are at 36” above finish floor. There are no lab stations at 34” above finish floor.

Structural:

The building is a 1 story building with CMU load bearing walls, with slab on grade and steel joist and metal deck at the roof. There are no visible issues with the building’s structure. The only concern is there are several areas of cracking near door thresholds and should be monitored over time to establish if they are actively growing.

Mechanical:

Plumbing Systems: The storm systems, sanitary systems, and domestic water piping systems along with their specialties date to 2015 and are in good condition with continued regular maintenance and inspections.

Domestic hot water is served from the Stevenson Center.

Plumbing fixtures and drinking fountains date to 2015 and are in good condition with continued regular maintenance and inspections.

One (1) 2015 Beacon Medaes laboratory compressed air system is in good condition with continued regular maintenance and inspections.

Fire Protection System: Fire protection is served from the Stevenson Center.

Mechanical Systems: The following heating plant equipment and their operating conditions are located within this building.

- B-1 2015 Lochinvar "FTX500N" Condensing, B&G boiler pump 33gpm, 10ft.hd. Unit is in good condition with continued regular maintenance and inspections.
- B-2 2015 Lochinvar "FTX500N" Condensing, B&G boiler pump 33gpm, 10ft.hd. Unit is in good condition with continued regular maintenance and inspections.
- (Additionally see Cooling Plant Equipment Multistack Heat Recovery Chiller)

Condensate neutralization tanks are already installed on boilers that maintenance staff would like to standardize on throughout the campus.

The following heating plant pumps and their operating conditions are located within this building.

- P-09 2015 B&G "e-1510 1.5AD" 59gpm, 34ft.hd. 1hp (Yaskawa VFD). Unit is in good condition with continued regular maintenance and inspections.
- P-10 2015 B&G "e-1510 1.5AD" 59gpm, 34ft.hd. 1hp (Yaskawa VFD). Unit is in good condition with continued regular maintenance and inspections.

Hot water heating piping throughout the building was placed into commission in 2015 and is in good condition with continued regular water quality maintenance and inspections.

One (1) Multistack "MS020XC" Heat Recovery Chiller, R410A is in fair condition with continued regular maintenance and inspections. Maintenance staff indicate the heat recovery chiller parts for annual failure is at $12,500. Water temperature sensors were found recently installed in the wrong location and relocated in the correct location. Maintenance staff along with Control Resource continues to improve compressor staging and flow issues through the heat recovery chiller.

The following cooling plant pumps and their operating conditions are located within this building.

- P-07 2015 B&G "e-1510 2AD" 107gpm, 48ft.hd. 2hp (Yaskawa VFD). Unit is in good condition with continued regular maintenance and inspections.
- P-08 2015 B&G "e-1510 2AD" 107gpm, 48ft.hd. 2hp (Yaskawa VFD). Unit is in good condition with continued regular maintenance and inspections.

Chilled water piping throughout the building was placed into commission in 2015 and is in good condition with continued regular water quality maintenance and inspections.

Two (2) 7.5hp (Titan P Series VFDs) open well pumps serving the geothermal system, with plate and frame heat exchanger are in good condition with continued regular maintenance and inspections. Well water daily usage limit was recently corrected within the control system.

The following geothermal plant pumps and their operating conditions are located within this building.

- P-03 2015 B&G "e-1510 2AD" 85gpm, 23ft.hd. 1hp (Yaskawa VFD). Unit is in good condition with continued regular maintenance and inspections.
- P-04 2015 B&G "e-1510 2AD" 85gpm, 23ft.hd. 1hp (Yaskawa VFD). Unit is in good condition with continued regular maintenance and inspections.
- P-05 2015 B&G "e-1510 2AD" 104gpm, 44ft.hd. 2hp (Yaskawa VFD). Unit is in good condition with continued regular maintenance and inspections.
- P-06 2015 B&G "e-1510 2AD" 104gpm, 44ft.hd. 2hp (Yaskawa VFD). Unit is in good condition with continued regular maintenance and inspections.

Geothermal piping throughout the building was placed into commission in 2015 and is in good condition with continued regular water quality maintenance and inspections.

The following air handling and ventilation equipment were found in good condition with continued regular maintenance and inspections.

- Indoor Modular Air Handling Units:
    - Two (2) 2015 Trane "CSAA014" indoor modular air handling Units, 2" filtration, fixed plate heat exchanger, electric preheat coil with access, hot water heating coil with access, chilled water cooling coil with access, supply fan w/Trane VFD, exhaust fan w/Trane VFD. Maintenance staff indicate dust bypasses energy recovery units filtration devices and plugs energy recovery device with dust, inhibiting correct operation of unit. Additional standard filtration devices will not be possible to address the issue without replacement of unit fans and electrical systems. Maintenance staff indicate the discharge air temperature from the unit is found to be 4 to 5 degrees colder than what is reported in the building controls and should be remedied. Consider providing a means for cleanout of condensate traps. Interior of units are clean of debris and coil fins are in good condition.
- Water Source Heat Pump Units:
    - Nineteen (19) 2015 Water Source Heat Pump Units.
- Exhaust Fans:
    - Fourteen (14) 2015 Cook Roof Exhaust Fans.

The following room level terminal equipment was found within this building.

- Airflow Stations:
    - Thirty (30) 2015 Airflow Stations serving outdoor air supply and exhaust from rooms are in good condition with continued regular maintenance and inspections.
- Electric Unit Heaters:
    - Three (3) 2015 Markel electric unit heaters are in good condition with continued regular maintenance and inspections.
- Cabinet Unit Heaters:
    - Two (2) 2015 electric cabinet unit heaters are in good condition with continued regular maintenance and inspections.
- Split System Air Conditioning Units:
    - One (1) ACC/ACCU-1 2015 EMI "S1HG9000D10", R-410A is in good condition with regular maintenance and inspections.
    - One (1) ACC/ACCU-2 2015 Liebert "PFH020A-PL7" has failed and requires an appropriate replacement for the grow room.
- Humidifiers:
    - One (1) U-1 2015 single room electric humidifier is in good condition with continued regular maintenance and inspections.

Adding the geothermal well heat exchanger pressure drop to the control system should be considered to determine when the geothermal well heat exchanger requires cleaning from debris. Building Management System/Controls: Maintenance staff has indicated there is a high failure rate occurring on motorized valves throughout all buildings on campus. Hurst Mechanical (Control Resource) has been replacing failed valves with Belimo valves. College to coordinate with TowerPinkster if the college has access to programming software for Distech Controllers (Enertemp) or if the software can be obtained by the college so Enertemp's programming to building chilled water/heating water/geothermal equipment can be accessed. Optionally replacement of remaining Enertemp's Distech control devices with control devices from Control Resource should be considered. Controls, maintained, and connected to the campus control system by Control Resource.

Facility natural gas systems are in fair condition and the campus should monitor equipment and appliance operation issues that may occur with DTE switching from high gas pressure service to medium gas pressure service. Appliance gas regulators vented to the exterior of the building have operational issues during windy conditions. Continue with regular maintenance and inspections of facility natural gas systems.

Electrical:

Interior and exterior lighting fixtures are LEDs. Exit signage is adequate. Interior lighting controls are modern with dimming and occupancy sensors to meet current energy codes. Emergency lighting is powered via inverters.

The majority of the panelboards are in good condition, but should be tested and refurbished as necessary. A fire alarm system is present, but should be verified for code compliance and updated accordingly.

A generator is present and sized to serve a limited amount of the addition/main building.

Hendrick Meijer Library

Built: 2004
Total Building Area: 41,050 sq. ft.

Site:
The Library site is integrated into the overall main Campus located at 221 Quarterline Rd, Muskegon. The Arts and Music site assessment narrative is included in the “Main Building” narrative.

Architecture:

The library is a 3 story addition to the original building built back in 1966. The overall building envelope is in good condition. The exterior walls are CMU with brick and stone veneer. The windows are insulated glass in aluminum storefront frames. The doors are storefront entrances with insulated glass. The roof is a membrane roof that is still under warranty. When the warranty ends the roof should be considered for replacement. When the roof is replaced it should be considered to add additional roof insulation to meet current building energy code. There is a skylight that is leaking and should be inspected and repaired.

Interiors:
Interior flooring includes carpet tile with carpet wall base and rubber wall base in the corridors, classrooms study rooms, offices book collection and cafe. There is floor tile in the lobby and toilet rooms. Interior walls are either brick, painted gypsum drywall or tile. The ceilings are lay-in acoustical tile. All interior finishes are in good condition.

Accessibility:

The library meets all the barrier free accessibility requirements. Our assessment did not find any issues in regards to accessibility.

Structural:

The building is a 3 story steel framed structure, with slab on grade and steel joist and metal deck floors and roof. There are no visible issues with the building’s structure.

Mechanical:

Plumbing Systems: The storm systems, sanitary systems, and domestic water piping systems along with their specialties date to 2005 and are in fair condition with continued regular maintenance and inspections. Floor drain seal traps should be inspected for replacement in rooms with floor drains due to sewer smells within rooms.

Plumbing fixtures and drinking fountains date to 2005 and are in fair condition with continued regular maintenance and inspections.

Fire Protection System: The fire protection system is in fair condition with continued regular maintenance and inspections.

Mechanical Systems: The following heating plant equipment and their operating conditions are located within this building. Boilers require manual summer switchover for lower condensing water temperatures and the need for manual summer switchover should be eliminated with replacement of both boilers. Tube type condensate neutralization kits are currently installed on the condensing boiler and are difficult for campus maintenance staff to maintain. Campus maintenance staff would like to standardize on condensate neutralization tanks that can be cleaned and top loaded with neturalization media.

- B-1 2005 Thermal Solutions "EVA2000BN1" Non Condensing. Unit is near its end of life and failing due to inadequate maintenance space to maintain the boiler according to manufacture requirements.
- B-2 2005 Viessman "B2HA 311" Condensing. Unit is in fair condition with continued regular maintenance and inspections.

The following heating plant pumps and their operating conditions are located within this building.

- P-6 2005 B&G "e-1510 2AC" 84gpm, 47ft.hd. 3hp (Siemens VFD). Unit is in fair condition with continued regular maintenance and inspections.

Hot water heating piping throughout the building was placed into commission in 2005 and is in fair condition with continued regular water quality maintenance and inspections.

Cooling plant equipment and cooling plant pumps are located within and served from the main campus building. Chilled water piping throughout the building was placed into commission in 2005 and is in fair condition with continued regular water quality maintenance and inspections.

The following air handling and ventilation equipment with their operating conditions services this building.

- Indoor Modular Air Handling Units:
    - One (1) 2005 Trane "MCCB025" with hot water coil, chilled water coil, supply fan on/off is in fair condition with continued regular inspections and maintenance.
- Blower Coil Units:

    - Ten (10) 2005 Trane blower coil units with hot water coil, chilled water coil, supply fan on/off are in fair condition with continued regular inspections and maintenance.
- Outdoor Energy Recovery Units:
    - One (1) 2005 Greenheck "ERCH-90H-30" outdoor energy recovery unit with energy recovery wheel, hot water coil, and chilled water coil is in poor condition. College maintenance staff request to replace the unit. Unit requires annual drain down of coils for freeze protection. Unit exceeds acceptable noise levels for outdoor and indoor environments.
- Exhaust Fans:
    - One (1) exhaust fan is in good condition with continued regular inspections and maintenance.

The following room level terminal equipment was found in good condition with continued regular maintenance and inspections.

- Duct Reheat Coils:
    - Thirty-five (35) 2005 Hot water duct reheat coils.
- Unit Heaters:
    - Three (3) 2005 hot water unit heaters.

Building Management System/Controls: Maintenance staff has indicated there is a high failure rate occurring on motorized valves throughout all buildings on campus. Hurst Mechanical (Control Resource) has been replacing failed valves with Belimo valves. College to coordinate with TowerPinkster if the college has access to programming software for Distech Controllers (Enertemp) or if the software can be obtained by the college so Enertemp's programming to building mechanical equipment can be accessed. Replacement of Enertemp’s Distech control devices with control devices from Control Resource will need to occur during replacement of mechanical equipment. Controls, maintained, and connected to the campus control system by Control Resource.

Facility natural gas systems consisting of piping and specialties dating to 2005 are in fair condition. The campus should monitor equipment and appliance operation issues that may occur with DTE switching from high gas pressure service to medium gas pressure service. Monitor gas service piping thru pavement for corrosion. Continue with regular maintenance and inspections of facility natural gas systems.

Electrical:
Refer to main building electrical narrative

Stevenson Center

Built: 1993
Total Building Area: 93,075

Site:
The Over Brook Theatre is integrated into the overall main Campus located at 221 Quarterline Rd, Muskegon. The Arts and Music site assessment narrative is included in the "Main Building" narrative.

Architecture:

The building is a steel framed structure with non load bearing concrete masonry block and brick veneer exterior walls. The interior walls are concrete masonry block. The exterior brick overall, is in good shape. The floors are poured concrete slab on metal deck. Roof is membrane roof over insulation on metal deck.
The roof is near the end of its life in poor condition. The roof should be replaced soon and additional roof insulation should be installed to achieve R-20 value.
The exterior brick veneer has no weeps in the brick at the base, causing moisture to get trapped in the wall cavity that can cause the brick to crack and deteriorate. This is something that should be monitored for signs of blocked moisture.
The mansard roofs don't have gutters causing water to drip on pedestrians at the building entrances and the soffits are not vented.

Interiors:
Interior flooring includes carpet tile with rubber wall base in the corridors and offices. The classrooms, labs and training rooms have carpet tile or vinyl plank tile. The lobby has tile. The kitchen lab has quarry tile. The flooring is in good condition throughout.

Interior walls are either brick, painted gypsum drywall or painted CMU. The walls are in good condition throughout.

The ceilings are lay-in acoustical tile. All ceilings are in fair or good condition.

Accessibility:

The building entries, corridors, doorways and bathrooms comply with barrier free accessibility requirements. There is one single use toilet room that has signage indicating the toilet room is ADA accessible but is not. It does not have the proper clearances around the watercloset. The

barrier free sign should be removed. There are other toilet facility in the building that do comply..

Structural:

The building is a steel framed structure, with slab on grade, non bearing CMU walls and steel joist and metal deck with poured concrete floors. There are no visible issues with the building's structure.

Mechanical:

Plumbing Systems: The storm systems, sanitary systems, and domestic water piping systems along with their specialties date to 1995 and are in fair condition with continued regular maintenance and inspections. Coordinate replacement of these systems alongside building renovations.

One (1) 2019 Bradford White "D100T1993N" 98 gal, 199kbtu gas fired tank water heater provides domestic hot water to the building and is in good condition with continued regular maintenance and inspections.

Plumbing fixtures and drinking fountains date to 1995 and are in fair condition with continued regular maintenance and inspections. Coordinate replacement alongside building renovations.

Fire Protection System: The fire protection system is in fair condition and maintained by Brigade Fire Protection. Continue with regular maintenance and inspections. Coordinate replacement alongside building renovations.

Mechanical Systems: Heating plant equipment and heating plant pumps are located within and served from the Arts & Music building. Hot water heating piping throughout the building was placed into commission in 1995 and is in fair condition with continued regular water quality maintenance and inspections. Buried heating water piping from the Arts & Music building was replaced in 2023.

Cooling plant equipment and cooling plant pumps are located within and served from the Arts & Music building. Chilled water piping throughout the building was placed into commission in 1995 and is in fair condition with continued regular water quality maintenance and inspections. Buried chilled water piping from the Arts & Music building was replaced in 2023.

The following air handling and ventilation equipment was found in fair condition with continued regular maintenance and inspections. Coordinate replacement of equipment alongside building renovations.

- Indoor Modular Air Handling Units:

    - Six (6) 1995 Trane "MCCA" Indoor Modular Air Handling Units, 2" filtration, economizer section, chilled water cooling coil with access, pumped hot water heating coil with access, supply fan (MagneTek and ABB VFDs), return fan (MagneTek and ABB VFDs). Provide means for cleanout of condensate traps. Coil fins are in good condition. Internal sound absorbing liner has deteriorated and should be removed/replaced. Consider standardizing on door access size required and maintaining clearances for proper maintenance of coils. Replace MagneTek VFDs with ABB VFDs. Verify correct flow direction and orientation of AHU-6 chilled water strainer. Room 2310A fire/smoke motorized damper at floor malfunctioning and requires repair/replacement.
- Dedicated Outdoor Modular Air Handling Units:
    - Two (2) 1995 Trane "PCCB" Modular Dedicated Outdoor Air Handling Units, 2" filtration, pumped hot water heating coil with access, supply fan (VFDs). Coil fins are in good condition. Internal sound absorbing liner has deteriorated and should be removed/replaced. Replace fan VFDs with ABB VFDs if not already installed. Monitor for weathering of cabinet seals requiring replacement.
- Make-Up Air Units:
    - One (1) 1995 Make-Up Air Units, indirect gas heating, supply fan on/off. Interior of the unit was not accessible for inspection without disassembly.
- Exhaust Fans: Only four of all the exhaust fans are being monitored and controlled by Control Resource. Consider monitoring and control of remaining exhaust fans upon replacement or renovation of the building.
    - Fourteen (14) Roof Exhaust Fans dating to 1995
    - Four (4) 1995 Inline Exhaust Fans dating to 1995

The following room level terminal equipment was found in good to fair condition with continued regular maintenance and inspections. Coordinate replacement of equipment with renovation of the building.

- Unit Ventilators:
    - Thirty (30) 1995 Trane unit ventilators, filtration, chilled water coil, hot water coil.
- Split System Air Conditioning Units:
    - Four (4) 1995 Liebert "DME027A" Split System Units. Liebert units are abandoned in place.
    - One (1) Daikin "RZQ24PVJU" Split System Unit, R410A
- Terminal Units:
    - Forty-four (44) 1995 variable volume fan powered terminal units with hot water reheat.
- Unit Heaters:
    - One (1) 1995 Hot Water Unit Heater
- Cabinet Unit Heaters:
    - Eleven (11) 1995 Hot Water Cabinet Unit Heaters
- Radiant Heating Units:
    - 1995 Fin tube radiant heaters with enclosures.
    - One (1) Blackheat Gas Fired Radiant Heater.

Building Management System/Controls: Connect unit heaters to the building control system upon replacement. Indication of regular high humidity issues are present within the building and addition of humidity sensors and control sequences should be considered. Integrate kitchen make-up air unit to control system upon replacement. Maintenance staff has indicated there is a high failure rate occurring on motorized valves throughout all buildings on campus. Hurst Mechanical (Control Resource) has been replacing failed valves with Belimo valves. Controls, maintained, and connected to the campus control system by Control Resource.

Facility natural gas systems consisting of piping and specialties dating to 1995 are in fair condition and the campus should monitor equipment and appliance operation issues that may occur with DTE switching from high gas pressure service to medium gas pressure service. Appliance gas regulators vented to the exterior of the building have operational issues during windy conditions. Continue with regular maintenance and inspections of facility natural gas systems.

Electrical:
Refer to main building electrical narrative

Overbrook Theater

Built: 1968
Total Building Area: 3 story 34.200 sq. ft.

Site:
The Over Brook Theatre is integrated into the overall main Campus located at 221 Quarterline Rd, Muskegon. The Arts and Music site assessment narrative is included in the “Main Building” narrative.

Architecture:

The building is a steel framed structure with concrete masonry block and brick veneer exterior walls. The interior walls are concrete masonry block. The exterior brick overall, is in good shape. The only concern is that there are no weeps in the brick at the base of the exterior walls causing moisture to get trapped in the wall cavity that can cause the brick to crack and deteriorate. This is something that should be monitored for signs of blocked moisture. Most of the original exterior walls at the main campus were constructed without weeps at the base of the wall. Typical for 1960’s construction.

The building has been in good condition since the renovations in 1968. The exterior windows at the entries are non insulated glass. Consider replacing the glazing with insulated glass.

The roofing system is currently in fair condition. The School has records of roof warranty dates & should consider roof replacement when warranties expire. Suggest adding additional roof insulation when replacing (min. R-20 at drains sloping 1/8"/Ft. to edge).

Interiors:
Interior flooring includes carpet tile with rubber wall base (classrooms, offices), vinyl tile in the single use toilet room, and quarry tile in the toilet rooms. Flooring is in good condition and well maintained. The dance studio has carpet throughout with cushioned mat floor sections for the dance area. The seams are coming apart. A new cushioned floor system should be installed. The ceilings are exposed in the art gallery and storage rooms. Corridors classrooms and offices have lay in acoustical tile. All in good condition.
Corridor walls are brick, in good condition. Classroom wall are painted CMU in good condition. Office walls are gypsum drywall in fair condition. And bathroom walls are either glazed tile or painted CMU in good condition.

Accessibility:

The theater entrance and lobby is accessible with an elevator that gives access to the lower two floors. The toilet rooms are not on the main floor where the lobby and theater entrances are. They are on the floor below accessed by elevator. The mens and womens toilet rooms do not meet barrier free requirements. There is a single use toilet room that is accessible adjacent to the mens and womens toilet rooms. It is recommended to renovate or build an addition to provide toilet rooms off the lobby and renovate the second level toilet rooms to meet barrier free requirements and sized to meet the requirements for the classrooms and offices on the second level.. The theater stage is not barrier free accessible. It will require a new elevato to provide an accessible route to the theater stage.. There is no barrier free seating in the theater that meets barrier free accessibility requirements. There is designated barrier free (wheelchair space) at the top of the seating in the follow spot areas but the path to the area does not meet barrier free accessibility requirements. The doorways into the theater are oversized but do not have the proper pull side clearance. Major interior renovations are needed to provide barrier free seating and accessible pathways.

Structural:

The building is a steel framed structure, with slab on grade, non bearing CMU walls and steel joist and metal deck with poured concrete floors. There are no visible issues with the building's structure.

Mechanical:

Plumbing Systems: The storm systems, sanitary systems, and domestic water piping systems along with their specialties date to 1967 are in poor condition, and will require replacement alongside building renovations. Regular maintenance and inspections should continue on these systems until renovation.

Domestic hot water is served from the main campus building systems.

Plumbing fixtures, flush valves, faucets, showers, and drinking fountains date to 1967 are past their useful life with indication of various replacements over years. Replacement of these fixtures will be required alongside building renovations.

Fire Protection System: The fire protection system is in fair condition and maintained by Brigade Fire Protection. Continue with regular maintenance and inspections. Coordinate replacement alongside building renovations.

Mechanical Systems: Heating plant equipment is located within and served from the Arts & Music building. Hot water heating piping dating to 1967 throughout the building is past its useful

life and rotting out. Maintenance staff desires that other buried hydronic piping on campus needs to be inspected and replaced before failure occurs during seasonal shutdown of heating system. Replacement of hot water heating piping and the hot water heating pumps will need to coincide with air handling equipment, terminal unit replacements, and alongside building renovations.

- P-1 1967 B&G "U-2 1/2 A" 55gpm, 21fthd,1hp (No VFD). Unit is past its useful life and requires replacement.

The following cooling plant equipment and their operating conditions service this building.

- CH-1 2001 Trane "RTHC" water cooled chiller. Unit has reached its useful life and requires replacement. Maintenance indicates the chiller requires operational renewal to keep useful life of $160,000.
- CT-1 2001 Evapco open cell cooling tower, on/off 2-speed. SBS solid separator filtration system, chilled water side stream filter, and advantage controls cooling tower water treatment system. Cooling tower has reached its useful life and requires replacement.

Chiller replacement should consider the maintenance and installation environment with difficulties maintaining a cooling tower in a wooded environment and winter drain down. Trane magnetic bearing air cooled chillers should be considered, heat exchanger or drain down, and energy efficiencies/maintenance of other types of chilled water methods, allowing maintenance agreements to be maintained with Trane for all chillers at all buildings. Coordinate replacement of cooling plant equipment with air handling equipment replacement and alongside building renovations.

The following cooling plant pumps and their operating conditions are located within this building. Chilled water piping dating to 1967 throughout the building is past its useful life and rotting out. Maintenance staff desires that other buried hydronic piping on campus needs to be inspected and replaced before failure occurs during seasonal shutdown of cooling system. Replacement of chilled water piping and the chilled water pumps will need to coincide with air handling equipment, cooling plant replacements, and alongside building renovations.

- P-2 2001 Taco 15hp (No VFD). Unit is in fair condition with continued regular maintenance and inspections.
- P-3 2001 Taco 15hp (No VFD). Unit is in fair condition with continued regular maintenance and inspections.

The following air handling and ventilation equipment is past its useful life and rotting out, with replacement parts of fans, coils, and unit casings must be custom ordered due to current energy regulations and replacement limitations. Ductwork will need to be replaced serving this equipment, as the interior lining has deteriorated.

- One (1) 1967 Multizone Trane Torrivent Air Handling Units, 2" Filtration, Supply Fan On/Off, Return Fan On/Off, Chilled Water Coil, Hot Water Coil, Return Air Bypass, Outdoor Air Economizer, and exhaust fan(s).
- Two (2) 1967 Dual Duct Trane Torrivent Air Handling Units, 2" Filtration, Supply Fan (Trane and ABB VFDs), Return Fan (Square D and ABB VFDs), Chilled Water Coil, Hot Water Coil, Return Air Bypass, Outdoor Air Economizer, and exhaust fan(s).

The following room level terminal equipment was found within this building.

- Split System Air Conditioning Units:
    - One (1) Liebert Split System Unit. Liebert unit is past its lifetime and requires replacement.
- Mixing Box Terminal Units:
    - Thirty-two (32) 1967 Dual duct air terminal units. Terminal units are past their replacement life, and replacement parts must be custom ordered due to current energy regulations and replacement limitations.
- Radiant Heating Units:
    - 1967 Fin Tube & Enclosures. Enclosures are in fair condition. Replacement will coincide with building renovation. Continue with regular maintenance and inspections.
- Cabinet Unit Heaters:
    - Nine (9) 1967 Nesbitt Cabinet Unit Heaters, Hot Water Coils. Cabinet unit heaters are past their replacement life, and replacement parts of fans, coils, and unit casings must be custom ordered due to current energy regulations and replacement limitations.

Building Management System/Controls: Pneumatic controls, standalone thermostats, and associated devices are present on site and require replacement and will coincide with replacement of mechanical equipment. Maintenance staff has indicated there is a high failure rate occurring on motorized valves throughout all buildings on campus. Hurst Mechanical (Control Resource) has been replacing failed valves with Belimo valves. College to coordinate with TowerPinkster if the college has access to programming software for Distech Controllers (Enertemp) or if the software can be obtained by the college so Enertemp's programming to the mechanical equipment can be accessed. PID loop programming for secondary heating pump 3-way valve indicates irregular hunting (open/close) and should be remedied by Control Resource. Replacement of Enertemp's Distech control devices with control devices from Control Resource will need to occur during replacement of mechanical equipment. Controls, maintained, and connected to the campus control system by Control Resource

No facility natural gas systems service this building.

Electrical:

Interior and exterior lighting fixtures are LEDs. Exit signage is adequate. Interior lighting controls are modern with dimming and occupancy sensors to meet current energy codes. Emergency lighting is powered via inverters.

The majority of the panelboards are in good condition, but should be tested and refurbished as necessary. A fire alarm system is present, but should be verified for code compliance and updated accordingly.

A generator should be considered and installed to supply power in the event of a utility outage.

Health and Wellness Center

Built: 2018
Total Building Area: 52,670

Site:
The Arts and Music Building is integrated into the overall main Campus located at 221 Quarterline Rd, Muskegon. The Arts and Music site assessment narrative is included in the "Main Building" narrative.

Architecture, Interiors and Structural:
The building is a combination of a steel structure and a pre-engineered steel structure recently built in 2018. The building still looks brand new after 6 years. Our assessment of the building and accessibility did not find anything that needs attention. The building envelope, interior finishes and structure is in great condition.

The only item that was observed is a crack in the concrete slab outside the women's locker room and it appears it may have happened soon after construction due to some settlement or control joint

Mechanical:

Plumbing Systems: The storm systems, sanitary systems, and domestic water piping systems along with their specialties date to 2018 and are in good condition with continued regular maintenance and inspections.

One (1) 2018 Bradford White 100 gal, 199kbtu, 99% efficiency gas fired tank water heater provides domestic hot water to the building and is in good condition with continued regular maintenance and inspections.

Plumbing fixtures and drinking fountains date to 2018 and are in good condition with continued regular maintenance and inspections.

Fire Protection System: The fire protection system is in good condition and maintained by Total Fire Protection. Continue with regular maintenance and inspections.

Mechanical Systems: The following heating plant equipment and their operating conditions are located within this building.

- B-1 2018 Lochinvar Condensing, Taco "2400-70-2-3P" boiler pump. Unit is in good condition with continued regular maintenance and inspections.
- B-2 2018 Lochinvar Condensing, Taco "2400-70-2-3P" boiler pump. Unit is in good condition with continued regular maintenance and inspections.

Tube type condensate neutralization kits currently installed on the condensing boilers should be replaced and are difficult for campus maintenance staff to maintain. Campus maintenance staff would like to standardize on condensate neutralization tanks that can be cleaned and top loaded with neturalization media.

The following heating plant pumps and their operating conditions are located within this building.

- P-1 2018 Armstrong Design Envelope Pump w/Integral VFD (Pump is located near roof and was not accessible at time of site visit). Unit is in good condition with continued regular maintenance and inspections.
- P-2 2018 Armstrong Design Envelope Pump w/Integral VFD (Pump is located near roof and was not accessible at time of site visit). Unit is in good condition with continued regular maintenance and inspections.

Hot water heating piping throughout the building was placed into commission in 2018 and is in good condition with continued regular water quality maintenance and inspections.

The following air handling and ventilation equipment was found in good to fair condition with continued regular maintenance and inspections.

- Packaged Rooftop Units:
    - Six (6) 2018 Johnson Controls Packaged Rooftop Units, 2" filtration, economizer section, R410A DX cooling coil with access, staged stainless steel gas heating with access, supply fan w/Danfoss, Mitsubishi, or Johnson Controls VFDs, exhaust fan w/Danfoss, Mitsubishi, or Johnson Controls VFDs. Exhaust fan minimum speeds and control should be reviewed, as minimum speed causes a loud fan rumble and gravity damper isn't open (RTU-1 witnessed). RTU-2 supply or exhaust fan excessive VFD harmonic noise from the return grille should be remedied, either by verifying VFD setup and switching frequency or replacement of VFD. Condenser coil and compressor sections are provided with wire guards or no guards in lieu of louvered guards, and components are showing signs of weather deterioration and coil damage. Consider installation of louvers from third party to protect components. Repair condensate traps and provide means for cleanout. Continue with regular cleaning and inspections of outdoor air hood filters/moisture eliminators for correct unit operation and ventilation.
- Exhaust Fans:
    - Four (4) 2018 Cook Roof Exhaust Fans

The following room level terminal equipment was found in good condition with continued regular maintenance and inspections.

- Split System Air Conditioning Units:
    - One (1) ACC/ACCU 2018 Fujitsu "AOUH12LPAS1", R-410A
    - Three (3) ACC/ACCU 2018 Mitsubishi "PUY-A12NKA7", R-410A

- Terminal Units:
    - Three (3) 2018 variable volume terminal units (no reheat)
    - Forty-six (46) 2018 variable volume terminal units with hot water reheat.
- Cabinet Unit Heaters:
    - Three (3) 2018 hot water cabinet unit heaters

Building Management System/Controls: Maintenance staff has indicated there is a high failure rate occurring on motorized valves throughout all buildings on campus. Hurst Mechanical (Control Resource) has been replacing failed valves with Belimo valves. Controls, maintained, and connected to the campus control system by Control Resource.

RTU-5 was found with the gas valve partially closed and should be remedied accordingly if any gas pressure issues are occuring that may damage the rooftop unit. Facility natural gas systems are in fair condition and the campus should monitor equipment and appliance operation issues that may occur with DTE switching from high gas pressure service to medium gas pressure service. Appliance gas regulators vented to the exterior of the building have operational issues during windy conditions. Continue with regular maintenance and inspections of facility natural gas systems.

Electrical:
Interior and exterior lighting fixtures are LEDs. Exit signage is adequate. Interior lighting controls are modern with dimming and occupancy sensors to meet current energy codes. Emergency lighting is powered via inverters.

The majority of the panelboards are in good condition, but should be tested and refurbished as necessary. A fire alarm system is present, but should be verified for code compliance and updated accordingly.

A generator should be considered and installed to supply power in the event of a utility outage.

Bartels-Rode Gymnasium

Built: 1966
Total Building Area: 30,560 sq. ft.

Site:
The Gymnasium site is integrated into the overall main Campus located at 221 Quarterline Rd, Muskegon. The Arts and Music site assessment narrative is included in the "Main Building" narrative.

Architecture:
The building has non load bearing CMU walls with brick veneer. There are no vents or weeps in the walls above the roof (typical construction of this time).It should be monitored for showing signs of moisture in the cavity. Currently there are no major cracks in the brick veneer. Many of the weeps at the base have been buried over time. The roof is a single ply EPDM roofing that is in good condition with no excessive ponding. Windows and doors are a mixture of insulated and non-insulated glass in aluminum storefront frames. Soffits are un vented. It would be recommended to add vents to the soffits and replace the non-insulated glass during the next renovation to the gym.

The existing locker rooms in the basement are in poor condition and need to be completely renovated, shower, lockers and toilets. There is a barrier free toilet compartment in the men's locker room but the women's locker rooms do not meet accessibility requirements.

Interiors:
Interior flooring includes sealed concrete at bleachers, tile (dated unmatching) in the lobby, toilet and locker rooms, wood gymnasium floor, carpet in the offices and epoxy paint in the training room. Interior walls are brick or painted CMU what some painted plaster in the locker rooms and painted gypsum drywall in the classrooms and gymnasium. Ceilings are exposed in the bleacher area, gymnasium and classrooms with painted gypsum drywall in the locker and toilet rooms, offices and lobby. All finishes are in fair condition but dated and ready to be replaced if the building gets renovated.

Accessibility:

All areas on the main level (lobby, spectator seating, bathrooms, and training room) are accessible and meet the accessibility requirements. There is an elevator that gives access to

the gym floor level and men's locker room below but it is at the end of it's life and will need to be replaced. It also gives access to the classroom above and fitness room above but to access the fitness room one needs to go through the classroom. A new elevator will not fit in the current location without major renovations. The elevator does not give access to the women's locker room thus the women's locker room is not accessible.

It is recommended to build an addition off the west side to house new locker rooms, toilets, and showers, new team rooms and new elevator that to give access to the basement and second level. The old locker rooms could be converted into campus storage.

Structural:

The building is a steel framed structure, with CMU and brick non load bearing exterior and interior wall. There are no visible issues with the building's structure. There are a few locations where the brick has cracked some time ago but doesn't show signs of increasing. There had been an analysis of the roof framing capacity resulting in the current design does not meet current code requirements and the school has been shoveling snow off the roof for the last few years when there is a heavy snow fall or accumulation.

Mechanical:

Plumbing Systems: The storm systems, sanitary systems, and domestic water piping systems along with their specialties date to 1966 are in poor condition, and will require replacement alongside building renovations. Regular maintenance and inspections should continue on these systems until renovation.

One (1) ST-1 Lochinvar "SS081" 80gal. indirect domestic water heater fed from the boiler system is in fair condition and provides domestic hot water to the building. The domestic water heater coil within the water heater is single wall which limits appropriate chemical treatment of the boiler hydronic system. The domestic water heater will need to be replaced alongside building renovations to provide the code required separation of potable water systems from the hydronic heating system, and allow for proper chemical treatment of the hydronic heating systems.

Plumbing fixtures, flush valves, faucets, and showers are past their useful life with indication of various replacement over the years, and should be replaced upon building renovation. Hose bibbs without vacuum breakers are found under lavatories and on the exterior of the building, allowing contaminants to enter the drinking water system, and should be replaced alongside building renovations. Drinking fountains are past their useful life and should be replaced.

Fire Protection System: No fire protection systems are present on site. See structural comments eliminating being able to add the weight of fire protection piping to the existing building structure. Other discipline comments should be referred to regarding fire extinguishers present on site.

Mechanical Systems: Two (2) 2008 Lochinvar “KBN500” condensing boilers and one (1) 2008 De Dietrch “GT 339 A” 750-1448 MBH non-condesing boiler are in poor condition and near their end of life. Replacement of boilers will coincide with heating pumps, heating piping, and air handling equipment replacement. Increased boiler capacity sizes should be considered to address building code ventilation requirements and building usage changes. Tube type condensate neutralization kits are currently installed on the condensing boilers and are difficult for campus maintenance staff to maintain. Campus maintenance staff would like to standardize on condensate neutralization tanks that can be cleaned and top loaded with neturalization media.

Hot water heating piping throughout the building is past its useful life and rotting out. Replacement of hot water heating piping and the hot water heating pumps indicated below will need to coincide with boiler and air handling equipment replacements.

- P-1 B&G "1510 2BC" 149gpm 64ft.hd. 5hp (No VFD)
- P-2 B&G "1510 1-1/4BC" 36gpm 70ft.hd. 3hp (No VFD)
- P-3 B&G "PL-36" 23gpm 20ft.hd. 1/6hp (No ECM)
- P-4 B&G "PL-36" 23gpm 20ft.hd. 1/6hp (No ECM)
- P-5 B&G "PL-35" 58gpm 18ft.hd. 1/2hp (No ECM)

Seven (7) 1966 HV Trane Torrivent Vertical Air Handling Units with On/Off Supply Fan, Hot Water Coil, Return Air Bypass, Outdoor Air Economizer (See Exhaust Fans for Exhaust) are past their replacement life, and replacement parts of fans, coils, and unit casings must be custom ordered due to current energy regulations and replacement limitations. Trane Torrivent units have limited accessibility to regular coil cleaning without disassembling the unit. Return air inlets within brick wall serving HV2 are plugged with debris causing operation issues and inefficient operation of air handling systems. HV2 has no outdoor air intake for ventilation of faculty offices 803/804 and requires remediation for occupancy. Gymnasium supply diffuser blades are bent, causing operational issues of air handling systems. Vibration isolation on air handling equipment is lacking causing vibration throughout building structure. Include adding duct insulation on existing ductwork, and limiting additional structural costs, if considering adding cooling systems to the building. Additional structural costs should be considered for roof mounted DX systems vs. structural costs for piping of chilled water systems. Additional structural costs will need to be included for replacement of air handling equipment whether cooling is provided or not.

Three (3) 1998 Trane Packaged DX Gas Fired Rooftop Units with On/Off Supply Fan (See Exhaust Fans for Exhaust) are past their replacement life. Rooftop unit condensate traps and associated piping have broken off units allowing condensate water to re-enter the airstream. Means for cleanout of condensate traps missing. Gas fired heating assembly show signs of

failure and replacement. Outdoor air hoods have been sealed with caulk. Outdoor air hood filters/moisture eliminators are plugged with debris preventing correct unit operation and ventilation. Condenser coils are not provided with louvered guards, condenser coils show impact damage, and leaves/debris are entering unit enclosures. Additional structural costs will need to be included for replacement of equipment.

The following exhaust fans are found in fair condition with continued regular maintenance and inspections. Any exhaust fan(s) should be considered for replacement to meet any building space usage changes.

- Three (3) 1998 Cook Roof Exhaust Fans
- Ten (10) 2008 Cook Roof Exhaust Fans
- One (1) 2021 Cook Roof Exhaust Fans

The following room level terminal equipment are past their replacement life and replacement parts of fans, coils, and unit casings must be custom ordered due to current energy regulations and replacement limitations.

- Unit Heaters:
    - UH-1 Modine Gas Fired
- Cabinet Unit Heaters:
    - Seven (7) 1966 Nesbitt Cabinet Unit Heaters, Hot Water Coils
    - Two (2) 1966 (Unknown) Cabinet Unit Heaters, Hot Water or Electric Coils
- Split System Air Conditioners: Replacement equipment should consider remediation of ventilation requirements served by split system air conditioners and college preferred mechanical systems.
    - AC/ACCU-805 1995 Mitsubishi "PU24EK", R-22
    - AC/ACCU-802 2003 LG "HMC024KD1", R-22
    - AC/ACCU-011 2003 LG "HMC024KD1", R-22
- Fan Coils Units:
    - (2) 1966 Fan Coil Units with Grundfos Pumped Hot Water Coils, Outdoor Air Intake. Faculty offices 802 and 805 fan coil enclosures have been replaced with plywood, and outdoor air intakes have been covered over with brick. Ventilation for faculty offices requires remediation for occupancy.

The following room level terminal equipment are found in fair condition with regular maintenance and inspections.

- Three (3) 1988 Trane Convectors
- 1966 Fin Tube & Enclosures
- 1988 Fin Tube & Enclosures

Building Management System/Controls: Pneumatic, Siemens Staefa digital controls, standalone thermostats, and associated devices are present on site and require replacement. College has requested proposals from consultant Control Resource on March 1, 2024. Recommend updating proposal to include replacement of pneumatic valve/damper actuators. Maintenance

staff has indicated there is a high failure rate occurring on motorized valves throughout all buildings on campus. Hurst Mechanical (Control Resource) has been replacing failed valves with Belimo valves. Proposals for Gymnasium Testing & Balancing services should be included by college with control replacement to remedy faulty valve/damper setpoints affecting ventilation, equipment operation, and comfort. The following pneumatic equipment serves the existing pneumatic controls.

- Air Compressor: 2005 Speedaire "5Z697A" 3/4HP 30gal.
- Air Dryer: Hankison "HPR5-10-115" 10scfm

Facility natural gas systems are in fair condition and the campus should monitor equipment and appliance operation issues that may occur with DTE switching from high gas pressure service to medium gas pressure service. Natural gas service piping into the building replaced and protected this year (2024) due to corrosion of piping thru exterior concrete pad. Appliance gas regulators vented to the exterior of the building have operational issues during windy conditions. Replacement of facility natural gas system will coincide with boilers and air handling equipment replacements. Continue with regular maintenance and inspections of facility natural gas systems.

Electrical:

Most interior and exterior lighting fixtures are fluorescent and should be replaced or retrofitted with LEDs. Exit signage is adequate. Most interior lighting controls are toggle switches and need to be updated to modern controls with dimming to meet current energy codes for dimming and automatic control. Emergency lighting is via battery backups. A small number of inverters are present, but inverters should be standardized or a generator installed to supply EM lighting.

The majority of the panelboards are in good condition, but should be tested and refurbished as necessary. A fire alarm system is present, but should be verified for code compliance and updated accordingly.

A generator should be considered and installed to supply power in the event of a utility outage.

Arts and Music Building

Renovated: 2018
Total Building Area: 49,949 sq. ft.

Site:
The Arts and Music Building is integrated into the overall main Campus located at 221 Quarterline Rd, Muskegon. The Arts and Music site assessment narrative is included in the "Main Building" narrative.

Architecture:

The building is a steel framed structure with concrete masonry block walls and brick veneer exterior walls. The interior walls are gypsum drywall on metal studs. The exterior brick overall, is in good shape. There looks to be some damage at the base of the wall along the service drive and northeast entrance. During the renovation in 2018 there was a steel base installed to protect the brick. There are no weeps in the brick at the base of the building and can hold moisture in the wall cavity causing the brick to crack and deteriorate. So far the only location showing damage is the area that has been patched. This is something that should be monitored for signs of blocked moisture. Most of the original exterior walls at the main campus were constructed without weeps at the base of the wall. It was how they built brick veneered buildings back in the 1960's

The building is in great condition since the renovations in 2018 and still looks like a newly renovated building. Building windows, interior finishes and ceilings are in great condition.

The roofing system is currently in good condition. However, there is some unusual ponding of water near the mechanical equipment.

Interiors:
Interior flooring includes carpet tile with rubber wall base (classrooms, offices), poured epoxy coating (toilet rooms, corridors and classrooms). All flooring still looks new after 6 years of use. The ceilings are exposed in the corridors, galleries and some classrooms while other classrooms have lay in acoustical tile. All in great condition.

Accessibility:

The renovated Arts and Music Building's recent renovation meets all the barrier free accessibility requirements. Our assessment did not find any issues in regards to accessibility.

Structural:

The building is a steel framed structure, with slab on grade, non bearing CMU walls and steel joist and tectum deck roof. There are no visible issues with the building's structure.

Mechanical:

Plumbing Systems: The storm systems, sanitary systems, and domestic water piping systems along with their specialties date from 2019 to 1965. Regular maintenance and inspections should continue on these systems for replacement.

Domestic hot water is served from the main campus building systems.

1965 plumbing fixtures within the boiler/electrical plant are past their useful life and should be replaced. All other plumbing fixtures and drinking fountains were replaced in 2019 and are in good condition with continued regular maintenance and inspections.

Fire Protection System: The fire protection system is in good condition and maintained by Brigade Fire Protection. Continue with regular maintenance and inspections.

Mechanical Systems: The following heating plant equipment and their operating conditions are located within this building.

- B-1 1995 Weil Mclain "1388" Non-condensing, 50psi max relief, B&G boiler pump 275gpm, 20ft.hd. Unit has reached its useful life and requires replacement.
- B-2 1995 Weil Mclain "1388" Non-condensing, 50psi max relief, B&G boiler pump 275gpm, 20ft.hd. Unit has reached its useful life and requires replacement.
- B-3 1995 Weil Mclain "1388" Non-condensing, 50psi max relief, B&G boiler pump 275gpm, 20ft.hd. Unit has reached its useful life and requires replacement.
- B-4 2017 Aerco "BMK 3000" Condensing, B&G boiler pump 275gpm, 20ft.hd. Unit is in fair condition with continued regular maintenance and inspections.
- B-5 2017 Aerco "BMK 3000" Condensing, B&G boiler pump 275gpm, 20ft.hd. Unit is in fair condition with continued regular maintenance and inspections.

Replacement of prematurely rotted out VanPacker condensing boiler exhaust flues is required, as condensate has begun corroding and damaging mechanical room equipment, while furthering deterioration of venting. College to consider standardizing on venting material types, venting manufacture(s), delegated design documentation, and manufacture inspections of boiler venting and combustion air intake system installation. Campus maintenance staff indicate being unable to run all five (5) boilers during the winter to maintain required campus heating water temperatures, as boiler plant pressure relief valves pop open. Maintenance staff desire additional in depth review and witnessing of heating water system, an additional review of expansion tank sizing, and review of previous control contractor (Distech Controls) sequencing,

to remedy heating system operation and allow all boilers to operate. Diagnosis of pressure relief valves by Testing and Balancing contractor and an owner representative, needs to occur prior to replacement of Weil Mclain boilers currently at the end of their useful life. Include proper height concrete maintenance pads for all boilers upon replacement, including existing Aerco boilers to remain. Tube type condensate neutralization kits currently installed on the condensing boilers should be replaced and are difficult for campus maintenance staff to maintain. Campus maintenance staff would like to standardize on condensate neutralization tanks that can be cleaned and top loaded with neturalization media.

The following heating plant pumps and their operating conditions are located within this building.

- HWP-1 1995 B&G "10.625" 750gpm, 96ft.hd. 20hp (ABB VFD). Unit has reached its useful life and requires replacement.
- HWP-2 1995 B&G "10.750" 590gpm, 96ft.hd. 20hp (ABB VFD). Unit has reached its useful life and requires replacement.
- HWP-3 2017 B&G "e-1510 2BD" 140gpm, 50ft.hd. 3hp (ABB VFD). Unit is in fair condition with continued regular maintenance and inspections.
- HWP-4 2017 B&G "e-1510 2BD" 140gpm, 50ft.hd. 3hp (Danfoss VFD). Unit is in fair condition with continued regular maintenance and inspections.
- HWP-1 Main 1965 B&G "U6C-10-7/8-BF" 675gpm, 100ft.hd. 30hp (ABB VFD). Unit is past its useful life and requires replacement.
- HWP-2 Main 1965 B&G "U6C-10-7/8-BF" 675gpm, 100ft.hd. 30hp (ABB VFD). Unit is past its useful life and requires replacement.
- HWP-8 2017 B&G "e-1510 3FB" 450gpm, 100ft.hd. 20hp. Unit is in good condition with continued regular maintenance and inspections. Provide unit with ABB variable frequency drive and control programming if not present.
- HWP-9 2017 B&G "e-1510 3FB" 450gpm, 100ft.hd. 20hp. Unit is in good condition with continued regular maintenance and inspections. Provide unit with ABB variable frequency drive and control programming if not present.
- F-1 B&G "1510" 3/4hp ABB VFD (Abandoned In Place)

Buried heating water piping was replaced to Stevenson Center in 2023. Maintenance staff desires that other buried hydronic piping on campus needs to be inspected and replaced before failure occurs during seasonal shutdown of heating system. Replace pumps that have reached their useful life with replacement of boilers, and include installation of new water treatment devices and filtration.

The following cooling plant equipment and their operating conditions service this building.

- CH-1 1995 Trane "RTHA800" water cooled chiller. Unit has reached its useful life and requires replacement.
- CH-2 2017 Trane "RTAF170E" air cooled chiller, R134A. Unit is in fair condition with continued regular maintenance and inspections.
- CT-1 1995 Evapco "AT 19-114" open cell cooling tower, fan w/ABB VFD. HOH cooling tower water treatment system abandoned in place. Advantage Controls cooling tower water treatment system. Cooling tower has reached its useful life and requires replacement.

Alarms on both chillers indicate a demand for chilled water was occuring during January 2024 and February 2024 at 3am. Maintenance staff confirmed that a demand for chilled water is common in the winter. Further investigation is required of control trends to determine systems requiring cooling during these times, and remedying either the controlled equipment or preventing the equipment to run the chillers. Chiller replacement should consider the maintenance and installation environment with difficulties maintaining a cooling tower in a wooded environment and winter drain down. Trane magnetic bearing air cooled chillers should be considered along with water side economizer, heat exchanger or drain down, and energy efficiencies/maintenance of other types of chilled water methods, allowing maintenance agreements to be maintained with Trane for all chillers at all buildings.

The following cooling plant pumps and their operating conditions are located within this building.

- CWP-1 2011 B&G "1510 5BC" 900gpm, 20ft.hd. 10hp (No VFD). Unit is in fair condition with continued regular maintenance and inspections.
- CWP-2 2011 B&G "1510 5BC" 900gpm, 20ft.hd. 10hp (No VFD). Unit is in fair condition with continued regular maintenance and inspections.
- CHWP-1 2011 B&G "1510 4E" 590gpm, 96ft.hd. 20hp (No VFD). Unit is in fair condition with continued regular maintenance and inspections.
- CHWP-2 2011 B&G "1510 4E" 590gpm, 96ft.hd. 20hp (No VFD). Unit is in fair condition with continued regular maintenance and inspections.

Buried chilled water piping was replaced to Stevenson Center in 2023. Maintenance staff desires that other buried hydronic piping on campus needs to be inspected and replaced before failure occurs during seasonal shutdown of cooling system. Existing cooling tower system does not have a centrifugal filtration system to help protect chiller, pumps, and associated accessories. Installation of ABB VFDs for chilled water and condenser water pumps recommended as pump balancing valves are closed to reduce waterflow.

The following air handling and ventilation equipment were found in good to fair condition with continued regular maintenance and inspections. Maintenance staff indicate the building is unable to maintain occupied heating temperatures during design winter conditions and are requesting to have an additional review of building winter operation, building design, and mechanical equipment.

- Outdoor Modular Air Handling Units:
    - Four (4) 2019 Trane Outdoor Modular Air Handling Units, 2" filtration, economizer section, pumped chilled water cooling coil with access, pumped hot water heating coil with access, supply fan w/VFD, return fan w/VFD. Provide means for cleanout of condensate traps. Interior of units are clean of debris and coil fins are in good condition. Outdoor air hood filters/moisture eliminators are plugged with debris preventing correct unit operation and ventilation, and should be cleaned or replaced. Filter differential pressure gauges were found missing tubing for correct operation. Relocate manufacturer paper documentation outside of units airstream so paper doesn't clog downstream coils and air terminal devices. Control sequences should be reviewed as outdoor air temperatures were 70deg.f. with fans off and heating coil on for freeze protection.

- Outdoor Energy Recovery Units:
    - One (1) 2019 AnnexAir "ERP-E-09-FP-H-C-TB" Energy Recovery Unit, 2" filtration, fixed plate heat exchanger, pumped heating coil, pumped cooling coil, supply fan w/VFD, return fan w/VFD. Maintenance staff indicate dust from materials used within classes bypass energy recovery units filtration devices and plugs energy recovery device with dust, inhibiting correct operation of the unit. Additional standard filtration devices will not be possible to address the issue without replacement of unit fans and electrical systems. Recommend evaluating removal of problematic rooms from energy recovery unit, and relocation of exhaust air inlets from rooms, or adding advanced air treatment systems for problematic rooms. Controls indicate the unit does not have a bypass to allow the unit to recirculate air for morning warm-up, reducing the effectiveness of morning warm-up when indoor air temperatures are at unoccupied setpoint. Maintenance staff indicate the building is unable to maintain occupied heating temperatures during design winter conditions and are requesting to have an additional review of building winter operation, building design, and mechanical equipment. Unit design document states the cooling coil is designed to operate with 100% water and will be converted to propylene glycol in the future for freeze protection, and no glycol feed systems are currently installed on site.
- Exhaust Fans: Monitoring and control of these exhaust fans could not be found in the building control system and needs to be verified for correct operation with air handling systems serving the building.
    - Two (2) 2019 Greenheck Roof Exhaust Fans
    - One (1) 1965 Jenn-Air Roof Exhaust Fans
- Duct Collectors:
    - Two (2) Donaldson Torit "16 Cyclone" Dust Collectors.

The following room level terminal equipment was found in good to fair condition with continued regular maintenance and inspections. Maintenance staff indicate the building is unable to maintain occupied heating temperatures during design winter conditions and are requesting to have an additional review of building winter operation, building design, and mechanical equipment.

- Split System Air Conditioning Units:
    - AC/ACCU-1 2019 EMI "SZIH12AAA", R-410A
- Terminal Units:
    - (30) 2019 Trane "VCWF" variable volume terminal units with hot water reheat.
- Radiant Heating Units:
    - (11) 2019 Runtal flat tube radiant heaters. Further review required on operation of radiant heaters to verify control sensor is not mounted directly on radiator from previous control contractor Enertemp.

Building Management System/Controls: Pneumatic controls, standalone thermostats, and associated devices are present on site and require replacement. Maintenance staff has indicated there is a high failure rate occurring on motorized valves throughout all buildings on

campus. Hurst Mechanical (Control Resource) has been replacing failed valves with Belimo valves. College to coordinate with TowerPinkster if the college has access to programming software for Distech Controllers (Enertemp) or if the software can be obtained by the college so Enertemp's programming to the boiler and chiller plants can be accessed. Replacement of Enertemp's Distech control devices with control devices from Control Resource will need to occur during boiler replacement. Indication of regular high humidity issues are present within the building and addition of humidity sensors and control sequences should be considered. Building controls representative (Control Resource) indicates the building is unable to maintain occupied heating temperatures during design winter conditions. Controls, maintained, and connected to the campus control system by Control Resource. The following pneumatic equipment serves the existing pneumatic systems on campus.

- Air Compressor 1: Quincy dual 5hp air compressor
- Air Compressor 2: Quincy "350-18" air compressor
- Air Dryer: Hankison "HPR5-10-115" 10scfm

Facility natural gas systems are in fair condition and the campus should monitor equipment and appliance operation issues that may occur with DTE switching from high gas pressure service to medium gas pressure service. Appliance gas regulators vented to the exterior of the building have operational issues during windy conditions. Continue with regular maintenance and inspections of facility natural gas systems.

Electrical:

Interior and exterior lighting fixtures are LEDs. Exit signage is adequate. Interior lighting controls are modern with dimming and occupancy sensors to meet current energy codes. Emergency lighting is powered via inverters.

The majority of the panelboards are in good condition, but should be tested and refurbished as necessary. A fire alarm system is present, but should be verified for code compliance and updated accordingly.

A generator should be considered and installed to supply power in the event of a utility outage.

Automotive and Grounds Building

Renovated: 1990's
Total Building Area: 13,290 sq. ft.

Site:
The Automotive and Grounds Building is integrated into the overall main Campus located at 221 Quarterline Rd, Muskegon. The Arts and Music site assessment narrative is included in the "Main Building" narrative.

Architecture:

The automotive and grounds building is a pre-engineered steel structure with insulated metal panel exterior walls, blanket insulation at the roof with metal roof panels. Interior walls are painted concrete masonry block. There is some concrete block with brick veneer on the east exterior wall. The wall does not have any weeps at the base. The brick looks to be in good shape. This should be monitored for signs of blocked moisture in the cavity. The facia panels are stained due to no gutters on the building. All the water runs off the roof to the ground below.

Interiors:
The interior floors are sealed concrete in the grounds area, poured epoxy in the bathrooms and automotive shop, and carpet tile in the classroom. The bathrooms have a gypsum drywall ceiling. The classroom has lay-in acoustical tile. All other areas are exposed to structure. All finishes are in good condition since the renovation in 2018.

Accessibility:

The renovated automotive Building's recent renovation meets all the barrier free accessibility requirements. Our assessment did not find any issues in regards to accessibility.

Structural:

The building is a pre engineered steel framed structure, with slab on grade. There are no visible issues with the building's structure

Mechanical:

Plumbing Systems [Automotive/Grounds]: No storm system services are present within the building and other discipline comments should be referred to regarding site drainage, gutter systems, and roof drainage. Sanitary systems consist of piping and specialties dating to 1983 with an oil separator placed into commission in 2018, and are in fair condition with continued regular maintenance and inspections. Domestic water systems consist of piping and specialties dating to 2018 and are in good condition with continued regular maintenance and inspections. An existing 2018 Bradford White “RG130T7N” 30 gal, gas fired tank water heater provides domestic hot water to the building and is in good condition with continued regular maintenance and inspections. Plumbing fixtures and drinking fountains were replaced in 2018 and are in good condition with continued regular maintenance and inspections. Hose bibbs on the exterior of the building are found without vacuum breakers allowing contaminants to enter the drinking water system and should be remedied.

Plumbing Systems [Storage/Grounds]: No storm system services are present within the building and other discipline comments should be referred to regarding site drainage, gutter systems, and roof drainage. Sanitary systems and domestic water piping systems along with their specialties date to 1975 are past their replacement life, and will require replacement upon renovation. Regular maintenance and inspections should continue on these systems until renovation. An existing 2006 Bradford White “MITW50L6BN15” 48 gal, gas fired tank water heater provides domestic hot water to the building and is in fair condition with continued regular maintenance and inspections. Plumbing fixtures, flush valves, faucets, and drinking fountains are past their useful life with indication of various replacement over the years, and should be replaced upon building renovation.

Fire Protection System [Automotive/Grounds]: No fire protection systems are present on site. Other discipline comments should be referred to regarding fire extinguishers present on site.

Fire Protection System [Storage/Grounds]: No fire protection systems are present on site. Other discipline comments should be referred to regarding fire extinguishers present on site.

Mechanical Systems [Automotive/Grounds]: The following mechanical equipment was found in good condition with continued regular maintenance and inspections.

- DX Condensing Units:
    - One (1) 2018 Trane "TTA120J4" DX Condensing Unit, R410A
- Indoor Modular Air Handling Units:
    - One (1) 2018 Trane "CSAA006" Indoor Modular Air Handling Unit, 2" filtration, economizer section, R410A DX cooling coil with access, indirect gas heating with access, supply fan w/Trane VFD, exhaust fan w/Trane VFD. Condensate piping present without condensate traps and should be remedied for condensate

drainage from the unit. Provide means for cleanout of condensate traps. Unit is clean of debris and coil fins are in good condition.

- Make-Up Air Units:
    - One (1) 2018 Reznor "SSCBL-800" Make-Up Air Unit, 2" filtration, indirect gas heating with access, supply fan w/ABB VFD. Air filters have fallen out of filter racks within the unit possibly due to wind or maintenance reasons. Cause of filters falling out of the filter rack should be identified and remedied. Outdoor air intake louver has a filter rack section that is absent of filtration. Outdoor air intake duct has a duct smoke detector mounted on it and should be verified if it has been causing nuisance fire alarm trips. Unit is not monitored by the campus control system to help quickly identify maintenance issues, and the unit has limited capabilities for being monitored by the campus control system.
- Exhaust Fans: Access to roof was unavailable and maintenance staff would desire a permanent means of access to the roof within the building. Exhaust fans are not monitored by the campus control system similar to other buildings on campus. Required ventilation of the custodial room is not present and should be remedied.
    - Two (2) 1983 Roof Exhaust Fans
    - Two (2) 2018 Roof Exhaust Fans
    - Two (2) Inline/Ceiling Exhaust Fans

One (1) existing dust collector exterior to the building is abandoned in place, and should be considered for removal of the entire system or removal of duct and conduit to the building, to eliminate vine damage to the building.

The following room level terminal equipment was found in good condition with continued regular maintenance and inspections.

- Terminal Units:
    - Three (3) 2018 Trane "VCEF" variable volume terminal units with electric reheat.
- Radiant Heating Units:
    - Five (5) 2018 Gas Fired Radiant Heaters
    - Two (2) 1983 Gas Fired Radiant Heaters
- High Velocity Low Speed Ceiling Fans
    - Three (3) 2018 Macro Air "Airvolution D370" high velocity low speed ceilings fans.
    - One (1) 1983 Ceiling Fan

Building Management System/Controls: Building management system controls are maintained and connected to the campus control system by Control Resource. Consideration should be given for integration of standalone thermostats not connected to the building management system controls.

Facility natural gas systems are in fair condition and the campus should monitor equipment and appliance operation issues that may occur with DTE switching from high gas pressure service to

medium gas pressure service. Exterior gas piping dates prior to 1975 and is corroding. Appliance gas regulators vented to the exterior of the building have operational issues during windy conditions. Continue with regular maintenance and inspections of facility natural gas systems.

Mechanical Systems [Storage/Grounds]: The following air handling and ventilation equipment are poor in condition or past their replacement life, and will require replacement upon renovation.

- Make-Up Air Units:
    - Two (2) 1975 Reznor Make-Up Air Units with 2" filtration, indirect gas heating with access, supply fan on/off control. Units show signs of corrosion damage.
- Exhaust Fans: Access to roof was unavailable and maintenance staff would desire a permanent means of access to the roof within the building.
    - Five (5) 1975 Roof Exhaust Fans

The following room level terminal equipment are past their replacement life, and will require replacement upon renovation.

- Electric Unit Heaters:
    - 1975 Chromalux electric unit heaters.
- Electric Cabinet Heaters:
    - 1975 Chromalux electric cabinet heaters.

The following room level terminal equipment was found in good condition with continued regular maintenance and inspections.

- Radiant Heating Units:
    - One (1) Reverberay Gas Fired Radiant Heater.

Building Management System/Controls: The building is not integrated into the campus building control system. Overhead door switches will be required upon replacement of heating systems, or will require pre approval by authorities by local jurisdiction to not install overhead door switches.

Facility natural gas systems are in fair condition and the campus should monitor equipment and appliance operation issues that may occur with DTE switching from high gas pressure service to medium gas pressure service. Exterior gas piping dates prior to 1975 and is corroding, and enters the building below grade which is not allowed by current codes and will need to be remedied upon renovation. Continue with regular maintenance and inspections of facility natural gas systems.

Electrical:

Interior and exterior lighting fixtures are LEDs. Exit signage is adequate. Interior lighting controls are modern with dimming and occupancy sensors to meet current energy codes. Emergency lighting is powered via inverters.

The majority of the panelboards are in good condition, but should be tested and refurbished as necessary. A fire alarm system is present, but should be verified for code compliance and updated accordingly.

A generator should be considered and installed to supply power in the event of a utility outage.

Golf Course

Cart Storage Building
Built: unknown
Total Building Area: 1,800 sq. ft.

Pump House
Built: unknown
Total Building Area: 1,800 sq. ft.

Club House
Built: unknown
Total Building Area: 1,800 sq. ft.

Site:
The parking lot entrance is narrow and has significant cracking. The water drains to the west and ends up flooding the existing clubhouse. The parking lot should be fully milled and resurfaced. Storm water management should be improved to the west (location of existing clubhouse to be demolished). New pathways from cart storage and new clubhouse to connect to existing path to driving range and hole #1.

The bridges at holes #2 and #6 are in poor condition and should be replaced.

The irrigation system needs to be replaced.

Architecture:

Cart Storage: The cart storage building is an uninsulated pole barn construction. Building enclosure, roof and walls are in good condition and show no signs of structural damage or issues. Animals have burrowed under the slab in a few locations along the north wall. It would be good to pour a concrete maintenance curb around the perimeter of the building. A portion of the room (northwest corner) is used as a workshop. With a heater in the corner. The space is open to the rest of the room. It is recommended that the work area be enclosed with stud walls and insulation in the walls and ceiling.

Clubhouse: The club house floods during heavy rainstorms. It is located in a low spot of the site with all parking runoff going into the building. The building structure, enclosure and finishes are in poor condition. It is recommended to demolish the building and build a new 900 sq. ft. clubhouse adjacent to the cart storage building.

Pump Building: The pump building is an uninsulated pole barn construction. Building enclosure, roof and walls are in good condition and show no signs of structural damage or issues. The

only recommendation would be to pour a new concrete apron outside the garage door and entry door.

Mechanical:

Plumbing Systems [Cart Storage]: No storm system services are present within the building and other discipline comments should be referred to regarding site drainage, gutter systems, and roof drainage. The building is an unoccupied building and contains no other plumbing systems.

Plumbing Systems [Club House]: No storm system services are present within the building and other discipline comments should be referred to regarding site drainage, gutter systems, and roof drainage. Sanitary systems are in fair condition with continued regular maintenance and inspections. Domestic water piping systems are in fair condition with continued regular maintenance and inspections. An existing small electric water heater provides domestic hot water to the building and is in fair condition with continued regular maintenance and inspections. Plumbing fixtures are in fair condition with continued regular maintenance and inspections. Plumbing fixtures, sanitary systems, domestic water piping systems, and domestic water heaters, should be replaced for any ADA or building improvement requirements, with consideration for providing a space for installation of a domestic water heater. Drinking fountains are not present on site, as bottled water is provided.

Plumbing Systems [Pump Building]: No storm system services are present within the building and other discipline comments should be referred to regarding site drainage, gutter systems, and roof drainage. For golf course irrigation pumps and irrigation systems refer to site utilities. The building is an unoccupied building and contains no other plumbing systems.

Fire Protection System [Cart Storage]: No fire protection systems are present on site. Other discipline comments should be referred to regarding fire extinguishers present on site.

Fire Protection System [Club House]: No fire protection systems are present on site. Other discipline comments should be referred to regarding fire extinguishers present on site.

Fire Protection System [Pump Building]: No fire protection systems are present on site. Other discipline comments should be referred to regarding fire extinguishers present on site.

Mechanical Systems [Cart Storage]: One (1) Sterling “QVF-200 gas fired unit heater is in fair condition with continued regular maintenance and inspections. Dedicated thermostats serve the mechanical systems are in fair condition. Overhead door switches will be required upon replacement of gas fired unit heater, or will require pre approval by authorities by local jurisdiction to not install overhead door switches. The building is not integrated into the campus

building control system. Facility natural gas systems are in fair condition and the campus should monitor equipment and appliance operation issues that may occur with DTE switching from high gas pressure service to medium gas pressure service. Continue with regular maintenance and inspections of facility natural gas systems.

Mechanical Systems [Club House]: One (1) 2023 Heil 66,000btu non-condensing gas fired furnace is in good condition with continued regular maintenance and inspections. One (1) 2023 Fujitsu “AOUH18LMAS" Split System DX Heat Pump is in good condition with continued regular maintenance and inspections. Operable windows and doors for ventilation are incompatible with building code requirements for use of space and installed HVAC systems. Ventilation requirements should be addressed upon replacement of the gas fired furnace, and addressed upon any ADA or building improvements. Dedicated thermostats serving mechanical systems are in fair condition. Operable window sensors, door sensors, and door closers are missing, which are required for code requirements of heating/cooling equipment. The building is not integrated into the campus building control system. Facility natural gas systems are in fair condition and the campus should monitor equipment and appliance operation issues that may occur with DTE switching from high gas pressure service to medium gas pressure service. Continue with regular maintenance and inspections of facility natural gas systems.

Mechanical Systems [Pump Building]: The building is an unconditioned building and contains no mechanical systems.

Electrical:
Cart Storage: Interior and exterior lighting fixtures are fluorescent. Fixtures should be replaced with more efficient LEDs. Interior lighting controls and emergency lighting are not present. Panelboards are in fairly good condition, but should be tested and refurbished as necessary.

Clubhouse: It is recommended that the clubhouse be demolished and a new clubhouse be constructed.

Pump House:Interior and exterior lighting fixtures are fluorescent. Fixtures should be replaced with more efficient LEDs. Interior lighting controls and emergency lighting are not present. Panelboards are in fairly good condition, but should be tested and refurbished as necessary.

Sturrus Technology Center

Renovated: 2016
Total Building Area: 102,810

Site:
The parking lot across the street has some pavement that has been damaged due to tree roots below the surface. The pavement should be removed in those locations and replaced. There is an area where a parking island was infilled and is failing. This area should be removed and replaced with proper sub-grade and new asphalt. The entrance drives are narrow and only allow one car to pass through at a time. The entrance drives should be enlarged. There is significant cracking that should be sealed and striped. The sidewalk connecting the parking area and street sidewalk needs a new accessible ramp.

There is parking in front of the building along Clay St. that is designated handicap parking but doesn't have accessible sidewalk ramps. Ramps should be installed. The parking has some cracking and ponding. lot should be sealed and new striping and new parking bumpers should be installed along the sidewalk on 4th Street.

Architecture:

The roofs have multiple materials & warranties and are in poor condition. The school has records of roof warranty dates & should consider roof replacement when warranties expire. Suggest adding additional roof insulation when replacing (min. R-20 at drains sloping 1/8"/Ft. to edge).

Exterior walls are "Mass Masonry" either clay tile with stone veneer, clay tile with brick veneer or CMU with either stone or brick veneer without a cavity drainage weep system. The walls absorb moisture & slowly release it but depending on time of year could be saturated. The exterior veneer should be sealed with a silane siloxane type 10 year sealer. Some of the limestone veneer needs cleaning and tuckpointing.

The windows and doors are insulated glass in aluminum storefront. They are in fair to good condition.

Interiors:
The interior finishes are in good condition. The epoxy flooring has cracked due to heavy loading during the move-in of heavy equipment. Structural reinforcement has been installed that should stop the continued cracking. The epoxy flooring should be replaced.
The un-renovated areas in the old Masonic building are in poor condition. The spaces will require major renovation before they can be used for program space.

Accessibility:

The renovation in 2015, brought the building up to current barrier free requirements.

Structural:

Since the renovation in 2015 there have been substantial structural reinforcements to foundation walls, floor framing and columns. The structure is being monitored and appears to have resolved the wall cracking, floor cracking and settlement. Further monitoring should continue.

Mechanical:

Plumbing Systems: The storm systems, sanitary systems, and domestic water piping systems along with their specialties date from 2017 to 1948. Systems dating to 1948 are past their useful life and will require replacement alongside building renovations.

One (1) 2017 Bradford White 100 gal, 199kbtu, 99% efficiency gas fired tank water heater provides domestic hot water to the building and is in good condition with continued regular maintenance and inspections. A new water heater will need to be provided alongside building renovations.

Plumbing fixtures and drinking fountains date from 2017 to 1948. Plumbing fixtures dating to 1948 are past their useful life and will require replacement alongside building renovations. Additionally an existing laundry room is awaiting new plumbing fixtures upon completion of its renovation. Regular maintenance and inspections should continue on these systems until renovation.

Fire Protection System: The fire protection system is in fair condition and maintained by Brigade Fire Protection. Continue with regular maintenance and inspections. Coordinate replacement alongside building renovations.

Mechanical Systems [Sturrus Technology Center]: The following heating plant equipment and their operating conditions are located within this building.

- B-1 2017 2017 Aerco "BMK 2500" Condensing, B&G boiler pump 100gpm, 17ft.hd. Unit is in fair condition with continued regular maintenance and inspections.
- B-2 2017 Aerco "BMK 2500" Condensing, B&G boiler pump 100gpm, 17ft.hd. Unit is in fair condition with continued regular maintenance and inspections.
- B-3 2017 Aerco "BMK 2500" Condensing, B&G boiler pump 100gpm, 17ft.hd. Unit is in fair condition with continued regular maintenance and inspections.

Condensate neutralization tanks are already installed on boilers that maintenance staff would like to standardize on throughout the campus. Aerco boiler plant controller suffers from

communication loss issues and consideration should be made to replace it with a controller from Control Resource, while complying with Aerco warranty requirements.

The following heating plant pumps and their operating conditions are located within this building.

- P-2A Wilo "M4.2/4600" 3.6hp (EC motor). Unit is in fair condition with continued regular maintenance and inspections.
- P-2A Wilo "M4.2/4600" 3.6hp (EC motor). Unit is in fair condition with continued regular maintenance and inspections.

(2) Existing 2017 B&G "e-1510 3EB" 185gpm, 120fthd, 20hp pumps disconnected and abandoned due to flow control issues within the building. Design documents indicate possible future connection to heating system pipe mains in boiler room. Pumps replaced with smaller Wilo pumps above. Maintenance staff desire additional in depth review and witnessing of heating water system, to remedy building heating system instabilities. Re-testing and balancing done in 2021 by Great Lakes Testing and Balancing. Hot water heating piping throughout the building was placed into commission in 2017 and is in good condition with continued regular water quality maintenance and inspections.

The following cooling plant equipment and their operating conditions are located within this building.

- CH-1 2017 Trane "RTAE 275F" air cooled chiller. Unit is in fair condition with continued regular maintenance and inspections.

Unit is unable to run continuously and alarms consistently at low water flow conditions. Bypass valve for minimum flow was designed for but not installed or removed, located near the chiller. Consider installing a motorized bypass valve for minimum flow further downstream in the building to limit structural needs for a chilled water buffer tank. Optionally consider additional balancing valves and 3-way motorized valves on air handling units to maintain minimum flow and chilled water volume. Re-testing and balancing done in 2021 by Great Lakes Testing and Balancing.

The following cooling plant pumps and their operating conditions are located within this building.

- P-1A 2017 B&G "e1510-3GB" 250gpm, 105ft.hd. 20hp (Danfoss VFD). Unit is in good condition with continued regular maintenance and inspections.
- P-1B 2017 B&G "e1510-3GB" 250gpm, 105ft.hd. 20hp (Danfoss VFD). Unit is in good condition with continued regular maintenance and inspections.
- Enerco Glycol Make-Up System. Unit is in good condition with continued regular maintenance and inspections.

Chilled water piping throughout the building was placed into commission in 2017 and is in good condition with continued regular water quality maintenance and inspections.

The following air handling and ventilation equipment was found in good to fair condition with continued regular maintenance and inspections.

- Indoor/Outdoor Modular Air Handling Units:
    - Five (5) 2017 Trane Indoor/Outdoor Modular Air Handling Units, 2" or 4" filtration, economizer section, chilled water cooling coil with access, pumped hot water

heating coil with access, supply fan w/VFD, return fan w/VFD or EC motors, exhaust fan w/VFD. Means for cleanout of condensate traps have been provided. Interior of units are clean of debris and coil fins are in good condition. Outdoor air hood filters/moisture eliminators are in good condition. AHU-4 exhaust fan abandoned in place. AHU-2 relief air discharges into AHU-3 outdoor air intake affecting unit operation and ventilation.

- Exhaust Fans:
    - Three (3) 2017 Cook Roof Exhaust Fans
    - One (1) 2017 Fantech Roof Exhaust Fans
    - Four (4) 2017 Inline Exhaust Fans
- Welding Fume Collector:
    - One (1) 2020 Camfil Welding Fume Collector

The following room level terminal equipment was found in good condition with continued regular maintenance and inspections.

- Split System Air Conditioning Units:
    - One (1) AC/ACCU 2017 Mitsubishi "MXZ-8C48NAHZ", R-410A
- Terminal Units:
    - Seventy-six (76) 2017 Trane "VCWF" variable volume terminal units with hot water reheat.
- Radiant Heating Units:
    - 2017 Flat tube radiant heaters
    - 2017 Fin tube radiant heaters
- Unit Heaters:
    - 2017 Hot Water Unit Heaters

Building Management System/Controls: Heating system differential pressure sensors could not be found on the control system and may have been abandoned in place when Wilo pumps were installed. Consider additional monitoring of heating and cooling hydronic systems differential pressure at each existing floor level and each floor level of future building renovations. Coordinate standardizing control of perimeter heating systems on future renovations and new construction with Control Resource. Coordinate completion of graphics for air handling units, Wilo hot water system pump speeds, and Aerco boilers. Maintenance staff has indicated there is a high failure rate occurring on motorized valves throughout all buildings on campus. Hurst Mechanical (Control Resource) has been replacing failed valves with Belimo valves. Controls, maintained, and connected to the campus control system by Control Resource.

Facility natural gas system consists of piping and specialties dating prior to 2017 are in good condition. Continue with regular maintenance and inspections of facility natural gas systems. Coordinate replacement of facility natural gas systems alongside building renovations.

Mechanical Systems [Sturrus Technology Center/Temple]: The following heating plant equipment and their operating conditions are located within this building.

- B-1 1991 Weil Mclain "LGB-6" Non-condensing, 50psi max relief, B&G boiler pump. Unit has reached its useful life and requires replacement.
- B-2 1991 Weil Mclain "LGB-6" Non-condensing, 50psi max relief, B&G boiler pump. Unit has reached its useful life and requires replacement.

Coordinate replacement of heating plant equipment alongside building renovations.

The following heating plant pumps and their operating conditions are located within this building.

- HWP-1 2024 Wilo "TOP-S1.5x70" 1.5kw (EC motor). Unit is in good condition with continued regular maintenance and inspection.
- HWP-2 2024 Wilo "TOP-S1.5x70" 1.5kw (EC motor) Unit is in good condition with continued regular maintenance and inspection.

Coordinate replacement of pumps and piping alongside building renovations.

The following cooling plant equipment and their operating conditions are located within this building.

- CH-2 1964 Carrier "30HH" water cooled chiller. Unit is abandoned in place and will require replacement upon building renovation.

Coordinate replacement of cooling plant equipment alongside building renovations.

Chilled water pumps and piping are abandoned in place and will require replacement alongside building renovations.

The following air handling and ventilation equipment is past its useful life and requires replacement alongside building renvoations.

- Indoor Modular Air Handling Units:
    - Two (2) 1948 American Blower Corporation Modular Air Handling Units, 2" filtration, chilled water cooling coil, hot water heating coil, abandoned steam coil, supply fan on/off.
- Exhaust Fans:
    - (3) ACME Roof Exhaust Fans.
    - (2) Roof Exhaust Fan (Abandoned in place)

Additionally provide exhaust for the janitors closet within the already renovated area of the Temple.

The following room level terminal equipment was found within this building.

- Fan Coil Units:
    - (1) 2017 Trane "BCHD054" fan coil unit, hot water coil, chilled water coil. Unit is in good condition with regular maintenance and inspection.
- Unit Ventilators:
    - (3) 2017 ChangeAir Vertical Unit Ventilators, hot water coil, chilled water coil. Units are in good condition with regular maintenance and inspection.
- Radiant Heating Units:
    - 2017 Fin tube radiant heaters. Units are in good condition with regular maintenance and inspection.

    - 1948 Fin tube radiant heaters. Units are past their useful life and require replacement alongside building renovation.
- Unit Heaters:
    - 2017 Electric Unit Heaters. Units are in good condition with regular maintenance and inspection.
    - 1948 Steam Unit Heaters. Units are past their useful life and require replacement alongside building renovation.

Building Management System/Controls: Pneumatic controls, standalone thermostats, and associated devices are present on site and require replacement. Coordinate replacement of pneumatic and standalone control devices with renovation of the building. Maintenance staff has indicated there is a high failure rate occurring on motorized valves throughout all buildings on campus. Hurst Mechanical (Control Resource) has been replacing failed valves with Belimo valves. Controls, maintained, and connected to the campus control system by Control Resource.

Facility natural gas system consists of piping and specialties dating prior to 2017 are in good condition. Continue with regular maintenance and inspection of facility natural gas systems. Coordinate replacement alongside building renovations.

Electrical:
Interior and exterior lighting fixtures are LEDs. Exit signage is adequate. Interior lighting controls are modern with dimming and occupancy sensors to meet current energy codes. Emergency lighting is powered via inverters.

The majority of the panelboards are in good condition, but should be tested and refurbished as necessary. A fire alarm system is present, but should be verified for code compliance and updated accordingly.

A generator should be considered and installed to supply power in the event of a utility outage.

Sturrus Tech Storage

Built: Pre 1995
Total Building Area: 1,800 sq. ft.

Site:
The Clay Street parking and storage building site narrative is included in the “Sturus Tech Center and Satellite Parking” narrative.

Architecture:

The garage building is wood stud construction with rafters, plywood roof deck and asphalt shingles. The only insulated portion of the building is the office area on the northwest corner. The 24” brick wainscot is in good condition, insulated doors are in good condition. Exterior siding and trim is in good condition. The only suggestion for improvements would be to add gutters and downspouts.

Interiors:
Garage and storage mezzanine are exposed wood walls and ceiling. The garage has concrete floors. The office has painted concrete and gypsum drywall on the walls and ceiling. The interior finishes are in good condition.

Accessibility:

The office area is raised 6” above the garage floor. The only accessible route to the office is through the west exterior door. Currently the stoop outside the door does not comply with accessibility requirements the stoop would have to be widened 18” clear to the latch side of the door.

Structural:

The wood 2x framed structure is in good condition. There are no visible issues with the building’s structure

Mechanical:

Plumbing Systems: No storm system services are present within the building and other discipline comments should be referred to regarding site drainage, gutter systems, and roof drainage. The building is an unoccupied building and contains no other plumbing systems.

Fire Protection System: No fire protection systems are present on site. Other discipline comments should be referred to regarding fire extinguishers present on site.

Mechanical Systems: One (1) electric unit heater is in fair condition with continued regular maintenance and inspections. Dedicated thermostats serve the mechanical systems are in fair condition. Overhead door switches will be required upon replacement of electric unit heater, or will require pre approval by authorities by local jurisdiction to not install overhead door switches. The building is not integrated into the campus building control system. No facility natural gas systems service this building.

Electrical:
Interior and exterior lighting fixtures are fluorescent. Fixtures should be replaced with more efficient LEDs. Interior lighting controls and emergency lighting are not present. Panelboards are in fairly good condition, but should be tested and refurbished as necessary.

Observatory

Built: unknown
Total Building Area: multiple buildings 120 sf. - 400 sf.

Site:
The parking is in a grass field with no paved parking. There are paved sidewalks that connect the buildings and open observation areas. Looks like new sidewalks were recently installed and are in good condition. The steps to the classroom building are in rough shape without proper handrails. Recommendation is to provide pavement for barrier parking and replace steps and sidewalk ramps with ramps that meet BF accessibility requirements.

Architecture:

The existing buildings consist of wood framed and CMU un-insulated structure with either metal roof or asphalt shingles. Some buildings have retractable roofs for viewing the night sky. The assessment team did not open any of the roofs to verify they can open. The systems looked like they were still functioning. The structures are in fair condition.

There are no bathroom facilities on site other than a port-a-potty that is not barrier free.

Interiors:
Interior flooring includes carpet tile with in the classroom and observation structures, wood paneled walls in the classroom and exposed wood stud in the observation structures. Gypsum drywall ceiling in the classroom and exposed ceilings in the observation structures. All finishes are in fair condition

Structural:

There are no visible issues with the building's structure.

Mechanical:

Plumbing Systems: No storm system services are present within the building and other discipline comments should be referred to regarding site drainage, gutter systems, and roof drainage. The building contains no other plumbing systems and drinking water is not available on site. The site is serviced by portable outhouses. Providing plumbing services should be considered during review of building renovation programming and usage needs.

Fire Protection System: No fire protection systems are present on site. Other discipline comments should be referred to regarding fire extinguishers present on site.

Mechanical Systems: An electric unit heater and a portable air conditioner services the site, indicating that the mechanical systems do not currently meet the building usage needs. Operable windows and doors for ventilation are incompatible with building code requirements for current use of space and installed HVAC systems. Dedicated thermostats serve the mechanical systems are in fair condition, and the building is not integrated into the campus building control system. Replacement of the mechanical systems should be considered during review of building renovation programming and usage needs, to meet building usage and building code ventilation requirements.

Electrical:
Interior and exterior lighting fixtures are fluorescent. Fixtures should be replaced with more efficient LEDs. Interior lighting controls and emergency lighting are not present. Panelboards are in fairly good condition, but should be tested and refurbished as necessary.

Kraft Alumni House

Built: unknown (prior to 1960)
Total Building Area: 1,800 sq. ft.

Structure and Site:
This site is a vacated residential house that was purchased by the school. It has been vacant for the last 8 years. The residence is in poor condition and should be heavily renovated to the structure or demolished completely. Both house and garage.

Mechanical:

Plumbing Systems: No storm system services are present within the building and other discipline comments should be referred to regarding site drainage, gutter systems, and roof drainage. Sanitary systems, domestic water piping systems, and water heaters range in fair to poor condition, and should be replaced alongside building renovations. Plumbing fixtures date back to the age when the building was built and should be replaced alongside building renovations.

Fire Protection System: No fire protection systems are present on site. Other discipline comments should be referred to regarding fire extinguishers present on site.

Mechanical Systems: One (1) Bryant gas fired condensing furnace and Bryant R410A condensing unit is in fair condition and should be replaced upon building renovation. Dedicated thermostats serve the mechanical equipment and the building is not tied into the campus building control system. There is significant building envelope and interior damage present within the building, and renovations of the building will need to meet or exceed energy code requirements. The utility gas meter is located indoors within the living/sleeping environment requiring regular inspections by the utility provider for hazardous leaks. The utility gas meter should be relocated exterior of the house alongside building renovations.

FACILITIES ASSESSMENT DATA

TowerPinkster
Architecture · Engineering · Interiors

CLIENT: Muskegon Community College
Facility Assessment

BUILDING: Golf Course Pro Shop

DATE: July, 2024

Good = Item meets current and future needs, no recommendation for improvement for the next 10 years
Fair = Item meets current use, showing signs of age and should be replaced in the next 10 years
Poor = Item is nearing the end of it's useful life, current need, should be replaced in the next 5 years
Replace = Item no longer meets current use, is outdated, does not meet code, and should be replaced in the next 3 years

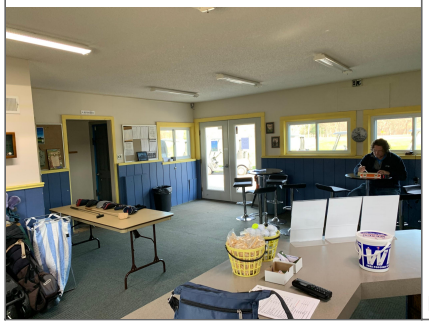
ARCHITECTURAL							
OVERALL					**COMMENTS**	**QUANTITY**	**COST**
Full Building Replacement					New slab-on-grade, wood frame construction building with 300 sq. ft. covered patio.	900 sf enclosed building 300 sf covered patio	$660,000
ACCESSIBILITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Building Entrances	☐	☑	☐	☐	Right at grade (no steps or ramp) water flows under door in heavy rain events. Carpet tiles are pulled up & hung to dry. Double atrium doors w/ active leaf locking into inactive leaf		
Elevator	☐	☐	☐	☐	N/A		
Toilet Rooms	☐	☐	☑	☐	Not ADA compliant		
Drinking Fountains	☐	☐	☐	☐	None		
Stairwells	☐	☐	☐	☐	N/A		
STRUCTURE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Foundations	☐	☑	☐	☐	CMU		
Slabs on Grade	☐	☑	☐	☐	Toilet rooms are elevated (1 step)		
Load Bearing Walls / Columns	☐	☑	☐	☐	Exterior walls (CMU, Wd. stud) clear span roof trusses		
Supported Floor Framing	☐	☐	☐	☐	N/A		
Roof Framing	☐	☑	☐	☐	Wood roof trusses @ 24" O.C. w/ O.S.B. roof sheathing		
BUILDING ENVELOPE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Roofing Membrane and Flashings	☐	☐	☑	☐	Shingles well into their lifespan		
Roof Gutters and Downspouts	☐	☐	☑	☐	Gutter (just at entry side) long downspout extension to get water to the side of the building		
Exterior Walls	☐	☐	☑	☐	wood studs w/ T-111 siding exterior (needs paint), gyp. & T-111 wainscot at interior w/ some slat wall		

Wood Windows / Glazing	☐	☐	☐	☐	Vinyl insulated horizontal sliding windows. Toilet rooms have wood awning single pane windows. Expanded metal mesh over window behind service counter		
Trim, Fascia, and Soffits	☐	☐	☐	☐	Painted wood trim, fascia & soffits (in need of new paint)		
Porches	☐	☐	☐	☐	roof covered porch at front & rear		
Exterior Doors	☐	☐	☐	☐	Vinyl clad atrium double doors		
SAFETY + SECURITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Fire Protection	☐	☐	☐	☐	N/A		
Egress Windows	☐	☐	☐	☐	N/A		
Stairwells	☐	☐	☐	☐	N/A		
Card Access	☐	☐	☐	☐	N/A		
Security Vestibule	☐	☐	☐	☐	N/A		
Security Camera	☐	☐	☐	☐	N/A		
FOOD SERVICE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Overall Kitchen Condition	☐	☐	☐	☐	N/A		
Kitchen Equipment	☐	☐	☐	☐	N/A		
Serving / Dining Areas	☐	☐	☐	☐	N/A		
Deliveries	☐	☐	☐	☐	N/A		
Storage	☐	☐	☐	☐	1 small closet		
INTERIORS / FINISHES							
FLOORING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Pro Shop	☐	☐	☑	☐	old and dated. Carpet is in good shape		
Toilet Rooms	☐	☑	☐	☐	not barrier free accessible, painted CMU and tile floors in good shape		
					COMMENTS		
WALLS	**GOOD**	**FAIR**	**POOR**	**REPLACE**			
Toilet Rooms	☐	☐	☑	☐	Exposed uninsulated plumbing pipes on walls, exposed vent stack adjacent to urinal, exposed conduit & electrical boxes all due to CMU walls. Tank style water closets, wall hung lavatories		
Pro Shop	☐	☐	☑	☐	gyp. bd. w/ T-111 wainscott, some slatwall		
CEILINGS	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Toilet Rooms	☐	☑	☐	☐	painted plywood		
Pro Shop	☐	☑	☐	☐	Textured gyp. bd.		

	GOOD	FAIR	POOR	REPLACE	COMMENTS		
DOORS + HARDWARE	☐	☐	☐	☐	Vinyl Clad atrium doors		
	GOOD	**FAIR**	**POOR**	**REPLACE**			
WINDOWS	☐	☑	☐	☐	Insulated vinyl & non-insulated wood		
	GOOD	**FAIR**	**POOR**	**REPLACE**			
CABINETS / STORAGE / COUNTERS	☐	☐	☐	☐			
MECHANICAL							
HVAC	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Heating Source and Condition (Gas Fired Furnace)	☑	☐	☐	☐	(1) 2023 Heil 66,000btu Non Condensing Gas Fired Furnace: Continue with regular maintenance and inspection.		
Heating Source and Condition (Split System DX Heat Pump)	☑	☐	☐	☐	(1) 2023 Fujitsu "AOUH18LMAS" Split System DX Heat Pump: Continue with regular maintenance and inspection.		
Heating Pumps and Piping	☐	☐	☐	☐	N/A		
Cooling Source and Condition (Split System DX Heat Pump)	☑	☐	☐	☐	See Heating Source: 2023 Fujitsu "AOUH18LMAS" Split System DX Heat Pump. Continue with regular maintenance and inspection.		
Cooling Pumps and Piping	☐	☐	☐	☐	N/A		
Air Handling / Ventilation	☐	☑	☐	☐	Operable windows and door incompatible with building code ventilation requirements for use of space and installed HVAC systems. Plan to meet building code ventilation requirements upon replacement of Gas Fired Furnace and any building or ADA improvements.		
Building Management System / Controls	☐	☑	☐	☐	Local Thermostats Only. Missing operable window sensors, door sensors tie in to heating/cooling equipment or automatic door closers, and requires pre approval by local authorities. Building is not tied into campus building control system.		
Energy Efficiency	☐	☐	☐	☐	Recommend customized LVL 2 energy assessment (audit) for review of any recommended building use changes, building envelope changes/improvements, HVAC replacements/improvements, domestic water replacements/improvements, or lighting replacements/improvements.		
Humidifier	☐	☐	☐	☐	N/A		
Room Level Terminal Equipment	☐	☐	☐	☐	N/A		

Facility Natural Gas System	☐	☑	☐	☐	Monitor gas fired equipment and appliance operation issues that may occur with DTE switching from high gas pressure service to medium gas pressure service. Continue with regular maintenance and inspection of facility natural gas systems.		
PLUMBING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Storm System	☐	☐	☐	☐	No storm system present. See other discipline comments on site drainage, gutter systems, and roof drainage.		
Sanitary System	☐	☑	☐	☐	Continue with regular maintenance and inspection. Include replacement for any ADA or building improvement requirements.	(CG)Coordinate cost with sq.ft. of building renovation.	
Domestic Water Piping	☐	☑	☐	☐	Continue with regular maintenance and inspection. Include replacement for any ADA or building improvement requirements.	(CG)Coordinate cost with sq.ft. of building renovation.	
Water Heaters	☐	☑	☐	☐	Small electric water heater on floor. Continue with regular maintenance and inspection. Include replacement and space for relocation of water heater for any ADA or building improvement requirements.	(CG)Coordinate cost with sq.ft. of building renovation.	
Plumbing Fixtures	☐	☑	☐	☐	Continue with regular maintenance and inspection. Include replacement for any ADA or building improvement requirements. Campus to consider setting up a standard on plumbing fixtures.	(CG)Coordinate cost with sq.ft. of building renovation.	
Drinking Fountains	☐	☐	☐	☐	N/A (Bottled Water Only)		
Fire Protection	☐	☐	☐	☐	N/A (Fire Extinguishers)		
ELECTRICAL							
LIGHTING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Exterior Lighting	☐	☐	☑	☐	Exterior lights present, but appear dated. Update lights to LED. Price for complete replacement based on square footage.		
Interior Lighting	☐	☐	☑	☐	Combination of LED T8 replacements and original T8 present. In some locations, lighting layout may require modification in order to improve efficiency. New LED fixtures should be installed in place of retrofits. Price for complete replacement based on square footage.		
Emergency Lighting	☐	☐	☐	☐	Limited or no local battery backups within fixtures. Emergency lighting does not appear to be code compliant. Consistent battery fixtures could be added or an inverter could be installed to provide emergency lighting. (N/A)		
Lighting Controls	☐	☐	☐	☑	Manual switches to turn lights on or off, but no localized dimming or occupancy sensing. Controls should be replaced for better energy efficiency. Price for complete replacement based on square footage.		

Exit Signage	☐	☐	☐	☐	Exit signage is not present. (N/A)		
POWER	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Generator System	☐	☐	☐	☐	No generator present. (N/A)		
Distribution/Service Panels / Gear	☐	☑	☐	☐	Service panel is adequate, but aged. Panel should be tested and refurbished as necessary.		
Receptacles + Circuiting	☐	☑	☐	☐	More receptacles would be desirable.		
GFCI Receptacles	☐	☐	☐	☑	Inconsistent GFCI receptacles. Add code compliant GFCI protection.		
Emergency Power - Batteries	☐	☐	☐	☐	No emergency power in the form of batteries/inverter/UPS present. (N/A)		
Fire Alarm System	☐	☐	☐	☐	Fire alarm system not present. (N/A)		
TECHNOLOGY							
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Main Distribution Frame + Independent Distribution Frame	☐	☐	☐	☐			
Projectors	☐	☐	☐	☐			
Student Devices	☐	☐	☐	☐			
Teacher Devices	☐	☐	☐	☐			
Wireless System	☐	☐	☐	☐			
Public Address System	☐	☐	☐	☐			
Telephone Systems	☐	☐	☐	☐			
Infrastructure	☐	☐	☐	☐			
PHOTOGRAPHY							
Click "Insert" > "Image" > "Insert Image In Cell" Include location and any details in the cell to the right of the photo							
PHOTO	**NOTE**						

	Covered back porch area, no ceiling (exposed roof trusses open to attic)
	Exterior
	Interior

FACILITIES ASSESSMENT DATA

TowerPinkster
Architecture · Engineering · Interiors

CLIENT: Muskegon Community College
Facility Assessment

BUILDING: Golf Course Pump House

DATE: May, 2024

Good = Item meets current and future needs, no recommendation for improvement for the next 10 years
Fair = Item meets current use, showing signs of age and should be replaced in the next 10 years
Poor = Item is nearing the end of it's useful life, current need, should be replaced in the next 5 years
Replace = Item no longer meets current use, is outdated, does not meet code, and should be replaced in the next 3 years

ARCHITECTURAL							
ACCESSIBILITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Building Entrances	☐	☑	☐	☐	O.H. Gar. Dr. + Vinyl or Metal Clad Flush man door		
Elevator	☐	☐	☐	☐	N/A		
Toilet Rooms	☐	☐	☐	☐	N/A		
Drinking Fountains	☐	☐	☐	☐	N/A		
Stairwells	☐	☐	☐	☐	N/A		
STRUCTURE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Foundations	☐	☑	☐	☐	CMU visible - unsure what foundation is below non-CMU walls		
Slabs on Grade	☐	☑	☐	☐	concrete - no major cracking		
Load Bearing Walls / Columns	☐	☑	☐	☐	CMU rear wall w/ 2 pilasters, 6x6 posts w/ pulins (pole barn construction), appears end wall was reworked at one point		
Supported Floor Framing	☐	☐	☐	☐	N/A		
Roof Framing	☐	☑	☐	☐	wood roof trusses @ 24" o.c. w/ O.S.B. deck		
BUILDING ENVELOPE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Roofing Membrane and Flashings	☑	☐	☐	☐	Shingles w/ ridge vent & vented soffits - no insulation		
Roof Gutters and Downspouts	☐	☐	☐	☐	N/A		
Exterior Walls	☐	☑	☐	☐	CMU w/ 2 pilasters (rear wall only) Pole barn (6x6 post w/ horiz. purlins & vertical metal siding - no insulation- 3 sides		
Wood Windows / Glazing	☐	☐	☐	☐	N/A		
Trim, Fascia, and Soffits	☐	☑	☐	☐	Metal trim & fascia, vented metal soffit		
Porches	☐	☐	☐	☐	N/A		
Exterior Doors	☐	☑	☐	☐	Vinyl or metal clad		

SAFETY + SECURITY	GOOD	FAIR	POOR	REPLACE	COMMENTS		
Fire Protection	☐	☐	☐	☐	N/A		
Egress Windows	☐	☐	☐	☐	N/A		
Stairwells	☐	☐	☐	☐	N/A		
Card Access	☐	☐	☐	☐	N/A		
Security Vestibule	☐	☐	☐	☐	N/A		
Security Camera	☐	☐	☐	☐	N/A		
FOOD SERVICE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Overall Kitchen Condition	☐	☐	☐	☐	N/A		
Kitchen Equipment	☐	☐	☐	☐	N/A		
Serving / Dining Areas	☐	☐	☐	☐	N/A		
Deliveries	☐	☐	☐	☐	N/A		
Storage	☐	☐	☐	☐	N/A		
INTERIORS / FINISHES							
FLOORING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Storage/Pump Room	☑	☐	☐	☐	concrete floor		
					COMMENTS		
WALLS	**GOOD**	**FAIR**	**POOR**	**REPLACE**			
Storage/Pump Room	☐	☑	☐	☐	exposed pole barn walls and ceiling		
CEILINGS	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Storage/Pump Room	☐	☐	☐	☐	N/A		
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
DOORS + HARDWARE	☐	☐	☐	☐	O.H. Gar. Dr. + Vinyl or Metal clad flush man door		
	GOOD	**FAIR**	**POOR**	**REPLACE**			
WINDOWS	☐	☐	☐	☐	N/A		
	GOOD	**FAIR**	**POOR**	**REPLACE**			
CABINETS / STORAGE / COUNTERS	☐	☐	☐	☐	N/A		
MECHANICAL							
HVAC	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**

Heating Source and Condition	☐	☐	☐	☐	N/A (Unconditioned)		
Heating Pumps and Piping	☐	☐	☐	☐	N/A (Unconditioned)		
Cooling Source and Condition	☐	☐	☐	☐	N/A (Unconditioned)		
Cooling Pumps and Piping	☐	☐	☐	☐	N/A (Unconditioned)		
Air Handling / Ventilation	☐	☐	☐	☐	N/A (Unconditioned)		
Building Management System / Controls	☐	☐	☐	☐	N/A (Unconditioned)		
Energy Efficiency	☐	☐	☐	☐	Considder customized LVL 2 energy assessment (audit) for review of any recommended building use changes, building envelope changes/improvements, HVAC changes, domestic water changes, or lighting replacements/improvements.		
Humidifier	☐	☐	☐	☐	N/A (Unconditioned)		
Room Level Terminal Equipment	☐	☐	☐	☐	N/A (Unconditioned)		
Facility Natural Gas System	☐	☐	☐	☐	N/A (Unconditioned)		
PLUMBING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Storm System	☐	☐	☐	☐	No storm system present. See other discipline comments on site drainage, gutter systems, and roof drainage.		
Sanitary System	☐	☐	☐	☐	N/A (Unoccupied Building)		
Domestic Water Piping	☐	☐	☐	☐	N/A (Unoccupied Building)		
Water Heaters	☐	☐	☐	☐	N/A (Unoccupied Building)		
Plumbing Fixtures	☐	☐	☐	☐	N/A (Unoccupied Building)		
Drinking Fountains	☐	☐	☐	☐	N/A (Unoccupied Building)		
Fire Protection	☐	☐	☐	☐	N/A (Fire Extinguishers)		
Golf Course Irrigation System/Pump	☐	☐	☐	☐	(Refer to site utilities)		
ELECTRICAL							
LIGHTING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Exterior Lighting	☐	☑	☐	☐	Original fixtures retrofit with LED. New LED fixtures should be installed in place of retrofits.		
Interior Lighting	☑	☐	☐	☐	LED fixtures installed and lighting levels adequate.		
Emergency Lighting	☐	☐	☐	☐	Emergency lighting is not present. (N/A)		
Lighting Controls	☐	☐	☐	☑	Manual switches to turn lights on or off, but no localized dimming or occupancy sensing. Controls should be replaced for better energy efficiency. Price for complete replacement based on square footage.	1250 sf gross	$3,250.00

Exit Signage	☐	☐	☐	☐	Exit signage is not present. (N/A)		
POWER	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Generator System	☐	☐	☐	☐	No generator present. (N/A)		
Distribution/Service Panels / Gear	☐	☐	☑	☐	Load center is aged and rusting, but breakers are in adequate condition. Should be tested and refurbished as necessary.		
Receptacles + Circuiting	☐	☑	☐	☐	Conduit in good condition, but receptacles are old.		
GFCI Receptacles	☐	☐	☐	☑	Inconsistent GFCI receptacles. Add code compliant GFCI protection.	15 duplex	$7,000.00
Emergency Power - Batteries	☐	☐	☐	☐	No emergency power in the form of batteries/inverter/UPS present. (N/A)		
Fire Alarm System	☐	☐	☐	☐	Fire alarm system not present. (N/A)		
TECHNOLOGY							
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Main Distribution Frame + Independent Distribution Frame	☐	☐	☐	☐			
Projectors	☐	☐	☐	☐			
Student Devices	☐	☐	☐	☐			
Teacher Devices	☐	☐	☐	☐			
Wireless System	☐	☐	☐	☐			
Public Address System	☐	☐	☐	☐			
Telephone Systems	☐	☐	☐	☐			
Infrastructure	☐	☐	☐	☐			
PHOTOGRAPHY							
Click "Insert" > "Image" > "Insert Image In Cell" Include location and any details in the cell to the right of the photo							
PHOTO	**NOTE**						

Typical Pole Barn Construction w/ CMU Rear Wall

Exterior

FACILITIES ASSESSMENT DATA

TowerPinkster
Architecture · Engineering · Interiors

CLIENT: Muskegon Community College
Facility Assessment

BUILDING: Golf Course Maintenance Bldg.

DATE: May, 2024

Good = Item meets current and future needs, no recommendation for improvement for the next 10 years
Fair = Item meets current use, showing signs of age and should be replaced in the next 10 years
Poor = Item is nearing the end of it's useful life, current need, should be replaced in the next 5 years
Replace = Item no longer meets current use, is outdated, does not meet code, and should be replaced in the next 3 years

ARCHITECTURAL							
ACCESSIBILITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Building Entrances	☐	☑	☐	☐	(2) O.H. Gar Drs.(appear to be insulated), (1) Vinyl or Metal Clad Flush Man Dr.		
Elevator	☐	☐	☐	☐	N/A		
Toilet Rooms	☐	☐	☐	☐	N/A		
Drinking Fountains	☐	☐	☐	☐	N/A		
Stairwells	☐	☐	☐	☐	N/A		
STRUCTURE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Foundations	☐	☑	☐	☐	Pole Barn Construction - assumed sono-tube post foundations w/ concrete slab		
Slabs on Grade	☐	☑	☐	☐	Concrete slab on grade. minor cracking / pitting		
Load Bearing Walls / Columns	☐	☑	☐	☐	6x6 posts @ about 8'-0" O.C. w/ 2x 4 horizontal purlins @ 24" O.C.		
Supported Floor Framing	☐	☐	☐	☐	N/A		
Roof Framing	☐	☑	☐	☐	Wd. roof trusses @ 24" O.C.		
BUILDING ENVELOPE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Roofing Membrane and Flashings	☐	☐	☐	☑	Roof attic insulation has been compromised to increase ventilation in building. Recommend customized LVL 2 energy assessment (audit) to determine steps required to remedy compromised insulation, maintain ventilation, and maintain semi-heated building requirements. shingle roof, no ridge vent, soffits are not vented, smalll square gable end vents at each end		
Roof Gutters and Downspouts	☐	☐	☑	☐	N/A		
Exterior Walls	☐	☑	☐	☐	Horizontal vinyl siding on plywood sheathing over 2x4 purlins at 24" O.C. between 6x6 Wd. Posts (pole barn construction)		
Wood Windows / Glazing	☐	☐	☑	☐	Continuous 2' transluscent panels directly below soffits		
Trim, Fascia, and Soffits	☐	☑	☐	☐	2' piece of siding missing above O.H. dr., pre-finished alum soffit, fascia & opening trim		

Porches	☐	☑	☐	☐	N/A , There are square stoops outside the O.H. doors as wide as the openings, the side with the "man dr." has the stoop extended for that + asphalt drive from the parking lot abuts the stoop		
Exterior Doors	☐	☑	☐	☐	Exterior trim at "man dr." needs paint		
Slab at grade (exterior perimeter)	☐	☐	☑	☐	Install maintenance gravel strip around parimeter of building (18" wide 6" deep gravel)	180 lf of building perimeter	$10,800
SAFETY + SECURITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Fire Protection	☐	☐	☑	☐	None, Golf carts are stored in this building (some gas, some electric)		
Egress Windows	☐	☐	☑	☐	N/A		
Stairwells	☐	☐	☐	☐	N/A		
Card Access	☐	☐	☐	☐			
Security Vestibule	☐	☐	☐	☐			
Security Camera	☐	☐	☐	☐			
FOOD SERVICE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Overall Kitchen Condition	☐	☐	☐	☐	N/A		
Kitchen Equipment	☐	☐	☐	☐	N/A		
Serving / Dining Areas	☐	☐	☐	☐	N/A		
Deliveries	☐	☐	☐	☐	N/A		
Storage	☐	☐	☐	☐	N/A		
INTERIORS / FINISHES							
FLOORING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Open Storage/Work area	☐	☑	☐	☐	Poured Concrete		
WALLS	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Open Storage/Work area	☐	☑	☐	☐	Exposed plywood everywhere + transluscent panels		
CEILINGS	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Open Storage/Work area	☐	☑	☐	☐	Open web roof trusses at 24" O.C. , about 1/4 has foil faced rigid insulation		
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
DOORS + HARDWARE	☐	☑	☐	☐			
					(2) Insulated O.H. Drs., (1) metal clad "man dr."		
	GOOD	**FAIR**	**POOR**	**REPLACE**			
WINDOWS	☐	☐	☑	☐	2' band of transluscent panels at eaves		
	GOOD	**FAIR**	**POOR**	**REPLACE**			

CABINETS / STORAGE / COUNTERS	☐	☑	☐	☐	wood work benches		
MECHANICAL							
HVAC	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Heating Source and Condition	☐	☑	☐	☐	N/A (Semiheated Building)		
Heating Pumps and Piping	☐	☐	☐	☐	N/A (Semiheated Building)		
Cooling Source and Condition	☐	☐	☐	☐	N/A (Semiheated Building)		
Cooling Pumps and Piping	☐	☐	☐	☐	N/A (Semiheated Building)		
Air Handling / Ventilation	☐	☐	☐	☐	N/A (Unoccupied Building)		
Building Management System / Controls	☐	☑	☐	☐	Local thermostat only. Overhead door switches will be required upon replacement of gas fired unit heater, or requires pre approval by local authorities. Building is not tied into campus building control system.		
Energy Efficiency	☐	☐	☐	☐	Considder customized LVL 2 energy assessment (audit) for review of any recommended building use changes, building envelope changes/improvements, HVAC replacements/improvements, or lighting replacements/improvements.		
Humidifier	☐	☐	☐	☐	N/A		
Room Level Terminal Equipment	☐	☐	☐	☐	(1)Sterling "QVF-200" gas fired unit heater. Continue with regular maintenance and inspection.		
Facility Natural Gas System	☐	☐	☐	☐	Monitor gas fired equipment and appliance operation issues that may occur with DTE switching from high gas pressure service to medium gas pressure service. Continue with regular maintenance and inspection of facility natural gas systems.		
PLUMBING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Storm System	☐	☐	☐	☐	No storm system present. See other discipline comments on site drainage, gutter systems, and roof drainage.		
Sanitary System	☐	☐	☐	☐	N/A (Unoccupied Building)		
Domestic Water Piping	☐	☐	☐	☐	N/A (Unoccupied Building)		
Water Heaters	☐	☐	☐	☐	N/A (Unoccupied Building)		
Plumbing Fixtures	☐	☐	☐	☐	N/A (Unoccupied Building)		
Drinking Fountains	☐	☐	☐	☐	N/A (Unoccupied Building)		
Fire Protection	☐	☐	☐	☐	N/A (Fire Extinguishers)		
ELECTRICAL							
LIGHTING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Exterior Lighting	☐	☐	☑	☐	Dated and limited exterior lighting present.Price for complete replacement based on square footage.		

Interior Lighting	☐	☐	☑	☐	Combination of LED T8 replacements and original T8 present. In some locations, lighting layout may require modification in order to improve efficiency. New LED fixtures should be installed in place of retrofits.Price for complete replacement based on square footage.		
Emergency Lighting	☐	☐	☐	☐	Emergency lighting is not present. (N/A)		
Lighting Controls	☐	☐	☑	☐	Manual switches to turn lights on or off, but no localized dimming or occupancy sensing. Controls should be replaced for better energy efficiency. Price for complete replacement based on square footage.		
Exit Signage	☐	☐	☐	☐	Exit signage is not present. (N/A)		
POWER	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Generator System	☐	☐	☐	☐	No generator present. (N/A)		
Distribution/Service Panels / Gear	☐	☑	☐	☐	Service panel is adequate, but aged. Panel should be tested and refurbished as necessary.		
Receptacles + Circuiting	☐	☐	☑	☐	Older installations with inconsistencies and lacking code compliance.		
GFCI Receptacles	☐	☐	☑	☐	Inconsistent GFCI receptacles. Add code compliant GFCI protection.		
Emergency Power - Batteries	☐	☐	☐	☐	No emergency power in the form of batteries/inverter/UPS present. (N/A)		
Fire Alarm System	☐	☐	☐	☐	Fire alarm system not present. (N/A)		
TECHNOLOGY							
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Main Distribution Frame + Independent Distribution Frame	☐	☐	☐	☐			
Projectors	☐	☐	☐	☐			
Student Devices	☐	☐	☐	☐			
Teacher Devices	☐	☐	☐	☐			
Wireless System	☐	☐	☐	☐			
Public Address System	☐	☐	☐	☐			
Telephone Systems	☐	☐	☐	☐			
Infrastructure	☐	☐	☐	☐			
PHOTOGRAPHY							
Click "Insert" > "Image" > "Insert Image In Cell" Include location and any details in the cell to the right of the photo							

PHOTO	NOTE	

FACILITIES ASSESSMENT DATA

TowerPinkster
Architecture · Engineering · Interiors

CLIENT: Muskegon Community College
Facility Assessment

BUILDING: Observetory

DATE: May, 2024

Good = Item meets current and future needs, no recommendation for improvement for the next 10 years
Fair = Item meets current use, showing signs of age and should be replaced in the next 10 years
Poor = Item is nearing the end of it's useful life, current need, should be replaced in the next 5 years
Replace = Item no longer meets current use, is outdated, does not meet code, and should be replaced in the next 3 years

ARCHITECTURAL							
ACCESSIBILITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Building Entrances	☐	☐	☑	☐	pathways are not barrier free compliant. some new, some old and have tripping hazzards		
Elevator	☐	☐	☐	☐	N/A		
Toilet Rooms	☐	☐	☑	☐	Port-a-jon		
Drinking Fountains	☐	☐	☐	☐	N/A		
Stairwells	☐	☐	☐	☐	N/A		
STRUCTURE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Foundations	☐	☑	☐	☐	Appear to be concrete (some CMU). Not sure if they extand past frost depth.		
Slabs on Grade	☐	☑	☐	☐	Concrete floors, Storage shed has a wood floor sitting on concrete blocks		
Load Bearing Walls / Columns	☐	☑	☐	☐	Some units CMU some wood studs w/ cedar siding on interior. Classroom gyp walls w/ wd. wainscot		
Supported Floor Framing	☐	☐	☐	☐	N/A		
Roof Framing	☐	☐	☑	☐	Wood roof trusses w/ purlins & metal roof (no insulation). Roofs are designed to slide off onto upside down steel channel tracks on top of 4x4 posts. Some roofs are bi-parting w/ cont. hinge at eave. Roof support structures have no cross-bracing parallel to the path of the roof, which should be installed		
BUILDING ENVELOPE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Roofing Membrane and Flashings	☐	☐	☐	☐	Metal or shingle roofs		
Roof Gutters and Downspouts	☐	☐	☐	☐	N/A		
Exterior Walls	☐	☐	☐	☐	Wd. stud w/ O.S.B. & vinyl siding or wd. siding, CMU painted,		
Wood Windows / Glazing	☐	☐	☐	☐	N/A		
Trim, Fascia, and Soffits	☐	☐	☐	☐	painted wood		
Porches	☐	☐	☐	☐	N/A		

Exterior Doors	☐	☐	☐	☐	painted wd. (spilit for roof removal)		
SAFETY + SECURITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Fire Protection	☐	☐	☐	☐	N/A		
Egress Windows	☐	☐	☐	☐	N/A		
Stairwells	☐	☐	☐	☐	Round silo building - painted wood		
Card Access	☐	☐	☐	☐	N/A		
Security Vestibule	☐	☐	☐	☐	N/A		
Security Camera	☐	☐	☐	☐	N/A		
FOOD SERVICE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Overall Kitchen Condition	☐	☐	☐	☐	N/A		
Kitchen Equipment	☐	☐	☐	☐	N/A		
Serving / Dining Areas	☐	☐	☐	☐	N/A		
Deliveries	☐	☐	☐	☐	N/A		
Storage	☐	☐	☐	☐	Pre-fabricated wood storage shed		
INTERIORS / FINISHES							
FLOORING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Classroom	☐	☑	☐	☐	carpet		
Observation huts	☐	☑	☐	☐	some carpet some concrete		
					COMMENTS		
WALLS	**GOOD**	**FAIR**	**POOR**	**REPLACE**			
Classroom	☐	☑	☐	☐	wood panels and drywall		
Observation huts	☐	☑	☐	☐	wood panels		
CEILINGS	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Classroom	☐	☐	☐	☐	gyp. drywall.		
Observation huts	☐	☐	☐	☐	exposed wood and metal panel (un-insulated)		
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
DOORS + HARDWARE	☐	☐	☐	☐	Painted wood (split for roof removal)		
	GOOD	**FAIR**	**POOR**	**REPLACE**			
WINDOWS	☐	☐	☐	☐	N/A		
	GOOD	**FAIR**	**POOR**	**REPLACE**			

CABINETS / STORAGE / COUNTERS	☐	☐	☐	☐	N/A		
MECHANICAL							
HVAC	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Heating Source and Condition	☐	☑	☐	☐	Electric unit heater(s).	(CG)Coordinate cost with sq.ft. of building renovation.	
Heating Pumps and Piping	☐	☐	☐	☐	N/A		
Cooling Source and Condition	☐	☐	☑	☐	Portable air conditioner(s).	(CG)Coordinate cost with sq.ft. of building renovation.	
Cooling Pumps and Piping	☐	☐	☐	☐	N/A		
Air Handling / Ventilation	☐	☐	☑	☐	Operable windows and door incompatible with building code ventilation requirements for use of space and installed HVAC systems. Plan to meet building code ventilation requirements upon replacement of mechanical equipment and any building or ADA improvements.	(CG)Coordinate cost with sq.ft. of building renovation.	
Building Management System / Controls	☐	☑	☐	☐	Local thermostat only. Missing operable window sensors, door sensors tie in to heating/cooling equipment or automatic door closers and requires pre approval by local authorities. Buildings are not tied into campus building control system.	(CG)Coordinate cost with sq.ft. of building renovation.	
Energy Efficiency	☐	☐	☐	☐	Considder customized LVL 2 energy assessment (audit) for review of any recommended building use changes, building envelope changes, HVAC changes, domestic water changes, or lighting changes.		
Humidifier	☐	☐	☐	☐	N/A		
Room Level Terminal Equipment	☐	☐	☐	☐	N/A		
Facility Natural Gas System	☐	☐	☐	☐	N/A		
PLUMBING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Storm System	☐	☐	☐	☐	No storm system present. See other discipline comments on site drainage, gutter systems, and roof drainage.		
Sanitary System	☐	☐	☐	☐	N/A		
Domestic Water Piping	☐	☐	☐	☐	N/A		
Water Heaters	☐	☐	☐	☐	N/A		
Plumbing Fixtures	☐	☐	☐	☐	N/A (Portable Outhouses)		
Drinking Fountains	☐	☐	☐	☐	N/A (Portable Outhouses)		
Fire Protection	☐	☐	☐	☐	N/A (Fire Extinguishers)		
ELECTRICAL							
LIGHTING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**

Exterior Lighting	☐	☐	☑	☐	Dated and limited exterior lighting present. Price for complete replacement based on square footage.		
Parking Lot Lighting	☐	☐	☑	☐	Parking lot lighting is present, but requires updating. Price for complete replacement based on square footage.		
Interior Lighting	☐	☐	☑	☐	Original fixtures retrofit with LED. New LED fixtures should be installed in place of retrofits. Price for complete replacement based on square footage.		
Emergency Lighting	☐	☐	☐	☐	Emergency lighting is not present. (N/A)		
Lighting Controls	☐	☐	☑	☐	Manual switches to turn lights on or off, but no localized dimming or occupancy sensing. Controls should be replaced for better energy efficiency. Price for complete replacement based on square footage.		
Exit Signage	☐	☐	☐	☐	Exit signage is not present. (N/A)		
POWER	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Generator System	☐	☐	☐	☐	No generator present. (N/A)		
Distribution/Service Panels / Gear	☐	☐	☑	☐	Load center is aged, but breakers are in adequate condition. Should be tested and refurbished as necessary, but replaced in the near future.		
Receptacles + Circuiting	☐	☐	☑	☐	Conduit in good condition, but receptacles are old. Some receptacles lack coverplates.		
Sink GFCI Receptacles	☐	☐	☐	☑	Inconsistent GFCI receptacles. Add code compliant GFCI protection. Exterior receptacles have WP covers.	10 exterior receptacles to convert to GFCI	$6,000.00
Emergency Power - Batteries	☐	☐	☐	☐	No emergency power in the form of batteries/inverter/UPS present. (N/A)		
Fire Alarm System	☐	☐	☐	☐	Fire alarm system not present. (N/A)		
TECHNOLOGY							
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Main Distribution Frame + Independent Distribution Frame	☐	☐	☐	☐			
Projectors	☐	☐	☐	☐			
Student Devices	☐	☐	☐	☐			
Teacher Devices	☐	☐	☐	☐			
Wireless System	☐	☐	☐	☐			
Public Address System	☐	☐	☐	☐			
Telephone Systems	☐	☐	☐	☐			
Infrastructure	☐	☐	☐	☐			

PHOTOGRAPHY							
Click "Insert" > "Image" > "Insert Image In Cell" Include location and any details in the cell to the right of the photo							
PHOTO	**NOTE**						
	Multiple Buildings (one silo type)						
	Sliding Removable Roof Building						
	Hinged Removeable Roof Buildings						

FACILITIES ASSESSMENT DATA

TowerPinkster
Architecture · Engineering · Interiors

CLIENT: Muskegon Community College
Facility Assessment

BUILDING: Kraft Alumni

DATE: May, 2024

Good = Item meets current and future needs, no recommendation for improvement for the next 10 years
Fair = Item meets current use, showing signs of age and should be replaced in the next 10 years
Poor = Item is nearing the end of it's useful life, current need, should be replaced in the next 5 years
Replace = Item no longer meets current use, is outdated, does not meet code, and should be replaced in the next 3 years

ARCHITECTURAL							
OVERALL					**COMMENTS**	**QUANTITY**	**COST**
Full Building Demolition					Demo building	1,300 sf wood stud house and 400sf garage	$16,200.00
ACCESSIBILITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Building Entrances	☐	☐	☐	☑	Building has been vacant for years and in poor shape		
Elevator	☐	☐	☐	☐	N/A		
Toilet Rooms	☐	☐	☐	☑			
Drinking Fountains	☐	☐	☐	☐	N/A		
Stair	☐	☐	☐	☑			
STRUCTURE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Foundations	☐	☑	☐	☐			
Slabs on Grade	☐	☐	☑	☐	basement slab covered in water and damaged. water leaking into basement via piping		
Load Bearing Walls / Columns	☐	☐	☑	☐			
Supported Floor Framing	☐	☐	☐	☑	floor joists are deteriorating		
Roof Framing	☐	☑	☐	☐			
BUILDING ENVELOPE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Roofing Membrane and Flashings	☐	☐	☐	☑			
Roof Gutters and Downspouts	☐	☐	☐	☑			
Exterior Walls	☐	☐	☐	☑			
Wood Windows / Glazing	☐	☐	☐	☑			
Trim, Fascia, and Soffits	☐	☐	☐	☑			
Porches	☐	☐	☐	☑			
Exterior Doors	☐	☐	☐	☑			
SAFETY + SECURITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Fire Protection	☐	☐	☐	☐	N/A		

Egress Windows	☐	☐	☐	☑	
Stairwells	☐	☐	☑	☐	
Card Access	☐	☐	☐	☐	N/A
Security Vestibule	☐	☐	☐	☐	N/A
Security Camera	☐	☐	☐	☐	N/A
FOOD SERVICE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**
Overall Kitchen Condition	☐	☐	☐	☐	N/A
Kitchen Equipment	☐	☐	☐	☐	
Serving / Dining Areas	☐	☐	☐	☐	
Deliveries	☐	☐	☐	☐	
Storage	☐	☐	☐	☐	
INTERIORS / FINISHES					
FLOORING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**
Hallway	☐	☐	☐	☑	Building has been vacant for years and in poor shape
Bedrooms	☐	☐	☐	☑	
Toilet Rooms	☐	☐	☐	☑	
Kitchen	☐	☐	☐	☑	
Basement	☐	☐	☐	☐	
Living Room	☐	☐	☐	☑	
					COMMENTS
WALLS	**GOOD**	**FAIR**	**POOR**	**REPLACE**	
Hallway	☐	☐	☐	☑	Building has been vacant for years and in poor shape
Bedrooms	☐	☐	☐	☑	
Toilet Rooms	☐	☐	☐	☑	
Kitchen	☐	☐	☐	☑	
Basement	☐	☐	☐	☑	
Living Room	☐	☐	☐	☑	
CEILINGS	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**
Hallway	☐	☐	☐	☑	Building has been vacant for years and in poor shape
Bedrooms	☐	☐	☐	☑	
Toilet Rooms	☐	☐	☐	☑	
Kitchen	☐	☐	☐	☑	
Basement	☐	☐	☐	☑	
Living Room	☐	☐	☐	☑	

	GOOD	FAIR	POOR	REPLACE	COMMENTS
DOORS + HARDWARE	☐	☐	☐	☑	
	GOOD	**FAIR**	**POOR**	**REPLACE**	
WINDOWS	☐	☐	☐	☑	
	GOOD	**FAIR**	**POOR**	**REPLACE**	
CABINETS / STORAGE / COUNTERS	☐	☐	☐	☑	
MECHANICAL					
HVAC	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**
Heating Source and Condition	☐	☑	☐	☐	Bryant gas fired condensing furnace. Replace system upon renovation of building.
Heating Pumps and Piping	☐	☐	☐	☐	N/A
Cooling Source and Condition	☐	☑	☐	☐	Bryant DX air cooled condensing unit R410A. Replace system upon renovation of building.
Cooling Pumps and Piping	☐	☐	☐	☐	N/A
Air Handling / Ventilation	☐	☑	☐	☐	Operable windows and doors
Building Management System / Controls	☐	☑	☐	☐	Local Thermostats Only. Building is not tied into campus building control system.
Energy Efficiency	☐	☐	☑	☐	Significant building envelope and interior damage is present. Building will need to meet or exceed energy requirements upon renovation.
Humidifier	☐	☐	☐	☐	N/A
Room Level Terminal Equipment	☐	☐	☐	☐	N/A
Facility Natural Gas Systems	☐	☐	☐	☑	Utility gas meter is located indoors within the living/sleeping environment requiring regular inspection by utility provider for hazardous leaks. Relocate utility gas meter to exterior of house upon renovation of building.
PLUMBING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**
Storm System	☐	☐	☐	☐	No storm system present. See other discipline comments on site drainage, gutter systems, and roof drainage.
Sanitary System	☐	☑	☐	☐	Replace sanitary systems upon renovation of building.
Domestic Water Piping	☐	☐	☑	☐	Replace domestic water piping upon renovation of building.
Water Heaters	☐	☑	☐	☐	Replace water heater upon renovation of building.

Plumbing Fixtures	☐	☐	☐	☑	Plumbing fixtures date back to when the building was constructed. Replace plumbing fixtures upon renovation of building.
Drinking Fountains	☐	☐	☐	☐	N/A
Fire Protection	☐	☐	☐	☐	N/A (Fire Extinguishers)
ELECTRICAL					
LIGHTING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**
Exterior Lighting	☐	☐	☐	☑	Exterior lights are dated and should be updared to LED.
Parking Lot Lighting	☐	☐	☐	☑	Parking lot lighting not present.
Interior Lighting	☐	☐	☐	☑	Fluorescent troffer lighting, dated, glary and inefficient. Replace with LED. In some locations, lighting layout may require modification in order to improve efficiency.
Emergency Lighting	☐	☐	☐	☑	No emergency lighting present.
Lighting Controls	☐	☐	☐	☑	Manual switches to turn lights on or off, but no localized dimming or occupancy sensing. Controls should be replaced for better energy efficiency and occupancy sensors to meet current code. A lighting upgrade would require lighting controls to be brought up to current code.
Exit Signage	☐	☐	☐	☑	Exit signage is not present.
POWER	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**
Generator System	☐	☐	☐	☐	No generator present (N/A)
Distribution/Service Panels / Gear	☐	☐	☐	☑	Dated and likely damaged electrical panel.
Receptacles + Circuiting	☐	☐	☐	☑	Dated and likely damaged distribution throughout structure.
GFCI Receptacles	☐	☐	☐	☑	GFCI receptacles not present in appropriate locations.
Emergency Power - Batteries	☐	☐	☐	☑	No emergency power in the form of batteries/inverter/UPS present.
Fire Alarm System	☐	☐	☐	☑	Fire alarm system not present.
TECHNOLOGY					
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**
Main Distribution Frame + Independent Distribution Frame	☐	☐	☐	☐	**N/A**
Projectors	☐	☐	☐	☐	
Student Devices	☐	☐	☐	☐	
Teacher Devices	☐	☐	☐	☐	
Wireless System	☐	☐	☐	☐	

Public Address System	☐	☐	☐	☐		
Telephone Systems	☐	☐	☐	☐		
Infrastructure	☐	☐	☐	☐		
PHOTOGRAPHY						
Click "Insert" > "Image" > "Insert Image In Cell" Include location and any details in the cell to the right of the photo						

PHOTO	**NOTE**

FACILITIES ASSESSMENT DATA

TowerPinkster
Architecture · Engineering · Interiors

CLIENT: Muskegon Community College
Facility Assessment

BUILDING: Gymnasium

DATE: May, 2024

Good = Item meets current and future needs, no recommendation for improvement for the next 10 years
Fair = Item meets current use, showing signs of age and should be replaced in the next 10 years
Poor = Item is nearing the end of it's useful life, current need, should be replaced in the next 5 years
Replace = Item no longer meets current use, is outdated, does not meet code, and should be replaced in the next 3 years

ARCHITECTURAL							
ACCESSIBILITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Building Entrances	☑	☐	☐	☐			
Elevator	☐	☐	☐	☑	small non-compliant ADA	New elevator system in new location - 4 stop, 2-sided	350,000 included in number below
Toilet Rooms	☐	☑	☑	☑	spectator toilet rooms are ADA compliant. Locker room toilets are in rough shape. womens locker is not ADA accessible. elevator needs to be replaced soon	14,900 sf addition and/or major renovation for locker room accessibility - load-bearing CMU w/ brick veneer	$8,642,000.00
Drinking Fountains	☐	☑	☐	☐			
Stairwells	☐	☑	☐	☐			
STRUCTURE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Foundations	☐	☑	☐	☐	Minor cracking at building corners		
Slabs on Grade	☐	☑	☐	☐			
Load Bearing Walls / Columns	☐	☑	☐	☐	Large crack in interior brick veneer near Ladies locker room stair		
Supported Floor Framing	☐	☑	☐	☐			
Roof Framing	☐	☐	☑	☐	Client noted that snow must be removed due to capacity concerns	$30,000 structural study to determine structurual reinforcing required	$30,000.00
BUILDING ENVELOPE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Roofing Membrane and Flashings	☐	☐	☑	☐	Brick veneer above roof doesn't have vents or weeps so water can potentially soak through the brick onto and run down the face of the CMU back-up at the interior		
Roof Gutters and Downspouts	☑	☐	☐	☐	Single-ply EPDM is in good shape. No excessive ponding. Flashings & edge metal look good. Recommend cleaning debris at mansurd/parapet. should add walway pads around serviceable equipment		
Exterior Walls	☐	☑	☐	☐	Mass masonry walls (CMU + brick). Moisture could potentially seep into the cavity & take a while to dry out. Likely no insulation in exterior walls. Many of the weeps appear to be buried		

Wood Windows / Glazing	☐	☑	☐	☐	Mixture of insulated & non-insulated glass in aluminum storefront frames. Wired glass at interior surrounding the court		
Trim, Fascia, and Soffits	☐	☑	☐	☐	Unvented soffits		
Porches	☐	☐	☐	☐			
Exterior Doors	☐	☑	☐	☐	Mix of insulated & uninsulated storefront doors, Insulated glass in HM doors		
SAFETY + SECURITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Fire Protection	☐	☐	☑	☐	No existing Fire Protection	20,000 sf fire suppression extended from adjacent building	$150,000.00
Egress Windows	☐	☐	☐	☐			
Stairwells	☐	☐	☐	☐			
Card Access	☐	☐	☐	☐			
Security Vestibule	☐	☐	☐	☐			
Security Camera	☐	☐	☐	☐			
FOOD SERVICE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Overall Kitchen Condition	☐	☐	☐	☐	N/A		
Kitchen Equipment	☐	☐	☐	☐	N/A		
Serving / Dining Areas	☐	☐	☐	☐	N/A		
Deliveries	☐	☐	☐	☐	N/A		
Storage	☐	☐	☐	☐	N/A		
INTERIORS / FINISHES							
FLOORING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Spectator Seating	☐	☑	☐	☐	concrete floor with shffleboard stipes		
Locker Rooms	☐	☑	☑	☐	Dated, unmatched tile. shower area tile in poor shape		
Toilet Rooms	☐	☑	☐	☐	Dated		
Gymnasium	☐	☑	☐	☐	Wood		
classrooms	☐	☑	☐	☐	Carpet in one and rubber floor in other		
Offices	☐	☑	☐	☐	carpet		
Lobby	☐	☑	☐	☐	Unmatched tile in Lobby areas		
Training room	☐	☐	☑	☐	epoxy paint - chipping		
					COMMENTS		
WALLS	**GOOD**	**FAIR**	**POOR**	**REPLACE**			
Spectator Seating	☐	☑	☐	☐	Brick		
Locker Rooms	☐	☑	☐	☐	Painted plaster, painted CMU and Glazed CMU		
Toilet Rooms	☐	☑	☐	☐	Glazed CMU		

Gymnasium	☐	☑	☐	☐	Brick and painted gyp. bd.		
classrooms	☐	☑	☐	☐	Brick and painted gyp. bd.		
Offices	☐	☑	☐	☐	Painted CMU and office partitions		
Lobby	☐	☑	☐	☐	Brick and painted CMU		
Training room	☐	☑	☐	☐	Brick and painted CMU		
CEILINGS	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Spectator Seating	☐	☑	☐	☐	exposed structure (painted)		
Locker Rooms	☐	☑	☐	☐	Painted gyp. bd.		
Toilet Rooms	☐	☑	☐	☐	Painted gyp. bd.		
Gymnasium	☐	☑	☐	☐	exposed structure (painted)		
classrooms	☐	☑	☐	☐	exposed structure (painted)		
Offices	☐	☑	☐	☐	Painted gyp. bd.		
Lobby	☐	☑	☐	☐	Painted gyp. bd.		
Training room	☐	☑	☐	☐	ACP ceiling, some damaged		
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
DOORS + HARDWARE	☐	☐	☐	☐			
	GOOD	**FAIR**	**POOR**	**REPLACE**			
WINDOWS	☐	☐	☐	☐			
	GOOD	**FAIR**	**POOR**	**REPLACE**			
CABINETS / STORAGE / COUNTERS	☐	☐	☐	☐			
MECHANICAL							
HVAC	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Heating Source and Condition (Boilers)	☐	☐	☑	☐	B-1 2008 Lochinvar "KBN500" Condensing B-2 2008 Lochinvar "KBN500" Condensing B-3 2008 De Dietrch "GT 339 A" 750-1448 MBH Non-Condensing Replacement of boilers will coincide with heating pumps, piping, and air handling equipment replacements. Continue with regular maintenance and inspection. Tube type condensate neutralization kits on boilers are more difficult to maintain for campus, and maintenance staff would like to consider standardizing on condensate neutralization tanks that can be top loaded with neutralization media and cleaned.	Replace boilers in kind (CG)Coordinate cost with sq.ft. of equipment replacment and building renovation to meet ventilation requirements.	$240,000.00

Heating Pumps and Piping	☐	☐	☐	☑	P-1 B&G "1510 2BC" 149gpm 64ft.hd. 5hp (No VFD) P-2 B&G "1510 1-1/4BC" 36gpm 70ft.hd. 3hp (No VFD) P-3 B&G "PL-36" 23gpm 20ft.hd. 1/6hp (No ECM) P-4 B&G "PL-36" 23gpm 20ft.hd. 1/6hp (No ECM) P-5 B&G "PL-35" 58gpm 18ft.hd. 1/2hp (No ECM) Hot water heating piping is rotting out. Continue with regular pump and water quality maintenance. Replacement of pumps and piping will coincide with boiler and air handling equipment replacements. College to consider standardizing on PVC protective pipe insulation wrap on exposed piping insulation to protect insulation from tears.	Replace pumps and piping (20,000 sf building)	$220,000.00
Cooling Source and Condition	☐	☐	☐	☑	(Refer to Air Handling Equipment and Room Level Terminal Equipment)		
Cooling Pumps and Piping	☐	☐	☐	☐	N/A		
Air Handling / Ventilation (Vertical Air Handling Units)	☐	☐	☐	☑	(7) 1966 HV Trane Torrivent Vertical Air Handling Units, On/Off Supply Fan, Hot Water Coil, Return Air Bypass, Outdoor Air Economizer (See Exhaust Fans for Exhaust) Trane Torrivent units are past their replacement life, and replacement parts of fans, coils, and unit casings must be custom ordered due to current energy regulations and replacement limitations. Trane Torrivent units have limited accessibility to regular coil cleaning without disassembling unit. Return air inlets within brick wall serving HV2 are plugged with debris causing operation issues and inefficient operation of air handling systems. HV2 has no outdoor air intake for ventilation of faculty offices 803/804 and requires remediation for occupancy. Gymnasium supply diffuser blades are bent, causing operational issues of air handling systems. Vibration isolation on air handling equipment is lacking causing vibration throughout building structure. Consideration for duct insulation on existing ductwork required if adding cooling systems to building. College to consider standardizing on metal protective duct insulation wrap or double wall ductwork on exposed duct insulation to protect insulation from tears. Structural considerations required for replacement air handling equipment.	Replace HV units with modular indoor units w/ DX cooling. (7 units @ 4000 cfm each) (CG)Include cost comparision for roof structure cost for support of DX cooling units vs. structure cost for supporting chilled water piping and ground mounting air cooled chiller.	$515,000.00
Air Handling / Ventilation (Packaged Rooftop Units)	☐	☐	☐	☑	(3) 1998 RTU Trane Packaged DX, Gas Fired, Rooftop Units, On/Off Supply Fan (See Exhaust Fans for Exhaust) Trane rooftop units are past their replacement life. Rooftop unit condensate traps and associated piping have broken off units allowing condensate water to re-enter the airstream. Means for cleanout of condensate traps missing. Gas fired heating assembly show signs of failure and replacement. Outdoor air hoods have been sealed with caulk. Outdoor air hood filters/moisture eliminators are plugged with debris preventing correct unit operation and ventilation. Condenser coils are not provided with louvered guards, condenser coils show impact damage, and leaves/debris are entering unit enclosures. Structural considerations for replacement air handling equipment.	Replace units in kind (3 units @ 3000 cfm each)	$80,000.00
Air Handling / Ventilation (Exhaust Fans)	☐	☑	☐	☐	(3) 1998 Cook Roof Exhaust Fans (10) 2008 Cook Roof Exhaust Fans (1) 2021 Cook Roof Exhaust Fans Continue with regular maintenance and inspection.		

Building Management System / Controls	☐	☐	☐	☑	Pneumatic, Siemens Staefa digital controls, standalone thermostats, and associated devices are present on site and require replacement. College has requested proposals from consultant Control Resource March 1, 2024. Recommend updating proposal to include replacement of pneumatic valve/damper actuators. Maintenance staff has indicated there is a high failure rate occurring on motorized valves throughout all buildings on campus. Hurst Mechanical (Control Resource) has been replacing failed valves with Belimo valves. Proposals for Gymnasium Testing & Balancing services should be included by college with control replacement to remedy faulty valve/damper setpoints affecting ventilation, equipment operation, and comfort. Air Compressor: 2005 Speedaire "5Z697A" 3/4HP 30gal. Air Dryer: Hankison "HPR5-10-115" 10scfm	Remove pneumatic system and provide full digital controls (20,000 sf)	$175,000.00
Energy Efficiency	☐	☐	☐	☐	Consider customized LVL 2 energy assessment (audit) for review of any recommended building use changes, building envelope changes/improvements, HVAC replacements/improvements, domestic water replacements/improvements, or lighting replacements/improvements.		
Humidifier	☐	☐	☐	☐	N/A		
Room Level Terminal Equipment (Unit Heaters)	☐	☐	☐	☑	UH-1 Modine Gas Fired Continue with regular maintenance and inspection.		
Room Level Terminal Equipment (Cabinet Unit Heaters)	☐	☐	☐	☑	(7) 1966 Nesbitt Cabinet Unit Heaters, Hot Water Coils (2) 1966 (Unknown) Cabinet Unit Heaters, Hot Water or Electric Coils Cabinet unit heaters are past their replacement life, and replacement parts of fans, coils, and unit casings must be custom ordered due to current energy regulations and replacement limitations.	Replace 9 cabinet unit heaters	$47,500.00
Room Level Terminal Equipment (Split System Air Conditioning Units)	☐	☐	☐	☑	AC/ACCU-805 1995 Mitsubishi "PU24EK", R-22 AC/ACCU-802 2003 LG "HMC024KD1", R-22 AC/ACCU-011 2003 LG "HMC024KD1", R-22 Split system air conditioning units are past their replacement life. Replacement equipment should consider remediation of ventilation requirements served by split system air conditioners and maintenance.	Cooling provided by HV unit replacement (CG)Replace split system units with DX fan coil units or DX unit ventilators	
Room Level Terminal Equipment (Fan Coil Units)	☐	☐	☐	☑	(2) 1966 Fan Coil Units, Grundfos Pumped Hot Water Coils, Outdoor Air Intake Faculty offices 802 and 805 fan coil enclosures have been replaced with plywood, and outdoor air intakes have been covered over with brick. Ventilation for faculty offices requires remediation for occupancy.	Replace 2 FCU's	$33,500.00
Room Level Terminal Equipment (Convectors)	☐	☑	☐	☐	(3) 1988 Trane Convectors Enclosures are in fair condition. Continue with regular maintenance and inspection.		
Room Level Terminal Equipment (Radiant Fin Tube)	☐	☑	☐	☐	1966 Fin Tube & Enclosures 1988 Fin Tube & Enclosures Enclosures are in fair condition. Continue with regular maintenance and inspection.		

Facility Natural Gas System	☐	☑	☐	☐	Natural gas service piping into building replaced and protected this year (2024) due to corrosion of piping thru exterior concrete pad. Appliance gas regulators vented to the exterior of the building have operational issues during windy conditions. Replacement of facility natural gas system will coincide with boilers and air handling equipment replacements. Monitor gas fired equipment and appliance operation issues that may occur with DTE switching from high gas pressure service to medium gas pressure service. Continue with regular maintenance and inspection of facility natural gas systems.		
PLUMBING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Storm System	☐	☐	☑	☐	Storm system consists of piping and specialties dating to 1966. Continue with regular maintenance and inspection. Replacement will be required on renovation.	(CG)Coordinate cost with sq.ft. of building renovation.	
Sanitary System	☐	☐	☑	☐	Sanitary system consists of piping and specialties dating to 1966. Continue with regular maintenance and inspection. Replacement will be required on renovation.	(CG)Coordinate cost with sq.ft. of building renovation.	
Domestic Water Piping	☐	☐	☑	☐	Domestic water piping system consists of piping and specialties dating to 1966. P-6 Grundfos "UPS15-55SFC" NSF 61 HHWP-7 Recirc Replacement of domestic water piping systems will be required on renovation. College to consider standardizing on PVC protective pipe insulation wrap on exposed piping insulation to protect insulation from tears.	(CG)Coordinate cost with sq.ft. of building renovation.	
Water Heaters	☐	☑	☐	☐	ST-1 Lochinvar "SSS081" 80gal. indirect domestic water heater fed from boiler system. Domestic water heater coil is single wall which limits appropriate chemical treatment for the age of the boiler hydronic system. Replacement will be required upon renovation to provide code required separation of potable water systems and allow for proper chemical treatment of hydronic heating systems.	(CG)Coordinate cost with sq.ft. of building renovation.	
Plumbing Fixtures	☐	☐	☐	☑	Plumbing fixtures, flush valves, faucets, showers are past their useful life with indication of various replacements over the years. Campus to consider setting up a standard on plumbing fixtures, flush valves, faucets, and showers. Hose bibbs without vacuum breakers are found under lavatories and on the exterior of the building allowing contaminants to enter the drinking water system.	(CG)Coordinate cost with sq.ft. of building renovation.	
Drinking Fountains	☐	☐	☐	☑	Drinking fountains are past their useful life and should be replaced. Campus to consider setting up a standard on plumbing fixtures.	(CG)Coordinate cost with sq.ft. of building renovation.	
Fire Protection	☐	☐	☐	☐	(N/A)		
ELECTRICAL							
LIGHTING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**

Exterior Lighting	☐	☐	☑	☐	Exterior lights appear to be a combination of LED retrofit fixtures and fluorescents. Standardize fixtures to new LED fixtures for consistency and energy savings. Price for complete replacement based on square footage.		
Interior Lighting	☐	☐	☐	☑	Combination of LED T8 replacements and original T8 present. In some locations, lighting layout may require modification in order to improve efficiency. New LED fixtures should be installed in place of retrofits. Price for complete replacement based on square footage.	replace 65%% of lighiting with LED fixtures (13,000 sq. ft.)	$155,000.00
Emergency Lighting	☐	☐	☑	☐	Local battery backups within fixtures and inconsistent emergency bug eyes throughout building. Proper emergency lighting does not appear to be code compliant. Battery fixtures could be removed and an inverter could be installed to provide emergency lighting. Price for complete replacement based on square footage.	provide new emergency lighting to entire building (20,000 sf)	$20,000.00
Lighting Controls	☐	☐	☐	☑	Manual switches to turn lights on or off, but no localized dimming or occupancy sensing. Controls should be replaced for better energy efficiency and occupancy sensors to meet current code. A lighting upgrade would require lighting controls to be brought up to current code. Price for complete replacement based on square footage.	replace lighting controls for 20,000 sf	$46,500.00
Exit Signage	☐	☑	☐	☐	Exit signage is present, but most appear old and damaged. Signage should be updated to new fixtures for better visibility.		
POWER	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Electrical Service	☐	☑	☐	☐	Single ended Federal Pacific substation, should be tested and refurbished as necessary. No Arc Flash labels on equipment, recommend Arc Flash study.		
Generator System	☐	☐	☐	☑	No generator present		
Distribution/Service Panels / Gear	☐	☑	☐	☐	Original S&C switchgear, should be tested and refurbished as necessary. No Arc Flash labels on equipment, recommend Arc Flash study.		
Branch Panels	☐	☑	☐	☐	Some appear aged and rusting, but breakers are in adequate condition. Should be tested and refurbished as necessary. Panels containing fuse boxes should be replaced.		
Receptacles + Circuiting	☐	☑	☐	☐	Conduit in good condition, but receptacles are old. Some receptacles lack coverplates or rusted. More receptacles would be desirable.		
GFCI Receptacles	☐	☐	☐	☑	Inconsistent GFCI receptacles. Add code compliant GFCI protection.	part of building major renovation and addition	
Emergency Power - Batteries	☐	☐	☐	☑	No emergency power in the form of batteries/inverter/UPS present.	part of building major renovation and addition	
Fire Alarm System	☐	☑	☐	☐	Fire alarm system present, but should be tested and modified to meet code compliance as necessary.		
TECHNOLOGY							
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**

Main Distribution Frame + Independent Distribution Frame	☐	☐	☐	☐			
Projectors	☐	☐	☐	☐			
Student Devices	☐	☐	☐	☐			
Teacher Devices	☐	☐	☐	☐			
Wireless System	☐	☐	☐	☐			
Public Address System	☐	☐	☐	☐			
Telephone Systems	☐	☐	☐	☐			
Infrastructure	☐	☐	☐	☐			
PHOTOGRAPHY							
Click "Insert" > "Image" > "Insert Image In Cell" Include location and any details in the cell to the right of the photo							
PHOTO	**NOTE**						

FACILITIES ASSESSMENT DATA

TowerPinkster
Architecture · Engineering · Interiors

CLIENT: Muskegon Community College
Facility Assessment

BUILDING: Grounds Storage

DATE: May, 2024

Good = Item meets current and future needs, no recommendation for improvement for the next 10 years
Fair = Item meets current use, showing signs of age and should be replaced in the next 10 years
Poor = Item is nearing the end of it's useful life, current need, should be replaced in the next 5 years
Replace = Item no longer meets current use, is outdated, does not meet code, and should be replaced in the next 3 years

ARCHITECTURAL							
ACCESSIBILITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Building Entrances	☑	☐	☐	☐			
Elevator	☐	☐	☐	☐	N/A		
Toilet Rooms	☑	☐	☐	☐	looks to be newly renovated		
Drinking Fountains	☑	☐	☐	☐			
Stairwells	☐	☐	☐	☐	Industrial style open risers. 2-line handrails to mechanical and storage mezzanine		
STRUCTURE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Foundations	☑	☐	☐	☐	No visible issue		
Slabs on Grade	☐	☑	☐	☐	Minor slab cracking - no major issues		
Load Bearing Walls / Columns	☑	☐	☐	☐	PEMB		
Supported Floor Framing	☐	☑	☐	☐	Concrete mezz in good shape. Plywood mezzanine has no load rating posted with large storage loads		
Roof Framing	☑	☐	☐	☐	PEMB		
BUILDING ENVELOPE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Roofing Membrane and Flashings	☐	☐	☐	☐			
Roof Gutters and Downspouts	☐	☐	☑	☐	No gutters or downspouts so water runs down the fascia, facade & veneer staining it	install gutters and downspouts (400 lf)	$29,250.00
Exterior Walls	☐	☑	☐	☐	CMU wainscot & brick facade do not have weeps or vents for cavity or core drainage. Metal panels above wainscott appear to be insulated. Walls stained from no downspouts or gutters		
Wood Windows / Glazing	☐	☑	☐	☐	Insulated glass in aluminum frames		
Trim, Fascia, and Soffits	☐	☑	☐	☐	Stained due to no gutters		
Porches	☐	☐	☐	☐	N/A		
Exterior Doors	☐	☑	☐	☐	Storefront, HM & O.H. roll up doors. All appear to be insulated. Could use paint		

SAFETY + SECURITY	GOOD	FAIR	POOR	REPLACE	COMMENTS		
Fire Protection	☐	☐	☐	☐	N/A		
Egress Windows	☐	☐	☐	☐	N/A		
Stairwells	☐	☐	☐	☐	Industrial style open risers		
Card Access	☐	☐	☐	☐			
Security Vestibule	☐	☐	☐	☐			
Security Camera	☐	☐	☐	☐			
FOOD SERVICE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Overall Kitchen Condition	☐	☐	☐	☐	N/A		
Kitchen Equipment	☐	☐	☐	☐	N/A		
Serving / Dining Areas	☐	☐	☐	☐	N/A		
Deliveries	☐	☐	☐	☐			
Storage	☐	☐	☐	☐			
INTERIORS / FINISHES							
FLOORING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Shop Area	☐	☑	☐	☐	concrete and epoxy paint		
Classrooms	☐	☑	☐	☐	Painted Concrete		
Toilet Rooms	☑	☐	☐	☐	Painted Concrete		
Storage Areas	☑	☐	☐	☐	sealed concrete		
Break Area	☑	☐	☐	☐	Epoxy paint		
					COMMENTS		
WALLS	**GOOD**	**FAIR**	**POOR**	**REPLACE**			
Shop Area	☑	☐	☐	☐	Painted CMU and exposed metal panel and structure		
Classrooms	☑	☐	☐	☐	CMU, Liner Panels		
Toilet Rooms	☑	☐	☐	☐	tile		
Storage Areas	☑	☐	☐	☐	Painted CMU		
Break Area	☑	☐	☐	☐	Painted CMU		
CEILINGS	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Shop Area	☑	☐	☐	☐	Exposed		
Classrooms	☑	☐	☐	☐	Lay-in, Exposed		
Toilet Rooms	☑	☐	☐	☐	Drywall		
Storage Areas	☑	☐	☐	☐	Exposed		
Break Area	☑	☐	☐	☐	Exposed		

	GOOD	FAIR	POOR	REPLACE	COMMENTS		
DOORS + HARDWARE	☐	☑	☐	☐	Storefront, H.M. & Insulated roll-up		
	GOOD	**FAIR**	**POOR**	**REPLACE**			
WINDOWS	☐	☑	☐	☐	Insulated Glass		
	GOOD	**FAIR**	**POOR**	**REPLACE**			
CABINETS / STORAGE / COUNTERS	☑	☐	☐	☐	Industrial Storage Shelving, Large Tool Boxes		
MECHANICAL							
HVAC	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Heating Source and Condition	☐	☐	☐	☐	N/A		
Heating Pumps and Piping	☐	☐	☐	☐	N/A		
Cooling Source and Condition (Automotive/Grounds)	☑	☐	☐	☐	(1) 2018 Trane "TTA120J4" DX Condensing Unit, R410A Continue with regular maintenance and inspection.		
Cooling Pumps and Piping	☐	☐	☐	☐	N/A		
Air Handling / Ventilation (Automotive/Grounds Indoor Modular Air Handling Units)	☑	☐	☐	☐	(1) 2018 Trane "CSAA006" Indoor Modular Air Handling Unit, 2" filtration, economizer section, R410A DX cooling coil with access, indirect gas heating with access, supply fan w/Trane VFD, exhaust fan w/Trane VFD Condensate piping present without condensate traps and should be remedied for condensate drainage from unit. Provide means for cleanout of condensate traps. Unit is clean of debris and coil fins are in good condition. Continue with regular maintenance and inspection. Campus should consider standardizing on 'ABB' variable frequency drives.	(CG)Provide unit with condensate piping with condensate traps and cleanouts.	
Air Handling / Ventilation (Storage/Grounds Make-Up Air Units)	☐	☐	☐	☑	(2) 1975 Reznor Make-Up Air Units, 2" filtration, indirect gas heating with access, supply fan on/off Reznor Make-Up Air units are past their replacement life and show signs of corrosion damage. Coordinate replacement air handling/ventilation systems with building renovation.	2 new makeup air units (CG)Coordinate cost with sq.ft. of building renovation.	$66,500.00
Air Handling / Ventilation (Automotive/Grounds Make-Up Air Units)	☑	☐	☐	☐	(1) 2018 Reznor "SSCBL-800" Make-Up Air Unit, 2" filtration, indirect gas heating with access, supply fan w/ABB VFD Air filters have fallen out of filter racks within unit possibly due to wind or maintenance reasons. Cause of filters falling out of filter rack should be identified and remedied. Outdoor air intake louver has a filter rack section that is absent of filtration. Outdoor air intake duct has duct smoke detector mounted on it and should be verified if it has been causing nuisance fire alarm trips. Unit is not monitored by campus control system to help quickly identify maintenance issues, and unit has limited capabilities for being monitored by campus control system. Continue with regular maintenance and inspection.		

Air Handling / Ventilation (Automotive/Grounds Exhaust Fans)	☐	☑	☐	☐	(2) 1983 Roof Exhaust Fans (2) 2018 Roof Exhaust Fans (2) Inline/Ceiling Exhaust Fans Access to roof was unavailable. Determine if a permanent means of access to the roof within the building is needed. Exhaust fans are not monitored by campus control system similar to other buildings on campus. Required ventilation of custodial room is not present and should be remedied. Continue with regular maintenance and inspection.	(CG)Provide roof access hatch and ladder indoors. Provide monitoring of exhaust fans. Provide exhaust system for custodial room.	
Air Handling / Ventilation (Storage/Grounds Exhaust Fans)	☐	☐	☑	☐	(5) 1975 Roof Exhaust Fans Access to roof was unavailable. Determine if a permanent means of access to the roof within the building is needed. Continue with regular maintenance and inspection. Replacement will be required upon renovation.	(CG)Provide roof access hatch and ladder indoors.	
Air Handling / Ventilation (Dust Collector)	☐	☐	☑	☐	(1) Dust Collector (Abandoned in place exterior of building) Consider complete removal of system or removal of duct and conduit connected to building.	(CG)Provide cost for of removal of duct and conduit to building. Provide cost for removal of dust collector entirely.	
Building Management System / Controls (Automotive/Grounds)	☑	☐	☐	☐	Controls, maintained, and connected to campus control system by Control Resource. Consider integration of standalone thermostats.		
Building Management System / Controls (Storage/Grounds)	☐	☑	☐	☐	Standalone thermostats only. Overhead door switches will be required upon replacement of heating systems, or requires pre approval by local authorities. Building is not tied into campus building control system.		
Energy Efficiency	☐	☐	☐	☐	Recommend customized LVL 2 energy assessment (audit) for review of any recommended building use changes, building envelope changes/improvements, HVAC replacements/improvements, domestic water replacements/improvements, or lighting replacements/improvements.		
Humidifier	☐	☐	☐	☐	N/A		
Room Level Terminal Equipment (Automotive/Grounds VAV w/Electric Reheat)	☑	☐	☐	☐	(3) 2018 Trane "VCEF" variable volume terminal units with electric reheat. Continue with regular maintenance and inspection.		
Room Level Terminal Equipment (Automotive/Grounds Radiant Heat)	☑	☐	☐	☐	(5) 2018 Gas Fired Radiant Heaters (2) 1983 Gas Fired Radiant Heaters Continue with regular maintenance and inspection.		
Room Level Terminal Equipment (Storage/Grounds Radiant Heat)	☑	☐	☐	☐	(1) Reverberay Gas Fired Radiant Heater. Continue with regular maintenance and inspection.		
Room Level Terminal Equipment (Storage/Grounds Electric Unit Heaters)	☐	☐	☐	☑	1975 Chromalox electric unit heaters are past their replacement life. Replacement will be required upon renovation.		
Room Level Terminal Equipment (Storage/Grounds Electric Cabinet Heaters)	☐	☐	☐	☑	1975 Chromalux electric cabinet heaters are past their replacement life. Replacement will be required upon renovation.		
Room Level Terminal Equipment (Automotive/Grounds High Velocity Low Speed Ceiling Fans)	☑	☐	☐	☐	(3) 2018 Macro Air "Airvolution D370" high velocity low speed ceilings fans. (1) 1983 Ceiling Fan Continue with regular maintenance and inspection.		

Facility Natural Gas System (Automotive/Grounds)	☐	☑	☐	☐	Monitor gas fired equipment and appliance operation issues that may occur with DTE switching from high gas pressure service to medium gas pressure service. Exterior gas piping is corroding and dates prior to 1975. Appliance gas regulators vented to the exterior of the building have operational issues during windy conditions. Continue with regular maintenance and inspection of facility natural gas systems.		
Facility Natural Gas System (Storage/Grounds)	☐	☑	☐	☐	Monitor gas fired equipment and appliance operation issues that may occur with DTE switching from high gas pressure service to medium gas pressure service. Gas piping is corroding dating prior to 1975, and enters the building below grade which is not allowed by current codes. Continue with regular maintenance and inspection of facility natural gas systems.		
PLUMBING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Storm System (Automotive/Grounds)	☐	☐	☐	☐	No storm system present. See other discipline comments on site drainage, gutter systems, and roof drainage.		
Storm System (Storage/Grounds)	☐	☐	☐	☐	No storm system present. See other discipline comments on site drainage, gutter systems, and roof drainage.		
Sanitary System (Automotive/Grounds)	☐	☑	☐	☐	Sanitary system consists of piping and specialties dating to 1983. Oil separator placed into commission in 2018. Continue with regular maintenance and inspection.		
Sanitary System (Storage/Grounds)	☐	☐	☐	☑	Sanitary system consists of piping and specialties dating to 1975. Replacement will be required upon renovation.	(CG)Coordinate cost with sq.ft. of building renovation.	
Domestic Water Piping (Automotive/Grounds)	☑	☐	☐	☐	Domestic water piping system consists of piping and specialties dating to 2018. Continue with regular maintenance and inspection. College to consider standardizing on PVC protective pipe insulation wrap on exposed piping insulation to protect insulation from tears.		
Domestic Water Piping (Storage/Grounds)	☐	☐	☐	☑	Domestic water piping system consists of piping and specialties dating to 1975. Replacement will be required upon renovation.	(CG)Coordinate cost with sq.ft. of building renovation.	
Water Heaters (Automotive/Grounds)	☑	☐	☐	☐	(1) 2018 Bradford White "RG130T7N" 30gal, gas fired tank water heater Continue with regular maintenance and inspection.		
Water Heaters (Storage/Grounds)	☐	☑	☐	☐	(1) 2006 Bradford White "MITW50L6BN15" 48gal, gas fired tank water heater Continue with regular maintenance and inspection.		
Plumbing Fixtures (Automotive/Grounds)	☑	☐	☐	☐	Plumbing fixtures replaced in 2018. Continue with regular maintenance and inspection. Review hose bibbs without vacuum breakers found on the exterior of the building allowing contaminants to enter the drinking water system.		
Plumbing Fixtures (Storage/Grounds)	☐	☐	☐	☑	Plumbing fixtures, flush valves, and faucets, are past their useful life with indication of various replacements over the years. Replacement will be required upon renovation.	(CG)Coordinate cost with sq.ft. of building renovation.	
Drinking Fountains (Automotive/Grounds)	☑	☐	☐	☐	Drinking fountain replaced in 2018. Continue with regular maintenance and inspection.		
Drinking Fountains (Storage/Grounds)	☐	☐	☐	☑	Drinking fountains are past their useful life. Replacement will be required upon renovation.	(CG)Coordinate cost with sq.ft. of building renovation.	

Fire Protection (Automotive/Grounds)	☐	☐	☐	☐	N/A (Fire Extinguishers)		
Fire Protection (Storage/Grounds)	☐	☐	☐	☐	N/A (Fire Extinguishers)		
ELECTRICAL							
LIGHTING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Exterior Lighting	☑	☐	☐	☐	Exterior lights are LED and appear in good condition.		
Parking Lot Lighting	☐	☑	☐	☐	Parking lot lighting is present and LED/poles are in adequate condition.		
Interior Lighting	☐	☐	☑	☐	Combination of LED T8 replacements and LED fixtures. Light levels are adequate, but new LED fixtures should be installed in place of retrofits. Price for complete replacement based on square footage.		
Emergency Lighting	☑	☐	☐	☐	Emergency bug eyes throughout building. Bug eyes fixtures could be removed and an inverter could be installed to provide emergency lighting.		
Lighting Controls	☐	☐	☑	☐	Inconsistent lighting controls. Controls should be replaced for better energy efficiency to meet current code. Price for complete replacement based on square footage.		
Exit Signage	☑	☐	☐	☐	Exit signage is present and in good condition.		
POWER	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Generator System	☐	☐	☑	☐	No generator present		
Distribution/Service Panels / Gear	☐	☑	☐	☐	Service panel is adequate, but aged. Panel should be tested and refurbished as necessary.		
Receptacles + Circuiting	☐	☐	☐	☐	Receptacles coverage is good and conduit is in good condition.		
GFCI Receptacles	☑	☐	☐	☐	GFCI receptacles present in appropriate locations.		
Emergency Power - Batteries	☐	☐	☐	☑	No emergency power in the form of batteries/inverter/UPS present.		
Fire Alarm System	☐	☑	☐	☐	Fire alarm system present, but should be tested and modified to meet code compliance as necessary.		
TECHNOLOGY							
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Main Distribution Frame + Independent Distribution Frame	☐	☐	☐	☐			
Projectors	☐	☐	☐	☐			
Student Devices	☐	☐	☐	☐			
Teacher Devices	☐	☐	☐	☐			
Wireless System	☐	☐	☐	☐			
Public Address System	☐	☐	☐	☐			

Telephone Systems	☐	☐	☐	☐			
Infrastructure	☐	☐	☐	☐			
PHOTOGRAPHY							
Click "Insert" > "Image" > "Insert Image In Cell" Include location and any details in the cell to the right of the photo							

PHOTO	NOTE
	Brick veneer does not have weeps or vents required for drainage
	Stained CMU wainscot (no gutters water running down face)

	Stained fascia & soffit from lack of gutters
	Spray foam leaking out of CMU
	Solid concrete sills under windows (no weeps or flashing)

FACILITIES ASSESSMENT DATA

TowerPinkster
Architecture · Engineering · Interiors

CLIENT: Muskegon Community College
Facility Assessment

BUILDING: Arts & Music (Humanities)

DATE: May, 2024

Good = Item meets current and future needs, no recommendation for improvement for the next 10 years
Fair = Item meets current use, showing signs of age and should be replaced in the next 10 years
Poor = Item is nearing the end of it's useful life, current need, should be replaced in the next 5 years
Replace = Item no longer meets current use, is outdated, does not meet code, and should be replaced in the next 3 years

ARCHITECTURAL							
ACCESSIBILITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Building Entrances	☑	☐	☐	☐			
Elevator	☐	☐	☐	☐	N/A		
Toilet Rooms	☑	☐	☐	☐			
Drinking Fountains	☑	☐	☐	☐			
Stairwells	☑	☐	☐	☐			
STRUCTURE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Foundations	☑	☐	☐	☐	No visible exterior issues		
Slabs on Grade	☑	☐	☐	☐			
Load Bearing Walls / Columns	☑	☐	☐	☐	Steel frame - no issues		
Supported Floor Framing	☐	☐	☐	☐	N/A		
Roof Framing	☑	☐	☐	☐	Joists + Tectum. No visible issues		
BUILDING ENVELOPE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Roofing Membrane and Flashings	☑	☐	☐	☐	Unusual ponding of water occurring at mechanical equipment.		
Roof Gutters and Downspouts	☐	☐	☐	☐			
Exterior Walls	☐	☑	☐	☐	Brick veneer does not have weeps or vents for cavity drainage (CMU + Brick). Existing 8" tall metal screwed to base of brick veneer on the Stevenson side of the building normally where weeps would be located.		
Wood Windows / Glazing	☐	☑	☐	☐	Insulated glass in Existing + New storefront framing (profile doesn't match & they are adjacent to each other). Existing frames were clear anodized painted dark bronze to match new storefront system at rear.		
Trim, Fascia, and Soffits	☑	☐	☐	☐			
Porches	☐	☑	☐	☐			
Exterior Doors	☑	☐	☐	☐			

SAFETY + SECURITY	GOOD	FAIR	POOR	REPLACE	COMMENTS		
Fire Protection	☑	☐	☐	☐	Building is fully sprinkled		
Egress Windows	☐	☐	☐	☐	N/A		
Stairwells	☐	☐	☐	☐	N/A		
Card Access	☐	☐	☐	☐			
Security Vestibule	☐	☐	☐	☐			
Security Camera	☐	☐	☐	☐			
FOOD SERVICE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Overall Kitchen Condition	☐	☐	☐	☐	N/A		
Kitchen Equipment	☐	☐	☐	☐	N/A		
Serving / Dining Areas	☐	☐	☐	☐	N/A		
Deliveries	☐	☐	☐	☐			
Storage	☑	☐	☐	☐			
INTERIORS / FINISHES							
FLOORING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Corridors	☑	☐	☐	☐	Epoxy Flooring		
Classrooms	☑	☐	☐	☐	Carpet Tile		
Toilet Rooms	☑	☐	☐	☐	Epoxy Floor		
Galleries	☑	☐	☐	☐	Epoxy Flooring		
Commons	☑	☐	☐	☐	Carpet Tile		
Offices	☑	☐	☐	☐	Carpet Tile		
					COMMENTS		
WALLS	**GOOD**	**FAIR**	**POOR**	**REPLACE**			
Corridors	☑	☐	☐	☐	Drywall or Partition System		
Classrooms	☑	☐	☐	☐	Drywall (painted)		
Toilet Rooms	☑	☐	☐	☐	Drywall (painted) + tile		
Galleries	☑	☐	☐	☐	Drywall (painted) + Painted CMU		
Commons	☑	☐	☐	☐	Drywall (painted)		
Offices	☑	☐	☐	☐	Drywall (painted)		
CEILINGS	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Corridors	☑	☐	☐	☐	Exposed (painted)		
Classrooms	☑	☐	☐	☐	Lay-in Ceiling Cloud		
Toilet Rooms	☑	☐	☐	☐	Gyp. Bd. Painted		
Galleries	☑	☐	☐	☐	Exposed (painted)		

Commons	☑	☐	☐	☐	Exposed (painted)		
Offices	☑	☐	☐	☐	Lay-in Ceiling		
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
DOORS + HARDWARE	☑	☐	☐	☐	H.M. Doors w/ ADA Lever hardware		
	GOOD	**FAIR**	**POOR**	**REPLACE**			
WINDOWS	☐	☑	☐	☐	Mixture of new & existing, clear & bronze anodized. Appears some existing clear anodized storefront was painted to match new Dark bronze anodized storefront		
	GOOD	**FAIR**	**POOR**	**REPLACE**			
CABINETS / STORAGE / COUNTERS	☑	☐	☐	☐	Plastic Laminate casework, metal lockers		
MECHANICAL							
HVAC	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**

Heating Source and Condition (Boilers)	☐	☐	☐	☑	B-1 1995 Weil Mclain "1388" Non-condensing, 50psi max relief, B&G boiler pump 275gpm, 20ft.hd. B-2 1995 Weil Mclain "1388" Non-condensing, 50psi max relief, B&G boiler pump 275gpm, 20ft.hd. B-3 1995 Weil Mclain "1388" Non-condensing, 50psi max relief, B&G boiler pump 275gpm, 20ft.hd. B-4 2017 Aerco "BMK 3000" Condensing, B&G boiler pump 275gpm, 20ft.hd. B-5 2017 Aerco "BMK 3000" Condensing, B&G boiler pump 275gpm, 20ft.hd. Replacement of prematurely rotted out VanPacker condensing boiler exhaust flues required, as condensate has begun corroding and damaging mechanical room equipment, while furthering deterioration of venting. College to consider standardizing on venting material types, venting manufacture(s), delegated design documentation, and manufacture inspection of boiler venting and combustion air intake system installation. Campus maintenance staff indicate being unable to run all five (5) boilers during the winter to maintain required campus heating water temperatures, as boiler plant pressure relief valves pop open. Maintenance staff desire additional in depth review and witnessing of heating water system, an additional review of expansion tank sizing, and previous control contractor (Distech Controls) sequencing, to remedy heating system operation and allow all boilers to operate. Diagnosis of pressure relief valves by Testing and Balancing contractor and an owner representative, needs to occur prior to replacement of Weil Mclain boilers currently at the end of their useful life. Include proper height concrete maintenance pads for all boilers upon replacement, including existing Aerco boilers to remain. Tube type condensate neutralization kits on boilers are more difficult to maintain for campus, and maintenance staff would like to consider standardizing on condensate neutralization tanks that can be top loaded with neutralization media and cleaned.	$40,000 heating system engineering study required (CG)Provide cost for replacing (3) Weil Mclain Boilers, (5) new concrete pads, (2) new condensate neutralization tanks, replacement of Aerco boiler exhaust flues, and cost for engineering study.	

Heating Pumps and Piping	☐	☐	☐	☑	HWP-1 1995 B&G "10.625" 750gpm, 96ft.hd. 20hp (ABB VFD) HWP-2 1995 B&G "10.750" 590gpm, 96ft.hd. 20hp (ABB VFD) HWP-3 2017 B&G "e-1510 2BD" 140gpm, 50ft.hd. 3hp (ABB VFD) HWP-4 2017 B&G "e-1510 2BD" 140gpm, 50ft.hd. 3hp (Danfoss VFD) HWP-1 Main 1965 B&G "U6C-10-7/8-BF" 675gpm, 100ft. hd. 30hp (ABB VFD) HWP-2 Main 1965 B&G "U6C-10-7/8-BF" 675gpm, 100ft. hd. 30hp (ABB VFD) HWP-8 2017 B&G "e-1510 3FB" 450gpm, 100ft.hd. 20hp (No VFD) HWP-9 2017 B&G "e-1510 3FB" 450gpm, 100ft.hd. 20hp (No VFD) F-1 B&G "1510" 3/4hp ABB VFD (Abandoned In Place) 2023 Buried heating water piping replaced to Stevenson Center. Maintenance staff is concerned other buried hydronic piping needs to be inspected and replaced before failure occurs. Confirm VFDs are not present on HWP-8 and HWP-9 and provide ABB VFDs and control programming for pumps. Replace pumps that have reached their useful life with replacement of boilers, and include installation of water treatment devices and filtration.	Replace (3) 4 MMBtu boilers, (2) 20 hp pumps 2/ drives, and (2) 30 hp pumps w/ drives (CG)Provide cost for (2) 20hp pumps w/drives, (2)30hp pumps w/drives, side stream magnetic & bag filters w/pumps, and cost for testing and inspection of burried hydronic piping.	$575,000.00
Cooling Source and Condition	☐	☐	☐	☑	CH-1 1995 Trane "RTHA800" water cooled chiller CH-2 2017 Trane "RTAF170E" air cooled chiller, R134A CT-1 1995 Evapco "AT 19-114" open cell cooling tower, fan w/ABB VFD HOH cooling tower water treatment system abandoned in place. Advantage Controls cooling tower water treatment system. Alarms on both chillers indicate a demand for chilled water was occuring during January 2024 and February 2024 at 3am. Maintenance staff confirmed that a demand for chilled water is common in the winter. Further investigation is required of control trends to determine systems requiring cooling during these times, and remedying either the controlled equipment or preventing the equipment to run the chillers. 1995 Trane water cooled chiller, cooling tower, and associated devices have reached its useful life. Replacement should consider chiller maintenance and installation environment with difficulties maintaining a cooling tower in a wooded environment and winter drain down. Trane magnetic bearing air cooled chillers should be considered along with water side economizer, heat exchanger or drain down, and energy efficiencies/maintenance of other types of chilled water methods, allowing maintenance agreements to be maintained with Trane for all chillers at all buildings.	(CG)Provide cost for chiller replacement and waterside economizer, and cost for engineering study.	$865,000.00

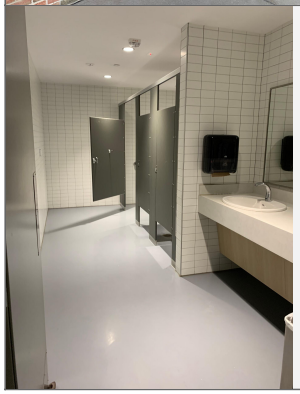
Cooling Pumps and Piping	☐	☐	☐	☑	CWP-1 2011 B&G "1510 5BC" 900gpm, 20ft.hd. 10hp (No VFD) CWP-2 2011 B&G "1510 5BC" 900gpm, 20ft.hd. 10hp (No VFD) CHWP-1 2011 B&G "1510 4E" 590gpm, 96ft.hd. 20hp (No VFD) CHWP-2 2011 B&G "1510 4E" 590gpm, 96ft.hd. 20hp (No VFD) 2023 Buried chilled water piping replaced to Stevenson Center. Maintenance staff is concerned other burried hydronic piping needs to be inspected and replaced before failure occurs. Existing cooling tower system does not have a centrifugal filtration system to help protect chiller, pumps, and associated accessories. Installation of ABB VFDs for chilled water and condenser water pumps recommended as pump balancing valves are closed to reduce waterflow.	(2) 10 hp drives and (2) 20 hp drives (CG)Provide cost for replacement of two chilled water pumps w/drives, and cost for testing and inspection of burried hydronic piping.	$40,000.00
Air Handling / Ventilation (Outdoor Modular Air Handling Units)	☑	☐	☐	☐	(4) 2019 Trane Outdoor Modular Air Handling Units, 2" filtration, economizer section, pumped chilled water cooling coil with access, pumped hot water heating coil with access, supply fan w/VFD, return fan w/VFD Provide means for cleanout of condensate traps. Interior of units are clean of debris and coil fins are in good condition. Outdoor air hood filters/moisture eliminators are plugged with debris preventing correct unit operation and ventilation. Filter differential pressure gauges are missing tubing for correct operation. Consider standardizing steel floor grating within coil access vestibules. Relocate manufacturer paper documentation within units so paper doesn't clog downstream coils and air terminal devices. Maintenance staff indicate the building is unable to maintain occupied heating temperatures during design winter conditions and are requesting to have an additional review of building winter operation, building design, and mechanical equipment. Outdoor air temperatures were 70deg.f. with fans off and heating coil on for freeze protection. Continue with regular maintenance and inspection.		

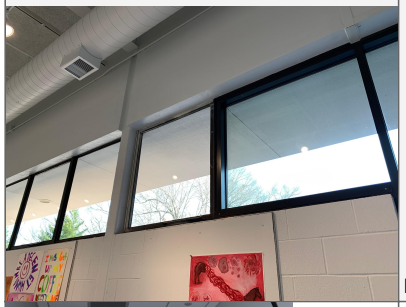
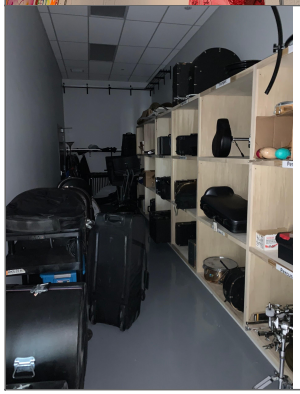
Air Handling / Ventilation (Outdoor Energy Recovery Units)	☐	☑	☐	☐	(1) 2019 AnnexAir "ERP-E-09-FP-H-C-TB" Energy Recovery Unit, 2" filtration, fixed plate heat exchanger, pumped heating coil, pumped cooling coil, supply fan w/VFD, return fan w/VFD Maintenance staff indicate dust from materials used within classes bypass energy recovery units filtration devices and plugs energy recovery device with dust, inhibiting correct operation of unit. Additional standard filtration devices will not be possible to address the issue without replacement of unit fans and electrical systems. Recommend evaluating removal of problematic rooms from energy recovery unit, and relocation of exhaust air inlets from rooms, or advanced air treatment systems for problematic rooms. Controls indicate unit does not have a bypass to allow unit to recirculate air for morning warm-up, reducing the effectiveness of morning warm-up when indoor air temperatures are at unoccupied setpoint. Maintenance staff indicate the building is unable to maintain occupied heating temperatures during design winter conditions and are requesting to have an additional review of building winter operation, building design, and mechanical equipment. Continue with regular maintenance and inspection. Unit design document states cooling coil designed to operate with 100% water and will be converted to propylene glycol in the future for freeze protection?	(CG)Provide cost for engineering study.	
Air Handling / Ventilation (Exhaust Fans)	☐	☑	☐	☐	(2) 2019 Greenheck Roof Exhaust Fans (1) 1965 Jenn-Air Roof Exhaust Fans Monitoring and control of these exhaust fans could not be found in the building control system and needs to be verified to match existing. Continue with regular maintenance and inspection.		
Air Handling / Ventilation (Dust Collectors)	☑	☐	☐	☐	(2) Donaldson Torit "16 Cyclone" Dust Collectors. Continue with regular maintenance and inspection.		
Building Management System / Controls	☐	☐	☐	☑	Pneumatic controls, standalone thermostats, and associated devices are present on site. Maintenance staff has indicated there is a high failure rate occurring on motorized valves throughout all buildings on campus. Hurst Mechanical (Control Resource) has been replacing failed valves with Belimo valves. College to coordinate with TowerPinkster if the college has access to programming software for Distech Controllers (Enertemp) or if the software can be obtained by the college so Enertemp's programming to the boiler and chiller plants can be accessed. Replacement of Enertemp's Distech control devices with control devices from Control Resource will need to occur during boiler replacement. Indication of regular high humidity issues are present within the building and addition of humidity sensors and control sequences should be considered. Building controls representative (Control Resource) indicates the building is unable to maintain occupied heating temperatures during design winter conditions. Controls, maintained, and connected to campus control system by Control Resource. Air Compressor 1: Quincy dual 5hp air compressor Air Compressor 2: Quincy "350-18" air compressor Air Dryer: Hankison "HPR5-10-115" 10scfm	(CG)Provide cost for replacement of boiler controller, and cost for humidity sensors in air handling equipment with control programming.	

Energy Efficiency	☐	☐	☐	☐	Recommend customized LVL 2 energy assessment (audit) for review of any recommended building use changes, building envelope changes/improvements, HVAC replacements/improvements, domestic water replacements/improvements, or lighting replacements/improvements.		
Humidifier	☐	☐	☐	☐	N/A		
Room Level Terminal Equipment (Split System Air Conditioning Units)	☑	☐	☐	☐	AC/ACCU-1 2019 EMI "SZIH12AAA", R-410A Continue with regular maintenance and inspection.		
Room Level Terminal Equipment (Terminal Units)	☐	☑	☐	☐	(30) 2019 Trane "VCWF" variable volume terminal units with hot water reheat. Maintenance staff indicate the building is unable to maintain occupied heating temperatures during design winter conditions and are requesting to have an additional review of building winter operation, building design, and mechanical equipment. Continue with regular maintenance and inspection.		
Room Level Terminal Equipment (Radiant Heating)	☐	☑	☐	☐	(11) 2019 Runtal flat tube radiant heaters. Maintenance staff indicate the building is unable to maintain occupied heating temperatures during design winter conditions and are requesting to have an additional review of building winter operation, building design, and mechanical equipment. Further review required on operation of radiant heaters to verify control sensor is not mounted directly on radiator from previous control contractor Enertemp. Continue with regular maintenance and inspection.		
Facility Natural Gas System	☐	☑	☐	☐	Monitor gas fired equipment and appliance operation issues that may occur with DTE switching from high gas pressure service to medium gas pressure service. Appliance gas regulators vented to the exterior of the building have operational issues during windy conditions. Continue with regular maintenance and inspection of facility natural gas systems.		
PLUMBING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Storm System	☐	☐	☐	☑	Storm system consists of piping and specialties dating from 2019 to 1965. Continue with regular maintenance and inspection.		
Sanitary System	☐	☐	☐	☑	Sanitary system consists of piping and specialties dating from 2019 to 1965. Continue with regular maintenance and inspection.		
Domestic Water Piping	☐	☐	☐	☑	Domestic water piping system consists of piping and specialties dating from 2019 to 1965. Continue with regular maintenance and inspection. College to consider standardizing on PVC protective pipe insulation wrap on exposed piping insulation to protect insulation from tears.		
Water Heaters	☐	☐	☐	☐	N/A (Domestic hot water served from main building)		
Plumbing Fixtures	☐	☐	☐	☑	1965 plumbing fixtures within boiler/electrical plant are past their useful life. All other plumbing fixtures have been replaced recently in 2019.	(CG)Provide cost to replace plumbing fixtures within boiler/electrical plant.	

Drinking Fountains	☑	☐	☐	☐	Drinking fountains replaced in 2019. Continue with regular maintenance and inspection.		
Fire Protection	☑	☐	☐	☐	Fire protection system maintained by Brigade Fire Protection. Continue with regular maintenance and inspection.		
ELECTRICAL							
LIGHTING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Exterior Lighting	☐	☑	☐	☐	Exterior lights appear in good condition.		
Parking Lot Lighting	☐	☑	☐	☐	Parking lot lighting is present and poles are in adequate condition.		
Interior Lighting	☑	☐	☐	☐	Primarily LED fixtures, but some LED T8 replacements present. Light levels are good.		
Emergency Lighting	☑	☐	☐	☐	Emergency lighting is supplied by inverter.		
Lighting Controls	☑	☐	☐	☐	Localized dimming and occupancy sensors present. Creston controller with plenty of additional capacity.		
Exit Signage	☐	☑	☐	☐	Exit signage is new and present, but dim/unlit.		
POWER	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Generator System	☐	☐	☑	☐	No generator present		
Distribution/Service Panels / Gear	☑	☐	☐	☐	Distribution system is in good condition and has some recently refurbished/new equipment.		
Branch Panels	☑	☐	☐	☐	Branch panels are in good condition.		
Receptacles + Circuiting	☑	☐	☐	☐	Receptacles coverage is good and conduit is in good condition.		
Sink GFCI Receptacles	☑	☐	☐	☐	GFCI receptacles present in appropriate locations.		
Emergency Power - Batteries	☑	☐	☐	☐	Inverter for lighting is present.		
Fire Alarm System	☑	☐	☐	☐	Fire alarm system present, but should be tested and modified to meet code compliance as necessary.		
TECHNOLOGY							
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Main Distribution Frame + Independent Distribution Frame	☐	☐	☐	☐			
Projectors	☐	☐	☐	☐			
Student Devices	☐	☐	☐	☐			
Teacher Devices	☐	☐	☐	☐			
Wireless System	☐	☐	☐	☐			
Public Address System	☐	☐	☐	☐			

Telephone Systems	☐	☐	☐	☐			
Infrastructure	☐	☐	☐	☐			
PHOTOGRAPHY							
Click "Insert" > "Image" > "Insert Image In Cell" Include location and any details in the cell to the right of the photo							

PHOTO	**NOTE**
	Lack of brick veneer weeps & vents required for adequate cavity wall drainage
	Modern finishes in Toilet Rms.

	Newer metal lockers
	Existing painted clear anodized storefront adjacent to new dark bronze anodized storefront
	Instrument Storage

Plastic laminate casework + art storage

FACILITIES ASSESSMENT DATA

TowerPinkster
Architecture · Engineering · Interiors

CLIENT: Muskegon Community College
Facility Assessment

BUILDING: Life Science Center

DATE: May, 2024

Good = Item meets current and future needs, no recommendation for improvement for the next 10 years
Fair = Item meets current use, showing signs of age and should be replaced in the next 10 years
Poor = Item is nearing the end of it's useful life, current need, should be replaced in the next 5 years
Replace = Item no longer meets current use, is outdated, does not meet code, and should be replaced in the next 3 years

ARCHITECTURAL							
ACCESSIBILITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Building Entrances	☑	☐	☐	☐			
Elevator	☐	☐	☐	☐	N/A		
Toilet Rooms	☑	☐	☐	☐			
Drinking Fountains	☑	☐	☐	☐			
Stairwells	☐	☐	☐	☐	N/A		
Lab Stations	☐	☐	☐	☐	No accessible lab station in lab classrooms	renovate lab counter and casework for 34" high work station (6 lab classrooms)	$39,600.00
STRUCTURE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Foundations	☑	☐	☐	☐			
Slabs on Grade	☐	☑	☐	☐	Several areas of cracking near door thresholds. Should be monitored over time to establish if they are actively growing.		
Load Bearing Walls / Columns	☑	☐	☐	☐			
Supported Floor Framing	☑	☐	☐	☐			
Roof Framing	☑	☐	☐	☐			
BUILDING ENVELOPE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Roofing Membrane and Flashings	☐	☐	☐	☐			
Roof Gutters and Downspouts	☐	☐	☐	☐			
Exterior Walls	☐	☐	☐	☐			
Wood Windows / Glazing	☐	☐	☐	☐			
Trim, Fascia, and Soffits	☐	☐	☐	☐			
Porches	☐	☐	☐	☐			
Exterior Doors	☐	☐	☐	☐			
SAFETY + SECURITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		

Fire Protection	☐	☐	☐	☐			
Egress Windows	☐	☐	☐	☐			
Stairwells	☐	☐	☐	☐			
Card Access	☐	☐	☐	☐			
Security Vestibule	☐	☐	☐	☐			
Security Camera	☐	☐	☐	☐			
FOOD SERVICE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Overall Kitchen Condition	☐	☐	☐	☐			
Kitchen Equipment	☐	☐	☐	☐			
Serving / Dining Areas	☐	☐	☐	☐			
Deliveries	☐	☐	☐	☐			
Storage	☐	☐	☐	☐			
INTERIORS / FINISHES							
FLOORING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Corridors	☑	☐	☐	☐			
Classrooms	☑	☐	☐	☐			
Toilet Rooms	☑	☐	☐	☐			
Gymnasium	☑	☐	☐	☐			
Locker Rooms	☑	☐	☐	☐			
Offices	☑	☐	☐	☐			
Fitness Area	☑	☐	☐	☐			
					COMMENTS		
WALLS	**GOOD**	**FAIR**	**POOR**	**REPLACE**			
Corridors	☑	☐	☐	☐			
Classrooms	☑	☐	☐	☐			
Toilet Rooms	☑	☐	☐	☐			
Gymnasium	☑	☐	☐	☐			
Locker Rooms	☑	☐	☐	☐			
Offices	☑	☐	☐	☐			
Fitness Area	☑	☐	☐	☐			
CEILINGS	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Corridors	☑	☐	☐	☐			
Classrooms	☑	☐	☐	☐			
Toilet Rooms	☑	☐	☐	☐			

Gymnasium	☑	☐	☐	☐			
Locker Rooms	☑	☐	☐	☐			
Offices	☑	☐	☐	☐			
Fitness Area	☑	☐	☐	☐			
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
DOORS + HARDWARE	☑	☐	☐	☐			
	GOOD	**FAIR**	**POOR**	**REPLACE**			
WINDOWS	☑	☐	☐	☐			
	GOOD	**FAIR**	**POOR**	**REPLACE**			
CABINETS / STORAGE / COUNTERS	☑	☐	☐	☐			
MECHANICAL							
HVAC	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Heating Source and Condition	☑	☐	☐	☐	B-1 2015 Lochinvar "FTX500N" Condensing, B&G boiler pump 33gpm, 10ft.hd. B-2 2015 Lochinvar "FTX500N" Condensing, B&G boiler pump 33gpm, 10ft.hd. (Additionally see Cooling Source Multistack Heat Recovery Chiller) Condensate neutralization tanks already installed that maintenance staff would like to standardize on throughout the campus. Continue with regular maintenance and inspection on boilers.		
Heating Pumps and Piping	☑	☐	☐	☐	P-09 2015 B&G "e-1510 1.5AD" 59gpm, 34ft.hd. 1hp (Yaskawa VFD) P-10 2015 B&G "e-1510 1.5AD" 59gpm, 34ft.hd. 1hp (Yaskawa VFD) College to consider standardizing on PVC protective pipe insulation wrap on exposed piping insulation to protect insulation from tears. Continue with regular pump and water quality maintenance.		
Cooling Source and Condition	☐	☑	☐	☐	(1) Multistack "MS020XC" Heat Recovery Chiller, R410A Maintenance staff indicate heat recovery chiller parts for annual failure at $12,500. Water temperature sensor found recently installed in the wrong location and relocated in the correct location. Maintenance staff along with Control Resource continues to improve compressor staging and flow issues through heat recovery chiller. Continue with regular maintenance and inspection.		

Cooling Pumps and Piping	☑	☐	☐	☐	P-07 2015 B&G "e-1510 2AD" 107gpm, 48ft.hd. 2hp (Yaskawa VFD) P-08 2015 B&G "e-1510 2AD" 107gpm, 48ft.hd. 2hp (Yaskawa VFD) College to consider standardizing on PVC protective pipe insulation wrap on exposed piping insulation to protect insulation from tears. Continue with regular pump and water quality maintenance.		
Geothermal Well Source and Condition	☑	☐	☐	☐	(2) 7.5hp (Titan P Series VFDs) open well pumps geothermal system, with plate and frame heat exchanger. Well water daily usage limit has recently been corrected within control system. Continue with regular maintenance and inspection geothermal well system.		
Geothermal Pumps and Piping	☑	☐	☐	☐	P-03 2015 B&G "e-1510 2AD" 85gpm, 23ft.hd. 1hp (Yaskawa VFD) P-04 2015 B&G "e-1510 2AD" 85gpm, 23ft.hd. 1hp (Yaskawa VFD) P-05 2015 B&G "e-1510 2AD" 104gpm, 44ft.hd. 2hp (Yaskawa VFD) P-06 2015 B&G "e-1510 2AD" 104gpm, 44ft.hd. 2hp (Yaskawa VFD) College to consider standardizing on PVC protective pipe insulation wrap on exposed piping insulation to protect insulation from tears. Continue with regular pump and water quality maintenance.		
Air Handling / Ventilation (Indoor Modular Air Handling Units)	☑	☐	☐	☐	(2) 2015 Trane "CSAA014" indoor modular air handling Units, 2" filtration, fixed plate heat exchanger, electric preheat coil with access, hot water heating coil with access, chilled water cooling coil with access, supply fan w/Trane VFD, exhaust fan w/Trane VFD Maintenance staff indicate dust bypasses energy recovery units filtration devices and plugs energy recovery device with dust, inhibiting correct operation of unit. Additional standard filtration devices will not be possible to address the issue without replacement of unit fans and electrical systems. Maintenance staff indicate the discharge air temperature from the unit is found to be 4 to 5 degrees colder than what is reported in the building controls. Provide means for cleanout of condensate traps. Interior of units are clean of debris and coil fins are in good condition. Continue with regular maintenance and inspection on units.		
Air Handling / Ventilation (Water Source heat Pump Units)	☑	☐	☐	☐	(19) 2015 Water Source Heat Pump Units. Continue with regular maintenance and inspection on units.		
Air Handling / Ventilation (Exhaust Fans)	☑	☐	☐	☐	(14) 2015 Cook Roof Exhaust Fans Continue with regular maintenance and inspection on units.		

Building Management System / Controls	☑	☐	☐	☐	Consider adding geothermal well heat exchanger pressure drop to determine when it needs to be cleaned from debris. Maintenance staff has indicated there is a high failure rate occurring on motorized valves throughout all buildings on campus. Hurst Mechanical (Control Resource) has been replacing failed valves with Belimo valves. College to coordinate with TowerPinkster if the college has access to programming software for Distech Controllers (Enertemp) or if the software can be obtained by the college so Enertemp's programming to building chilled water/heating water/geothermal equipment can be accessed. Optionally replacement of remaining Enertemp's Distech control devices with control devices from Control Resource should be considered. Controls, maintained, and connected to campus control system by Control Resource.		
Energy Efficiency	☐	☐	☐	☐	Recommend customized LVL 2 energy assessment (audit) for review of any recommended building use changes, building envelope changes/improvements, HVAC replacements/improvements, domestic water replacements/improvements, or lighting replacements/improvements.		
Humidifier	☑	☐	☐	☐	(1) U-1 2015 single room electric humidifier. Continue with regular maintenance and inspection on unit.		
Room Level Terminal Equipment (Airflow Stations)	☑	☐	☐	☐	(30) 2015 Airflow Stations serving outdoor air supply and exhaust from rooms.		
Room Level Terminal Equipment (Electric Unit Heaters)	☑	☐	☐	☐	(3) 2015 Markel electric unit heaters. Continue with regular maintenance and inspection on units.		
Room Level Terminal Equipment (Cabinet Unit Heaters)	☑	☐	☐	☐	(2) 2015 electric cabinet unit heater Continue with regular maintenance and inspection on units.		
Room Level Terminal Equipment (Split System Air Conditioning Units)	☐	☐	☐	☑	(1) ACC/ACCU-1 2015 EMI "S1HG9000D10", R-410A (1) ACC/ACCU-2 2015 Liebert "PFH020A-PL7" Liebert unit is beginning or has failed and requires an appropriate replacement for grow room. Continue with regular maintenance and inspection on EMI unit.	replace equipment (CG)Provide cost to replace Liebert unit.	$86,500.00
Facility Natural Gas System	☐	☑	☐	☐	Monitor gas fired equipment and appliance operation issues that may occur with DTE switching from high gas pressure service to medium gas pressure service. Appliance gas regulators vented to the exterior of the building have operational issues during windy conditions. Continue with regular maintenance and inspection of facility natural gas systems.		
PLUMBING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Storm System	☑	☐	☐	☐	Storm system consists of piping and specialties dating from 2015. Continue with regular maintenance and inspection.		
Sanitary System	☑	☐	☐	☐	Sanitary system consists of piping and specialties dating from 2015. Continue with regular maintenance and inspection.		
Domestic Water Piping	☐	☐	☐	☐	Domestic water piping system consists of piping and specialties dating from 2015. Continue with regular maintenance and inspection.		
Water Heaters	☐	☐	☐	☐	N/A (Domestic hot water served from Stevenson Center)		

Plumbing Fixtures	☐	☐	☐	☐	Plumbing fixtures placed into service in 2015. Continue with regular maintenance and inspection.		
Drinking Fountains	☐	☐	☐	☐	Drinking fountains placed into service in 2015. Continue with regular maintenance and inspection.		
Fire Protection	☐	☐	☐	☐	Continue with regular maintenance and inspection (Fire protection served from Stevenson Center)		
Laboratory Air System	☐	☐	☐	☐	(1) 2015 Beacon Medaes laboratory compressed air system. Continue with regular maintenance and inspection.		
ELECTRICAL							
LIGHTING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Interior Lighting	☑	☐	☐	☐	LED fixtures with good light levels.		
Emergency Lighting	☑	☐	☐	☐	Local battery backups within fixtures.		
Lighting Controls	☑	☐	☐	☐	Crestron controller with localized dimming and occupancy sensors present.		
Exit Signage	☑	☐	☐	☐	Exit signage is present and in good condition.		
POWER	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Generator System	☑	☐	☐	☐	Generator present		
Distribution/Service Panels / Gear	☑	☐	☐	☐	Distribution system is in good condition and has some recently refurbished/new equipment.		
Branch Panels	☑	☐	☐	☐	Branch panels are in good condition.		
Receptacles + Circuiting	☑	☐	☐	☐	Receptacles coverage is good and conduit is in good condition.		
GFCI Receptacles	☑	☐	☐	☐	GFCI receptacles present in appropriate locations.		
Emergency Power - Batteries	☐	☐	☑	☐	No emergency power in the form of batteries/inverter/UPS present.		
Fire Alarm System	☑	☐	☐	☐	Fire alarm system present, but should be tested and modified to meet code compliance as necessary.		
TECHNOLOGY							
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Main Distribution Frame + Independent Distribution Frame	☐	☐	☐	☐			
Projectors	☐	☐	☐	☐			
Student Devices	☐	☐	☐	☐			
Teacher Devices	☐	☐	☐	☐			
Wireless System	☐	☐	☐	☐			
Public Address System	☐	☐	☐	☐			

Telephone Systems	☐	☐	☐	☐			
Infrastructure	☐	☐	☐	☐			
PHOTOGRAPHY							
Click "Insert" > "Image" > "Insert Image In Cell" Include location and any details in the cell to the right of the photo							

PHOTO	**NOTE**

FACILITIES ASSESSMENT DATA

TowerPinkster
Architecture · Engineering · Interiors

CLIENT: Muskegon Community College
Facility Assessment

BUILDING: Health & Wellness Center

DATE: May, 2024

Good = Item meets current and future needs, no recommendation for improvement for the next 10 years
Fair = Item meets current use, showing signs of age and should be replaced in the next 10 years
Poor = Item is nearing the end of it's useful life, current need, should be replaced in the next 5 years
Replace = Item no longer meets current use, is outdated, does not meet code, and should be replaced in the next 3 years

ARCHITECTURAL							
ACCESSIBILITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Building Entrances	☑	☐	☐	☐			
Elevator	☐	☐	☐	☐	N/A		
Toilet Rooms	☑	☐	☐	☐			
Drinking Fountains	☑	☐	☐	☐			
Stairwells	☐	☐	☐	☐	N/A		
STRUCTURE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Foundations	☑	☐	☐	☐	No visible issues from exterior		
Slabs on Grade	☐	☑	☐	☐	One large crack noted near women's locker room in SOG		
Load Bearing Walls / Columns	☑	☐	☐	☐	Steel frame / masonry bearing - no issues		
Supported Floor Framing	☐	☐	☐	☐	N/A		
Roof Framing	☑	☐	☐	☐	Bar joist / metal deck. Newer building, no issues		
BUILDING ENVELOPE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Roofing Membrane and Flashings	☑	☐	☐	☐	School has records of roof warranty dates & should consider roof replacement when warranties expire. This roof is pretty new. Might be a good idea to add insulation when replacing.		
Roof Gutters and Downspouts	☑	☐	☐	☐	None, Interior downspouts		
Exterior Walls	☐	☑	☐	☐	Partially pre-engineered building		
Wood Windows / Glazing	☑	☐	☐	☐	Insulated glass in aluminum storfront frames		
Trim, Fascia, and Soffits	☐	☐	☐	☐			
Porches	☐	☐	☐	☐			
Exterior Doors	☐	☐	☐	☐			
SAFETY + SECURITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Fire Protection	☐	☐	☐	☐			

Egress Windows	☐	☐	☐	☐			
Stairwells	☐	☐	☐	☐			
Card Access	☐	☐	☐	☐			
Security Vestibule	☐	☐	☐	☐			
Security Camera	☐	☐	☐	☐			
FOOD SERVICE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Overall Kitchen Condition	☐	☐	☐	☐	N/A		
Kitchen Equipment	☐	☐	☐	☐	N/A		
Serving / Dining Areas	☐	☐	☐	☐	N/A		
Deliveries	☐	☐	☐	☐	N/A		
Storage	☐	☐	☐	☐	N/A		
INTERIORS / FINISHES							
FLOORING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Lobby + Corridors	☑	☐	☐	☐	sealed concrete		
Classrooms	☑	☐	☐	☐	Carpet		
Toilet Rooms	☑	☐	☐	☐	tile		
Locker Rooms	☑	☐	☐	☐	tile		
Offices	☑	☐	☐	☐	Carpet		
Gymnasium	☑	☐	☐	☐	Wood, rubber		
Fitness	☑	☐	☐	☐	rubber tile		
					COMMENTS		
WALLS	**GOOD**	**FAIR**	**POOR**	**REPLACE**			
Lobby + Corridors	☑	☐	☐	☐	Gyp. Bd. (painted)		
Classrooms	☑	☐	☐	☐	Gyp. Bd. (painted)		
Toilet Rooms	☑	☐	☐	☐	tile		
Locker Rooms	☑	☐	☐	☐	tile		
Offices	☑	☐	☐	☐	Gyp. Bd. (painted)		
Gymnasium	☑	☐	☐	☐	painted CMU, painted liner panels		
Fitness	☑	☐	☐	☐	Gyp. Bd. (painted)		
CEILINGS	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Lobby + Corridors	☑	☐	☐	☐	exposed, wood laminate clouds, lay-in acoustical tile		
Classrooms	☑	☐	☐	☐	lay-in acoustical tile		
Toilet Rooms	☑	☐	☐	☐	lay-in acoustical tile		
Locker Rooms	☑	☐	☐	☐	lay-in acoustical tile		

Offices	☑	☐	☐	☐	lay-in acoustical tile		
Gymnasium	☑	☐	☐	☐	exposed (painted)		
Fitness	☑	☐	☐	☐	exposed (painted)		
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
DOORS + HARDWARE	☑	☐	☐	☐			
	GOOD	**FAIR**	**POOR**	**REPLACE**			
WINDOWS	☑	☐	☐	☐			
	GOOD	**FAIR**	**POOR**	**REPLACE**			
CABINETS / STORAGE / COUNTERS	☑	☐	☐	☐			
MECHANICAL							
HVAC	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Heating Source and Condition	☑	☐	☐	☐	B-1 2018 Lochinvar Condensing, Taco "2400-70-2-3P" boiler pump B-2 2018 Lochinvar Condensing, Taco "2400-70-2-3P" boiler pump Continue with regular maintenance and inspection on units. Tube type condensate neutralization kits on boilers are more difficult to maintain for campus, and maintenance staff would like to consider standardizing on condensate neutralization tanks that can be top loaded with neutralization media and cleaned.	(CG)Provide cost to replace condensate neturalization with neutralization tanks.	
Heating Pumps and Piping	☑	☐	☐	☐	P-1 2018 Armstrong Design Envelope Pump w/Integral VFD (Pump was not accessible at time of site visit) P-2 2018 Armstrong Design Envelope Pump w/Integral VFD (Pump was not accessible at time of site visit) College to consider standardizing on PVC protective pipe insulation wrap on exposed piping insulation to protect insulation from tears. Continue with regular pump and water quality maintenance.		
Cooling Source and Condition	☐	☐	☐	☐	N/A		
Cooling Pumps and Piping	☐	☐	☐	☐	N/A		

Air Handling / Ventilation (Packaged Rooftop Units)	☐	☑	☐	☐	(6) 2018 RTU Johnson Controls Packaged Rooftop Units, 2" filtration, economizer section, R410A DX cooling coil with access, staged stainless steel gas heating with access, supply fan w/Danfoss, Mitsubishi, or Johnson Controls VFDs, exhaust fan w/Danfoss, Mitsubishi, or Johnson Controls VFDs Exhaust fan minimum speeds and control should be reviewed, as minimum speed causes a loud fan rumble and gravity damper isn't open (RTU-1 witnessed). RTU-2 supply or exhaust fan excessive VFD harmonic noise from return grille should be remedied, either by verifying VFD setup and switching frequency or replacement of VFD. Condenser coil and compressor section are provided with wire guards or no guards in lieu of louvered guards, and components are showing signs of weather deterioration and coil damage. Consider installation of louvers from third party to protect components. Repair condensate traps and provide means for cleanout. Continue with regular cleaning and inspection of outdoor air hood filters/moisture eliminators for correct unit operation and ventilation.	(CG)Provide costs for correcting exhaust fan speeds, fixing VFD switching frequency noise, for louvered guards, condensate trap replacement.	
Air Handling / Ventilation (Exhaust Fans)	☑	☐	☐	☐	(4) 2018 Cook Roof Exhaust Fans Continue with regular maintenance and inspection on units.		
Building Management System / Controls	☑	☐	☐	☐	Maintenance staff has indicated there is a high failure rate occurring on motorized valves throughout all buildings on campus. Hurst Mechanical (Control Resource) has been replacing failed valves with Belimo valves. Controls, maintained, and connected to campus control system by Control Resource.		
Energy Efficiency	☐	☐	☐	☐	Recommend customized LVL 2 energy assessment (audit) for review of any recommended building use changes, building envelope changes/improvements, HVAC replacements/improvements, domestic water replacements/improvements, or lighting replacements/improvements.		
Humidifier	☐	☐	☐	☐	N/A		
Room Level Terminal Equipment (Split System Air Conditioning Units)	☑	☐	☐	☐	(1) ACC/ACCU 2018 Fujitsu "AOUH12LPAS1", R-410A (3) ACC/ACCU 2018 Mitsubishi "PUY-A12NKA7", R-410A Continue with regular maintenance and inspection.		
Room Level Terminal Equipment (Terminal Units)	☑	☐	☐	☐	(3) 2018 variable volume terminal units (no reheat) (46) 2018 variable volume terminal units with hot water reheat. Continue with regular maintenance and inspection.		
Room Level Terminal Equipment (Cabinet Unit Heaters)	☑	☐	☐	☐	(3) 2018 hot water cabinet unit heaters Continue with regular maintenance and inspection on units.		
Facility Natural Gas System	☐	☑	☐	☐	RTU-5 was found with the gas valve partially closed and should be remedied accordingly if any gas pressure issues are occuring that may damage the rooftop unit. Monitor gas fired equipment and appliance operation issues that may occur with DTE switching from high gas pressure service to medium gas pressure service. Appliance gas regulators vented to the exterior of the building have operational issues during windy conditions. Continue with regular maintenance and inspection of facility natural gas systems.	(CG)Provide cost for testing and correcting gas valve and gas pressure to RTU-5.	

PLUMBING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Storm System	☑	☐	☐	☐	Storm system consists of piping and specialties dating from 2018. Continue with regular maintenance and inspection.		
Sanitary System	☑	☐	☐	☐	Sanitary system consists of piping and specialties dating from 2018. Continue with regular maintenance and inspection.		
Domestic Water Piping	☑	☐	☐	☐	Domestic water piping system consists of piping and specialties dating from 2018. Continue with regular maintenance and inspection.		
Water Heaters	☑	☐	☐	☐	(1) 2018 Bradford White gas fired tank water heater 100gal, 199kbtu, 99%eff Continue with regular maintenance and inspection.		
Plumbing Fixtures	☑	☐	☐	☐	Plumbing fixtures placed into service in 2018. Continue with regular maintenance and inspection.		
Drinking Fountains	☑	☐	☐	☐	Drinking fountains placed into service in 2018. Continue with regular maintenance and inspection.		
Fire Protection	☑	☐	☐	☐	Fire protection system installed by Total Fire Protection. Continue with regular maintenance and inspection.		
ELECTRICAL							
LIGHTING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Exterior Lighting	☑	☐	☐	☐	Exterior lights LED with good coverage.		
Parking Lot Lighting	☐	☑	☐	☐	Parking lot lighting is present, but parking lot lights appear to be a combination of LED retrofit fixtures and fluorescents. Standardize fixtures to LED bulbs or update all lights to new LED fixture for consistency.		
Interior Lighting	☑	☐	☐	☐	LED lighting throughout.		
Emergency Lighting	☑	☐	☐	☐	Inverter EM lighting throughout building.		
Lighting Controls	☑	☐	☐	☐	Modern controls present.		
Exit Signage	☑	☐	☐	☐	Exit signage is present.		
POWER	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Electrical Service	☑	☐	☐	☐	Substations and transformers in adequate condition. Gear should be tested and refurbished as necessary.		
Generator System	☐	☐	☐	☑	No generator present.		
Distribution/Service Panels / Gear	☑	☐	☐	☐	Distribution panels in good condition.		
Branch Panels	☑	☐	☐	☐	Branch panels in good condition.		
Receptacles + Circuiting	☑	☐	☐	☐	Receptacle coverage is good and conduit is in good condition.		

GFCI Receptacles	☑	☐	☐	☐	GFCI receptacles present in appropriate locations.		
Emergency Power - Batteries	☑	☐	☐	☐	Inverter for lighting is present.		
Fire Alarm System	☑	☐	☐	☐	Fire alarm system present, but should be tested and modified to meet code compliance as necessary.		
TECHNOLOGY							
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Main Distribution Frame + Independent Distribution Frame	☐	☐	☐	☐			
Projectors	☐	☐	☐	☐			
Student Devices	☐	☐	☐	☐			
Teacher Devices	☐	☐	☐	☐			
Wireless System	☐	☐	☐	☐			
Public Address System	☐	☐	☐	☐			
Telephone Systems	☐	☐	☐	☐			
Infrastructure	☐	☐	☐	☐			
PHOTOGRAPHY							
Click "Insert" > "Image" > "Insert Image In Cell" Include location and any details in the cell to the right of the photo							
PHOTO	**NOTE**						

FACILITIES ASSESSMENT DATA

TowerPinkster
Architecture · Engineering · Interiors

CLIENT: Muskegon Community College
Facility Assessment

BUILDING: Grand Haven Center

DATE: May, 2024

Good = Item meets current and future needs, no recommendation for improvement for the next 10 years
Fair = Item meets current use, showing signs of age and should be replaced in the next 10 years
Poor = Item is nearing the end of it's useful life, current need, should be replaced in the next 5 years
Replace = Item no longer meets current use, is outdated, does not meet code, and should be replaced in the next 3 years

ARCHITECTURAL							
ACCESSIBILITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Building Entrances	☑	☐	☐	☐	Insulated glass in aluminum storefront framing system.		
Elevator	☐	☐	☐	☐	N/A		
Toilet Rooms	☑	☐	☐	☐			
Drinking Fountains	☑	☐	☐	☐			
Stairwells	☐	☐	☐	☐	N/A		
STRUCTURE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Foundations	☐	☐	☐	☐			
Slabs on Grade	☐	☐	☐	☐			
Load Bearing Walls / Columns	☐	☐	☐	☐			
Supported Floor Framing	☐	☐	☐	☐			
Roof Framing	☐	☐	☐	☐			
BUILDING ENVELOPE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Roofing Membrane and Flashings	☑	☐	☐	☐	40 year roof shingles recently added		
Roof Gutters and Downspouts	☐	☐	☑	☐	gutters currently only reside between the dormers on the rear of the building. Provide cost to add gutters everywhere.	350 lf	$25,500.00
Exterior Walls	☐	☐	☑	☐	Single wythe CMU furred on the interior with a drywall finish. Likely insulation may be in the furring are creating the dewpoint to reside on the inside of the building. Provide cost to flash above windows, at base of windows & base of walls per attached detail in photos below (linear foot)	(14) 6' wide window locations (3) 3'4 window locations	$85,000.00
Wood Windows / Glazing	☐	☑	☐	☐	Insulated glass in aluminum storefront windows		
Trim, Fascia, and Soffits	☐	☐	☑	☐	Painted wood fascia & soffit. Provide cost to wrapp with aluminum (price per linear foot)		
Porches	☐	☑	☐	☐			
Exterior Doors	☐	☐	☑	☐	Owner would like to see "bottom of the line" Vestibule exterior aluminum storefront replaced	replace two double doors and frames at main entrance, exterior vestibule and interior vestibule location	$26,500.00

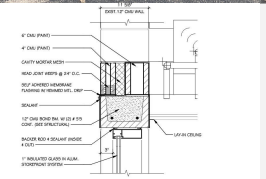
SAFETY + SECURITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Fire Protection	☐	☐	☐	☐			
Egress Windows	☐	☐	☐	☐			
Stairwells	☐	☐	☐	☐			
Card Access	☐	☐	☐	☐			
Security Vestibule	☐	☐	☐	☐			
Security Camera	☐	☐	☐	☐			
FOOD SERVICE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Overall Kitchen Condition	☐	☐	☐	☐			
Kitchen Equipment	☐	☐	☐	☐			
Serving / Dining Areas	☐	☐	☐	☐			
Deliveries	☐	☐	☐	☐			
Storage	☐	☐	☐	☐			
INTERIORS / FINISHES							
FLOORING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Lobby + Corridors	☑	☐	☐	☐	carpet tile		
Classrooms	☑	☐	☐	☐	carpet tile		
Toilet Rooms	☑	☐	☐	☐	tile		
Break Area	☑	☐	☐	☐	vinyl plank		
Offices	☑	☐	☐	☐	carpet tile		
storage	☑	☐	☐	☐	sealed concrete		
	☐	☐	☐	☐			
					COMMENTS		
WALLS	**GOOD**	**FAIR**	**POOR**	**REPLACE**			
Lobby + Corridors	☑	☐	☐	☐	painted gyp. bd.		
Classrooms	☑	☐	☐	☐	painted gyp. bd.		
Toilet Rooms	☑	☐	☐	☐	painted gyp. bd.		
Break Area	☑	☐	☐	☐	painted gyp. bd.		
Offices	☑	☐	☐	☐	painted gyp. bd.		
storage	☑	☐	☐	☐	painted gyp. bd.		
	☐	☐	☐	☐			
CEILINGS	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Lobby + Corridors	☑	☐	☐	☐	lay-in acoustical tile		
Classrooms	☑	☐	☐	☐	lay-in acoustical tile		

Toilet Rooms	☑	☐	☐	☐	lay-in acoustical tile		
Break Area	☑	☐	☐	☐	lay-in acoustical tile		
Offices	☑	☐	☐	☐	lay-in acoustical tile		
storage	☑	☐	☐	☐	exposed (painted)		
	☐	☐	☐	☐			
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
DOORS + HARDWARE	☑	☐	☐	☐	Two wood exterior door are in good shape but may want to be replaced with aluminum, one painted hollow metal exterior door may want to be replace with alumnum.		
	GOOD	**FAIR**	**POOR**	**REPLACE**			
WINDOWS	☑	☐	☐	☐			
	GOOD	**FAIR**	**POOR**	**REPLACE**			
CABINETS / STORAGE / COUNTERS	☑	☐	☐	☐			
MECHANICAL							
HVAC	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Heating Source and Condition	☐	☐	☐	☐	N/A (See Air Handling / Ventilation)		
Heating Pumps and Piping	☐	☐	☐	☐	N/A (See Air Handling / Ventilation)		
Cooling Source and Condition	☐	☐	☐	☐	N/A (See Air Handling / Ventilation)		
Cooling Pumps and Piping	☐	☐	☐	☐	N/A (See Air Handling / Ventilation)		
Air Handling / Ventilation (Packaged Rooftop Units)	☐	☑	☐	☐	(3) 2020 Trane Packaged Rooftop Units mounted on grade, 2" filtration, economizer section, R410A DX cooling coil with access, staged stainless steel gas heating with access, supply fan w/EC motor, exhaust fan w/EC motor Maintenance staff indicate attic duct board falling apart, and replacement cost with insulated metal duct $30,000. Continue with regular maintenance and inspection.	(CG)Cost for replacement of ductboard with insulated metal duct.	$30,000.00
Building Management System / Controls	☐	☑	☐	☐	Overhead door switches will be required upon replacement of electric unit heater, or requires pre approval by local authorities. Controls, maintained, and connected to campus control system by Control Resource.		
Energy Efficiency	☐	☐	☐	☐	Recommend customized LVL 2 energy assessment (audit) for review of any recommended building use changes, building envelope changes/improvements, HVAC replacements/improvements, domestic water replacements/improvements, or lighting replacements/improvements.		
Humidifier	☐	☐	☐	☐	N/A		

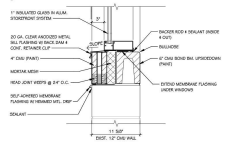
Room Level Terminal Equipment (Electric Unit Heaters)	☐	☑	☐	☐	Electric unit heaters Continue with regular maintenance and inspection.		
Room Level Terminal Equipment (Split System Air Cooled Heat Pump Units)	☑	☐	☐	☐	(1) HPU/ACCU 2020 Mitsubishi "MUZ-GE18NA", R-410A (1) HPU/ACCU 2020 Mitsubishi "MUZ-D30NA", R-410A Continue with regular maintenance and inspection.		
Facility Natural Gas System	☐	☑	☐	☐	Facility natural gas system consists of piping and specialties dating prior to 2020. Continue with regular maintenance and inspection of facility natural gas systems.		
PLUMBING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Storm System	☐	☐	☐	☐	No storm system present. See other discipline comments on site drainage, gutter systems, and roof drainage.		
Sanitary System	☐	☑	☐	☐	Sanitary system consists of piping and specialties dating prior to 2020. Continue with regular maintenance and inspection.		
Domestic Water Piping	☐	☑	☐	☐	Domestic water piping system consists of piping and specialties dating prior to 2020. Continue with regular maintenance and inspection.		
Water Heaters	☑	☐	☐	☐	Electric domestic water heater placed into service in 2021. Continue with regular maintenance and inspection.		
Plumbing Fixtures	☑	☐	☐	☐	Plumbing fixtures placed into service in 2020. Continue with regular maintenance and inspection.		
Drinking Fountains	☑	☐	☐	☐	Drinking fountains placed into service in 2020. Continue with regular maintenance and inspection.		
Fire Protection	☐	☐	☐	☐	N/A (Fire Extinguishers)		
ELECTRICAL							
LIGHTING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Exterior Lighting	☐	☐	☑	☐	Exterior lighting is present, but lack of coverage is a security concern. Price for complete replacement based on square footage.		
Parking Lot Lighting	☐	☐	☑	☐	Parking lot lighting is present, but lack of coverage is a security concern. Existing site poles in good condition. Price for complete replacement based on square footage.		
Interior Lighting	☑	☐	☐	☐	Modern fixtures producing adequate light levels for the space.		
Emergency Lighting	☑	☐	☐	☐	Emergency lighting appears code compliant.		
Lighting Controls	☑	☐	☐	☐	Cooper Wavelinx lighting control system. Occupancy sensors and dimming present.		
Exit Signage	☑	☐	☐	☐	Exit signage present.		
POWER	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Generator System	☐	☐	☐	☑	No generator present (N/A)		

Distribution/Service Panels / Gear	☑	☐	☐	☐	400A 120/240V service panel present in good condition. Panel should be tested and refurbished as necessary.		
Branch Panels	☑	☐	☐	☐	Branch panels in good condition. Panels should be tested and refurbished as necessary		
Receptacles + Circuiting	☑	☐	☐	☐	Adequate receptacles and circuiting		
GFCI Receptacles	☑	☐	☐	☐	GFCI receptacles present in appropriate locations.		
Emergency Power - Batteries	☐	☐	☐	☑	No emergency power in the form of batteries/inverter/UPS present.		
Fire Alarm System	☐	☑	☐	☐	Fire alarm system present, but should be tested and modified to meet code compliance as necessary.		
TECHNOLOGY							
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Main Distribution Frame + Independent Distribution Frame	☐	☐	☐	☐			
Projectors	☐	☐	☐	☐			
Student Devices	☐	☐	☐	☐			
Teacher Devices	☐	☐	☐	☐			
Wireless System	☐	☐	☐	☐			
Public Address System	☐	☐	☐	☐			
Telephone Systems	☐	☐	☐	☐			
Infrastructure	☐	☐	☐	☐			
PHOTOGRAPHY							
Click "Insert" > "Image" > "Insert Image In Cell" Include location and any details in the cell to the right of the photo							
PHOTO	**NOTE**						

Exterior



STOREFRONT HEAD DETAIL @ SINGLE WYTHE CMU



STOREFRONT SILL DETAIL @ SINGLE WYTHE CMU

FACILITIES ASSESSMENT DATA

TowerPinkster
Architecture · Engineering · Interiors

CLIENT: Muskegon Community College
Facility Assessment

BUILDING: Downtown Center Storage

DATE: May, 2024

Good = Item meets current and future needs, no recommendation for improvement for the next 10 years
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Poor = Item is nearing the end of it's useful life, current need, should be replaced in the next 5 years
Replace = Item no longer meets current use, is outdated, does not meet code, and should be replaced in the next 3 years

ARCHITECTURAL							
ACCESSIBILITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Building Entrances	☐	☑	☐	☐	overhead doors are good, back door walk is narrow at doorway		
Elevator	☐	☐	☐	☐	N/A		
Toilet Rooms	☐	☐	☐	☐	N/A		
Drinking Fountains	☐	☐	☐	☐	N/A		
Stairwells	☐	☑	☐	☐	exposed wood construction		
STRUCTURE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Foundations	☐	☑	☐	☐	No visible issues		
Slabs on Grade	☐	☑	☐	☐	Minor cracking		
Load Bearing Walls / Columns	☐	☑	☐	☐	Residential style construction - wood stud bearing walls		
Supported Floor Framing	☐	☑	☐	☐	Plywood / Wood Joist Mezzanine. Needs review of discontinous roof post		
Roof Framing	☐	☑	☐	☐	O.S.B. on wood rafters with ridge beam (stick built). Some collar ties about 1/3rd way down		
BUILDING ENVELOPE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Roofing Membrane and Flashings	☐	☐	☐	☐	Shingle roof with ridge vent (open soffit?)		
Roof Gutters and Downspouts	☐	☐	☑	☐	None existing. Provide cost for gutters & downspouts	180 lf	$13,150.00
Exterior Walls	☐	☐	☐	☐	2x4 wd. studs, no insulation, 24"+- high brick wainscot. Provide cost to insulate walls (per sq. ft.)		
Wood Windows / Glazing	☐	☐	☐	☐	Insulated Garage doors, Insulated fixed glass windows		
Trim, Fascia, and Soffits	☐	☐	☐	☐	Painted wood.		
Porches	☐	☐	☐	☐	Sidewalk to man door		
Exterior Doors	☐	☐	☐	☐	Insulated garage doors, metal clad man dr.	The school would like to raise the head of the center garage door to get a taller door installed to accomodate taller equipment	$31,000.00

SAFETY + SECURITY	GOOD	FAIR	POOR	REPLACE	COMMENTS		
Fire Protection	☐	☐	☐	☐			
Egress Windows	☐	☐	☐	☐			
Stairwells	☐	☐	☐	☐			
Card Access	☐	☐	☐	☐			
Security Vestibule	☐	☐	☐	☐			
Security Camera	☐	☐	☐	☐			
FOOD SERVICE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Overall Kitchen Condition	☐	☐	☐	☐			
Kitchen Equipment	☐	☐	☐	☐			
Serving / Dining Areas	☐	☐	☐	☐			
Deliveries	☐	☐	☐	☐			
Storage	☐	☐	☐	☐			
INTERIORS / FINISHES							
FLOORING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Equipment Storage	☑	☐	☐	☐	Concrete		
Office	☐	☑	☐	☐	Paited Concrete		
Mezzanine	☑	☐	☐	☐	Plywood		
					COMMENTS		
WALLS	**GOOD**	**FAIR**	**POOR**	**REPLACE**			
Equipment Storage	☑	☐	☐	☐	Exposed wood stud and sheathing		
Office	☐	☐	☐	☐	Painted Gyp. Bd.		
Mezzanine	☐	☐	☐	☐	Exposed wood stud and sheathing		
CEILINGS	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Equipment Storage	☐	☐	☐	☐	exposed wood joists		
Office	☐	☐	☐	☐	Painted Gyp. Bd.		
Mezzanine	☐	☐	☐	☐	Exposed rafters and sheathing		
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
DOORS + HARDWARE	☑	☐	☐	☐			
	GOOD	**FAIR**	**POOR**	**REPLACE**			
WINDOWS	☑	☐	☐	☐			

	GOOD	FAIR	POOR	REPLACE			
CABINETS / STORAGE / COUNTERS	☐	☐	☐	☐			
MECHANICAL							
HVAC	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Heating Source and Condition	☐	☐	☐	☐	N/A (Semiheated Building)		
Heating Pumps and Piping	☐	☐	☐	☐	N/A (Semiheated Building)		
Cooling Source and Condition	☐	☐	☐	☐	N/A (Semiheated Building)		
Cooling Pumps and Piping	☐	☐	☐	☐	N/A (Semiheated Building)		
Air Handling / Ventilation	☐	☐	☐	☐	N/A (Semiheated Building)		
Building Management System / Controls	☐	☑	☐	☐	Local thermostat only. Overhead door switches will be required upon replacement of electric unit heater, or requires pre approval by local authorities. Building is not tied into campus building control system.		
Energy Efficiency	☐	☐	☐	☐	Considder customized LVL 2 energy assessment (audit) for review of any recommended building use changes, building envelope changes, HVAC changes, domestic water changes, or lighting changes.		
Humidifier	☐	☐	☐	☐	N/A		
Room Level Terminal Equipment	☐	☑	☐	☐	Electric unit heaters Continue with regular maintenance and inspection.		
Facility Natural Gas System	☐	☐	☐	☐	N/A		
PLUMBING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Storm System	☐	☐	☐	☐	No storm system present. See other discipline comments on site drainage, gutter systems, and roof drainage.		
Sanitary System	☐	☐	☐	☐	N/A (Unoccupied Building)		
Domestic Water Piping	☐	☐	☐	☐	N/A (Unoccupied Building)		
Water Heaters	☐	☐	☐	☐	N/A (Unoccupied Building)		
Plumbing Fixtures	☐	☐	☐	☐	N/A (Unoccupied Building)		
Drinking Fountains	☐	☐	☐	☐	N/A (Unoccupied Building)		
Fire Protection	☐	☐	☐	☐	N/A (Fire Extinguishers)		
ELECTRICAL							
LIGHTING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Exterior Lighting	☐	☑	☐	☐	Exterior lights appear to be a combination of LED retrofit fixtures and fluorescents. Standardize fixtures to new LED fixtures for consistency and energy savings.		

Parking Lot Lighting	☐	☑	☐	☐	Parking lot LED lighting is present and appears in good condition.		
Interior Lighting	☐	☐	☑	☐	Combination of LED replacements and original fixtures present. In some locations, lighting layout may require modification in order to improve efficiency. New LED fixtures should be installed in place of retrofits. Price for complete replacement based on square footage.		
Emergency Lighting	☐	☐	☐	☑	Limited or no local battery backups within fixtures. Emergency lighting does not appear to be code compliant. Consistent battery fixtures could be added or an inverter could be installed to provide emergency lighting. Price for complete replacement based on square footage.		
Lighting Controls	☐	☐	☐	☑	Manual switches to turn lights on or off, but no localized dimming or occupancy sensing. Controls should be replaced for better energy efficiency. Price for complete replacement based on square footage.		
Exit Signage	☐	☐	☐	☐	Exit signage is not present. (N/A)		
POWER	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Generator System	☐	☐	☐	☐	No generator present. (N/A)		
Distribution/Service Panels / Gear	☐	☑	☐	☐	Service panel is adequate, but aged. Panel should be tested and refurbished as necessary.		
Receptacles + Circuiting	☐	☑	☐	☐	Receptacles coverage is good and conduit is in good condition.		
GFCI Receptacles	☐	☐	☐	☑	GFCI receptacles not present.		
Emergency Power - Batteries	☐	☐	☐	☐	No emergency power in the form of batteries/inverter/UPS present. (N/A)		
Fire Alarm System	☐	☐	☐	☐	Fire alarm system not present. (N/A)		
TECHNOLOGY							
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Main Distribution Frame + Independent Distribution Frame	☐	☐	☐	☐			
Projectors	☐	☐	☐	☐			
Student Devices	☐	☐	☐	☐			
Teacher Devices	☐	☐	☐	☐			
Wireless System	☐	☐	☐	☐			
Public Address System	☐	☐	☐	☐			
Telephone Systems	☐	☐	☐	☐			
Infrastructure	☐	☐	☐	☐			

PHOTOGRAPHY							
Click "Insert" > "Image" > "Insert Image In Cell" Include location and any details in the cell to the right of the photo							
PHOTO	**NOTE**						
	Exterior Photo						
	Roof Framing						

FACILITIES ASSESSMENT DATA

TowerPinkster
Architecture · Engineering · Interiors

CLIENT: Muskegon Community College
Facility Assessment

BUILDING: Sturrus Tech Center

DATE: May, 2024

Good = Item meets current and future needs, no recommendation for improvement for the next 10 years
Fair = Item meets current use, showing signs of age and should be replaced in the next 10 years
Poor = Item is nearing the end of it's useful life, current need, should be replaced in the next 5 years
Replace = Item no longer meets current use, is outdated, does not meet code, and should be replaced in the next 3 years

ARCHITECTURAL							
ACCESSIBILITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Building Entrances	☑	☐	☐	☐			
Elevator	☑	☐	☐	☐			
Toilet Rooms	☑	☐	☐	☐			
Drinking Fountains	☑	☐	☐	☐			
Stairwells	☑	☐	☐	☐			
STRUCTURE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Foundations	☐	☐	☑	☐	The existing north wall (adjacent to alley) foundation was only 20"+- below grade (code minimum is 42"). This caused some settlement of the structure prior to being repaired		
Slabs on Grade	☐	☐	☑	☐	Slabs on grade are in the Basement level only. There are existing cart tracks left imbedded in the concrete as well as raised housekeeping slabs		
Load Bearing Walls / Columns	☐	☐	☑	☐	Besides North (alley) wall missing frost depth footings, many additional adjustable steel support .posts have been added. It was mentioned that some walls started to bow or deflect (angle in) and spreader beams & posts were provided at those locations		
Supported Floor Framing	☐	☐	☑	☐	Due to settlement (missing frost footings at alley) + overloading the elevated concrete floors, many of the elevated concrete floors have cracks throughout. The Masonic Temple basement has retrofitted steel angles between & adjacent to the existing steel joist framing.		
Roof Framing	☐	☑	☐	☐			
BUILDING ENVELOPE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Roofing Membrane and Flashings	☐	☐	☑	☐	Multiple roofs have multiple materials & warranties. School has records of roof warranty dates & should consider roof replacement when warranties expire. Suggest adding additional roof insulation when replacing (min. R-20 at drains sloping 1/8"/Ft. to edge)	Replace ???sf fully adheared membrane roof	$1,232,000.00
Roof Gutters and Downspouts	☐	☑	☐	☐	None, interior downspouts		

Exterior Walls	☐	☐	☑	☐	Exterior walls are "Mass Masonry" either clay tile with stone veneer, clay tile with brick veneer or CMU with either stone or brick veneer without a cavity drainage weep system. The walls absorb moisture & slowly release it but depending on time of year could be saturated. Provide cost for sealing exterior veneer (per sq. ft.) with a silane siloxane type 10 year sealer.Provide sq. ft. cost for tuckpointing.		
Wood Windows / Glazing	☑	☐	☐	☐	It appears all the windows have been updated with insulated glass		
Trim, Fascia, and Soffits	☐	☐	☑	☐	Much of the limestone veneer needs cleaning & tuckpointing.		
Porches	☐	☐	☐	☐	N/A		
Exterior Doors	☐	☑	☐	☐	Insulated glass in aluminum storefront		
SAFETY + SECURITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Fire Protection	☐	☐	☐	☐			
Egress Windows	☐	☐	☐	☐			
Stairwells	☐	☐	☐	☐			
Card Access	☐	☐	☐	☐			
Security Vestibule	☐	☐	☐	☐			
Security Camera	☐	☐	☐	☐			
FOOD SERVICE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Overall Kitchen Condition	☐	☐	☐	☐			
Kitchen Equipment	☐	☐	☐	☐			
Serving / Dining Areas	☐	☐	☐	☐			
Deliveries	☐	☐	☐	☐			
Storage	☐	☐	☐	☐			
INTERIORS / FINISHES							
FLOORING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Corridors	☐	☐	☑	☑	Epoxy flooring, cracking due to overloading the floor. Structural system has been reinforced since applied	1,700 sf poured epoxy	$56,500.00
Classrooms	☑	☐	☐	☐	carpet tile		
Toilet Rooms	☑	☐	☐	☐	Recently renovated, tile		
Work Shop/Lab	☑	☐	☐	☐	sealed concrete and painted epoxy		
Student Lounge	☑	☐	☐	☐	vinyl plank flooring		
Offices	☑	☐	☐	☐	carpet tile		
Basement	☐	☐	☑	☐	No renovations in this area		
Old Masonic Temple Upper Floors	☐	☐	☑	☐	No renovations in this area		
					COMMENTS		

WALLS	GOOD	FAIR	POOR	REPLACE			
Corridors	☑	☐	☐	☐	painted gyp. bd., painted CMU and Burnished CMU,some cracking possibly due to overloading the floor. Structural system has been reinforced since installed		
Classrooms	☑	☐	☐	☐	painted gyp. bd.		
Toilet Rooms	☑	☐	☐	☐	Recently renovated, burnished CMU		
Work Shop/Lab	☑	☐	☐	☐	painted gyp. bd., painted CMU, some cracking possibly due to overloading the floor. Structural system has been reinforced since installed		
Student Lounge	☐	☐	☐	☐	painted gyp. bd.		
Offices	☑	☐	☐	☐	painted gyp. bd.		
Basement	☐	☐	☑	☐	No renovations in this area		
Old Masonic Temple Upper Floors	☐	☐	☑	☐	No renovations in this area		
CEILINGS	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Corridors	☑	☐	☐	☐	acoustical lay in tile, painted gyp. bd. and wood slat		
Classrooms	☑	☐	☐	☐	acoustical lay in tile		
Toilet Rooms	☑	☐	☐	☐	acoustical lay in tile		
Work Shop/Lab	☑	☐	☐	☐	exposed (painted)		
Student Lounge	☑	☐	☐	☐	acoustical lay in tile		
Offices	☑	☐	☐	☐	acoustical lay in tile		
Basement	☐	☐	☑	☐	No renovations in this area		
Old Masonic Temple Upper Floors	☐	☐	☑	☐	No renovations in this area		
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
DOORS + HARDWARE	☑	☐	☐	☐			
	GOOD	**FAIR**	**POOR**	**REPLACE**			
WINDOWS	☑	☐	☐	☐			
	GOOD	**FAIR**	**POOR**	**REPLACE**			
CABINETS / STORAGE / COUNTERS	☑	☐	☐	☐			
MECHANICAL							
HVAC	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**

Heating Source and Condition (Sturrus Technology Center)	☐	☑	☐	☐	B-1 2017 Aerco "BMK 2500" Condensing, B&G boiler pump 100gpm, 17ft.hd. B-2 2017 Aerco "BMK 2500" Condensing, B&G boiler pump 100gpm, 17ft.hd. B-3 2017 Aerco "BMK 2500" Condensing, B&G boiler pump 100gpm, 17ft.hd. Condensate neutralization tanks already installed that maintenance staff would like to standardize on throughout the campus. Consider replacement of Aerco boiler controller with controller and control sequencing from Control Resource, while complying with Aerco warranty requirements, if boiler control sequencing issues continue with communication loss. Continue with regular maintenance and inspection.	(CG)Replace boiler plant controller with controls by Control Resource.	
Heating Source and Condition (Sturrus Technology Center/Temple)	☐	☐	☐	☑	B-1 1991 Weil Mclain "LGB-6" Non-condensing, 50psi max relief, B&G boiler pump B-2 1991 Weil Mclain "LGB-6" Non-condensing, 50psi max relief, B&G boiler pump Weil Mclain boilers currently at the end of their useful life. Continue with regular maintenance and inspection.	Replace w/ condensing boilers (CG)Coordinate cost with sq.ft. of building renovation.	$225,000.00
Heating Pumps and Piping (Sturrus Technology Center)	☐	☑	☐	☐	P-2A Wilo "M4.2/4600" 3.6hp (EC motor) P-2B Wilo "M4.2/4600" 3.6hp (EC motor) (2) Existing 2017 B&G "e-1510 3EB" 185gpm, 120fthd, 20hp pumps disconnected and abandoned due to flow control issues within the building. Design documents indicate possible future connection to heating system pipe mains in boiler room. Pumps replaced with smaller Wilo pumps above. Maintenance staff desire additional in depth review and witnessing of heating water system, to remedy building heating system instabilities. Re-testing and balancing done in 2021 by Great Lakes Testing and Balancing. Continue with regular maintenance and inspection.	(CG)Heating system engineering study required.	
Heating Pumps and Piping (Sturrus Technology Center/Temple)	☐	☐	☐	☑	HWP-1 2024 Wilo "TOP-S1.5x70" 1.5kw (EC motor) HWP-2 2024 Wilo "TOP-S1.5x70" 1.5kw (EC motor) Coordinate replacement of pumps and piping with renovation of building. Continue with regular maintenance and inspection.	(CG)Coordinate cost with sq.ft. of building renovation.	
Cooling Source and Condition (Sturrus Technology Center)	☐	☑	☐	☐	CH-1 2017 Trane "RTAE 275F" air cooled chiller. Unit is unable to run continuously and alarms consistently at low water flow conditions. Bypass valve for minimum flow was designed for but not installed or removed, located near chiller. Consider installing motorized bypass valve for minimum flow further downstream in building to limit structural needs for chilled water buffer tank. Optionally consider additional balancing valves and 3-way motorized valves on air handling units to maintain minimum flow and chilled water volume. Re-testing and balancing done in 2021 by Great Lakes Testing and Balancing. Continue with regular maintenance and inspection.	(CG)Provide motorized bypass valve or additional 3-way motorized valves on air handling units.	
Cooling Source and Condition (Sturrus Technology Center/Temple)	☐	☐	☐	☑	CH-2 1964 Carrier "30HH" water cooled chiller abandoned in place. Coordinate replacement with renovation of building.	(CG)Coordinate cost with sq.ft. of building renovation.	

Cooling Pumps and Piping (Sturrus Technology Center)	☑	☐	☐	☐	P-1A 2017 B&G "e1510-3GB" 250gpm, 105ft.hd. 20hp (Danfoss VFD) P-1B 2017 B&G "e1510-3GB" 250gpm, 105ft.hd. 20hp (Danfoss VFD) Enerco Glycol Make-Up System Continue with regular maintenance and inspection.		
Cooling Pumps and Piping (Sturrus Technology Center/Temple)	☐	☐	☐	☑	Chilled water pumps and piping abandoned in place. Coordinate replacement with renovation of building.	(CG)Coordinate cost with sq.ft. of building renovation.	
Air Handling / Ventilation (Sturrus Technology Center Indoor/Outdoor Modular Air Handling Units)	☑	☐	☐	☐	(5) 2017 Trane Indoor/Outdoor Modular Air Handling Units, 2" or 4" filtration, economizer section, chilled water cooling coil with access, pumped hot water heating coil with access, supply fan w/VFD, return fan w/VFD or EC motors, exhaust fan w/VFD Means for cleanout of condensate traps have been provided. Interior of units are clean of debris and coil fins are in good condition. Outdoor air hood filters/moisture eliminators are in good condition. Consider standardizing steel floor grating within coil access vestibules. AHU-4 exhaust fan abandoned in place. AHU-2 relief air discharges into AHU-3 outdoor air intake affecting unit operation and ventilation. Continue with regular maintenance and inspection.		
Air Handling / Ventilation (Sturrus Technology Center/Temple Indoor Modular Air Handling Units)	☐	☐	☐	☑	(2) 1948 American Blower Corporation Modular Air Handling Units, 2" filtration, chilled water cooling coil, hot water heating coil, abandoned steam coil, supply fan on/off Units are past their useful life. Coordinate replacement with renovation of building.	(CG)Coordinate cost with sq.ft. of building renovation.	
Air Handling / Ventilation (Sturrus Technology Center/Temple Packaged Rooftop Units)	☐	☐	☐	☑	(1) RTU Carrier Packaged DX, Rooftop Unit, On/Off Supply Fan, No Outdoor Air Intake (Abandoned in place) Unit is past its useful life. Coordinate replacement with renovation of building.	(CG)Coordinate cost with sq.ft. of building renovation.	
Air Handling / Ventilation (Exhaust Fans)	☐	☑	☐	☐	(3) 2017 Cook Roof Exhaust Fans (1) 2017 Fantech Roof Exhaust Fans (4) 2017 Inline Exhaust Fans (3) ACME Roof Exhaust Fans (2) Roof Exhaust Fan (Abandoned in place) Provide exhaust for janitors closet within renovated area of Temple. Continue with regular maintenance and inspection. Coordinate replacement with renovation of building.	(CG)Coordinate cost with sq.ft. of building renovation.	
Air Handling / Ventilation (Welding Fume Collector)	☑	☐	☐	☐	(1) 2020 Camfil Welding Fume Collector Continue with regular maintenance and inspection.		

Building Management System / Controls	☐	☐	☐	☑	Pneumatic controls, standalone thermostats, and associated devices are present on site. Heating system differential pressure sensors could not be found on control system and may have been abandoned in place when Wilo pumps were installed. Consider additional monitoring of heating and cooling hydronic systems differential pressure at each existing floor level and each floor level of future building renovations. Coordinate standardizing control of perimeter heating systems on future renovations and new construction with Control Resource. Coordinate completion of graphics for air handling units, Wilo hot water system pump speeds, and Aerco boilers. Maintenance staff has indicated there is a high failure rate occurring on motorized valves throughout all buildings on campus. Hurst Mechanical (Control Resource) has been replacing failed valves with Belimo valves. Controls, maintained, and connected to campus control system by Control Resource. Coordinate replacement of pneumatic and standalone control devices with renovation of building.	(CG)Coordinate cost with sq.ft. of building renovation. Provide cost for additional differential pressure sensors.	
Energy Efficiency	☐	☐	☐	☐	Recommend customized LVL 2 energy assessment (audit) for review of any recommended building use changes, building envelope changes/improvements, HVAC replacements/improvements, domestic water replacements/improvements, or lighting replacements/improvements.		
Humidifier	☐	☐	☐	☐	N/A		
Room Level Terminal Equipment (Sturrus Technology Center Split System Air Conditioning Units)	☑	☐	☐	☐	AC/ACCU 2017 Mitsubishi "MXZ-8C48NAHZ", R-410A Continue with regular maintenance and inspection.		
Room Level Terminal Equipment (Sturrus Technology Center/Temple Fan Coil Units)	☑	☐	☐	☐	(1) 2017 Trane "BCHD054" fan coil unit, hot water coil, chilled water coil Continue with regular maintenance and inspection.		
Room Level Terminal Equipment (Sturrus Technology Center/Temple Vertical Unit Ventilators)	☑	☐	☐	☐	(3) 2017 ChangeAir Vertical Unit Ventilators, hot water coil, chilled water coil Continue with regular maintenance and inspection.		
Room Level Terminal Equipment (Sturrus Technology Center Terminal Units)	☑	☐	☐	☐	(76) 2017 Trane "VCWF" variable volume terminal units with hot water reheat. Continue with regular maintenance and inspection.		
Room Level Terminal Equipment (Sturrus Technology Center Radiant Heating)	☑	☐	☐	☐	2017 Flat tube radiant heaters 2017 Fin tube radiant heaters Continue with regular maintenance and inspection.		
Room Level Terminal Equipment (Sturrus Technology Center/Temple Radiant Heating)	☐	☐	☐	☑	2017 Fin tube radiant heaters 1948 Fin tube radiant heaters Coordinate replacement upon building renovation.	(CG)Coordinate cost with sq.ft. of building renovation.	
Room Level Terminal Equipment (Sturrus Technology Center Unit Heaters)	☑	☐	☐	☐	2017 Hot Water Unit Heaters Continue with regular maintenance and inspection.		
Room Level Terminal Equipment (Sturrus Technology Center/Temple Unit Heaters)	☐	☐	☐	☑	2017 Electric Unit Heaters 1948 Steam Unit Heaters Coordinate replacement with renovation of building.	(CG)Coordinate cost with sq.ft. of building renovation.	
Facility Natural Gas System	☑	☐	☐	☐	Facility natural gas system consists of piping and specialties dating prior to 2017. Continue with regular maintenance and inspection of facility natural gas systems. Coordinate replacement upon building renovation.	(CG)Coordinate cost with sq.ft. of building renovation.	

PLUMBING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Storm System	☐	☐	☐	☑	Storm system consists of piping and specialties dating from 2017 to 1948. Coordinate replacement with renovation of building. Continue with regular maintenance and inspection.	(CG)Coordinate cost with sq.ft. of building renovation.	
Sanitary System	☐	☐	☐	☑	Sanitary system consists of piping and specialties dating from 2017 to 1948. Coordinate replacement with renovation of building. Continue with regular maintenance and inspection.	(CG)Coordinate cost with sq.ft. of building renovation.	
Domestic Water Piping	☐	☐	☐	☑	Domestic water piping system consists of piping and specialties dating from 2017 to 1948. Coordinate replacement with renovation of building. Continue with regular maintenance and inspection.	(CG)Coordinate cost with sq.ft. of building renovation.	
Water Heaters	☑	☐	☐	☐	(1) 2017 Bradford White gas fired tank water heater 100gal, 199kbtu, 99%eff Coordinate new water heater with renovation of building. Continue with regular maintenance and inspection.	(CG)Coordinate cost with sq.ft. of building renovation.	
Plumbing Fixtures	☐	☐	☐	☑	Plumbing fixtures date from 2017 to 1948. Coordinate replacement with renovation of building. Complete renovation of laundry room.	(CG)Coordinate cost with sq.ft. of building renovation and laundry room renovation.	
Drinking Fountains	☐	☐	☐	☑	Drinking fountains date from 2017 to 1948. Coordinate replacement with renovation of building.	(CG)Coordinate cost with sq.ft. of building renovation.	
Fire Protection	☐	☑	☐	☐	Fire protection system maintained by Brigade Fire Protection. Coordinate replacement with renovation of building. Continue with regular maintenance and inspection.	(CG)Coordinate cost with sq.ft. of building renovation.	
ELECTRICAL							
LIGHTING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Exterior Lighting	☐	☑	☐	☐	Exterior lights appear to be a combination of LED retrofit fixtures and fluorescents. Standardize fixtures to new LED fixtures for consistency and energy savings.		
Parking Lot Lighting	☐	☑	☐	☐	Parking lot lighting is LED, but could improve coverage.		
Interior Lighting	☑	☐	☐	☐	LED lighting throughout.		
Emergency Lighting	☑	☐	☐	☐	Inverter EM lighting throughout building.		
Lighting Controls	☑	☐	☐	☐	Modern controls present.		
Exit Signage	☑	☐	☐	☐	Exit signage is present.		
POWER	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Electrical Service	☐	☑	☐	☐	Substations and transformers in adequate condition. Gear should be tested and refurbished as necessary.		
Generator System	☐	☐	☐	☑	No generator present.		
Distribution/Service Panels / Gear	☑	☐	☐	☐	Distribution panels in good condition.		

Branch Panels	☑	☐	☐	☐	Branch panels in good condition.		
Receptacles + Circuiting	☑	☐	☐	☐	Receptacle coverage is good and conduit is in good condition.		
GFCI Receptacles	☑	☐	☐	☐	GFCI receptacles present in appropriate locations.		
Emergency Power - Batteries	☑	☐	☐	☐	Inverter for lighting is present.		
Fire Alarm System	☑	☐	☐	☐	Fire alarm system present, but should be tested and modified to meet code compliance as necessary.		
Issues	☐	☐	☐	☑	Odd noise from pullbox. Requires further inspection.		
TECHNOLOGY							
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Main Distribution Frame + Independent Distribution Frame	☐	☐	☐	☐			
Projectors	☐	☐	☐	☐			
Student Devices	☐	☐	☐	☐			
Teacher Devices	☐	☐	☐	☐			
Wireless System	☐	☐	☐	☐			
Public Address System	☐	☐	☐	☐			
Telephone Systems	☐	☐	☐	☐			
Infrastructure	☐	☐	☐	☐			
PHOTOGRAPHY							
Click "Insert" > "Image" > "Insert Image In Cell" Include location and any details in the cell to the right of the photo							
PHOTO	**NOTE**						

FACILITIES ASSESSMENT DATA

CLIENT: Muskegon Community College
Facility Assessment

BUILDING: Stevenson Center

DATE: May, 2024

Good = Item meets current and future needs, no recommendation for improvement for the next 10 years
Fair = Item meets current use, showing signs of age and should be replaced in the next 10 years
Poor = Item is nearing the end of it's useful life, current need, should be replaced in the next 5 years
Replace = Item no longer meets current use, is outdated, does not meet code, and should be replaced in the next 3 years

ARCHITECTURAL							
ACCESSIBILITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Building Entrances	☑	☐	☐	☐	The mansard roof configuration above the doors needs redesign so water isn't dripping on people as they enter the building. Provide sq. ft. cost for new canopies on steel columns. Provide cost to replace existing non-insulated storefront entries with units having insulated glass.		
Elevator	☑	☐	☐	☐			
Toilet Rooms	☑	☐	☐	☐	need to add verticl grab bars in all b.f. stalls and rooms. toilet room 1351 unisex toilet room does not meet toilet approach clearance requirements		
Drinking Fountains	☑	☐	☐	☐			
Stairwells	☑	☐	☐	☐			
STRUCTURE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Foundations	☑	☐	☐	☐	No visible concrete cracking		
Slabs on Grade	☑	☐	☐	☐	Mostly covered, no observed issues		
Load Bearing Walls / Columns	☑	☐	☐	☐	No exterior or interior cracking noted		
Supported Floor Framing	☐	☐	☐	☐	Not Visible		
Roof Framing	☐	☐	☐	☐	Not Visible		
BUILDING ENVELOPE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Roofing Membrane and Flashings	☐	☐	☑	☐	Modified bit roof ios probably near the end of it's useful life. School has warranty records. Advise replacing. Suggest adding additional roof insulation when replacing (min. R-20 at drains sloping 1/8"/Ft. to edge).		
Roof Gutters and Downspouts	☑	☐	☐	☐	None - Roof drains w/ internal downspouts		
Exterior Walls	☐	☑	☐	☐	Mass masonry walls without weeps or vents. Since the brick veneer is pourous, water finds it's way into the cavity between the veneer & structural componenet (CMU) & has no way out except evaporation. Provide cost for flashing per detail in photos (linear foot cost). Provide cost (per unit) to cut in new head joint weeps high on the masonry wall.		

Wood Windows / Glazing	☐	☑	☐	☐	Insulated glass in aluminum frames		
Trim, Fascia, and Soffits	☐	☐	☑	☐	Standing seam metal mansard roof w/ DEFS fascia & soffit. No vents Exterior mansard standing seam roofs need snow gaurds. Provide a linear foot number for snow guards. Provide linear foot number to cut in 2" continuous soffit vent in existing non-ventilated DEFS soffits		
Porches	☐	☐	☐	☐	N/A		
Exterior Doors	☐	☑	☐	☐	Insulated glass in aluminum storefront frames		
SAFETY + SECURITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Fire Protection	☐	☐	☐	☐			
Egress Windows	☐	☐	☐	☐			
Stairwells	☐	☐	☐	☐			
Card Access	☐	☐	☐	☐			
Security Vestibule	☐	☐	☐	☐			
Security Camera	☐	☐	☐	☐			
FOOD SERVICE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Overall Kitchen Condition	☐	☐	☐	☐			
Kitchen Equipment	☐	☐	☐	☐			
Serving / Dining Areas	☐	☐	☐	☐			
Deliveries	☐	☐	☐	☐			
Storage	☐	☐	☐	☐			
INTERIORS / FINISHES							
FLOORING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Corridors	☑	☐	☐	☐	carpet tile		
Classrooms	☑	☐	☐	☐	carpet tile, vinyl plank tile		
Toilet Rooms	☑	☐	☐	☐	tile		
Lab/Training	☑	☐	☐	☐	carpet tile, vinyl tile		
Break Areas	☑	☐	☐	☐	vinyl tile		
Offices/Meeting Rooms	☑	☐	☐	☐	carpet tile		
Common Areas	☑	☐	☐	☐	tile		
Copy/Work Rooms	☐	☑	☐	☐	carpet		
Kitchen	☑	☐	☐	☐	quarry tile		
					COMMENTS		
WALLS	**GOOD**	**FAIR**	**POOR**	**REPLACE**			
Corridors	☑	☐	☐	☐	Brick		
Classrooms	☑	☐	☐	☐	painted gyp. bd., painted CMU		

Toilet Rooms	☑	☐	☐	☐	tile		
Lab/Training	☑	☐	☐	☐	painted CMU		
Break Areas	☑	☐	☐	☐	painted gyp. bd.		
Offices/Meeting Rooms	☑	☐	☐	☐	painted CMU, and painted gyp. bd., demountable partitions (painted)		
Common Areas	☑	☐	☐	☐	Brick		
Copy/Work Rooms	☑	☐	☐	☐	painted CMU, painted gyp. bd.		
Kitchen	☑	☐	☐	☐	painted CMU		
CEILINGS	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Corridors	☑	☐	☐	☐	Lay-in Acoustical Tile		
Classrooms	☐	☐	☐	☐	Lay-in Acoustical Tile		
Toilet Rooms	☑	☐	☐	☐	Lay-in Acoustical Tile		
Lab/Training	☐	☑	☐	☐	Lay-in Acoustical Tile		
Break Areas	☑	☐	☐	☐	Lay-in Acoustical Tile		
Offices/Meeting Rooms	☑	☐	☐	☐	Lay-in Acoustical Tile		
Common Areas	☑	☐	☐	☐	Lay-in Acoustical Tile		
Copy/Work Rooms	☑	☐	☐	☐	Lay-in Acoustical Tile		
Kitchen	☑	☐	☐	☐	Lay-in Acoustical Tile (washable)		
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
DOORS + HARDWARE	☑	☐	☐	☐			
	GOOD	**FAIR**	**POOR**	**REPLACE**			
WINDOWS	☑	☐	☐	☐			
	GOOD	**FAIR**	**POOR**	**REPLACE**			
CABINETS / STORAGE / COUNTERS	☑	☐	☐	☐			
MECHANICAL							
HVAC	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Heating Source and Condition	☐	☐	☐	☐	N/A (Heating served from Arts & Music Building)		
Heating Pumps and Piping	☐	☑	☐	☐	1995 Buried heating water piping replaced to Stevenson Center in 2023. Continue with regular piping, piping accessories, and water quality maintenance.		
Cooling Source and Condition	☐	☐	☐	☐	N/A (Cooling served from Arts & Music Building)		

Cooling Pumps and Piping	☐	☑	☐	☐	1995 Buried chilled water piping replaced to Stevenson Center in 2023. Continue with regular piping, piping accessories, and water quality maintenance.		
Air Handling / Ventilation (Indoor Modular Air Handling Units)	☐	☑	☐	☐	(6) 1995 Trane "MCCA" Indoor Modular Air Handling Units, 2" filtration, economizer section, chilled water cooling coil with access, pumped hot water heating coil with access, supply fan (MagneTek and ABB VFDs), return fan (MagneTek and ABB VFDs) Provide means for cleanout of condensate traps. Coil fins are in good condition. Internal sound absorbing liner has deteriorated and should be removed/replaced. Consider standardizing on door access size required and maintaining clearances for proper maintenance of coils. Replace MagneTek VFDs with ABB VFD. Verify correct flow direction and orientation of AHU-6 chilled water strainer. Room 2310A fire/smoke motorized damper at floor malfunctioning and requires repair/replacement. Coordinate replacement with building renovation. Continue with regular maintenance and inspection.	(CG)Provide cost for replacement of MagneTek drives, internal liner removal/replacment, fire/smoke damper repair/replacement.	
Air Handling / Ventilation (Modular Dedicated Outdoor Air Handling Units)	☐	☑	☐	☐	(2) 1995 Trane "PCCB" Modular Dedicated Outdoor Air Handling Units, 2" filtration, pumped hot water heating coil with access, supply fan (VFDs) Coil fins are in good condition. Internal sound absorbing liner has deteriorated and should be removed/replaced. Replace fan VFDs with ABB VFDs if not already installed. Coordinate replacement with building renovation. Monitor for weathering of cabinet seals requiring replacement, while continuing with regular maintenance and inspection.	(CG)Provide cost for internal liner removal/replacement.	
Air Handling / Ventilation (Make-Up Air Units)	☐	☑	☐	☐	(1) 1995 Make-Up Air Units, indirect gas heating, supply fan on/off Interior of unit was not accessible for inspection without dissassembly. Coordinate replacement with building renovation. Continue with regular maintenance and inspection.		
Air Handling / Ventilation (Exhaust Fans)	☐	☑	☐	☐	(14) Roof Exhaust Fans dating to 1995 (4) 1995 Inline Exhaust Fans dating to 1995 Four exhaust fans are being monitored and controlled. Consider monitoring and control of remaining exhaust fans upon replacement or renovation. Continue with regular maintenance and inspection.	(CG)Provide cost for monitoring 14 exhaust fans.	
Building Management System / Controls	☐	☑	☐	☐	Consider replacement of standalone thermostats on unit heaters and connect to building control system. Maintenance staff has indicated there is a high failure rate occurring on motorized valves throughout all buildings on campus. Hurst Mechanical (Control Resource) has been replacing failed valves with Belimo valves. Indication of regular high humidity issues are present within the building and addition of humidity sensors and control sequences should be considered. Integrate kitchen make-up air unit to control system upon replacement. Controls, maintained, and connected to campus control system by Control Resource.	(CG)Provide cost for controls on units heaters. Provide cost for humidity sensors and controls on air handling and room level terminal equipment.	

Energy Efficiency	☐	☐	☐	☐	Recommend customized LVL 2 energy assessment (audit) for review of any recommended space programming changes, building envelope changes/improvements, HVAC replacements/improvements, domestic water replacements/improvements, or lighting replacements/improvements.		
Humidifier	☐	☐	☐	☐	N/A		
Room Level Terminal Equipment (Unit Ventilators)	☐	☑	☐	☐	(30) 1995 Trane unit ventilators, filtration, chilled water coil, hot water coil. Coordinate replacement with building renovation. Continue regular maintenance and inspection.		
Room Level Terminal Equipment (Split System Air Conditioning Units)	☐	☑	☐	☐	(4) 1995 Liebert "DME027A" Split System Units (1) Daikin "RZQ24PVJU" Split System Unit, R410A Liebert units are abandoned in place. Continue regular maintenance and inspection.		
Room Level Terminal Equipment (Terminal Units)	☐	☑	☐	☐	(44) 1995 variable volume fan powered terminal units with hot water reheat. Continue with regular maintenance and inspection.		
Room Level Terminal Equipment (Unit Heaters)	☐	☑	☐	☐	(1) 1995 Hot Water Unit Heater Continue with regular maintenance and inspection.		
Room Level Terminal Equipment (Cabinet Unit Heaters)	☐	☑	☐	☐	(11) 1995 Hot Water Cabinet Unit Heaters Continue with regular maintenance and inspection.		
Room Level Terminal Equipment (Radiant Heating)	☐	☑	☐	☐	1995 Fin tube radiant heaters Continue with regular maintenance and inspection.		
Room Level Terminal Equipment (Radiant Heat)	☑	☐	☐	☐	(1) Blackheat Gas Fired Radiant Heater. Continue with regular maintenance and inspection.		
Facility Natural Gas System	☐	☑	☐	☐	Facility natural gas system consists of piping and specialties dating to 1995. Coordinate replacement upon building renovation. Monitor gas service piping thru pavement for corrosion. Monitor gas fired equipment and appliance operation issues that may occur with DTE switching from high gas pressure service to medium gas pressure service. Continue with regular maintenance and inspection of facility natural gas systems.		
PLUMBING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Storm System	☐	☑	☐	☐	Storm system consists of piping and specialties dating from to 1995. Continue with regular maintenance and inspection.		
Sanitary System	☐	☑	☐	☐	Sanitary system consists of piping and specialties dating from 1995. Coordinate replacement with renovation of building. Continue with regular maintenance and inspection.		
Domestic Water Piping	☐	☑	☐	☐	Domestic water piping system consists of piping and specialties dating from 1995. Coordinate replacement with renovation of building. Continue with regular maintenance and inspection.		
Water Heaters	☑	☐	☐	☐	(1) 2019 Bradford White "D100T1993N" gas fired tank water heater 98gal, 199kbtu Continue with regular maintenance and inspection.		

Plumbing Fixtures	☐	☑	☐	☐	Plumbing fixtures date from 1995. Coordinate replacement with renovation of building. Continue with regular maintenance and inspection.		
Drinking Fountains	☐	☑	☐	☐	Drinking fountains date from 1995. Coordinate replacement with renovation of building. Continue with regular maintenance and inspection.		
Fire Protection	☐	☑	☐	☐	Fire protection system maintained by Brigade Fire Protection. Coordinate replacement with renovation of building. Continue with regular maintenance and inspection.		
ELECTRICAL							
LIGHTING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Exterior Lighting	☐	☐	☑	☐	Most exterior lights are dated and yellowing. Standardize fixtures to LED bulbs or update all lights to new LED fixture for consistency. Price for complete replacement based on square footage.		
Parking Lot Lighting	☐	☑	☐	☐	Parking lot lighting is present, but parking lot lights appear to be a combination of LED retrofit fixtures. Standardize fixtures to LED bulbs or update all lights to new LED fixture for consistency.		
Interior Lighting	☐	☐	☑	☐	Mixture of LED and fluorescent. Flourescent troffer lighting is dated, glary and inefficient. Replace all with LED. Price for complete replacement. Price for complete replacement based on square footage.		
Emergency Lighting	☐	☐	☑	☐	Local battery backups within fixtures and emergency bug eyes throughout space. Proper emergency lighting may not be code compliant. Battery fixtures could be removed and an inverter could be installed to provide emergency lighting. Price for complete replacement based on square footage.		
Lighting Controls	☐	☐	☐	☑	Manual switches to turn lights on or off, but no localized dimming or occupancy sensing. Controls should be replaced for better energy efficiency and occupancy sensors to meet current code. A lighting upgrade would require lighting controls to be brought up to current code. Price for complete replacement based on square footage.	Provide lighting control system (112,000 sf)	$119,000.00
Exit Signage	☐	☑	☐	☐	Exit signage is present. Signage should be updated to new fixtures for better visibility.		
POWER	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Electrical Service	☐	☑	☐	☐	Gear in adequate condition, but appears original (1966) . Gear should be periodically cleaned, tested and refurbished as necessary.		
Generator System	☐	☐	☐	☑	No generator present		
Distribution/Service Panels / Gear	☐	☑	☐	☐	Distibution panel is aged, but adequate condition. Gear should be tested and refurbished as necessary.		
Branch Panels	☐	☑	☐	☐	Branch panels are aged, but adequate condition. Gear should be tested and refurbished as necessary.		

Receptacles + Circuiting	☐	☑	☐	☐	Adequte receptacles and circuiting, although more receptacles would be desirable.		
GFCI Receptacles	☐	☐	☑	☐	GFCI receptacles present in appropriate locations. Some locations may require modificaitons to accomodate new code requirements.		
Emergency Power - Batteries	☐	☐	☐	☑	No emergency power in the form of batteries/inverter/UPS present.		
Fire Alarm System	☐	☑	☐	☐	Fire alarm system present, but should be tested and modified to meet code compliance as necessary.		
TECHNOLOGY							
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Main Distribution Frame + Independent Distribution Frame	☐	☐	☐	☐			
Projectors	☐	☐	☐	☐			
Student Devices	☐	☐	☐	☐			
Teacher Devices	☐	☐	☐	☐			
Wireless System	☐	☐	☐	☐			
Public Address System	☐	☐	☐	☐			
Telephone Systems	☐	☐	☐	☐			
Infrastructure	☐	☐	☐	☐			
PHOTOGRAPHY							
Click "Insert" > "Image" > "Insert Image In Cell" Include location and any details in the cell to the right of the photo							
PHOTO	**NOTE**						

FACILITIES ASSESSMENT DATA

CLIENT: Muskegon Community College
Facility Assessment

BUILDING: Overbrook Theater

DATE: May, 2024

Good = Item meets current and future needs, no recommendation for improvement for the next 10 years
Fair = Item meets current use, showing signs of age and should be replaced in the next 10 years
Poor = Item is nearing the end of it's useful life, current need, should be replaced in the next 5 years
Replace = Item no longer meets current use, is outdated, does not meet code, and should be replaced in the next 3 years

ARCHITECTURAL							
ACCESSIBILITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Building Entrances	☑	☐	☐	☐	The mansard roof configuration above the doors needs redesign so water isn't dripping on people as they enter the building. Provide sq. ft. cost for new canopies on steel columns. Provide cost to replace existing non-insulated storefront entries with units having insulated glass.		
Elevator	☑	☐	☐	☐			
Toilet Rooms	☐	☑	☐	☐	Main toilet rooms do not meet ADA requirements (approach, pull, push, toilet compartments) Single use toilet room need vertical grab bar. Toilet rooms are not on main level (lobby level)		
Drinking Fountains	☐	☐	☑	☐	Not B.F. accessible		
Stairwells	☑	☐	☐	☐			
Theater	☐	☐	☑	☑	No B.F. seating or access need hadrails in theater isles	install handrails at the end of each row of seating. 50 locations single handrail floor mount handrail 10" lengths (painted steel)	
STRUCTURE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Foundations	☑	☐	☐	☐	No issues visible from exterior of building		
Slabs on Grade	☑	☐	☐	☐	Mainly covered with flooring / nothing noted		
Load Bearing Walls / Columns	☑	☐	☐	☐	No issues		
Supported Floor Framing	☐	☐	☐	☐	Not Visible		
Roof Framing	☐	☐	☐	☐	Not Visible		
BUILDING ENVELOPE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Roofing Membrane and Flashings	☐	☑	☐	☐	School has records of roof warranty dates & should consider roof replacement when warranties expire. Suggest adding additional roof insulation when replacing (min. R-20 at drains sloping 1/8"/Ft. to edge).		
Roof Gutters and Downspouts	☐	☑	☐	☐	None - Roof drains w/ internal downspouts		

Exterior Walls	☐	☑	☐	☐	Mass masonry walls without weeps or vents. Since the brick veneer is porous, water finds its way into the cavity between the veneer & structural component (CMU) & has no way out except evaporation. Provide cost for flashing per detail in photos (linear foot cost). Provide cost (per unit) to cut in new head joint weeps high on the masonry wall.		
Wood Windows / Glazing	☐	☑	☐	☐	Single pane glass in aluminum storefront framing. Provide cost (per linear foot) to replace non-insulated glass storefront windows w/ insulated glass storefront windows.		
Trim, Fascia, and Soffits	☐	☐	☑	☐	Standing seam metal mansard roof w/ DEFS fascia & soffit. No vents Exterior mansard standing seam roofs need snow guards. Provide a linear foot number for snow guards. Provide linear foot number to cut in 2" continuous soffit vent in existing non-ventilated DEFS soffits		
Porches	☐	☐	☐	☐	N/A		
Exterior Doors	☐	☐	☑	☐	Uninsulated glass storefront doors. Provide cost to replace with insulated glass storefront doors (per unit). Provide square foot cost for canopy on posts over entryways @ mansurd roof conditions		
SAFETY + SECURITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Fire Protection	☐	☐	☐	☐			
Egress Windows	☐	☐	☐	☐			
Stairwells	☐	☐	☐	☐			
Card Access	☐	☐	☐	☐			
Security Vestibule	☐	☐	☐	☐			
Security Camera	☐	☐	☐	☐			
FOOD SERVICE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Overall Kitchen Condition	☐	☐	☐	☐			
Kitchen Equipment	☐	☐	☐	☐			
Serving / Dining Areas	☐	☐	☐	☐			
Deliveries	☐	☐	☐	☐			
Storage	☐	☐	☐	☐			
INTERIORS / FINISHES							
FLOORING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Lobby	☐	☑	☐	☐	carpet		
Classrooms	☑	☐	☐	☐	carpet		
Toilet Rooms	☐	☑	☐	☐	tile		
Rehearsal	☐	☑	☐	☐	vinyl tile (dated)		
Theater	☐	☑	☐	☐	carpet		
Offices	☐	☑	☐	☐	carpet tile		

Corridors	☑	☐	☐	☐	carpet		
Studio	☐	☑	☐	☐	carpet and rubber matt		
					COMMENTS		
WALLS	**GOOD**	**FAIR**	**POOR**	**REPLACE**			
Lobby	☑	☐	☐	☐	brick		
Classrooms	☑	☐	☐	☐	demountable walls and painted gyp. bd.		
Toilet Rooms	☐	☑	☐	☐	glazed block		
Rehearsal	☑	☐	☐	☐	brick, painted CMU, painted gyp. bd.		
Theater	☐	☑	☐	☐	painted plaster/gyp. bd.		
Offices	☑	☐	☐	☐	painted gyp. bd.		
Corridors	☑	☐	☐	☐	brick		
Studio	☑	☐	☐	☐	painted CMU		
CEILINGS	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Lobby	☐	☑	☐	☐	lay-in acoustical tile		
Classrooms	☐	☑	☐	☐	lay-in acoustical tile		
Toilet Rooms	☐	☑	☐	☐	painted plaster/gyp. bd.		
Rehearsal	☐	☐	☑	☐	lay-in acoustical tile		
Theater	☐	☑	☐	☐	painted plaster/gyp. bd.		
Offices	☐	☑	☐	☐	lay-in acoustical tile		
Corridors	☐	☑	☐	☐	lay-in acoustical tile		
Studio	☐	☑	☐	☐	lay-in acoustical tile		
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
DOORS + HARDWARE	☑	☐	☐	☐			
	GOOD	**FAIR**	**POOR**	**REPLACE**			
WINDOWS	☐	☑	☐	☐			
	GOOD	**FAIR**	**POOR**	**REPLACE**			
CABINETS / STORAGE / COUNTERS	☐	☑	☐	☐			
MECHANICAL							
HVAC	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Heating Source and Condition	☐	☐	☐	☐	N/A (Heating served from Arts & Music Building)		

Heating Pumps and Piping	☐	☐	☐	☑	P-1 1967 B&G "U-2 1/2 A" 55gpm, 21fthd,1hp (No VFD) 1967 hot water heating piping is rotting out. Replacement of pumps and piping will coincide with air handling equipment replacements and building renovation.Continue with regular piping, piping accessories, and water quality maintenance.	Replace 1 hp pump and 300 lf of copper piping w/ insulation	$33,250.00
Cooling Source and Condition	☐	☐	☑	☐	CH-1 2001 Trane "RTHC" water cooled chiller CT-1 2001 Evapco open cell cooling tower, on/off 2-speed Advantage Controls cooling tower water treatment system. SBS solid separator filtration system. Chilled water side stream filter. 2001 Trane water cooled chiller, cooling tower, and associated devices are reaching their useful life. Maintenance indicates chiller requires operational renewal to keep useful life $160,000. Replacement should consider chiller maintenance and installation environment with difficulties maintaining a cooling tower in a wooded environment and winter drain down. Trane magnetic bearing air cooled chillers should be considered, heat exchanger or drain down, and energy efficiencies/maintenance of other types of chilled water methods, allowing maintenance agreements to be maintained with Trane for all chillers at all buildings. Coordinate replacement of chiller and cooling tower with air handling equipment and building renovation.	New 300 ton chiller and cooling tower (CG)Trane air cooled chiller no cooling tower.	$611,000.00
Cooling Pumps and Piping	☐	☐	☐	☑	P-2 2001 Taco 15hp (No VFD) P-3 2001 Taco 15hp (No VFD) 1967 chilled water piping is rotting out. Replacement of pumps and piping will coincide with air handling equipment replacements and building renovation. Continue with regular piping, piping accessories, and water quality maintenance.	New pumps and drives	$20,000.00
Air Handling / Ventilation (Indoor Modular Air Handling Units)	☐	☐	☐	☑	(1) 1967 Multizone Trane Torrivent Air Handling Units, 2" Filtration, Supply Fan On/Off, Return Fan On/Off, Chilled Water Coil, Hot Water Coil, Return Air Bypass, Outdoor Air Economizer (See Exhaust Fans for Exhaust) (2) 1967 Dual Duct Trane Torrivent Air Handling Units, 2" Filtration, Supply Fan (Trane and ABB VFDs), Return Fan (Square D and ABB VFDs), Chilled Water Coil, Hot Water Coil, Return Air Bypass, Outdoor Air Economizer (See Exhaust Fans for Exhaust) Trane Torrivent units are past their replacement life and rotting out, with replacement parts of fans, coils, and unit casings must be custom ordered due to current energy regulations and replacement limitations. Trane Torrivent units have limited accessibility to regular coil cleaning without disassembling unit. Ductwork interior lining has deteriorated and ductwork should be replaced.	3 new site-built AHU's - 18,000 cfm, 4500 cfm, and 14,500 cfm	$745,000.00
Air Handling / Ventilation (Exhaust Fans)	☐	☐	☐	☐			

Building Management System / Controls	☐	☐	☐	☑	Pneumatic controls, standalone thermostats, and associated devices are present on site and awaiting replacement with mechanical equipment. College to coordinate with TowerPinkster if the college has access to programming software for Distech Controllers (Enertemp) or if the software can be obtained by the college so Enertemp's programming to mechanical equipment can be accessed. PID loop programming for secondary heating pump 3-way valve indicates irregular hunting (open/close). Replacement of Enertemp's Distech control devices with control devices from Control Resource will need to occur during replacement of mechanical equipment.		$400,000.00
Energy Efficiency	☐	☐	☐	☐	Recommend customized LVL 2 energy assessment (audit) for review of any recommended space programming changes, building envelope changes/improvements, HVAC replacements/improvements, domestic water replacements/improvements, or lighting replacements/improvements.		
Humidifier	☐	☐	☐	☐	N/A		
Room Level Terminal Equipment (Split System Air Conditioning Units)	☐	☐	☐	☑	(1) Liebert Split System Units Liebert unit is past its lifetime and requires replacement.	New 3-ton Liebert unit	$33,500.00
Room Level Terminal Equipment (Mixing Box Terminal Units)	☐	☐	☐	☑	(32) 1967 Dual duct air terminal units. Terminal units are past their replacement life, and replacement parts must be custom ordered due to current energy regulations and replacement limitations.	Convert dual duct to VAV w/ terminal reheat. 32 VAV boxes and ductwork and piping for 45,000 sf.	$215,000.00
Room Level Terminal Equipment (Radiant Heating)	☐	☑	☐	☐	1967 Fin Tube & Enclosures Enclosures are in fair condition. Replacement will coincide with building renovation. Continue with regular maintenance and inspection.		
Room Level Terminal Equipment (Cabinet Unit Heaters)	☐	☐	☐	☑	(9) 1967 Nesbitt Cabinet Unit Heaters, Hot Water Coils Cabinet unit heaters are past their replacement life, and replacement parts of fans, coils, and unit casings must be custom ordered due to current energy regulations and replacement limitations.	9 new cabinet unit heaters w/ controls	$48,000.00
Facility Natural Gas System	☐	☐	☐	☐	N/A		
PLUMBING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Storm System	☐	☐	☑	☐	Storm system consists of piping and specialties dating to 1967. Continue with regular maintenance and inspection. Replacement will be required on renovation.	(CG)Coordinate cost with sq.ft. of building renovation.	
Sanitary System	☐	☐	☑	☐	Sanitary system consists of piping and specialties dating to 1967. Continue with regular maintenance and inspection. Replacement will be required on renovation.	(CG)Coordinate cost with sq.ft. of building renovation.	
Domestic Water Piping	☐	☐	☑	☐	Domestic water system consists of piping and specialties dating to 1967. Continue with regular maintenance and inspection. Replacement will be required on renovation.	(CG)Coordinate cost with sq.ft. of building renovation.	
Water Heaters	☐	☐	☐	☐	N/A (Domestic water served from main campus building)		
Plumbing Fixtures	☐	☐	☐	☑	Plumbing fixtures, flush valves, faucets, showers are past their useful life with indication of various replacements over the years. Campus to consider setting up a standard on plumbing fixtures, flush valves, and faucets.	10 new toilets, 3 urinals, 7 walk-mounted lavs with new carriers and rough ins.	$80,000.00

Drinking Fountains	☐	☐	☐	☑	Drinking fountains are past their useful life and should be replaced.	2 new EWC's with wall repair work	$10,750.00
Fire Protection	☐	☑	☐	☐	Fire protection system maintained by Brigade Fire Protection. Coordinate replacement with renovation of building. Continue with regular maintenance and inspection.	(CG)Coordinate cost with sq.ft. of building renovation.	
ELECTRICAL							
LIGHTING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Exterior Lighting	☐	☐	☑	☐	Most exterior lights are dated and yellowing. Standardize fixtures to LED bulbs or update all lights to new LED fixture for consistency. Price for complete replacement based on square footage.		
Parking Lot Lighting	☐	☑	☐	☐	Parking lot lighting is present, but parking lot lights appear to be a combination of LED retrofit fixtures. Standardize fixtures to LED bulbs or update all lights to new LED fixture for consistency.		
Interior Lighting	☐	☐	☑	☐	Mixture of LED and fluorescent. Flourescent troffer lighting is dated, glary and inefficient. Replace all with LED. Price for complete replacement based on square footage.		
Emergency Lighting	☐	☐	☑	☐	Local battery backups within fixtures and emergency bug eyes throughout space. Proper emergency lighting may not be code compliant. Battery fixtures could be removed and an inverter could be installed to provide emergency lighting. Price for complete replacement based on square footage.		
Lighting Controls	☐	☐	☐	☑	Manual switches to turn lights on or off, but no localized dimming or occupancy sensing. Controls should be replaced for better energy efficiency and occupancy sensors to meet current code. A lighting upgrade would require lighting controls to be brought up to current code. Price for complete replacement based on square footage.		
Exit Signage	☐	☑	☐	☐	Exit signage is present. Signage should be updated to new fixtures for better visibility.		
POWER	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Electrical Service	☐	☑	☐	☐	Gear in adequate condition, but appears original (1966) . Gear should be periodically cleaned, tested and refurbished as necessary.		
Generator System	☐	☐	☐	☑	No generator present		
Distribution/Service Panels / Gear	☐	☑	☐	☐	Distibution panel is aged, but adequate condition. Gear should be tested and refurbished as necessary.		
Branch Panels	☐	☑	☐	☐	Branch panels are aged, but adequate condition. Gear should be tested and refurbished as necessary.		
Receptacles + Circuiting	☐	☑	☐	☐	Adequte receptacles and circuiting, although more receptacles would be desirable.		
GFCI Receptacles	☐	☐	☑	☐	GFCI receptacles present in appropriate locations. Some locations may require modificaitons to accomodate new code requirements.		

Emergency Power - Batteries	☐	☐	☐	☑	No emergency power in the form of batteries/inverter/UPS present.		
Fire Alarm System	☐	☑	☐	☐	Fire alarm system present, but should be tested and modified to meet code compliance as necessary.		
TECHNOLOGY							
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Main Distribution Frame + Independent Distribution Frame	☐	☐	☐	☐			
Projectors	☐	☐	☐	☐			
Student Devices	☐	☐	☐	☐			
Teacher Devices	☐	☐	☐	☐			
Wireless System	☐	☐	☐	☐			
Public Address System	☐	☐	☐	☐			
Telephone Systems	☐	☐	☐	☐			
Infrastructure	☐	☐	☐	☐			
PHOTOGRAPHY							
Click "Insert" > "Image" > "Insert Image In Cell" Include location and any details in the cell to the right of the photo							
PHOTO	**NOTE**						

FACILITIES ASSESSMENT DATA

CLIENT: Muskegon Community College
Facility Assessment

BUILDING: Kendrik Meijer Library

DATE: May, 2024

Good = Item meets current and future needs, no recommendation for improvement for the next 10 years
Fair = Item meets current use, showing signs of age and should be replaced in the next 10 years
Poor = Item is nearing the end of it's useful life, current need, should be replaced in the next 5 years
Replace = Item no longer meets current use, is outdated, does not meet code, and should be replaced in the next 3 years

ARCHITECTURAL							
ACCESSIBILITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Building Entrances	☑	☐	☐	☐	Insulated glass aluminum storefront doors		
Elevator	☑	☐	☐	☐			
Toilet Rooms	☑	☐	☐	☐			
Drinking Fountains	☑	☐	☐	☐			
Stairwells	☑	☐	☐	☐			
STRUCTURE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Foundations	☑	☐	☐	☐			
Slabs on Grade	☑	☐	☐	☐			
Load Bearing Walls / Columns	☑	☐	☐	☐			
Supported Floor Framing	☑	☐	☐	☐			
Roof Framing	☑	☐	☐	☐			
BUILDING ENVELOPE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Roofing Membrane and Flashings	☐	☑	☐	☐	School has records of roof warranty dates & should consider roof replacement when warranties expire. Suggest adding additional roof insulation when replacing (min. R-20 at drains sloping 1/8"/Ft. to edge). Skylight is leaking which requires further invstigation		
Roof Gutters and Downspouts	☑	☐	☐	☐	None - Roof drains w/ internal downspouts		
Exterior Walls	☐	☑	☐	☐	Btick & cast stone over CMU (assumed) furred out w/ Gyp. Bd. on the interior. masonry veneer has weeps but no vents. Provide cost to cut in new brick head joint weeps (per unit)		
Wood Windows / Glazing	☑	☐	☐	☐	Insulated glass in storefront frames		
Trim, Fascia, and Soffits	☑	☐	☐	☐			
Porches	☐	☐	☐	☐			
Exterior Doors	☑	☐	☐	☐	Storefront entrances with insulated glass		

SAFETY + SECURITY	GOOD	FAIR	POOR	REPLACE	COMMENTS		
Fire Protection	☐	☐	☐	☐			
Egress Windows	☐	☐	☐	☐			
Stairwells	☐	☐	☐	☐			
Card Access	☐	☐	☐	☐			
Security Vestibule	☐	☐	☐	☐			
Security Camera	☐	☐	☐	☐			
FOOD SERVICE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Overall Kitchen Condition	☐	☐	☐	☐			
Kitchen Equipment	☐	☐	☐	☐			
Serving / Dining Areas	☐	☐	☐	☐			
Deliveries	☐	☐	☐	☐			
Storage	☐	☐	☐	☐			
INTERIORS / FINISHES							
FLOORING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Corridors	☑	☐	☐	☐	carpet		
Classrooms	☑	☐	☐	☐	carpet		
Toilet Rooms	☑	☐	☐	☐	tile		
Lobby	☑	☐	☐	☐	tile		
Study Rooms	☑	☐	☐	☐	carpet		
Offices	☑	☐	☐	☐	carpet		
Library (book collection)	☑	☐	☐	☐	carpet		
Lab/Training	☑	☐	☐	☐	carpet		
Cafe	☑	☐	☐	☐	carpet		
					COMMENTS		
WALLS	**GOOD**	**FAIR**	**POOR**	**REPLACE**			
Lobby + Corridors	☑	☐	☐	☐	brick, painted gyp. bd.		
Classrooms	☑	☐	☐	☐	painted gyp. bd.		
Toilet Rooms	☑	☐	☐	☐	tile		
Lobby	☑	☐	☐	☐	brick, painted gyp. bd.		
Study Rooms	☑	☐	☐	☐	painted gyp. bd.		
Offices	☑	☐	☐	☐	painted gyp. bd.		
Library (book collection)	☑	☐	☐	☐	painted gyp. bd.		
Lab/Training	☑	☐	☐	☐	painted gyp. bd.		
Cafe	☑	☐	☐	☐	painted gyp. bd.		

CEILINGS	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Lobby + Corridors	☑	☐	☐	☐	lay-in acoustical tile		
Classrooms	☑	☐	☐	☐	lay-in acoustical tile		
Toilet Rooms	☑	☐	☐	☐	lay-in acoustical tile		
Lobby	☑	☐	☐	☐	lay-in acoustical tile, painted gyp. bd.		
Study Rooms	☑	☐	☐	☐	lay-in acoustical tile		
Offices	☑	☐	☐	☐	lay-in acoustical tile		
Library (book collection)	☑	☐	☐	☐	lay-in acoustical tile		
Lab/Training	☑	☐	☐	☐	lay-in acoustical tile		
Cafe	☑	☐	☐	☐	lay-in acoustical tile		
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
DOORS + HARDWARE	☑	☐	☐	☐			
	GOOD	**FAIR**	**POOR**	**REPLACE**			
WINDOWS	☑	☐	☐	☐			
	GOOD	**FAIR**	**POOR**	**REPLACE**			
CABINETS / STORAGE / COUNTERS	☑	☐	☐	☐			
MECHANICAL							
HVAC	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Heating Source and Condition	☐	☐	☐	☑	B-1 2005 Thermal Solutions "EVA2000BN1" Non Condensing B-2 2005 Viessman "B2HA 311" Condensing Thermal Solutions boiler is near end of life and failing due to inadequate maintenance space to maintain boiler according to manufacture requirements. Continue with regular maintenance and inspection. Boilers require manual summer switchover for lower water temperatures and should be remedied upon replacement. Tube type condensate neutralization kits on boilers are more difficult to maintain for campus, and maintenance staff would like to consider standardizing on condensate neutralization tanks that can be top loaded with neutralization media and cleaned.	Replace B-1 with new 2 MMBtu condensing boiler	$80,000.00
Heating Pumps and Piping	☐	☑	☐	☐	P-6 2005 B&G "e-1510 2AC" 84gpm, 47ft.hd. 3hp (Siemens VFD) Pump discharge balance valve 60% open in lieu of allowing VFD to modulate. Continue with regular pump and water quality maintenance.		

Cooling Source and Condition	☐	☐	☐	☐	N/A (Cooling served from main campus building)		
Cooling Pumps and Piping	☐	☑	☐	☐	Chilled water piping system consists of piping and specialties dating from 2005. Continue with regular maintenance and inspection.		
Air Handling / Ventilation (Indoor Modular Air Handling Units)	☐	☑	☐	☐	(1) 2005 Trane "MCCB025" with hot water coil, chilled water coil, supply fan on/off Continue with regular inspections and maintenance.		
Air Handling / Ventilation (Blower Coil Units)	☐	☑	☐	☐	(10) 2005 Trane blower coil units with hot water coil, chilled water coil, supply fan on/off. Continue with regular inspections and maintenance.		
Air Handling / Ventilation (Outdoor Energy Recovery Units)	☐	☐	☑	☐	(1) 2005 Greenheck "ERCH-90H-30" outdoor energy recovery unit with energy recovery wheel, hot water coil, and chilled water coil. Request to replace unit. Unit requires annual drain down of coils for freeze protection. Unit exceeds acceptable noise levels for outdoor and indoor environment.	New 9000 cfm outdoor air-handler with energy recovery.	$220,000.00
Air Handling / Ventilation (Exhaust Fans)	☐	☑	☐	☐	(1) Exhaust fan Continue with regular maintenance and inspection.		
Building Management System / Controls	☐	☑	☐	☐	College to coordinate with TowerPinkster if the college has access to programming software for Distech Controllers (Enertemp) or if the software can be obtained by the college so Enertemp's programming to mechanical equipment can be accessed. Replacement of Enertemp's Distech control devices with control devices from Control Resource will need to occur during replacement of mechanical equipment.	(CG)Include cost for control repalcement for boiler system and energy recovery unit.	
Energy Efficiency	☐	☐	☐	☐	Recommend customized LVL 2 energy assessment (audit) for review of any recommended space programming changes, building envelope changes/improvements, HVAC replacements/improvements, domestic water replacements/improvements, or lighting replacements/improvements.		
Humidifier	☐	☐	☐	☐			
Room Level Terminal Equipment (Split System Units)	☐	☐	☐	☐			
Room Level Terminal Equipment (Duct Reheat Coils)	☐	☑	☐	☐	(35) 2005 Hot water duct reheat coils. Continue with regular maintenance and inspection.		
Room Level Terminal Equipment (Unit Heaters)	☐	☑	☐	☐	(3) 2005 Hot water unit heaters. Continue with regular maintenance and inspection.		
Facility Natural Gas System	☐	☐	☐	☐	Facility natural gas system consists of piping and specialties dating to 2005. Coordinate replacement upon building renovation. Monitor gas service piping thru pavement for corrosion. Monitor gas fired equipment and appliance operation issues that may occur with DTE switching from high gas pressure service to medium gas pressure service. Continue with regular maintenance and inspection of facility natural gas systems.		
PLUMBING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		

Storm System	☐	☑	☐	☐	Storm system consists of piping and specialties dating from 2005. Continue with regular maintenance and inspection.		
Sanitary System	☐	☑	☐	☐	Sanitary system consists of piping and specialties dating from 2005. Inspect floor drain seal traps for replacement due to sewer smells within rooms with floor drains. Continue with regular maintenance and inspection.		
Domestic Water Piping	☐	☑	☐	☐	Domestic water piping system consists of piping and specialties dating from 2005. Continue with regular maintenance and inspection.		
Water Heaters	☐	☐	☐	☐			
Plumbing Fixtures	☐	☑	☐	☐	Plumbing fixtures placed into service in 2005. Continue with regular maintenance and inspection.		
Drinking Fountains	☐	☑	☐	☐	Drinking fountains placed into service in 2005. Continue with regular maintenance and inspection.		
Fire Protection	☐	☑	☐	☐	Continue with regular maintenance and inspection		
ELECTRICAL							
LIGHTING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Exterior Lighting	☐	☐	☑	☐	Most exterior lights are dated and yellowing. Standardize fixtures to LED bulbs or update all lights to new LED fixture for consistency. Price for complete replacement based on square footage.		
Parking Lot Lighting	☐	☑	☐	☐	Parking lot lighting is present, but parking lot lights appear to be a combination of LED retrofit fixtures. Standardize fixtures to LED bulbs or update all lights to new LED fixture for consistency.		
Interior Lighting	☐	☐	☑	☐	Mixture of LED and fluorescent. Flourescent troffer lighting is dated, glary and inefficient. Replace all with LED. Price for complete replacement. Price for complete replacement based on square footage.		
Emergency Lighting	☐	☑	☐	☐	Inverter EM lighting throughout space. Coverage should be verified.		
Lighting Controls	☐	☑	☐	☐	Manual switches to turn lights on or off and limited localized dimming. Crestron controls and occupancy sensors present.		
Exit Signage	☐	☑	☐	☐	Exit signage is present. Signage should be updated to new fixtures for better visibility.		
POWER	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Electrical Service	☐	☑	☐	☐	Gear in adequate condition, but appears original (1966) . Gear should be periodically cleaned, tested and refurbished as necessary.		
Generator System	☐	☐	☐	☑	No generator present		
Distribution/Service Panels / Gear	☑	☐	☐	☐	Distribution original to addition, but in adequate condition. Gear should be tested and refurbished as necessary.		
Branch Panels	☑	☐	☐	☐	Branch panels are in good condition.		

Receptacles + Circuiting	☑	☐	☐	☐	Receptacle coverage is good and conduit is in good condition.		
Sink GFCI Receptacles	☐	☑	☐	☐	GFCI receptacles present in appropriate locations. Some locations may require modificaitons to accomodate new code requirements.		
Emergency Power - Batteries	☑	☐	☐	☐	Inverter for EM lighting.		
Fire Alarm System	☐	☑	☐	☐	Fire alarm system present, but should be tested and modified to meet code compliance as necessary.		
TECHNOLOGY							
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Main Distribution Frame + Independent Distribution Frame	☐	☐	☐	☐			
Projectors	☐	☐	☐	☐			
Student Devices	☐	☐	☐	☐			
Teacher Devices	☐	☐	☐	☐			
Wireless System	☐	☐	☐	☐			
Public Address System	☐	☐	☐	☐			
Telephone Systems	☐	☐	☐	☐			
Infrastructure	☐	☐	☐	☐			
PHOTOGRAPHY							
Click "Insert" > "Image" > "Insert Image In Cell" Include location and any details in the cell to the right of the photo							

PHOTO	**NOTE**

FACILITIES ASSESSMENT DATA

CLIENT: Muskegon Community College
Facility Assessment

BUILDING: Main Campus North

DATE: May, 2024

Good = Item meets current and future needs, no recommendation for improvement for the next 10 years
Fair = Item meets current use, showing signs of age and should be replaced in the next 10 years
Poor = Item is nearing the end of it's useful life, current need, should be replaced in the next 5 years
Replace = Item no longer meets current use, is outdated, does not meet code, and should be replaced in the next 3 years

ARCHITECTURAL							
ACCESSIBILITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Building Entrances	☑	☐	☐	☐	The mansard roof configuration above the doors needs redesign so water isn't dripping on people as they enter the building. Provide sq. ft. cost for new canopies on steel columns. Provide cost to replace existing non-insulated storefront entries with units having insulated glass.		
Elevator	☑	☐	☐	☐			
Toilet Rooms	☑	☐	☑	☐	not all toilet rooms meet the B.F. door approach clearance requirements. Some have automatic door openers that make the toilet rooms B.F. compliant		
Drinking Fountains	☑	☐	☑	☐	newer drinking fountains are in good shape and meet B.F. requirements. Old original drinking fountains are in good shape but do not meet B.F. requirements		
Stairwells	☑	☐	☐	☐			
Classroom Entrances	☑	☐	☑	☐	Some classroom doorways do not have the required B.F. approach clearance requirements		
STRUCTURE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Foundations	☑	☐	☐	☐			
Slabs on Grade	☑	☐	☐	☐			
Load Bearing Walls / Columns	☑	☐	☐	☐			
Supported Floor Framing	☐	☐	☐	☐	N/A		
Roof Framing	☑	☐	☐	☐			
BUILDING ENVELOPE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Roofing Membrane and Flashings	☐	☑	☐	☐	Appears from the amount of sealant on the base counterflashing that possibly moisture is penetrating the veneer & dripping down the face of the back-up CMU to the floor below @ the green roof. Provide cost for flashing per detail in photos (linear foot cost). School has records of roof warranty dates & should consider roof replacement when warranties expire. Suggest adding additional roof insulation when replacing (min. R-20 at drains sloping 1/8"/Ft. to edge)		

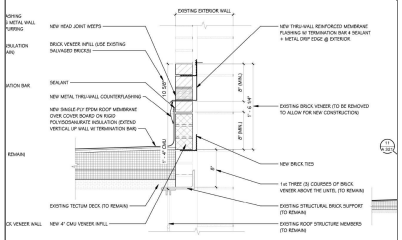
Roof Gutters and Downspouts	☐	☑	☐	☐	None - Roof drains w/ internal downspouts		
Exterior Walls	☐	☑	☐	☐	Mass masonry walls without weeps or vents. Since the brick veneer is porous, water finds its way into the cavity between the veneer & structural component (CMU) & has no way out except evaporation. Provide cost for flashing per detail in photos (linear foot cost). Provide cost (per unit) to cut in new head joint weeps high on the masonry wall.	1.unit price for 8' linear feet of gutters and downspout on mansard roofs at entry points 2.unit price per linear feet for weeps at base of wall per detail below in photos	$585.00
Windows / Glazing	☐	☑	☐	☐	All Common space & Corridors have single pane glass, in some cases but glazed corners. Classroom windows are a mixture of insulated glass awning or non-insulated casement windows. Provide cost (per linear foot) to replace non-insulated glass storefront windows w/ insulated glass storefront windows.	linear foot cost for new insulated storefront windows (6' tall)	$675.00
Trim, Fascia, and Soffits	☐	☐	☑	☐	Standing seam metal mansard roof w/ DEFS fascia & soffit. No vents Exterior mansard standing seam roofs need snow gaurds. Provide a linear foot number for snow guards. Provide linear foot number to cut in 2" continuous soffit vent in existing non-ventilated DEFS soffits	unit price for 8' linear feet of snow guards on mansard roofs at entry points	$370.00
Porches	☐	☐	☐	☐	N/A		
Exterior Doors	☐	☐	☑	☐	Mostly uninsulated glass storefront doors. Provide cost to replace with insulated glass doors (per unit). Provide square foot cost for canopy on posts over entryways @ mansurd roof conditions	Unit price for insulated storefront doors per leaf	$6,650.00
SAFETY + SECURITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Fire Protection	☐	☐	☐	☐			
Egress Windows	☐	☐	☐	☐			
Stairwells	☐	☐	☐	☐			
Card Access	☐	☐	☐	☐			
Security Vestibule	☐	☐	☐	☐			
Security Camera	☐	☐	☐	☐			
FOOD SERVICE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Overall Kitchen Condition	☐	☐	☐	☐			
Kitchen Equipment	☐	☐	☐	☐			
Serving / Dining Areas	☐	☐	☐	☐			
Deliveries	☐	☐	☐	☐			
Storage	☐	☐	☐	☐			
INTERIORS / FINISHES							
FLOORING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Corridors	☑	☐	☐	☐	carpet		
Classrooms	☐	☑	☐	☐	carpet, VCT,		
Toilet Rooms	☑	☑	☐	☐	tile		

Lab + Training	☐	☑	☐	☐	vinyl tile, carpet		
Offices	☑	☐	☐	☐	carpet		
	☐	☐	☐	☐			
	☐	☐	☐	☐	carpet		
					COMMENTS		
WALLS	**GOOD**	**FAIR**	**POOR**	**REPLACE**			
Corridors	☐	☐	☐	☐	brick		
Classrooms	☐	☐	☐	☐	painted gyp. bd.		
Toilet Rooms	☐	☑	☐	☐	glazed CMU		
Lab + Training	☑	☐	☐	☐	painted gyp. bd.		
Offices	☑	☐	☐	☐	painted gyp. bd.		
	☐	☐	☐	☐			
	☐	☐	☐	☐			
CEILINGS	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Corridors	☐	☑	☐	☐	lay-in acoustical tile		
Classrooms	☐	☑	☐	☐	lay-in acoustical tile		
Toilet Rooms	☐	☑	☐	☐	painted gyp. bd.		
Lab + Training	☐	☑	☐	☐			
Offices	☐	☑	☐	☐	lay-in acoustical tile		
	☐	☐	☐	☐			
	☐	☐	☐	☐	lay-in acoustical tile		
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
DOORS + HARDWARE	☐	☑	☐	☐			
	GOOD	**FAIR**	**POOR**	**REPLACE**			
WINDOWS	☐	☑	☐	☐			
	GOOD	**FAIR**	**POOR**	**REPLACE**			
CABINETS / STORAGE / COUNTERS	☐	☑	☐	☐			
MECHANICAL							
HVAC	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Heating Source and Condition	☐	☐	☐	☐	N/A (Heating served from Arts & Music Building)		

Heating Pumps and Piping	☐	☐	☐	☑	1967 hot water heating piping is rotting out. Replacement of pumps and piping will coincide with air handling equipment replacements and building renovation.Continue with regular piping, piping accessories, and water quality maintenance.	Replace (2) 3-hp pumps w/ VFD and (2) 1-hp pumps w/ VFD. (CG)Coordinate cost with sq.ft. of building renovation.	$20,000.00
Cooling Source and Condition	☐	☑	☐	☐	(1) 2016 Trane "RTWD180" (1) 2021 Multistack "CICD-30X3"		
Cooling Pumps and Piping	☐	☐	☐	☑	1967 chilled water piping is rotting out. Replacement of pumps and piping will coincide with air handling equipment replacements and building renovation.Continue with regular piping, piping accessories, and water quality maintenance.	Replace (2) 20-hp and (2) 10 hp pumps w/ VFD, plus 100% allowance for new piping and insulation.	$53,500.00
Air Handling / Ventilation (Indoor Modular Air Handling Units)	☐	☐	☐	☑	(5) 1967 American Standard air handling equipment past replacement life and rotting out, with replacement parts of fans, coils, and casings needing to be custom ordered due to current energy regulations and replacement limitation.	Site-built indoor air-handling units: (1) 35,000 cfm, (1) 40,000 cfm, (1) 30,000 cfm, (2) 8000 cfm. Include 50% adder for new ductwork and insulation.	$4,000,000.00
Air Handling/Ventilation (Fan Coil Units)	☐	☐	☐	☑	(6) 1967 fan coil units past replacement life, with replacement parts of fans, coils, and casings needing to be custom ordered due to current energy regulations and replacement limitation.	(6) 4-pipe fan coil units	$80,000.00
Air Handling/Ventilation (Vertical Unit Ventilators)	☐	☐	☐	☑	(65) 1967 Changeair vertical unit ventilators are past replacement life, with replacement parts of fans, coils, and casings needing to be custom ordered due to current energy regulations and replacement limitation. Maintenance staff currently repairs units with parts from other units on campus. Controls keep outdoor air damper open when unit is powered off and should be remedied to prevent coils freezing.	(65) vertical unit ventilator replacements. Include 20% allowance modifications and architectural adaptations.	$930,000.00
Air Handling / Ventilation (Exhaust Fans)	☐	☐	☑	☐	(20) 1965 Roof Exhaust Fans Continue with regular maintenance and inspection.		
Building Management System / Controls	☐	☐	☐	☑	Pneumatic controls, standalone thermostats, and associated devices are present on site and awaiting replacement with mechanical equipment. College to coordinate with TowerPinkster if the college has access to programming software for Distech Controllers (Enertemp) or if the software can be obtained by the college so Enertemp's programming to mechanical equipment can be accessed. Replacement of Enertemp's Distech control devices with control devices from Control Resource will need to occur during replacement of mechanical equipment.	(CG)Coordinate control replacement with mechanical equipment replacement.	
Energy Efficiency	☐	☐	☐	☐	Recommend customized LVL 2 energy assessment (audit) for review of any recommended space programming changes, building envelope changes/improvements, HVAC replacements/improvements, domestic water replacements/improvements, or lighting replacements/improvements.		
Humidifier	☐	☐	☐	☐			
Room Level Terminal Equipment (Split System Air Conditioning Units)	☐	☐	☐	☐			
Room Level Terminal Equipment (Mixing Box Terminal Units)	☐	☐	☐	☑	(62) 1967 Dual duct air terminal units. Terminal units are past their replacement life, and replacement parts must be custom ordered due to current energy regulations and replacement limitations.	Convert to VAV boxes w/ reheat. 62 new VAV boxes plus controls and 100% allowance for new piping and insulation.	$400,000.00

Room Level Terminal Equipment (Cabinet Unit Heaters)	☐	☐	☐	☑	(23) 1967 Nesbitt Cabinet Unit Heaters, Hot Water Coils Cabinet unit heaters are past their replacement life, and replacement parts of fans, coils, and unit casings must be custom ordered due to current energy regulations and replacement limitations.	(23) new cabinet unit heaters with controls.	$125,000.00
Room Level Terminal Equipment (Radiant Heating)	☐	☑	☐	☐	1967 Fin Tube & Enclosures Enclosures are in fair condition. Replacement will coincide with building renovation. Continue with regular maintenance and inspection.		
Facility Natural Gas System	☐	☑	☐	☐	Facility natural gas system consists of piping and specialties dating to 1967. Coordinate replacement upon building renovation. Monitor gas service piping thru pavement for corrosion. Monitor gas fired equipment and appliance operation issues that may occur with DTE switching from high gas pressure service to medium gas pressure service. Continue with regular maintenance and inspection of facility natural gas systems.		
PLUMBING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Storm System	☐	☐	☑	☐	Storm system consists of piping and specialties dating to 1967. Continue with regular maintenance and inspection. Replacement will be required on renovation.	(CG)Coordinate cost with sq.ft. of building renovation.	
Sanitary System	☐	☐	☑	☐	Sanitary system consists of piping and specialties dating to 1967. Continue with regular maintenance and inspection. Replacement will be required on renovation.	(CG)Coordinate cost with sq.ft. of building renovation.	
Domestic Water Piping	☐	☐	☑	☐	Domestic water system consists of piping and specialties dating to 1967. Continue with regular maintenance and inspection. Replacement will be required on renovation.	(CG)Coordinate cost with sq.ft. of building renovation.	
Water Heaters	☐	☐	☐	☐			
Plumbing Fixtures	☐	☐	☐	☑	Plumbing fixtures, flush valves, faucets, showers are past their useful life with indication of various replacements over the years. Campus to consider setting up a standard on plumbing fixtures, flush valves, and faucets.	(CG)Coordinate cost with sq.ft. of building renovation.	
Drinking Fountains	☐	☐	☐	☑	Drinking fountains dating to 1967 are past their useful life and should be replaced.	(CG)Coordinate cost with sq.ft. of building renovation.	
Fire Protection	☐	☑	☐	☐	Fire protection system maintained by Brigade Fire Protection. Coordinate replacement with renovation of building. Continue with regular maintenance and inspection.	(CG)Coordinate cost with sq.ft. of building renovation.	
ELECTRICAL							
LIGHTING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Exterior Lighting	☐	☐	☑	☐	Most exterior lights are dated and yellowing. Standardize fixtures to LED bulbs or update all lights to new LED fixture for consistency. Price for complete replacement based on square footage.		
Parking Lot Lighting	☐	☑	☐	☐	Parking lot lighting is present, but parking lot lights appear to be a combination of LED retrofit fixtures. Standardize fixtures to LED bulbs or update all lights to new LED fixture for consistency.		

Interior Lighting	☐	☐	☑	☐	Mixture of LED and fluorescent. Flourescent troffer lighting is dated, glary and inefficient. Replace all with LED. Price for complete replacement based on square footage.	Provide $/sf cost for fluorescent to LED upgrade.	$645,000.00
Emergency Lighting	☐	☐	☑	☐	Local battery backups within fixtures and emergency bug eyes throughout space. Proper emergency lighting may not be code compliant. Battery fixtures could be removed and an inverter could be installed to provide emergency lighting. Price for complete replacement based on square footage.	Provide $/sf cost for new emergency light fixtures (battery type)	$55,000.00
Lighting Controls	☐	☐	☐	☑	Manual switches to turn lights on or off, but no localized dimming or occupancy sensing. Controls should be replaced for better energy efficiency and occupancy sensors to meet current code. A lighting upgrade would require lighting controls to be brought up to current code. Price for complete replacement based on square footage.	Provide $/sf cost for new lighting controls	$125,000.00
Exit Signage	☐	☑	☐	☐	Exit signage is present. Signage should be updated to new fixtures for better visibility.		
POWER	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Electrical Service	☐	☑	☐	☐	Gear in adequate condition, but appears original (1966) . Gear should be periodically cleaned, tested and refurbished as necessary.		
Generator System	☐	☐	☐	☑	No generator present		
Distribution/Service Panels / Gear	☐	☑	☐	☐	Distibution panel is aged, but adequate condition. Gear should be tested and refurbished as necessary.		
Branch Panels	☐	☑	☐	☐	Branch panels are aged, but adequate condition. Gear should be tested and refurbished as necessary.		
Receptacles + Circuiting	☐	☑	☐	☐	Adequte receptacles and circuiting, although more receptacles would be desirable.		
GFCI Receptacles	☐	☐	☑	☐	GFCI receptacles present in appropriate locations. Some locations may require modificaitons to accomodate new code requirements.		
Emergency Power - Batteries	☐	☐	☐	☑	No emergency power in the form of batteries/inverter/UPS present.		
Fire Alarm System	☐	☑	☐	☐	Fire alarm system present, but should be tested and modified to meet code compliance as necessary.		
TECHNOLOGY							
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Main Distribution Frame + Independent Distribution Frame	☐	☐	☐	☐			
Projectors	☐	☐	☐	☐			
Student Devices	☐	☐	☐	☐			
Teacher Devices	☐	☐	☐	☐			
Wireless System	☐	☐	☐	☐			
Public Address System	☐	☐	☐	☐			
Telephone Systems	☐	☐	☐	☐			

Infrastructure	☐	☐	☐	☐			
PHOTOGRAPHY							
Click "Insert" > "Image" > "Insert Image In Cell" Include location and any details in the cell to the right of the photo							
PHOTO	**NOTE**						
	Provide linear foot cost to add flashing & weeps in brick or stone veneer where there are no weep or flashing pres						

FACILITIES ASSESSMENT DATA

CLIENT: Muskegon Community College
Facility Assessment

BUILDING: Main Campus South

DATE: May, 2024

Good = Item meets current and future needs, no recommendation for improvement for the next 10 years
Fair = Item meets current use, showing signs of age and should be replaced in the next 10 years
Poor = Item is nearing the end of it's useful life, current need, should be replaced in the next 5 years
Replace = Item no longer meets current use, is outdated, does not meet code, and should be replaced in the next 3 years

ARCHITECTURAL							
ACCESSIBILITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Building Entrances	☑	☐	☐	☐	The mansard roof configuration above the doors needs redesign so water isn't dripping on people as they enter the building. Provide sq. ft. cost for new canopies on steel columns. Provide cost to replace existing non-insulated storefront entries with units having insulated glass.		
Elevator	☑	☐	☐	☐			
Toilet Rooms	☑	☐	☑	☐	not all toilet rooms meet the B.F. door approach clearance requirements. Some have automatic door openers that make the toilet rooms B.F. compliant		
Drinking Fountains	☑	☐	☑	☐	newer drinking fountains are in good shape and meet B.F. requirements. Old original drinking fountains are in good shape but do not meet B.F. requirements		
Stairwells	☑	☐	☐	☐			
Clasroom Entrances	☑	☐	☑	☐	Some clasroom doorways do not have the required B.F. approach clearance requirements		
STRUCTURE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Foundations	☑	☐	☐	☐			
Slabs on Grade	☑	☐	☐	☐			
Load Bearing Walls / Columns	☑	☐	☐	☐			
Supported Floor Framing	☐	☐	☐	☐			
Roof Framing	☑	☐	☐	☐			
BUILDING ENVELOPE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		

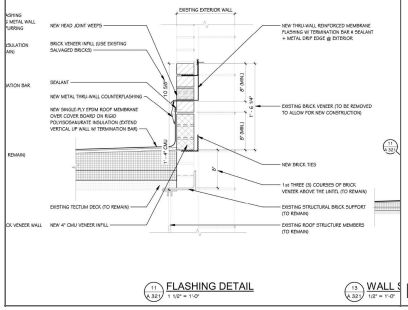
Roofing Membrane and Flashings	☐	☑	☐	☐	Appears from the amount of sealant on the base counterflashing that possibly moisture is penetrating the veneer & driping down the face of the back-up CMU to the floor below @ the green roof. Provide cost for flashing per detail in photos (linear foot cost). School has records of roof warranty dates & should consider roof replacement when warranties expire. Suggest adding additional roof insulation when replacing (min. R-20 at drains sloping 1/8"/Ft. to edge)		
Roof Gutters and Downspouts	☐	☑	☐	☐	None - Roof drains w/ internal downspouts		
Exterior Walls	☐	☑	☐	☐	Mass masonry walls without weeps or vents. Since the brick veneer is pourous, water finds it's way into the cavity between the veneer & structural componenet (CMU) & has no way out except evaporation. Provide cost for flashing per detail in photos (linear foot cost).Provide cost (per unit) to cut in new head joint weeps high on the masonry wall.		
Wood Windows / Glazing	☐	☑	☐	☐	All Common space & Corridors have single pane glass, in some cases but glazed corners. Classroom windows are a mixture of insulated glass awning or non-insulated casement windows. Provide cost (per linear foot) to replace non-insulated glass storefront windows w/ insulated glass storefront windows.		
Trim, Fascia, and Soffits	☐	☐	☑	☐	Standing seam metal mansard roof w/ DEFS fascia & soffit. No vents Exterior mansard standing seam roofs need snow gaurds. Provide a linear foot number for snow guards. Provide linear foot number to cut in 2" continuous soffit vent in existing non-ventilated DEFS soffits		
Porches	☐	☐	☐	☐	N/A		
Exterior Doors	☐	☐	☑	☐	Mostly uninsulated glass storefront doors. Provide square foot cost for canopy on posts over entryways @ mansurd roof conditions		
SAFETY + SECURITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Fire Protection	☐	☐	☐	☐			
Egress Windows	☐	☐	☐	☐			
Stairwells	☐	☐	☐	☐			
Card Access	☐	☐	☐	☐			
Security Vestibule	☐	☐	☐	☐			
Security Camera	☐	☐	☐	☐			
FOOD SERVICE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Overall Kitchen Condition	☐	☐	☐	☐			
Kitchen Equipment	☐	☐	☐	☐			
Serving / Dining Areas	☐	☐	☐	☐			
Deliveries	☐	☐	☐	☐			
Storage	☐	☐	☐	☐			

INTERIORS / FINISHES							
FLOORING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Corridors	☐	☐	☐	☐			
Classrooms	☐	☐	☐	☐			
Toilet Rooms	☐	☑	☐	☐	tile		
Testing Center	☐	☐	☐	☐			
Bookstore	☑	☐	☐	☐	carpet		
Offices	☑	☐	☐	☐	carpet		
Common Area	☑	☐	☐	☐	carpet		
Planetarium	☐	☑	☐	☐	carpet		
Science Museum	☑	☐	☐	☐	vinyl plank		
					COMMENTS		
WALLS	**GOOD**	**FAIR**	**POOR**	**REPLACE**			
Corridors	☐	☐	☐	☐			
Classrooms	☐	☐	☐	☐			
Toilet Rooms	☐	☑	☐	☐	tile		
Testing Center	☐	☐	☐	☐			
Bookstore	☑	☐	☐	☐	painted gyp. bd.		
Offices	☑	☐	☐	☐	painted gyp. bd.		
Common Area	☑	☐	☐	☐	brick		
Planetarium	☐	☑	☐	☐	painted gyp. bd.		
Science Museum	☐	☑	☐	☐	painted gyp. bd.		
CEILINGS	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Corridors	☐	☐	☐	☐			
Classrooms	☐	☐	☐	☐			
Toilet Rooms	☑	☐	☐	☐	lay-in acoustical tile		
Testing Center	☐	☐	☐	☐			
Bookstore	☑	☐	☐	☐	lay-in acoustical tile		
Offices	☑	☐	☐	☐	lay-in acoustical tile		
Common Area	☐	☑	☐	☐	lay-in acoustical tile		
Planetarium	☐	☑	☐	☐			
Science Museum	☐	☑	☐	☐	lay-in acoustical tile		
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		

DOORS + HARDWARE	☐	☐	☐	☐			
	GOOD	**FAIR**	**POOR**	**REPLACE**			
WINDOWS	☐	☐	☐	☐			
	GOOD	**FAIR**	**POOR**	**REPLACE**			
CABINETS / STORAGE / COUNTERS	☐	☐	☐	☐			
MECHANICAL							
HVAC	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Heating Source and Condition	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Heating Pumps and Piping	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Cooling Source and Condition	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Cooling Pumps and Piping	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Ventilation	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Building Management System / Controls	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Energy Efficiency	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Humidifier	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Room Level Terminal Equipment	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Facility Natural Gas System	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
PLUMBING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Storm System	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Sanitary System	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Domestic Water Piping	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Water Heaters	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Plumbing Fixtures	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Drinking Fountains	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Fire Protection	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
ELECTRICAL							
LIGHTING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**

Exterior Lighting	☐	☐	☑	☐	Most exterior lights are dated and yellowing. Standardize fixtures to LED bulbs or update all lights to new LED fixture for consistency. Price for complete replacement based on square footage.		
Parking Lot Lighting	☐	☑	☐	☐	Parking lot lighting is present, but parking lot lights appear to be a combination of LED retrofit fixtures. Standardize fixtures to LED bulbs or update all lights to new LED fixture for consistency.		
Interior Lighting	☐	☐	☑	☐	Mixture of LED and fluorescent. Flourescent troffer lighting is dated, glary and inefficient. Replace all with LED. Price for complete replacement based on square footage.		
Emergency Lighting	☐	☐	☑	☐	Local battery backups within fixtures and emergency bug eyes throughout space. Proper emergency lighting may not be code compliant. Battery fixtures could be removed and an inverter could be installed to provide emergency lighting. Price for complete replacement based on square footage.		
Lighting Controls	☐	☐	☐	☑	Manual switches to turn lights on or off, but no localized dimming or occupancy sensing. Controls should be replaced for better energy efficiency and occupancy sensors to meet current code. A lighting upgrade would require lighting controls to be brought up to current code. Price for complete replacement based on square footage.		
Exit Signage	☐	☑	☐	☐	Exit signage is present. Signage should be updated to new fixtures for better visibility.		
POWER	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Electrical Service	☐	☑	☐	☐	Gear in adequate condition, but appears original (1966) . Gear should be periodically cleaned, tested and refurbished as necessary.		
Generator System	☐	☐	☐	☑	No generator present		
Distribution/Service Panels / Gear	☐	☑	☐	☐	Distibution panel is aged, but adequate condition. Gear should be tested and refurbished as necessary.		
Branch Panels	☐	☑	☐	☐	Branch panels are aged, but adequate condition. Gear should be tested and refurbished as necessary.		
Receptacles + Circuiting	☐	☑	☐	☐	Adequte receptacles and circuiting, although more receptacles would be desirable.		
GFCI Receptacles	☐	☐	☑	☐	GFCI receptacles present in appropriate locations. Some locations may require modificaitons to accomodate new code requirements.		
Emergency Power - Batteries	☐	☐	☐	☑	No emergency power in the form of batteries/inverter/UPS present.		
Fire Alarm System	☐	☑	☐	☐	Fire alarm system present, but should be tested and modified to meet code compliance as necessary.		
TECHNOLOGY							
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Main Distribution Frame + Independent Distribution Frame	☐	☐	☐	☐			

Projectors	☐	☐	☐	☐			
Student Devices	☐	☐	☐	☐			
Teacher Devices	☐	☐	☐	☐			
Wireless System	☐	☐	☐	☐			
Public Address System	☐	☐	☐	☐			
Telephone Systems	☐	☐	☐	☐			
Infrastructure	☐	☐	☐	☐			
PHOTOGRAPHY							
Click "Insert" > "Image" > "Insert Image In Cell" Include location and any details in the cell to the right of the photo							

PHOTO	**NOTE**
	Provide linear foot cost to add flashing & weeps in brick or stone veneer where there are no weep or flashing pres

FACILITIES ASSESSMENT DATA

CLIENT: Muskegon Community College
Facility Assessment

BUILDING: Main Campus South 2nd

DATE: May, 2024

Good = Item meets current and future needs, no recommendation for improvement for the next 10 years
Fair = Item meets current use, showing signs of age and should be replaced in the next 10 years
Poor = Item is nearing the end of it's useful life, current need, should be replaced in the next 5 years
Replace = Item no longer meets current use, is outdated, does not meet code, and should be replaced in the next 3 years

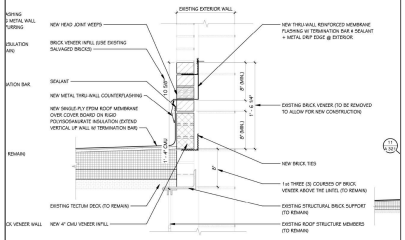
ARCHITECTURAL							
ACCESSIBILITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Building Entrances	☐	☐	☐	☐	See comments for 1st Floor (where applicable)		
Elevator	☐	☐	☐	☐			
Toilet Rooms	☐	☐	☐	☐			
Drinking Fountains	☐	☐	☐	☐			
Stairwells	☐	☐	☐	☐			
STRUCTURE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Foundations	☐	☐	☐	☐	N/A		
Slabs on Grade	☐	☐	☐	☐	N/A		
Load Bearing Walls / Columns	☑	☐	☐	☐			
Supported Floor Framing	☑	☐	☐	☐			
Roof Framing	☐	☐	☐	☐	N/A		
BUILDING ENVELOPE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Roofing Membrane and Flashings	☐	☐	☐	☐	N/A		
Roof Gutters and Downspouts	☐	☑	☐	☐	None - Roof drains w/ internal downspouts		
Exterior Walls	☐	☑	☐	☐	Mass masonry walls without weeps or vents. Since the brick veneer is pourous, water finds it's way into the cavity between the veneer & structural componenet (CMU) & has no way out except evaporation. Provide cost for flashing per detail in photos (linear foot cost). Provide cost (per unit) to cut in new head joint weeps high on the masonry wall.		
Wood Windows / Glazing	☐	☑	☐	☐	All Common space & Corridors have single pane glass, in some cases but glazed corners. Classroom windows are a mixture of insulated glass awning or non-insulated casement windows. Provide cost (per linear foot) to replace non-insulated glass storefront windows w/ insulated glass storefront windows.		
Trim, Fascia, and Soffits	☐	☐	☐	☐	N/A		

Porches	☐	☐	☐	☐	N/A		
Exterior Doors	☐	☐	☑	☐	Mostly uninsulated glass storefront doors. Provide square foot cost for canopy on posts over entryways @ mansurd roof conditions		
SAFETY + SECURITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Fire Protection	☐	☐	☐	☐			
Egress Windows	☐	☐	☐	☐			
Stairwells	☐	☐	☐	☐			
Card Access	☐	☐	☐	☐			
Security Vestibule	☐	☐	☐	☐			
Security Camera	☐	☐	☐	☐			
FOOD SERVICE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Overall Kitchen Condition	☐	☐	☐	☐			
Kitchen Equipment	☐	☐	☐	☐			
Serving / Dining Areas	☐	☐	☐	☐			
Deliveries	☐	☐	☐	☐			
Storage	☐	☐	☐	☐			
INTERIORS / FINISHES							
FLOORING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Corridors	☐	☑	☐	☐	carpet		
Classrooms	☐	☑	☐	☐	carpet tile		
Respitory Lab + Training	☑	☐	☐	☐	vinyl tile		
Toilet Rooms	☐	☑	☐	☐	tile		
Commons	☐	☑	☐	☐	carpet tile		
Cafe	☑	☐	☐	☐	vinyl tile		
Kitchen	☐	☑	☐	☐	tile, old and miss-matched		
Offices	☑	☐	☐	☐	carpet		
Jayhawk Hub	☑	☐	☐	☐	carpet		
Blue Gold Room	☑	☐	☐	☐	carpet		
Lactation Room	☑	☐	☐	☐	vinyl tile		
					COMMENTS		
WALLS	**GOOD**	**FAIR**	**POOR**	**REPLACE**			
Corridors	☑	☐	☐	☐	brick		
Classrooms	☑	☑	☐	☐	painted gyp. bd.		
Respitory Lab + Training	☑	☐	☐	☐	painted gyp. bd.		

Toilet Rooms	☑	☐	☐	☐	glazed block		
Commons	☑	☐	☐	☐	brick, painted gyp. bd.		
Cafe	☑	☐	☐	☐	brick, painted gyp. bd.		
Kitchen	☑	☐	☐	☐	painted CMU		
Offices	☑	☐	☐	☐	painted gyp. bd.		
Jayhawk Hub	☑	☐	☐	☐	painted gyp. bd.		
Blue Gold Room	☑	☐	☐	☐	brick		
Lactation Room	☑	☐	☐	☐	painted gyp. bd.		
CEILINGS	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Corridors	☐	☑	☐	☐	lay-in acoustical tiles		
Classrooms	☑	☐	☐	☐	lay-in acoustical tiles		
Respitory Lab + Training	☑	☐	☐	☐	lay-in acoustical tiles		
Toilet Rooms	☐	☑	☐	☐	lay-in acoustical tiles, painted gyp. bd.		
Commons	☑	☐	☐	☐	lay-in acoustical tiles		
Cafe	☑	☐	☐	☐	lay-in acoustical tiles, painted gyp. bd.		
Kitchen	☐	☑	☐	☐	lay-in acoustical tiles		
Offices	☑	☑	☐	☐	lay-in acoustical tiles		
Jayhawk Hub	☑	☐	☐	☐	lay-in acoustical tiles		
Blue Gold Room	☑	☐	☐	☐	lay-in acoustical tiles		
Lactation Room	☐	☑	☐	☐	lay-in acoustical tiles, some tiles show water stains		
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
DOORS + HARDWARE	☐	☑	☐	☐			
	GOOD	**FAIR**	**POOR**	**REPLACE**			
WINDOWS	☑	☑	☐	☐			
	GOOD	**FAIR**	**POOR**	**REPLACE**			
CABINETS / STORAGE / COUNTERS	☑	☐	☐	☐			
MECHANICAL							
HVAC	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Heating Source and Condition	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Heating Pumps and Piping	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Cooling Source and Condition	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		

Cooling Pumps and Piping	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Ventilation	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Building Management System / Controls	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Energy Efficiency	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Humidifier	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Room Level Terminal Equipment	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Facility Natural Gas System	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
PLUMBING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Storm System	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Sanitary System	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Domestic Water Piping	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Water Heaters	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Plumbing Fixtures	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Drinking Fountains	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Fire Protection	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
ELECTRICAL							
LIGHTING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Exterior Lighting	☐	☐	☑	☐	Most exterior lights are dated and yellowing. Standardize fixtures to LED bulbs or update all lights to new LED fixture for consistency. Price for complete replacement based on square footage.		
Parking Lot Lighting	☐	☑	☐	☐	Parking lot lighting is present, but parking lot lights appear to be a combination of LED retrofit fixtures. Standardize fixtures to LED bulbs or update all lights to new LED fixture for consistency.		
Interior Lighting	☐	☐	☑	☐	Mixture of LED and fluorescent. Flourescent troffer lighting is dated, glary and inefficient. Replace all with LED. Price for complete replacement based on square footage.		
Emergency Lighting	☐	☐	☑	☐	Local battery backups within fixtures and emergency bug eyes throughout space. Proper emergency lighting may not be code compliant. Battery fixtures could be removed and an inverter could be installed to provide emergency lighting. Price for complete replacement based on square footage.		

Lighting Controls	☐	☐	☐	☑	Manual switches to turn lights on or off, but no localized dimming or occupancy sensing. Controls should be replaced for better energy efficiency and occupancy sensors to meet current code. A lighting upgrade would require lighting controls to be brought up to current code. Price for complete replacement based on square footage.		
Exit Signage	☐	☑	☐	☐	Exit signage is present. Signage should be updated to new fixtures for better visibility.		
POWER	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Electrical Service	☐	☑	☐	☐	Gear in adequate condition, but appears original (1966) . Gear should be periodically cleaned, tested and refurbished as necessary.		
Generator System	☐	☐	☐	☑	No generator present		
Distribution/Service Panels / Gear	☐	☑	☐	☐	Distibution panel is aged, but adequate condition. Gear should be tested and refurbished as necessary.		
Branch Panels	☐	☑	☐	☐	Branch panels are aged, but adequate condition. Gear should be tested and refurbished as necessary.		
Receptacles + Circuiting	☐	☑	☐	☐	Adequte receptacles and circuiting, although more receptacles would be desirable.		
GFCI Receptacles	☐	☐	☑	☐	GFCI receptacles present in appropriate locations. Some locations may require modificaitons to accomodate new code requirements.		
Emergency Power - Batteries	☐	☐	☐	☑	No emergency power in the form of batteries/inverter/UPS present.		
Fire Alarm System	☐	☑	☐	☐	Fire alarm system present, but should be tested and modified to meet code compliance as necessary.		
TECHNOLOGY							
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Main Distribution Frame + Independent Distribution Frame	☐	☐	☐	☐			
Projectors	☐	☐	☐	☐			
Student Devices	☐	☐	☐	☐			
Teacher Devices	☐	☐	☐	☐			
Wireless System	☐	☐	☐	☐			
Public Address System	☐	☐	☐	☐			
Telephone Systems	☐	☐	☐	☐			
Infrastructure	☐	☐	☐	☐			

PHOTOGRAPHY							
Click "Insert" > "Image" > "Insert Image In Cell" Include location and any details in the cell to the right of the photo							
PHOTO	**NOTE**						
	Provide linear foot cost to add flashing & weeps in brick or stone veneer where there are no weep or flashing pres						

FACILITIES ASSESSMENT DATA

CLIENT: Muskegon Community College
Facility Assessment

BUILDING: Main Campus North 2nd

DATE: May, 2024

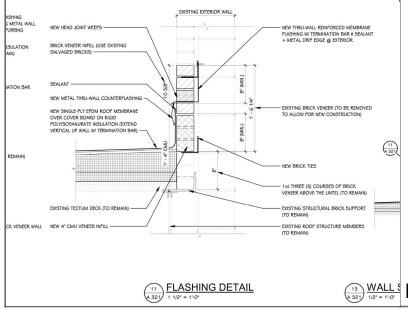
Good = Item meets current and future needs, no recommendation for improvement for the next 10 years
Fair = Item meets current use, showing signs of age and should be replaced in the next 10 years
Poor = Item is nearing the end of it's useful life, current need, should be replaced in the next 5 years
Replace = Item no longer meets current use, is outdated, does not meet code, and should be replaced in the next 3 years

ARCHITECTURAL							
ACCESSIBILITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Building Entrances	☐	☐	☐	☐	See comments for 1st Floor (where applicable)		
Elevator	☐	☐	☐	☐			
Toilet Rooms	☐	☐	☐	☐			
Drinking Fountains	☐	☐	☐	☐			
Stairwells	☐	☐	☐	☐			
STRUCTURE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Foundations	☐	☐	☐	☐	N/A		
Slabs on Grade	☐	☐	☐	☐	N/A		
Load Bearing Walls / Columns	☑	☐	☐	☐			
Supported Floor Framing	☑	☐	☐	☐			
Roof Framing	☐	☐	☐	☐	N/A		
BUILDING ENVELOPE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Roofing Membrane and Flashings	☐	☐	☐	☐	N/A		
Roof Gutters and Downspouts	☐	☑	☐	☐	None - Roof drains w/ internal downspouts		
Exterior Walls	☐	☑	☐	☐	Mass masonry walls without weeps or vents. Since the brick veneer is pourous, water finds it's way into the cavity between the veneer & structural componenet (CMU) & has no way out except evaporation. Provide cost for flashing per detail in photos (linear foot cost). Provide cost (per unit) to cut in new head joint weeps high on the masonry wall.		
Wood Windows / Glazing	☐	☑	☐	☐	All Common space & Corridors have single pane glass, in some cases but glazed corners. Classroom windows are a mixture of insulated glass awning or non-insulated casement windows. Provide cost (per linear foot) to replace non-insulated glass storefront windows w/ insulated glass storefront windows.		
Trim, Fascia, and Soffits	☐	☐	☐	☐	N/A		
Porches	☐	☐	☐	☐	N/A		

Exterior Doors	☐	☐	☑	☐	Mostly uninsulated glass storefront doors. Provide square foot cost for canopy on posts over entryways @ mansurd roof conditions		
SAFETY + SECURITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Fire Protection	☐	☐	☐	☐			
Egress Windows	☐	☐	☐	☐			
Stairwells	☐	☐	☐	☐			
Card Access	☐	☐	☐	☐			
Security Vestibule	☐	☐	☐	☐			
Security Camera	☐	☐	☐	☐			
FOOD SERVICE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Overall Kitchen Condition	☐	☐	☐	☐			
Kitchen Equipment	☐	☐	☐	☐			
Serving / Dining Areas	☐	☐	☐	☐			
Deliveries	☐	☐	☐	☐			
Storage	☐	☐	☐	☐			
INTERIORS / FINISHES							
FLOORING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Corridors	☑	☐	☐	☐	carpet		
Classrooms	☑	☑	☐	☐	vinyl tile, carpet		
Labs	☑	☐	☐	☐	epoxey coating		
Toilet Rooms	☑	☐	☐	☐	tile		
Administration	☐	☐	☐	☐			
Offices	☑	☐	☐	☐	carpet		
					COMMENTS		
WALLS	**GOOD**	**FAIR**	**POOR**	**REPLACE**			
Corridors	☑	☐	☐	☐	brick		
Classrooms	☐	☐	☐	☐	painted gyp. bd.		
Labs	☑	☐	☐	☐	painted gyp. bd.		
Toilet Rooms	☐	☑	☐	☐	glazed CMU		
Administration	☑	☐	☐	☐			
Offices	☑	☐	☐	☐	painted gyp. bd.		
CEILINGS	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Corridors	☑	☑	☐	☐	lay-in acoustical tile		

Classrooms	☑	☐	☐	☐	lay-in acoustical tile		
Labs	☑	☐	☐	☐	lay-in acoustical tile		
Toilet Rooms	☑	☐	☐	☐	painted gyp. bd.		
Administration	☑	☐	☐	☐	lay-in acoustical tile		
Offices	☑	☐	☐	☐	lay-in acoustical tile		
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
DOORS + HARDWARE	☑	☐	☐	☐			
	GOOD	**FAIR**	**POOR**	**REPLACE**			
WINDOWS	☑	☑	☐	☐			
	GOOD	**FAIR**	**POOR**	**REPLACE**			
CABINETS / STORAGE / COUNTERS	☑	☐	☐	☐			
MECHANICAL							
HVAC	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Heating Source and Condition	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Heating Pumps and Piping	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Cooling Source and Condition	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Cooling Pumps and Piping	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Ventilation	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Building Management System / Controls	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Energy Efficiency	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Humidifier	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Room Level Terminal Equipment	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Facility Natural Gas System	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
PLUMBING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Storm System	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Sanitary System	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Domestic Water Piping	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Water Heaters	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Plumbing Fixtures	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		

Drinking Fountains	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Fire Protection	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
ELECTRICAL							
LIGHTING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Exterior Lighting	☐	☐	☑	☐	Most exterior lights are dated and yellowing. Standardize fixtures to LED bulbs or update all lights to new LED fixture for consistency. Price for complete replacement based on square footage.		
Parking Lot Lighting	☐	☑	☐	☐	Parking lot lighting is present, but parking lot lights appear to be a combination of LED retrofit fixtures. Standardize fixtures to LED bulbs or update all lights to new LED fixture for consistency.		
Interior Lighting	☐	☐	☑	☐	Mixture of LED and fluorescent. Flourescent troffer lighting is dated, glary and inefficient. Replace all with LED. Price for complete replacement based on square footage.		
Emergency Lighting	☐	☐	☑	☐	Local battery backups within fixtures and emergency bug eyes throughout space. Proper emergency lighting may not be code compliant. Battery fixtures could be removed and an inverter could be installed to provide emergency lighting. Price for complete replacement based on square footage.		
Lighting Controls	☐	☐	☐	☑	Manual switches to turn lights on or off, but no localized dimming or occupancy sensing. Controls should be replaced for better energy efficiency and occupancy sensors to meet current code. A lighting upgrade would require lighting controls to be brought up to current code. Price for complete replacement based on square footage.		
Exit Signage	☐	☑	☐	☐	Exit signage is present. Signage should be updated to new fixtures for better visibility.		
POWER	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Electrical Service	☐	☑	☐	☐	Gear in adequate condition, but appears original (1966) . Gear should be periodically cleaned, tested and refurbished as necessary.		
Generator System	☐	☐	☐	☑	No generator present		
Distribution/Service Panels / Gear	☐	☑	☐	☐	Distibution panel is aged, but adequate condition. Gear should be tested and refurbished as necessary.		
Branch Panels	☐	☑	☐	☐	Branch panels are aged, but adequate condition. Gear should be tested and refurbished as necessary.		
Receptacles + Circuiting	☐	☑	☐	☐	Adequte receptacles and circuiting, although more receptacles would be desirable.		
GFCI Receptacles	☐	☐	☑	☐	GFCI receptacles present in appropriate locations. Some locations may require modificaitons to accomodate new code requirements.		
Emergency Power - Batteries	☐	☐	☐	☑	No emergency power in the form of batteries/inverter/UPS present.		

Fire Alarm System	☐	☑	☐	☐	Fire alarm system present, but should be tested and modified to meet code compliance as necessary.		
TECHNOLOGY							
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Main Distribution Frame + Independent Distribution Frame	☐	☐	☐	☐			
Projectors	☐	☐	☐	☐			
Student Devices	☐	☐	☐	☐			
Teacher Devices	☐	☐	☐	☐			
Wireless System	☐	☐	☐	☐			
Public Address System	☐	☐	☐	☐			
Telephone Systems	☐	☐	☐	☐			
Infrastructure	☐	☐	☐	☐			
PHOTOGRAPHY							
Click "Insert" > "Image" > "Insert Image In Cell" Include location and any details in the cell to the right of the photo							
PHOTO	**NOTE**						
	Provide linear foot cost to add flashing & weeps in brick or stone veneer where there are no weep or flashing pres					

FACILITIES ASSESSMENT DATA

CLIENT: Muskegon Community College
Facility Assessment

BUILDING: Main Campus 3rd

DATE: May, 2024

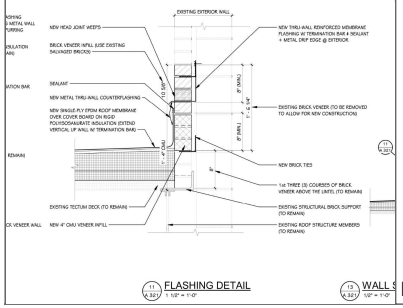
Good = Item meets current and future needs, no recommendation for improvement for the next 10 years
Fair = Item meets current use, showing signs of age and should be replaced in the next 10 years
Poor = Item is nearing the end of it's useful life, current need, should be replaced in the next 5 years
Replace = Item no longer meets current use, is outdated, does not meet code, and should be replaced in the next 3 years

ARCHITECTURAL							
ACCESSIBILITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Building Entrances	☐	☑	☐	☐	Provide cost to replace existing non-insulated storefront entries with units having insulated glass.		
Elevator	☐	☐	☐	☐			
Toilet Rooms	☐	☐	☐	☐			
Drinking Fountains	☐	☐	☐	☐			
Stairwells	☐	☐	☐	☐			
STRUCTURE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Foundations	☑	☐	☐	☐	some minor cracking at the lower level concrete levels over the pond.		
Slabs on Grade	☑	☐	☐	☐	no issues noted		
Load Bearing Walls / Columns	☑	☐	☐	☐			
Supported Floor Framing	☐	☐	☐	☐	minor spalling of concrete in mechanical room		
Roof Framing	☐	☐	☐	☐	N/A		
BUILDING ENVELOPE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Roofing Membrane and Flashings	☐	☐	☐	☐	N/A		
Roof Gutters and Downspouts	☐	☑	☐	☐	None - Roof drains w/ internal downspouts		
Exterior Walls	☐	☑	☐	☐	Mass masonry walls without weeps or vents. Since the brick veneer is pourous, water finds it's way into the cavity between the veneer & structural componenet (CMU) & has no way out except evaporation. Provide cost for flashing per detail in photos (linear foot cost). Provide cost (per unit) to cut in new head joint weeps high on the masonry wall.		
Wood Windows / Glazing	☐	☑	☐	☐	All Common space & Corridors have single pane glass, in some cases but glazed corners. Classroom windows are a mixture of insulated glass awning or non-insulated casement windows. Provide cost (per linear foot) to replace non-insulated glass storefront windows w/ insulated glass storefront windows.		
Trim, Fascia, and Soffits	☐	☑	☐	☐	DEFS		

Porches	☐	☑	☐	☐	Concrete walkways, some elevated		
Exterior Doors	☐	☐	☑	☐	Mostly uninsulated glass storefront doors. Provide square foot cost for canopy on posts over entryways @ mansurd roof conditions		
SAFETY + SECURITY	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Fire Protection	☐	☐	☐	☐			
Egress Windows	☐	☐	☐	☐			
Stairwells	☐	☐	☐	☐			
Card Access	☐	☐	☐	☐			
Security Vestibule	☐	☐	☐	☐			
Security Camera	☐	☐	☐	☐			
FOOD SERVICE	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Overall Kitchen Condition	☐	☐	☐	☐			
Kitchen Equipment	☐	☐	☐	☐			
Serving / Dining Areas	☐	☐	☐	☐			
Deliveries	☐	☐	☐	☐			
Storage	☐	☐	☐	☐			
INTERIORS / FINISHES							
FLOORING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Corridors	☑	☐	☐	☐	VCT		
Classrooms	☑	☑	☐	☐	carpet, VCT		
Labs	☑	☑	☐	☐	sheet vinyl, VCT		
Toilet Rooms	☑	☐	☐	☐	tile		
College Success Center	☑	☐	☐	☐			
Offices	☑	☐	☐	☐	carpet		
					COMMENTS		
WALLS	**GOOD**	**FAIR**	**POOR**	**REPLACE**			
Corridors	☑	☐	☐	☐	brick, painted gyp. bd.		
Classrooms	☑	☑	☐	☐	painted gyp. bd.		
Labs	☐	☑	☐	☐	painted cmu		
Toilet Rooms	☐	☑	☐	☐	painted glazed block		
College Success Center	☑	☐	☐	☐	painted gyp. bd.		
Offices	☑	☐	☐	☐	painted gyp. bd.		
CEILINGS	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Corridors	☐	☐	☐	☐	lay-in acoustical tile		

Classrooms	☑	☑	☐	☐	lay-in acoustical tile		
Labs	☐	☑	☐	☐	lay-in acoustical tile		
Toilet Rooms	☐	☐	☐	☐	painted gyp. bd.		
College Success Center	☑	☐	☐	☐	lay-in acoustical tile		
Offices	☑	☐	☐	☐	lay-in acoustical tile		
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
DOORS + HARDWARE	☑	☐	☐	☐			
	GOOD	**FAIR**	**POOR**	**REPLACE**			
WINDOWS	☑	☑	☐	☐			
	GOOD	**FAIR**	**POOR**	**REPLACE**			
CABINETS / STORAGE / COUNTERS	☑	☑	☐	☐			
MECHANICAL							
HVAC	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Heating Source and Condition	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Heating Pumps and Piping	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Cooling Source and Condition	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Cooling Pumps and Piping	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Ventilation	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Building Management System / Controls	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Energy Efficiency	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Humidifier	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Room Level Terminal Equipment	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Facility Natural Gas System	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
PLUMBING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Storm System	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Sanitary System	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Domestic Water Piping	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Water Heaters	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Plumbing Fixtures	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		

Drinking Fountains	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
Fire Protection	☐	☐	☐	☐	(Refer to Main Campus North First Floor)		
ELECTRICAL							
LIGHTING	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Exterior Lighting	☐	☐	☑	☐	Most exterior lights are dated and yellowing. Standardize fixtures to LED bulbs or update all lights to new LED fixture for consistency. Price for complete replacement based on square footage.		
Parking Lot Lighting	☐	☑	☐	☐	Parking lot lighting is present, but parking lot lights appear to be a combination of LED retrofit fixtures. Standardize fixtures to LED bulbs or update all lights to new LED fixture for consistency.		
Interior Lighting	☐	☐	☑	☐	Mixture of LED and fluorescent. Flourescent troffer lighting is dated, glary and inefficient. Replace all with LED. Price for complete replacement based on square footage.		
Emergency Lighting	☐	☐	☑	☐	Local battery backups within fixtures and emergency bug eyes throughout space. Proper emergency lighting may not be code compliant. Battery fixtures could be removed and an inverter could be installed to provide emergency lighting. Price for complete replacement based on square footage.		
Lighting Controls	☐	☐	☐	☑	Manual switches to turn lights on or off, but no localized dimming or occupancy sensing. Controls should be replaced for better energy efficiency and occupancy sensors to meet current code. A lighting upgrade would require lighting controls to be brought up to current code. Price for complete replacement based on square footage.		
Exit Signage	☐	☑	☐	☐	Exit signage is present. Signage should be updated to new fixtures for better visibility.		
POWER	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Electrical Service	☐	☑	☐	☐	Gear in adequate condition, but appears original (1966) . Gear should be periodically cleaned, tested and refurbished as necessary.		
Generator System	☐	☐	☐	☑	No generator present		
Distribution/Service Panels / Gear	☐	☑	☐	☐	Distibution panel is aged, but adequate condition. Gear should be tested and refurbished as necessary.		
Branch Panels	☐	☑	☐	☐	Branch panels are aged, but adequate condition. Gear should be tested and refurbished as necessary.		
Receptacles + Circuiting	☐	☑	☐	☐	Adequte receptacles and circuiting, although more receptacles would be desirable.		
GFCI Receptacles	☐	☐	☑	☐	GFCI receptacles present in appropriate locations. Some locations may require modificaitons to accomodate new code requirements.		
Emergency Power - Batteries	☐	☐	☐	☑	No emergency power in the form of batteries/inverter/UPS present.		

Fire Alarm System	☐	☑	☐	☐	Fire alarm system present, but should be tested and modified to meet code compliance as necessary.		
TECHNOLOGY							
	GOOD	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Main Distribution Frame + Independent Distribution Frame	☐	☐	☐	☐			
Projectors	☐	☐	☐	☐			
Student Devices	☐	☐	☐	☐			
Teacher Devices	☐	☐	☐	☐			
Wireless System	☐	☐	☐	☐			
Public Address System	☐	☐	☐	☐			
Telephone Systems	☐	☐	☐	☐			
Infrastructure	☐	☐	☐	☐			
PHOTOGRAPHY							
Click "Insert" > "Image" > "Insert Image In Cell" Include location and any details in the cell to the right of the photo							
PHOTO	**NOTE**						
	Provide linear foot cost to add flashing & weeps in brick or stone veneer where there are no weep or flashing pres						

FACILITIES ASSESSMENT DATA

TowerPinkster
Architecture · Engineering · Interiors

CLIENT: Muskegon Community College
Facility Assessment

SITE: Main Campus

DATE: May, 2024

Good = Item meets current and future needs, no recommendation for improvement for the next 10 years
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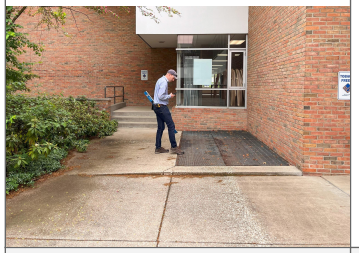
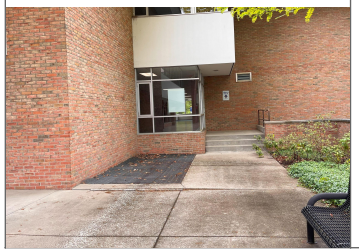
SITE							
PEDESTRIAN SERVICES	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Sidewalks	☐	☑	☑	☐	No paved and accessible walkways to bleachers at softball and baseball. Sidewalk immediately south of parking lot S1 is in poor condition and dead ends into Marquette Aveue (consider removing this). Concrete and timber stairs in the courthyard hill are failing and present a safety issue.	Remove heaved concrete sidewalk and pour new sidewalk in three locations (160 sf of slab in each location	$10,500.00
						provide new sidewalks to softball/baseball bleachers (1,280 s.f. concrete)	$23,000.00
						new barrier free ramps to sidewalk Unit price for each ramp 40 s.f. concrete each	$3,150.00
Barrier Free Access	☐	☑	☑	☐	No barrier free ramps and detectable warning plates at: three main crosswalk locations north of parking lot M3, crosswalks immediately north and west of Bartels-Rode Gymnasium. Heaved concrete / trip hazard in concrete sitewalk at: cafe doors, library entrance, southwest corner of Art+ Music.		
OUTDOOR ELEMENTS	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Signage	☑	☐	☐	☐			
Landscaping	☑	☐	☐	☐			
Irrigation	☐	☑	☐	☐			
Benches, Flagpole, Etc.	☑	☐	☐	☐			
Dumpster Enclosure	☑	☐	☐	☐			
Fencing	☑	☐	☐	☐			
PARKING LOTS	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
North 1	☐	☑	☐	☐	cracking throughout, striping is faded, curb head damaged, undefined delineation from parking and entrance	71,300 sq. ft. of crack sealant and new striping	$90,000.00
						install parking island with curb 10' x 40	$24,000.00
						repair/replace curb, unit cost cost per 6 linear foot	$480.00
						replace sidewalk ramp SE corner	included above in sidewalks
North 2	☐	☑	☐	☐	cracking throughout, striping is faded, curb head damaged, undefined delineation from parking and entrance	43,950 sq. ft. of crack sealant and new striping	$55,500.00
						repair/replace curb, unit cost cost per 6 linear foot	$480.00
North 3	☐	☑	☐	☐	significant cracking and alligatoringthroughout, striping is faded, south side curb in bad shape, need to stripe barrier free parking for automotive	52,300 sq. ft. of crack sealant and new striping	$66,000.00
						new signage allowance (BF parking and stop signs 12 total)	$17,550.00

South 1	☐	☑	☐	☐	cracks throughout, adequate drainage, trees are growing into the pavement on the north edge, entrance pavement is failing	36,900 sq. ft. of crack sealant and new striping	$46,500.00
						remove asphalt and add topsoil and seed (3,000 sf)	$13,500.00
						replace entrance pavement (900 sf asphalt)	$11,500.00
South 2	☐	☑	☐	☐	South entrance too narrow for 2-way traffic, not signed for 1-way. Cracks throughout, Barrier free parking does not have an accessible route to the baseball diamond. North entrance pavement is failing. Accessible route to gymnasium has issues with slope and some raised edges	94,900 sq. ft. of crack sealant and new striping	$119,500.00
						widen south entrance 900 sf new curb	$13,000.00
						repave north 9,200 sf for bf parking and access to sidewalk on north end	$118,000.00
Main 1	☐	☑	☐	☐	Cracks throughout, adequate drainage, low branches along edge	59,500 sq. ft. of crack sealant and new striping	$75,000.00
Main 2	☐	☐	☑	☐	Cracks throughout, adequate drainage, some failed pavement around catch basins, requires restriping. South edge along gymnasium walk is a tripping hazard	101,500 sq. ft. of crack sealant and new striping	$128,000.00
	☐	☐	☐	☐		price full mill and fill of 101,500 sq. ft.	$370,500.00
Main 3	☐	☐	☑	☐	Significant cracking and alligatoring. East side curb is in bad shape. Requires restriping.	106,600 sq. ft. of crack sealant and new striping	$134,500.00
	☐	☐	☐	☐		price full mill and fill of 106,600 sq. ft.	$389,500.00
Automotive	☐	☑	☐	☐	Pour drainage, surface is failing	Reconstruct and provide drainage improvements 11,120 sq. ft.	$125,500.00
Arts and Music	☐	☑	☐	☐	Poor drainage, standing water along curb line, settling along edge, cracking	11,120 sq. ft. of crack sealant and new striping	$17,000.00
						Replace 160 linear feet of curb line and 1,600 sf ofpavement along edge, provide storm water outlet	$48,000.00
Receiving	☑	☐	☐	☐	Pavement is in good condition, Barrier Free spots seem to not be in compliance with cross slope. Entrance road has drainage and settling concerns.	No recommendations	
Bookstore	☐	☐	☑	☐	Significant cracking and aligatoring, Barrier Free transitions are not smooth, striping and signage is faded and old	8,750 sq. ft. of crack sealant and new striping	$13,000.00
	☐	☐	☐	☐		price full mill and fill of 8,750 sq. ft.	$43,000.00
South Entrance Drive	☐	☑	☐	☐	Pavement in good condition, stop sign and do not enter sign damaged, Catch basin curb inlet damaged near entrance and at curb entrance to M2	replace stop sign and one way sign	$2,900.00
						replace curb at catch basin 8 linear feet	$640.00
Main Entrance	☐	☐	☑	☐	Pavement has significant damage	Replace entrance pavement 2,550 sq. ft.	$32,500.00
Northeast Entrance	☐	☐	☑	☐	Significant cracking	Replace entrance pavement 3,000 sq. ft.	$38,500.00
Athletic Fields	☐	☐	☑	☐	SB and BB Infield Top Dressing; Softball and Baseball Fencing Repairs and Gates. Surfacing of tennis courts are in poor condition - consider repacing and restriping for pickleball	43,000 sf resurface tennis courts (asphalt). replaced top dressing of softball and baseball field	$455,000.00
SITE UTILITIES	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Storm Water	☐	☐	☐	☐			
Well / City Water	☐	☐	☑	☐	Fire hydrant immediately north of parking lot M2 is exposed to traffice. Consider adding bollard to protect from accidental impacts.		
Septic / Sewer	☐	☐	☐	☐			
Incoming Electrical Service	☐	☐	☐	☐			

Emergency Power Generator(s)	☐	☐	☐	☐			
PHOTOGRAPHY							
Click "Insert" > "Image" > "Insert Image In Cell" Include location and any details in the cell to the right of the photo							

PHOTO	NOTE
	
	
	

FACILITIES ASSESSMENT DATA

TowerPinkster
Architecture · Engineering · Interiors

CLIENT: Muskegon Community College
Facility Assessment

SITE: Kasey Hartz Nature Trail

DATE: May, 2024

Good = Item meets current and future needs, no recommendation for improvement for the next 10 years
Fair = Item meets current use, showing signs of age and should be replaced in the next 10 years
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SITE							
PEDESTRIAN SERVICES	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Sidewalks and Curbs	☐	☐	☑	☐	Paved barrier free path should be extended and turn around / look out should be improved.		
Barrier Free Access	☐	☐	☑	☐	Main entrance to the Nature Trail is not accessible. Need to be regraded and improved to provide barrier free access.		
OUTDOOR ELEMENTS	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Signage	☐	☐	☑	☐	Monument signage and wayfinding signage need to be improved / replaced through the nature trail.		
Landscaping	☐	☐	☑	☐	Fallen trees throughout need to be removed. Planting in areas to guide pedestrian wayfinding onto existing path.		
Fencing / Boundary	☐	☑	☐	☐	Official boundary of nature center should be established. Align with forestry plan being completed by others.		
Benches, Flagpole, Etc.	☐	☑	☐	☐	Three additional benches or seating areas needed.		
PHOTOGRAPHY							
Click "Insert" > "Image" > "Insert Image In Cell" Include location and any details in the cell to the right of the photo							
PHOTO	**NOTE**						

FACILITIES ASSESSMENT DATA

TowerPinkster
Architecture · Engineering · Interiors

CLIENT: Muskegon Community College
Facility Assessment

SITE: University Park Golf Course

DATE: May, 2024

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SITE							
PARKING LOTS	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Quantity	☐	☐	☐	☐			
Condition	☐	☐	☑	☐	Significant cracking, narrow entrance		
Barrier Free Parking	☐	☐	☐	☐			
Curbs	☐	☐	☐	☐			
Drainage	☐	☐	☐	☐	Poor drainage may contribute to clubhouse flooding. Rebuild of parking lot shoud include regrading and reconstruction of this parking lot.		
PEDESTRIAN SERVICES	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Pedestrain Bridge	☐	☐	☑	☐	# 2 and # 6 bridges are in poor condition. Need replacement.		
OUTDOOR ELEMENTS	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Signage	☐	☑	☐	☐			
Landscaping	☑	☐	☐	☐			
Irrigation	☐	☐	☐	☑	All Controllers are at end of life cycle and need to be replaced. Replace irrigation system with designed and engineered system. Owner estimates $635,000 for design, procurement, and installation of this system.		$635,000.00
Benches, Flagpole, Etc.	☐	☑	☐	☐			
Athletic Fields	☑	☐	☐	☐			
SITE UTILITIES	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Storm Water	☐	☐	☐	☐			
Well / City Water	☐	☐	☐	☐			
Septic / Sewer	☐	☐	☐	☐			
Incoming Electrical Service	☐	☐	☐	☐			
Emergency Power Generator(s)	☐	☐	☐	☐			

PHOTOGRAPHY							
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PHOTO	**NOTE**						

FACILITIES ASSESSMENT DATA

TowerPinkster
Architecture · Engineering · Interiors

CLIENT: Muskegon Community College
Facility Assessment

SITE: Grand Haven Satellite Campus

DATE: May, 2024

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SITE							
PARKING LOTS	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Quantity	☑	☐	☐	☐			
Condition	☐	☑	☐	☐	Faded striping, minor cracking. Consider seal coating.		
Barrier Free Parking	☑	☐	☐	☐			
Curbs	☑	☐	☐	☐			
Drainage	☑	☐	☐	☐			
PEDESTRIAN SERVICES	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Sidewalks and Curbs	☑	☐	☐	☐			
Barrier Free Access	☑	☐	☐	☐			
OUTDOOR ELEMENTS	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Signage	☑	☐	☐	☐			
Landscaping	☑	☐	☐	☐			
PHOTOGRAPHY							
Click "Insert" > "Image" > "Insert Image In Cell" Include location and any details in the cell to the right of the photo							
PHOTO	**NOTE**						

FACILITIES ASSESSMENT DATA

TowerPinkster
Architecture · Engineering · Interiors

CLIENT: Muskegon Community College
Facility Assessment

SITE: Tech Center & Satellite Parking

DATE: May, 2024

Good = Item meets current and future needs, no recommendation for improvement for the next 10 years
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SITE							
PARKING LOTS	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**	**QUANTITY**	**COST**
Quantity	☑	☐	☐	☐			
445 W Clay parking lot	☐	☑	☐	☐	Roots coming out of pavement in two locations, former parking island infill is failing, lacks sidewalk ramps, entrance and exit are designed as one way but no signage or markings exist indicating proper usage	39,050 sq. ft. of crack sealant and new striping	$49,500.00
						widen entrance drives 2,000 sq. ft. each drive (2)	$71,000.00
						replace root damage and old island infill asphalt 2,000 sq. ft.	$34,000.00
						remove concrete walk and provide BF ramp 90 sf	$6,000.00
Sturus parking lot	☐	☑	☐	☐	**Tech Center:** Some cracking and ponding, barrier free spot extends into ROW, no parking bumpers or barrier from parking along sidewalk.	14,050 sq. ft. of crack sealant and new striping	$17,500.00
						remove sidewalk and curb to install BF ramp from street to sidewalk (4 locations)	$12,600.00
						install parking bumpers along west sidewalk. (15 parking spaces	$3,500.00
Barrier Free Parking	☑	☐	☐	☐			
Curbs	☑	☐	☐	☐			
Drainage	☑	☐	☐	☐			
PEDESTRIAN SERVICES	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Sidewalks and Curbs	☑	☐	☐	☐			
Barrier Free Access	☐	☐	☑	☐	No barrier free ramp from barrier free street parking to main entrance door.		
OUTDOOR ELEMENTS	**GOOD**	**FAIR**	**POOR**	**REPLACE**	**COMMENTS**		
Signage	☑	☐	☐	☐			
Dumpster	☐	☐	☑	☐	No dumpster enclosure.		
Landscaping	☑	☐	☐	☐			
PHOTOGRAPHY							

Click "Insert" > "Image" > "Insert Image In Cell" Include location and any details in the cell to the right of the photo						
PHOTO	**NOTE**					

FACILITIES ASSESSMENT RECOMMENDATIONS

TowerPinkster
Architecture · Engineering · Interiors

CLIENT: Muskegon Community College Facility Assessment

DATE: May, 2024

SITE

PRIORITY	CONDITION SCORE	AREA OF CONCERN	NOTES	AREA / QUANTITY	EA / SF / eG	*COST PER	TOTAL
1				1		$ -	$ -
1				1		$ -	$ -
1				1		$ -	$ -
Total 1 to 3 years							$ -
PRIORITY	**CONDITION SCORE**	**AREA OF CONCERN**	**NOTES**	**AREA / QUANTITY**	**EA / SF / eG**	***COST PER**	**TOTAL**
2				1		$ -	$ -
2				1		$ -	$ -
2				1		$ -	$ -
Total 4 to 6 years							$ -
PRIORITY	**CONDITION SCORE**	**AREA OF CONCERN**	**NOTES**	**AREA / QUANTITY**	**EA / SF / eG**	***COST PER**	**TOTAL**
3						$ -	$ -
3						$ -	$ -
3						$ -	$ -
Total 7 to 10 years							$ -
Total							**$ -**

ARCHITECTURAL

PRIORITY	CONDITION SCORE	AREA OF CONCERN	NOTES	AREA / QUANTITY	EA / SF / eG	*COST PER	TOTAL

1				1		$ -	$ -
1				1		$ -	$ -
1				1		$ -	$ -
Total 1 to 3 years							$ -
PRIORITY	**CONDITION SCORE**	**AREA OF CONCERN**	**NOTES**	**AREA / QUANTITY**	**EA / SF / eG**	***COST PER**	**TOTAL**
2				1		$ -	$ -
2				1		$ -	$ -
2				1		$ -	$ -
Total 4 to 6 years							$ -
PRIORITY	**CONDITION SCORE**	**AREA OF CONCERN**	**NOTES**	**AREA / QUANTITY**	**EA / SF / eG**	***COST PER**	**TOTAL**
3						$ -	$ -
3						$ -	$ -
3						$ -	$ -
Total 7 to 10 years							$ -
Total							**$ -**

INTERIORS / FINISHES

PRIORITY	**CONDITION SCORE**	**AREA OF CONCERN**	**NOTES**	**AREA / QUANTITY**	**EA / SF / eG**	***COST PER**	**TOTAL**
1				1		$ -	$ -
1				1		$ -	$ -
1				1		$ -	$ -
Total 1 to 3 years							$ -
PRIORITY	**CONDITION SCORE**	**AREA OF CONCERN**	**NOTES**	**AREA / QUANTITY**	**EA / SF / eG**	***COST PER**	**TOTAL**
2				1		$ -	$ -
2				1		$ -	$ -
2				1		$ -	$ -

Total 4 to 6 years							$ -
PRIORITY	**CONDITION SCORE**	**AREA OF CONCERN**	**NOTES**	**AREA / QUANTITY**	**EA / SF / eG**	***COST PER**	**TOTAL**
3						$ -	$ -
3						$ -	$ -
3						$ -	$ -
Total 7 to 10 years							$ -
Total							**$ -**

MECHANICAL

PRIORITY	**CONDITION SCORE**	**AREA OF CONCERN**	**NOTES**	**AREA / QUANTITY**	**EA / SF / eG**	***COST PER**	**TOTAL**
1				1		$ -	$ -
1				1		$ -	$ -
1				1		$ -	$ -
Total 1 to 3 years							$ -
PRIORITY	**CONDITION SCORE**	**AREA OF CONCERN**	**NOTES**	**AREA / QUANTITY**	**EA / SF / eG**	***COST PER**	**TOTAL**
2				1		$ -	$ -
2				1		$ -	$ -
2				1		$ -	$ -
Total 4 to 6 years							$ -
PRIORITY	**CONDITION SCORE**	**AREA OF CONCERN**	**NOTES**	**AREA / QUANTITY**	**EA / SF / eG**	***COST PER**	**TOTAL**
3						$ -	$ -
3						$ -	$ -
3						$ -	$ -
Total 7 to 10 years							$ -
Total							**$ -**

ELECTRICAL							
PRIORITY	**CONDITION SCORE**	**AREA OF CONCERN**	**NOTES**	**AREA / QUANTITY**	**EA / SF / eG**	***COST PER**	**TOTAL**
1				1		$ -	$ -
1				1		$ -	$ -
1				1		$ -	$ -
Total 1 to 3 years							$ -
PRIORITY	**CONDITION SCORE**	**AREA OF CONCERN**	**NOTES**	**AREA / QUANTITY**	**EA / SF / eG**	***COST PER**	**TOTAL**
2				1		$ -	$ -
2				1		$ -	$ -
2				1		$ -	$ -
Total 4 to 6 years							$ -
PRIORITY	**CONDITION SCORE**	**AREA OF CONCERN**	**NOTES**	**AREA / QUANTITY**	**EA / SF / eG**	***COST PER**	**TOTAL**
3						$ -	$ -
3						$ -	$ -
3						$ -	$ -
Total 7 to 10 years							$ -
Total							**$ -**
TECHNOLOGY							
PRIORITY	**CONDITION SCORE**	**AREA OF CONCERN**	**NOTES**	**AREA / QUANTITY**	**EA / SF / eG**	***COST PER**	**TOTAL**
1						$ -	$ -
1						$ -	$ -
1						$ -	$ -
Total 1 to 3 years							$ -

PRIORITY	CONDITION SCORE	AREA OF CONCERN	NOTES	AREA / QUANTITY	EA / SF / eG	*COST PER	TOTAL
2						$ -	$ -
2						$ -	$ -
2						$ -	$ -
Total 4 to 6 years							$ -
PRIORITY	**CONDITION SCORE**	**AREA OF CONCERN**	**NOTES**	**AREA / QUANTITY**	**EA / SF / eG**	***COST PER**	**TOTAL**
3						$ -	$ -
3						$ -	$ -
3						$ -	$ -
Total 7 to 10 years							$ -
Total							**$ -**
						TOTAL (1 to 3 years)	$ -
						TOTAL (4 to 6 years)	$ -
						TOTAL (7 to 10 years)	$ -
						GRAND TOTAL	**$ -**

MUSKEGON COMMUNITY COLLEGE FACILITIES PLAN

OCTOBRER 07, 2024

24-108.00

Utilization - Classrooms

- UNUTILIZED
- 1-10%
- 11-20%
- 21-30%
- 31-40%
- 41-50%
- 51-60%
- 61-70%
- 81-90%
- SUPPORT SPACES

FIRST FLOOR PLAN

1/32" = 1'-0"

MAIN BUILDING UTILIZATION PLAN - CLASSROOMS

1/32" = 1'-0"

Muskegon Community College

TowerPinkster

Architecture · Engineering · Interiors

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- 41-50%
- 51-60%
- 61-70%
- 81-90%
- 91-100%
- SUPPORT SPACES

SECOND FLOOR PLAN
1/32" = 1'-0"

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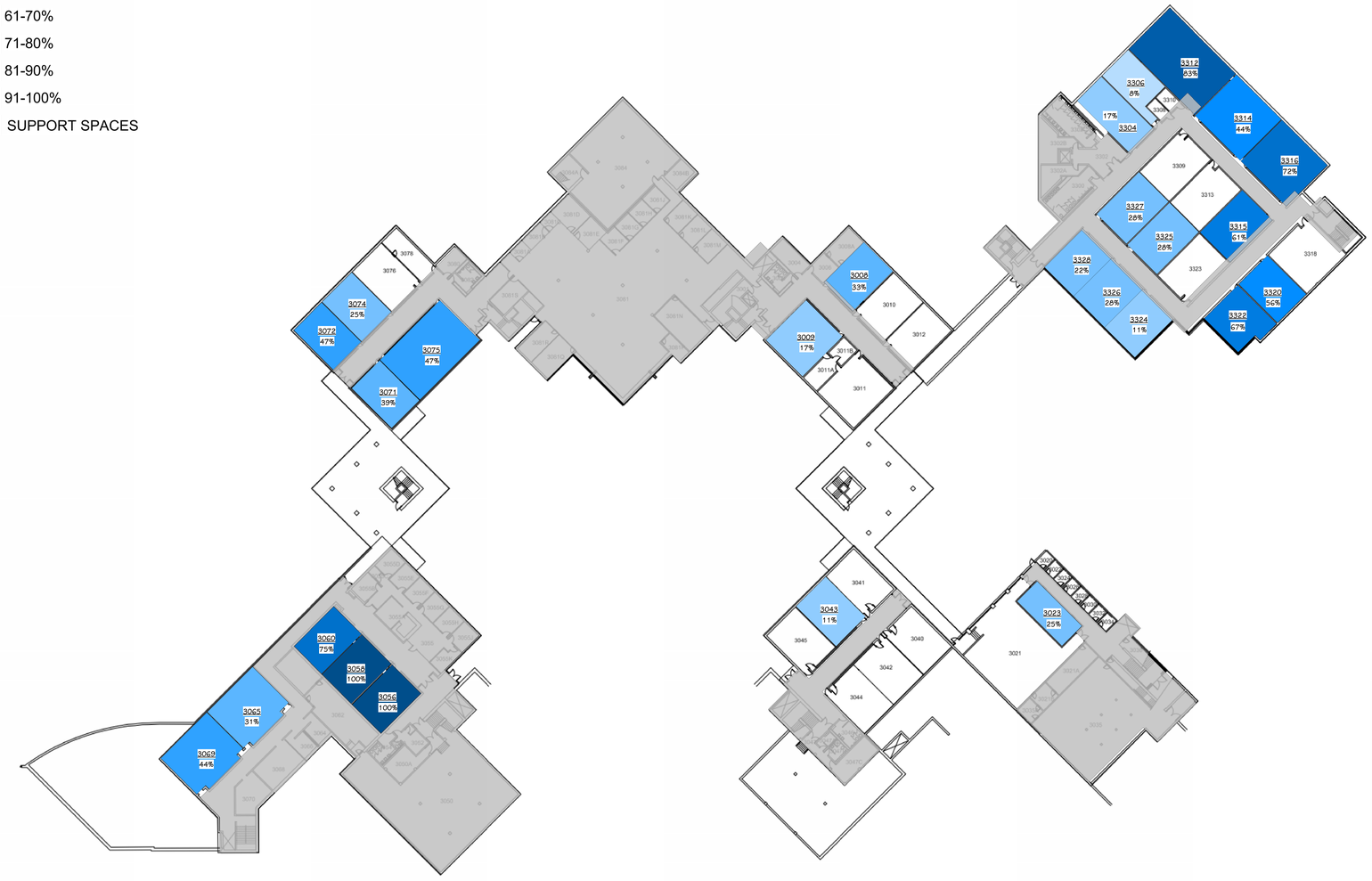
- 91-100%
- SUPPORT SPACES



THIRD FLOOR PLAN

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MUSKEGON COMMUNITY COLLEGE FACILITIES PLAN

OCTOBRER 07, 2024

24-108.00

Utilization - Events

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- 1-10%
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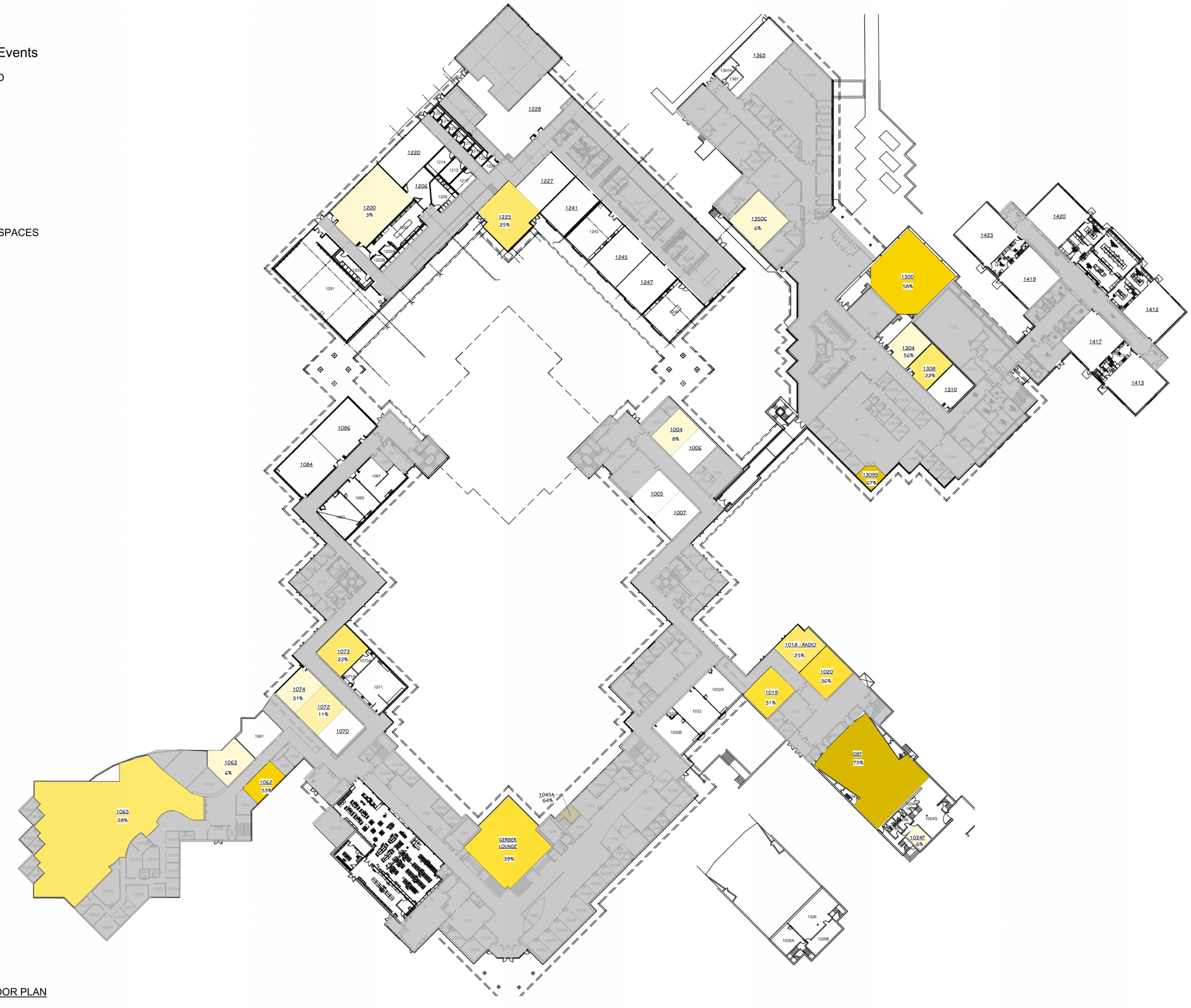
- 31-40%
- 51-60%
- 61-70%
- 71-80%
- SUPPORT SPACES



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Muskegon Community College

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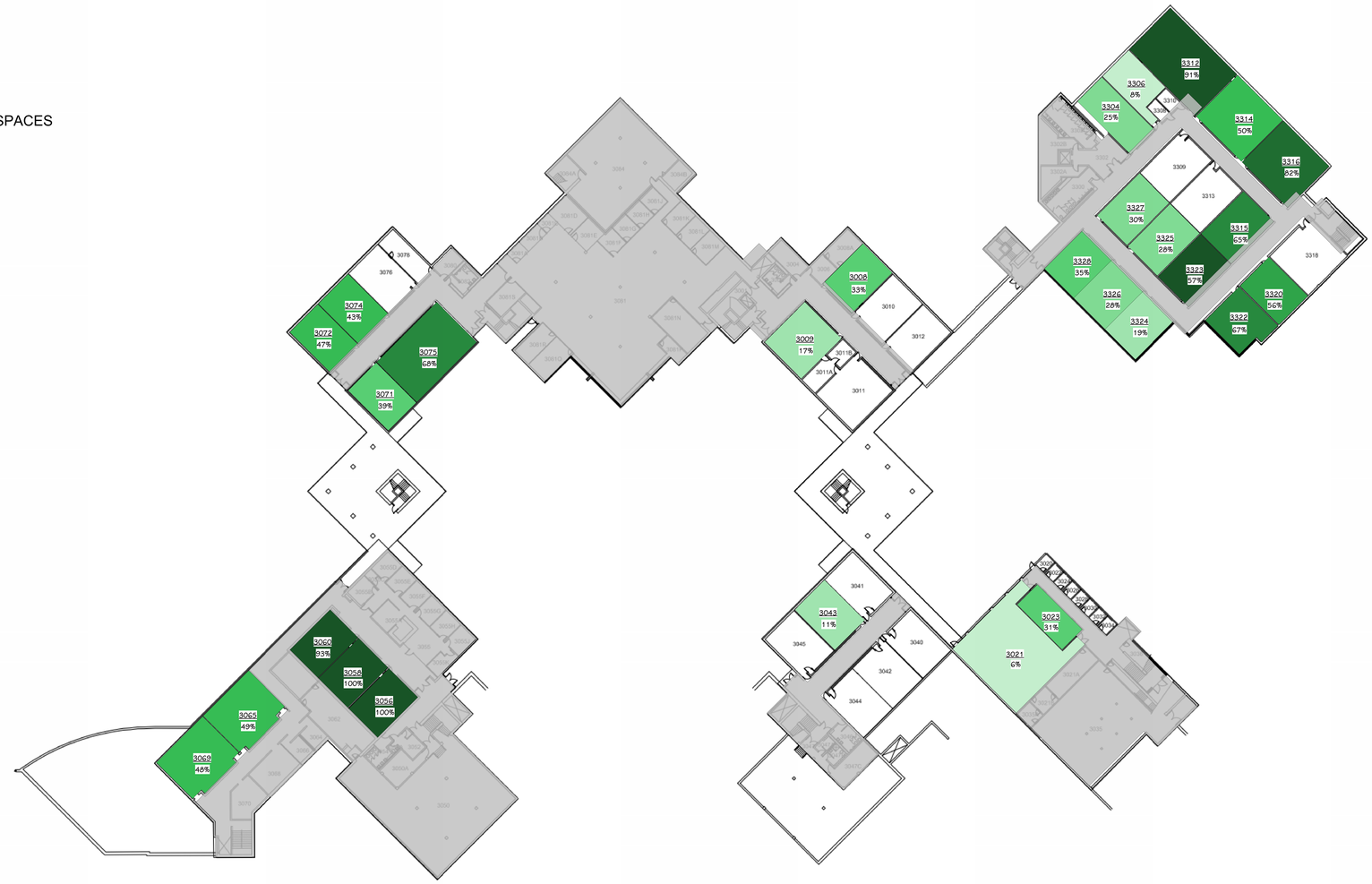

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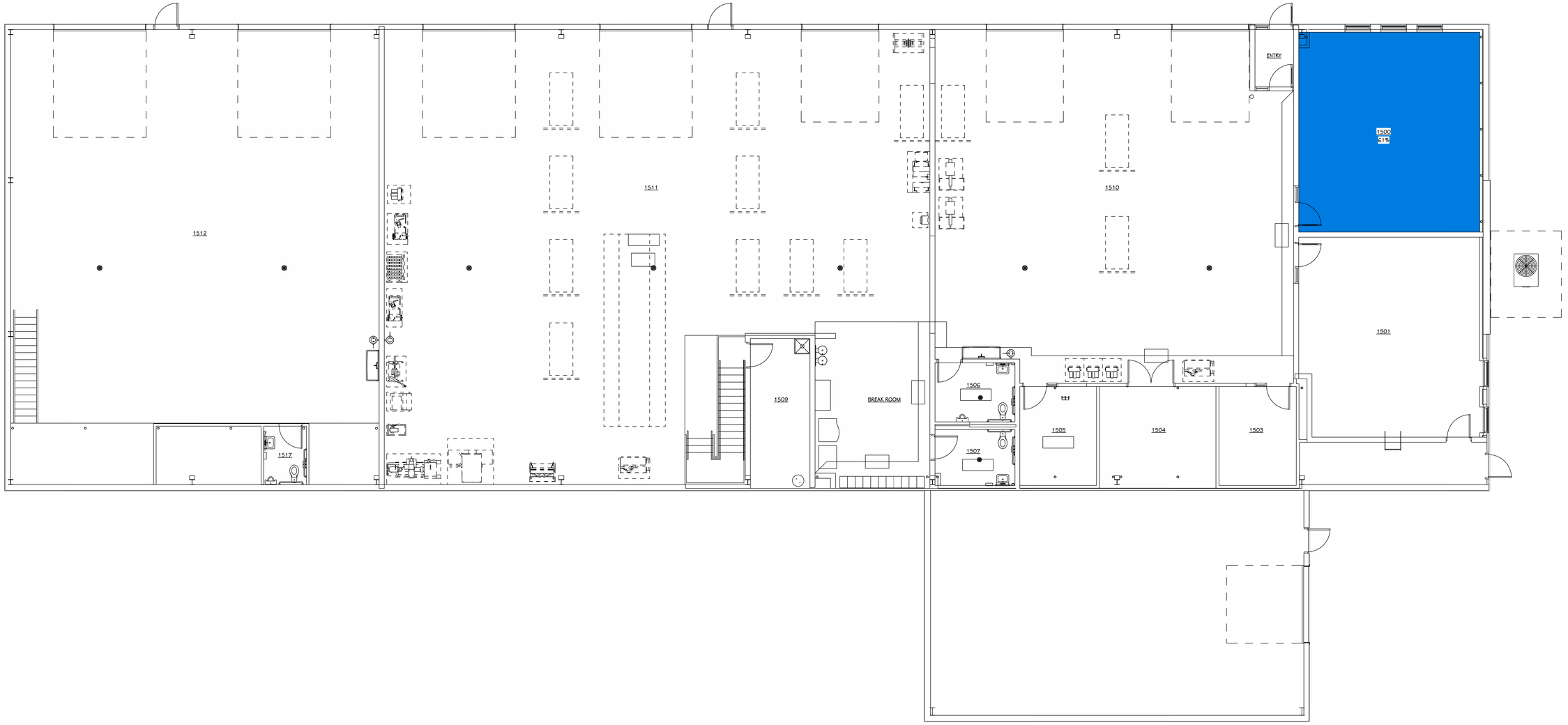

Utilization - Classrooms

61-70%

SCALE: 3/16" = 1' - 0"

0' 4' - 0" 8' - 0" 16' - 0"

AUTOMOTIVE UTILIZATION PLAN - CLASSROOMS

3/16" = 1'-0"

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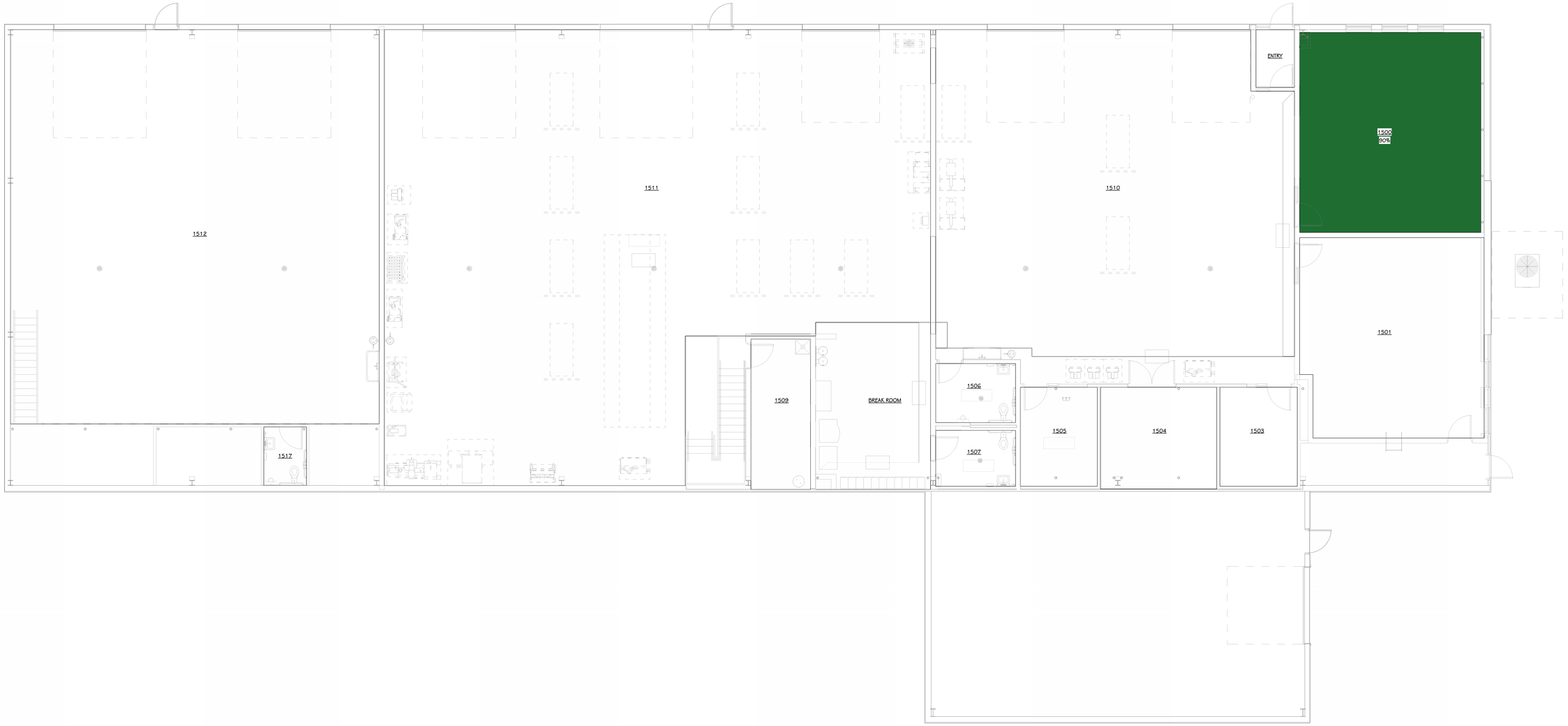
MUSKEGON COMMUNITY CCOLLEGE FACILITIES PLAN

MAY 01, 2024

24-108.00



Utilization - Combined

81-90%

AUTOMOTIVE UTILIZATION PLAN - COMBINED

3/16" = 1'-0"

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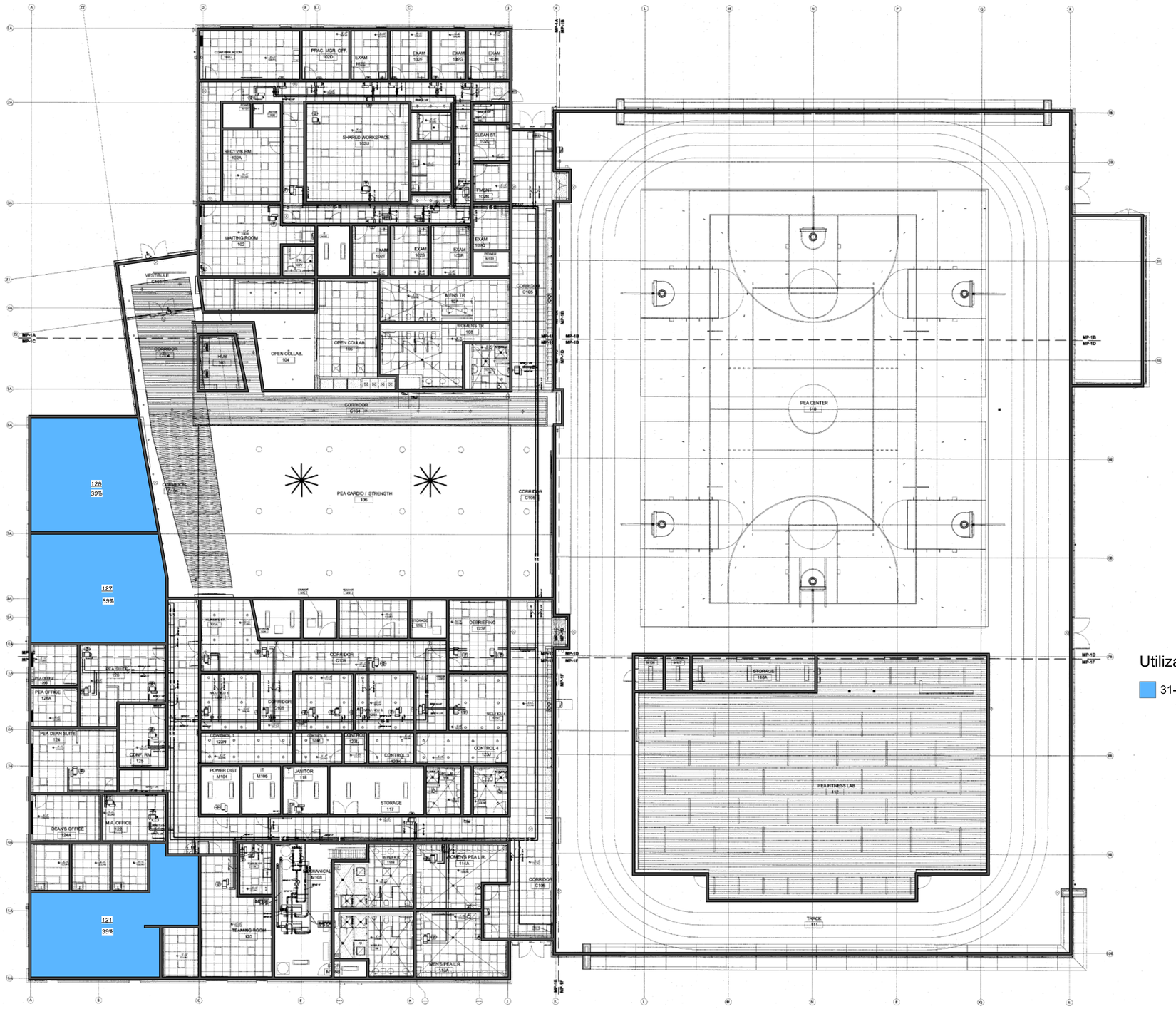

Utilization - Classrooms

31-40%

HEALTH & WELLNESS CENTER UTILIZATION PLAN - CLASSROOMS

3/32" = 1'-0"

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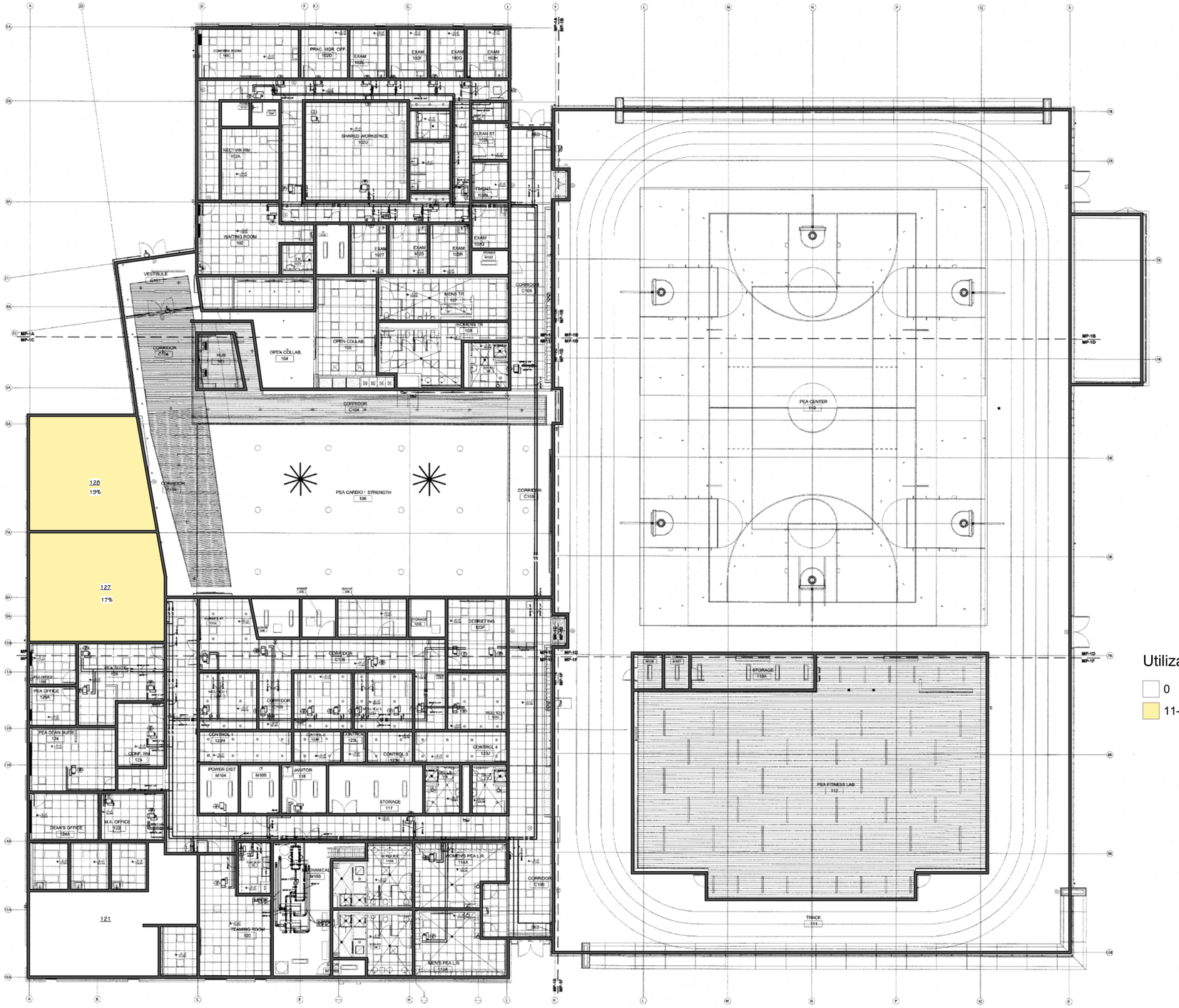
MUSKEGON COMMUNITY COLLEGE FACILITIES PLAN

MAY 01, 2024

24-108.00



Utilization - Events

- 0
- 11-20%

HEALTH & WELLNESS CENTER UTILIZATION PLAN - EVENTS

3/32" = 1'-0"

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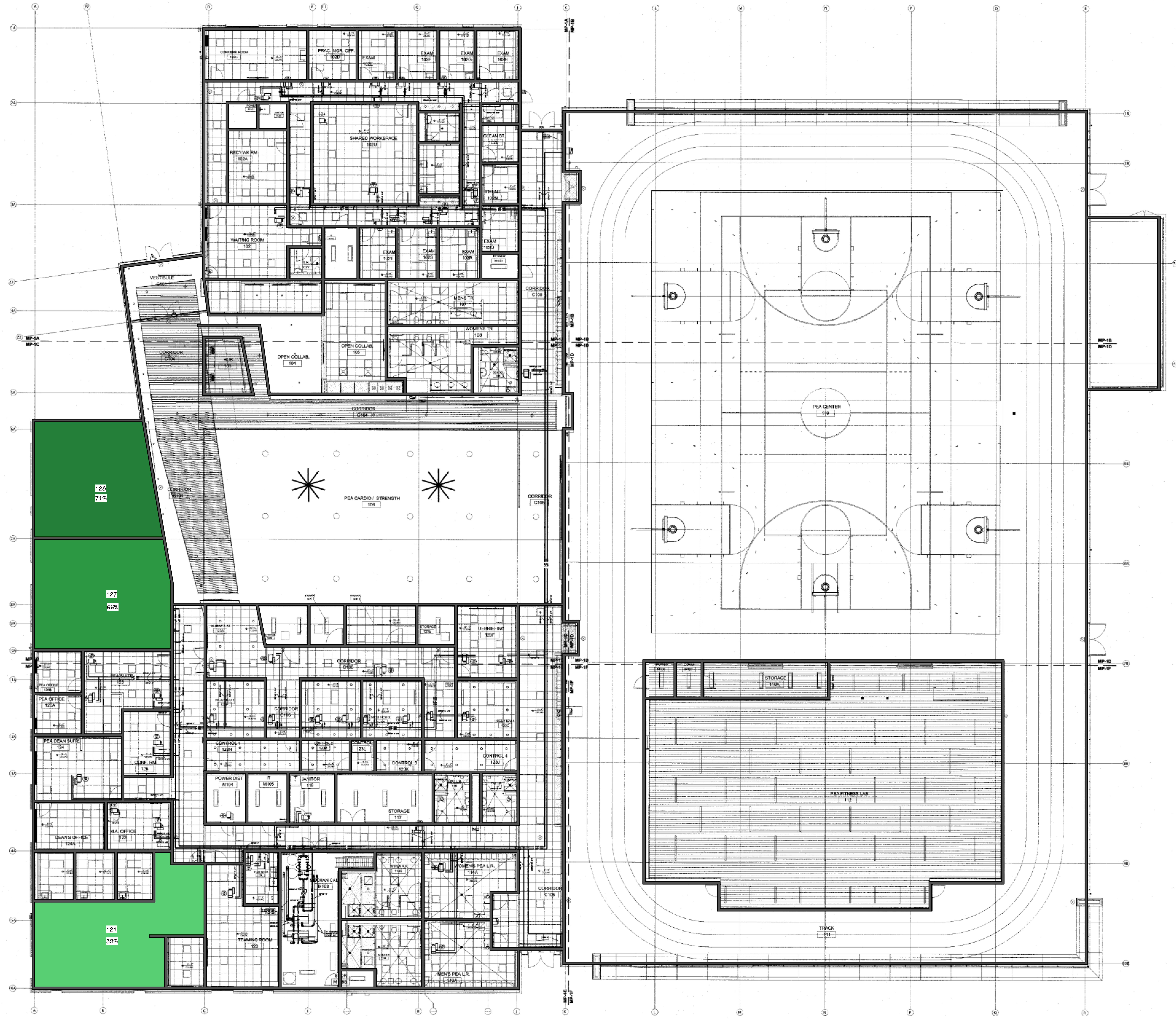

Utilization - Combined

- 31-40%
- 61-70%
- 71-80%

N

HEALTH & WELLNESS CENTER UTILIZATION PLAN - COMBINED

3/32" = 1'-0"

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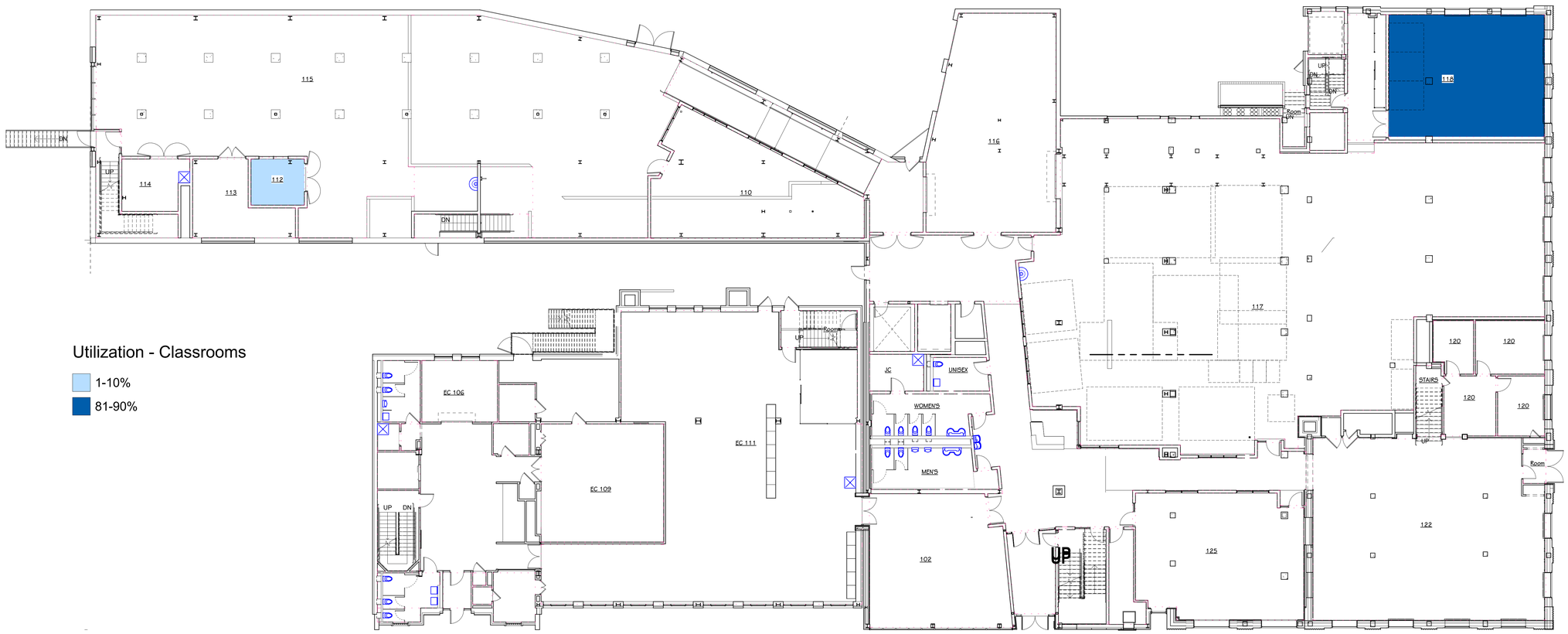

Utilization - Classrooms

- 1-10%
- 81-90%

FIRST FLOOR PLAN
3/32" = 1'-0"

01U

MUSKEGON COMMUNITY COLLEGE FACILITIES PLAN

MAY 01, 2024

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STC UTILIZATION PLAN - CLASSROOMS

3/32" = 1'-0"

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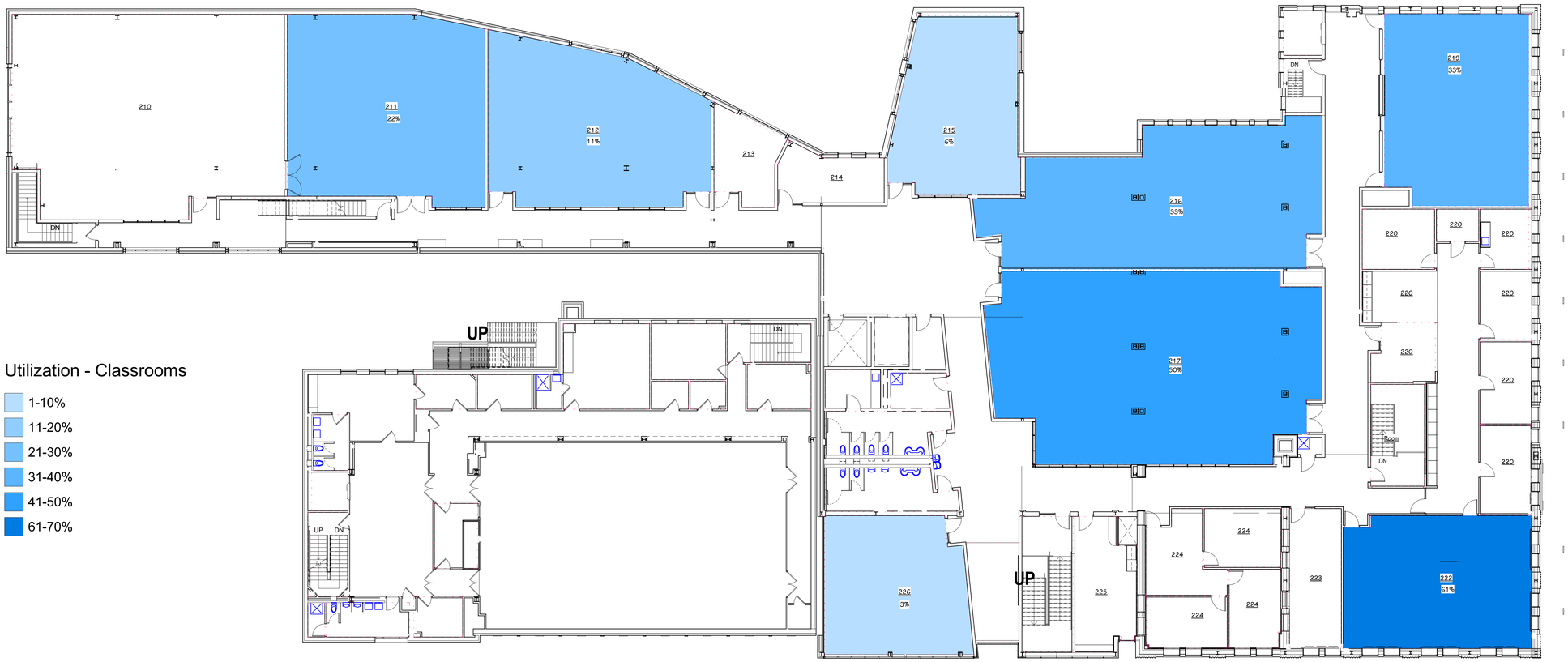

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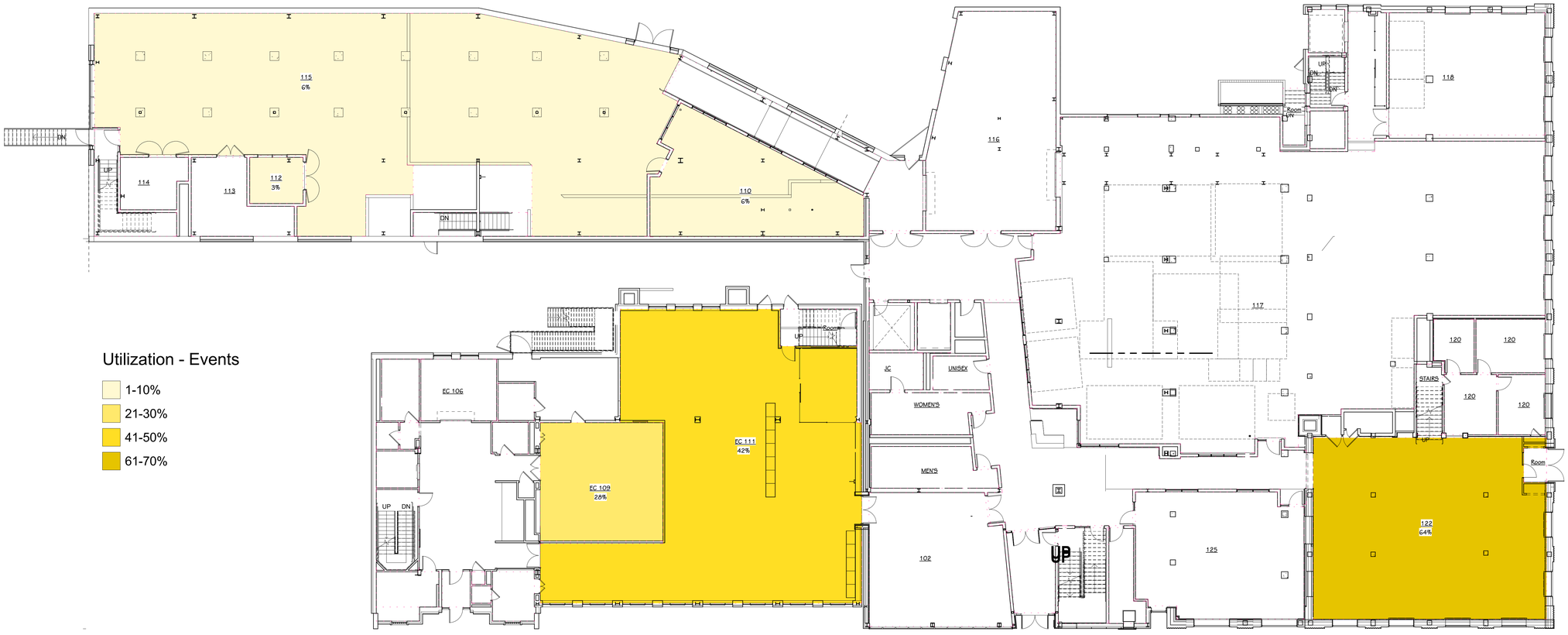

Utilization - Events

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