MONTCALM COMMUNITY COLLEGE

FACILITIES ASSESSMENT AND DEFERRED MAINTENANCE CAPITAL PLANNING REPORT

2021 UPDATE

MMA

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Purpose of the Study

This Facilities Assessment and Deferred Maintenance Capital Planning Study, originally developed through a combination of personnel interviews, facility walk-throughs and building system analysis, was performed to accomplish the following objectives:

- Provide an inventory of the College's facilities in a database format to be easily updated and maintained by Montcalm Community College personnel and allow for quick access to facilities information.
- Determine the general condition of the facilities owned by Montcalm Community College and provide the data in a concise format, allowing quick determination of the current replacement value and condition of each facility.
- Determine a Facilities Condition Index (FCI) for each assessed building and an aggregate FCI for all facilities at MCC. The FCI is a benchmark index that rates the condition of existing College buildings and is used by facilities managers nationwide to quantify and prioritize deferred maintenance projects for capital planning purposes.
- Assist Montcalm Community College in meeting its Mission Statement, Strategic Goals and Institutional Vision through timely maintenance of the physical backbone of the College – the buildings of MCC.

"Montcalm Community College creates a learning community in which educated and trained people contribute to the economic, cultural and social well-being."

Glossary

Vital Statistics
Basic building information– building use types (classroom, library, administration), year built, building area in square feet, and number of floors.

Observation Highlights
A partial list of field observations, highlighting major repair/replacement items and recently completed work. For a more complete list of field observations, see the individual building data sheets in the appendix.

Current Replacement Value (CRV)
The CRV is the cost to construct a typical replacement building in today's dollars. The figure is based on the square footage of the current structure and the estimated current construction cost for that type of structure. Since some buildings are conglomerations of different uses (i.e.: classroom, library, administration) the CRV is based on estimated proportions of use types in each building. By the nature of the calculations and square foot construction costs, the current replacement value has a ±20% margin of error and will increase annually due to inflation.

Priority Issues/One Year Deferred Maintenance Backlog (1YR DMB)
The value of projects that have been deferred and require completion in order to safely maintain facilities and related infrastructure for their current use. The 1 Year DMB amounts shown are for items requiring immediate attention to fix critical problems. ***A long-term investment strategy should also include items that require repair or replacement within 5 years, thus avoiding the increased repair costs resulting from deferred repairs (i.e. leaky roof damaging interior finishes).***

Facilities Condition Index (FCI)
Simply put, the FCI is the current DMB divided by the CRV. The resulting number is compared against nationally accepted standards and used to determine the condition of the building, campus or college.

The Association of Higher Education Facilities Officers (APPA) recommends that the FCI for any given building should not exceed 5% for the building to be considered in "Good" condition. The rating of "Fair" indicates that the building requires some attention to bring it up to standard, with some problems areas potentially requiring immediate attention. The rating of "Poor" indicates that the building needs urgent attention to prevent the existing problems from affecting other building systems and compounding future repair costs.

The APPA FCI Ratings, indicating the general condition of the building, are shown here along with the corresponding "traffic signals" that give a quick visual indication of the FCI rating.

Priority Issues/One Year DMB Excess
This represents the amount the DMB exceeds the APPA benchmark of a building with a 5% FCI – essentially the dollar amount to be spent immediately to reduce the DMB to attain the APPA rating of "Good". In situations where a building is in better than "Good" condition (FCI<5%), the one year DMB excess is shown as zero.

For example, if a building has a CRV of $1,000,000 and an FCI of 10%, the DMB would be $100,000. This would leave a DMB excess of $50,000 – the amount to be spent to reduce the FCI to within the APPA 5% benchmark

Zero-to-Five Year Cumulative Deferred Maintenance Backlog (5YR DMB)
Similar to the One Year DMB, the Five Year DMB represents the total value of projects that will require attention within the next five years, including those that fall under the One Year DMB. This value is included to help determine the investment required over the next five years to repair and/or replace problem items before they become critical.

The Zero-to-Five Year DMB is often more telling of a buildings' condition than the One Year DMB, since the first year number focuses primarily on life safety, code compliance and collateral damage. Most maintenance issues are not so critical as to fall into this category but often become so within 5 years.

Looking at the previous example, if the building condition survey indicated an additional $250,000 in repairs from years 1-5, then the 0-5 Year DMB would total $350,000 (including $100,000 from the first year).

Zero-to-Five Year DMB Excess
Similar to the One Year DMB Excess value, this amount represents the investment to bring the DMB in line with the APPA benchmark of 5% of the Current Replacement Value. In situations where a building is in better than "Good" condition – a bit more difficult over a five year span, the five year DMB excess is shown as zero.

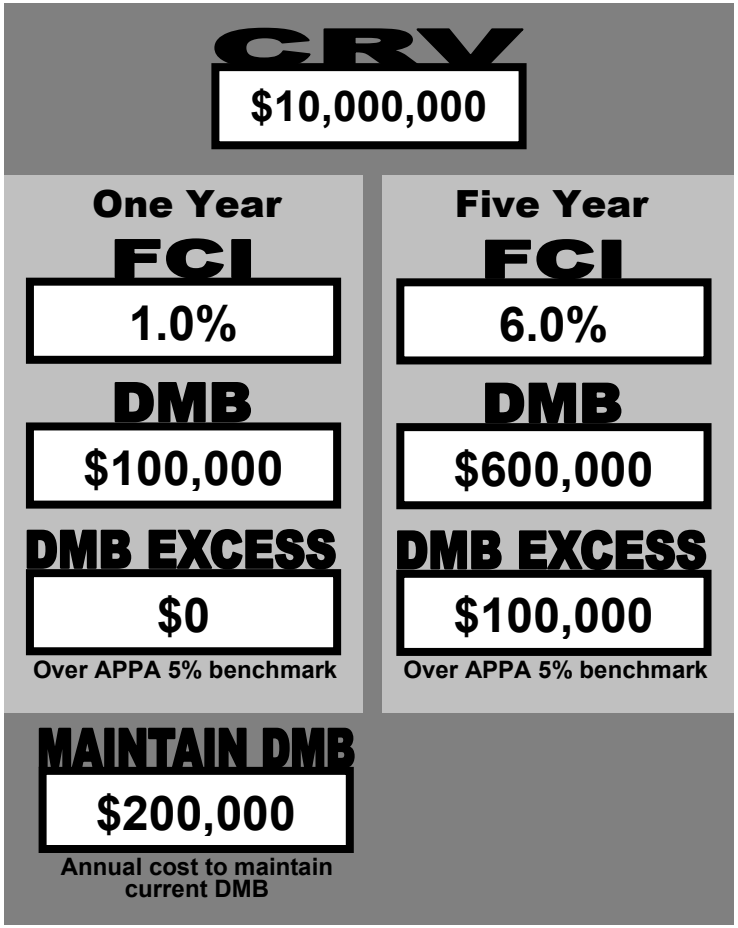
This number is a good starting point for determining budgets – it allows the college to see what to spend to bring buildings into the APPA "Good" range – with the understanding that complete elimination of the Deferred Maintenance Backlog is not a likely scenario.

DMB Equilibrium (Annual cost to maintain current DMB)
This is the dollar amount to be invested annually to keep the FCI (and DMB) from deteriorating – regardless of the current condition of the building.

Reusing the previous example, the amount required to maintain the FCI at current levels would be $20,000 annually (2% of $1,000,000).

The number is based on a nationally accepted rule of 2% of the CRV and assumes that building components have a 50-year renewal cycle and depreciate along a straight line. The assumptions were made to simplify calculations; in reality, building components DO NOT expire according to straight-line depreciation, and most components will require replacement within 30-40 years (excluding structure and foundation).

To restate – this annual investment will only maintain the existing FCI and do little or nothing to reduce any existing backlog.



Generic example of how the aforementioned data appears in this report

Building Use Types

The table below shows building use types and their respective current construction costs per square foot used to develop this database. As some of these use types are not found on all campuses, not all use types are used in the database. These costs, based on regionally weighted, preliminary construction cost data developed through our educational architecture experience, and provided by contractors, historical cost databases and data from RS Means, are for typical college and university buildings.

Use Type	*Cost/SF*
Administration	$270
Athletic	$300
Auditorium	$430
Classroom	$275
Conference	$310
Daycare	$265
Kitchen/Food Service	$315
Lab	$385
Library	$295
Maintenance	$130
Natatorium	$355
Power House	$660
Residence	$265
Storage	$120
Student Union	$305
Technology Lab	$315
Vo/Tech	$250

Building Components

The table below shows the building components used in the report. These are the basic components having a major influence on the replacement value of a building. The buildings were evaluated during walkthroughs with the facility personnel to determine how much of each component made up the CRV. It was then determined what percentage of each component required repair or replacement within one year, five years, ten years, and beyond. This data is used to determine the investment required to reduce the current and future deferred maintenance backlog.

Category	*Component Name*
Structure	Structure
Envelope	Roof
	Glazing
	Cladding
Mechanical	HVAC Equipment
	Plumbing
Electrical	Primary/Secondary
	Distribution
	Lighting
	Voice/Data
Finishes	Ceilings
	Walls
	Doors
	Floors
Safety/Code	Building, Fire, ADA
Other	Site Repair, Ext. Light, etc.

Deferred Maintenance Backlog

A Brief Background

From previous facilities assessments:

The problem of deferred maintenance at colleges and universities has been studied and better understood over the last decade. From an article by Dan Hounsell, in the magazine Maintenance Solutions, discussing how universities are addressing the issue of deferred maintenance:

> *"Maintenance management professionals, who once seemed to be one of the few parties giving serious thought to the issue, now have been joined in the debate by growing numbers of sympathetic voters and far-sighted facility decision makers."*

The Association of Higher Education Facilities Officers (APPA) concluded in a 1995 report titled "A Foundation to Uphold: A Preliminary Report" that the national backlog of deferred maintenance at colleges and universities exceeds $26 billion, up 27 percent from estimates made in a similar report from 1988.

$5.7 billion of that $26 billion backlog is classified as "urgent deferred maintenance" – projects that require immediate attention and that will cost far more if they are not completed within a year. Although spending this sum will eliminate current urgent needs, in only a few years there will be a new roster of items to replace them – if future budget planning is not undertaken. According to the APPA report, the current backlog "represents a threat to the capability of higher education facilities to support college and university missions."

Other conclusions from the report include:

- *More than 50 percent of all college types reported that deferred maintenance increased or stayed the same since 1988; only 25 percent reported decreases.*
- *20 percent of the colleges in the study accounted for nearly 60 percent of the accumulated deferred maintenance.*
- *Public colleges typically have a greater deferred maintenance backlog than private universities, with 78 percent of the public research universities reporting an increase in deferred maintenance backlogs.*
- *By assuming that infrastructure deferred maintenance – site repairs, road and parking lot maintenance, exterior lighting, etc. – was not included in the figures provided by the campuses in the study, the estimated cost to eliminate accumulated deferred maintenance increases to $32.5 billion – with urgent needs increasing to $7.1 billion.*
- *When senior school administrators made deferred maintenance a priority, the institution made progress in reducing its backlog.*

The most important point to remember is that even if universities and colleges spend these amounts, this will only eliminate the existing deferred maintenance backlog. There needs to be a coordinated, funded plan put into place at colleges and universities to maintain the condition of the facilities once they have been repaired – or time will again take its toll.

Vital Statistics:

Montcalm Community College (MCC), founded in 1965, consists of 11 major buildings and two minor storage buildings on the 240 acre main campus, and two academic buildings and one storage buildings at the Greenville Campus. The properties included in this report, constructed between 1916 and 2012, exceed 254,000 square feet with a total Current Replacement Value (CRV) estimated over $71.5 million.

The College's 0-1 Year Facility Condition Index (FCI) is estimated at 1.48%. HVAC, plumbing and ADA accessibility upgrades, as well as routine maintenance on roofing and other items have improved conditions campus-wide. Limited areas of exterior envelope (roofs, wood trim and siding) are negatively impacting the data as they pass the end of their expected life.

A modern, web-based Energy Management System, installed in 2012, allows more control of the day-to-day operations of the heating and cooling systems. This work has significantly attributed to the improvement of already well-maintained facilities.

While the 0-1 Year Facilities Condition Index (FCI) of 1.48% is considered excellent, increases in this number can be expected as items on the 5-year repair/replacement horizon move forward into the 0-1 year, or "immediate" category. Some issues that are likely to increase the FCI include general aging of facilities, systems nearing end-of-life and roofs nearing the end of their typical life span.

The overall projected Five Year FCI of 4.94% is higher, with some issues working against reducing the long-term backlog, even though the individual building values have in many cases improved. These ongoing issues include:

- Continued deterioration of roof, windows, siding, septic and HVAC systems at the Barn Theater and Farmhouse. Barn siding and roof were addressed, but the balance of issues remain. These buildings have long exceeded their design lifespan and many finishes and

  exterior envelope items are overdue for replacement, especially on the farmhouse.

- Older roofs nearing expected end of life. The College does engage a roofing company for annual inspections to stay on top of these issues.

Attention to problems before they have become critical and good maintenance practices have helped to keep most building systems (i.e., original windows, doors and HVAC systems) in operable condition. Many roofs have been replaced in the last few years and except for a few specific items, most failing materials have been dealt with in a timely manner, preventing further deterioration. ADA issues have been addressed in many buildings.

The deferred maintenance backlog and FCI at Montcalm Community College is well below the national average of approximately 7%, representing a manageable capital investment over the next several years. Most projected expenses at MCC fall into the category of typical long-term maintenance items.

As stated in the Deferred Maintenance Backlog Background, the investment solution has two facets:

- The funds needed for immediate repair projects – repairs and/or replacements that will prevent further deterioration of the buildings and infrastructure.

- The funds required to maintain and/or improve the condition of the buildings. These funds need to be budgeted in advance to allow for repair at the appropriate time – before items before critical or cause additional damage.

This data, when compared to the APPA benchmark, shows that Montcalm Community College remains, after 17 years of assessments, in good condition. The next section of this report breaks this data down into a building-by-building review to clarify where attention is needed.

Summary

Montcalm Community College has a well-maintained campus, with the condition of campus facilities remaining good for the past several years due consistent maintenance funding and practices. The difference between the "Priority Issues FCI" of 1.48% and the long-term "0-5 Year FCI" of 5.02% is not unusual for older campuses, representing a sizeable capital investment to replace aging systems and maintain conditions in their current good state.

This projected FCI increase is mostly attributable to the potential for increasing building system failures due to the advanced age of some buildings. Continuing to budget for replacement of many systems, including roofing and HVAC, will be important over the next several years to continue to avoid this projected increase in FCI.

Recommendations:

Short Term Recommendation

MCC should review the items that comprise the "Priority Issues Deferred Maintenance Backlog" of approximately $970,864 and address those affecting life/safety issues, those having the greatest potential for future damage to other building components, and those that are code compliance issues. The majority of these priority issues are related to potential for collateral damage.

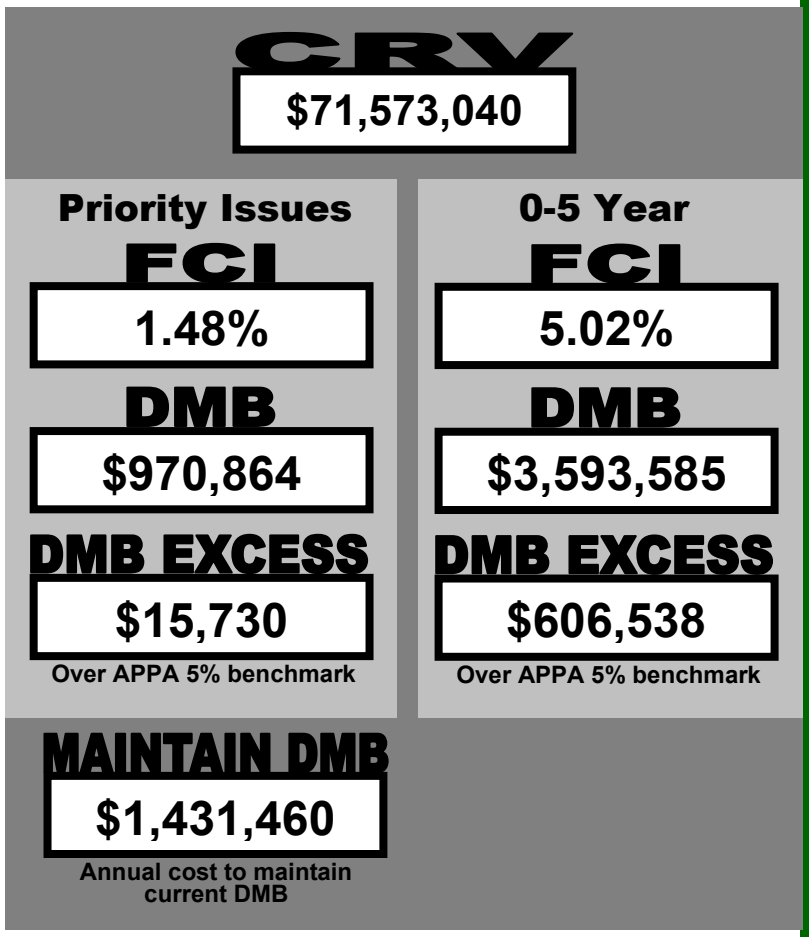
In addition to the first-year issues that will carry over into the next five years, the College should continue budgeting for the projected $3.6 million in additional issues over the next five years and or evaluating alternative solutions where the cost outweighs the benefit of repair.

Areas of focus for the near term include:

- Roofing expected to reach end-of-life within 5 years, based on independent roof report.
- The Barn Theater and Farmhouse, both very old buildings with aging equipment and finishes.

Long Term Recommendation

As part of maintenance funding, the College should budget as much as possible of the industry recommended "2% of CRV" maintenance fund of $1,431,460 annually to maintain the buildings in their good condition. While this is difficult for most institutions to attain, the goal of setting aside as close to this amount annually ensures the buildings remain in stable condition, with funds available when needed.



OVERALL CONDITION SUMMARY

Facility:	Activities Building
Use Type(s):	Student Union, Gymnasium, Natatorium
Built:	1975
Area:	36,190 SF
Floors:	2

Observation Highlights:

- *Most issues over time have been addressed.*
- *2012 – Lighting upgraded as part of $190,000 campus-wide Energy*
- *Conservation Measures contract (ECM).*
- *2012 – Original HVAC system controls upgraded to digital as part of $600,000 campus-wide energy management system upgrade*
- *2013 – Elevator system upgraded.*
- *2013 – Pool filtration and pump equipment, as well as some piping replaced.*
- *2015 – Roof report indicates membrane replacement due around 2024*
- *2015 – Condition of original window sealants and original door finishes should be reviewed for replacement.*
- *2015 – HVAC System: (2) RTUs servicing north zones replaced*
- *2015 – Under-deck pool supply and drain lines replaced to resolve leaking issues and deck damage.*
- *2016 – Electrical panels are original, obsolete and due for replacement; parts are no longer available.*
- *2018 – Roof replacement due in 2030 for sections 2, 5 and 6, and section 1 to be replaced in 2035. Electric panels are obsolete and recommend accelerating replacement.*
- *2018 – Weight training area is planned for expansion and a new HVAC system is required.*
- *2018 – Severe corrosion of steel ladder in water treatment room and severe corrosion of reinforced concrete floor slab and beams.*
- *2018 – Corridor and Café lighting replaced with LEDs, Gym walls painted, connector doors to Doser Building replaced, corridor floor replaced, and lockers replaced.*
- *2019 – Replaced 90% of electrical panels, replaced selected windows and doors, replaced pool medium, replaced entry heater, replaced elevator piston*
- **2021 – Replaced the pool chemical room and ship ladder. Repaired concrete floor and added an epoxy floor coating. Replaced lights to LED in gym.**

CRV
$10,974,810

Priority Issues	0-5 Year
FCI	**FCI**
2.75%	4.75%
DMB	**DMB**
$301,807	$521,303
DMB EXCESS	**DMB EXCESS**
$0	$0
Over APPA 5% benchmark	Over APPA 5% benchmark

MAINTAIN DMB
$219,496
Annual cost to maintain current DMB

1 YEAR

5 YEAR

ACTIVITIES BUILDING

Facility:	Barn Theater
Use Type(s):	Auditorium
Built:	1916
Area:	3,932 SF
Floors:	2

This building was included in the 2006-2007 renovation/expansion project.

Observation Highlights:

- *Plumbing upgraded in 1972. Septic system continues to be at capacity.*
- *Electrical system upgraded recently, but cannot support theater lighting loads.*
- *2007 – Seats and theater carpeting replaced as part of renovation.*
- *ADA seating locations provided. Automatic sprinkler system added.*
- *2010 – Exterior walks replaced.*
- *2012 – Lighting upgraded as part of $190,000 campus-wide Energy*
- *Conservation Measures contract (ECM).*
- *2013 – 1991 era AC units are past the end of life, operate poorly*
- *and due for replacement.*
- *2013 – The metal roof is due for repaint.*
- *2015 – Well water piping replaced.*
- *2016 – new painted wood siding and exterior doors*
- *2018 – Modifications may trigger structural upgrades which would be difficult to bring up to current code.*
- *2018 – No fire alarm exists in the building. As an assembly occupancy, this is recommended to comply with life safety codes.*
- *2018 – Restroom plumbing was upgraded, and Building is fully sprinkled.*
- **2021 – Replaced locks and air compressor.**

CRV

$953,295

Priority Issues	0-5 Year
FCI	**FCI**
6.65%	13.0%
DMB	**DMB**
$63,394	$123,928
DMB EXCESS	**DMB EXCESS**
$15,730	$76,263
Over APPA 5% benchmark	Over APPA 5% benchmark

MAINTAIN DMB

$19,066

Annual cost to maintain current DMB

1 YEAR

5 YEAR

BARN THEATER

Facility: Cold Storage

Use Type(s):	Storage
Built:	1967
Area:	3,880 SF
Floors:	1

Observation Highlights:

- *Pre-engineered building, in good condition.*
- *2007 - Minor metal siding damage, cosmetic only.*
- *2011 – No changes reported.*
- *2015 – No changes reported.*
- *2016 – no changes reported.*
- *2018 – No changes reported. No reported problems.*
- *2019 – No changes reported. No reported problems.*
- **2021 – No changes reported. No reported problems.**

CRV
$171,360

Priority Issues	0-5 Year
FCI	**FCI**
0%	3.0%
DMB	**DMB**
$0	$5,141
DMB EXCESS	**DMB EXCESS**
$0	$0
Over APPA 5% benchmark	Over APPA 5% benchmark

MAINTAIN DMB
$3,427
Annual cost to maintain current DMB

1 YEAR

5 YEAR

COLD STORAGE

Facility:	Doser Building
Use Type(s):	Classroom, Technology Lab, Administration
Built:	1999
Area:	38,013 SF
Floors:	1

Observation Highlights:

- *2007 - Foundation wall cracked in 4 locations in computer lab area, with some minor moisture infiltration.*
- *2008 – Reheat boiler added to control building humidity.*
- *2010 – Roof evaluation performed. Roof membrane pulled away at parapets, repaired under warranty.*
- *2012 – Lighting upgraded as part of $190,000 campus-wide Energy Conservation Measures contract (ECM).*
- *2012 – Original HVAC system controls upgraded to digital as part of $600,000 campus-wide energy management system upgrade (part of ECM). 3 VAV units replaced.*
- *2013 – Grade at northeast corner of building very flat, may be impacting water infiltration into computer lab.*
- *2014 – Damaged doors on conference room replaced.*
- *2015 – Water infiltration reported to be resolved; HVAC frequency drives replaced.*
- *2016 – Roof report indicates membrane replacement due about 2022.*
- *2018 – Roof replacement scheduled in 2027.*
- *2018 – HVAC system recommended to replace existing electric components with gas-fire boiler and hot water reheat coils for savings. Recommend replace IT Data room HVAC units with (2) new AC units.*
- *2018 – Recommend improve summer humidity by implementing CO2 demand ventilation control and improved VAV zone control for admin offices.*
- *2018 – Future remodels should plan budget to replace with LEDS. South Parking lot lights replaced in 2017.*
- *2018 – Connector doors to Activities Building replaced.*
- *2019 – 70 light fixtures replaced with LED. AC units replaced at Data Center.*
- **2021 – Improvements include the addition of new monitors and teleconferencing software in each classroom, new teaching stations, furniture replacement, and chiller repair.**

CRV
$11,451,300

Priority Issues	0-5 Year
FCI	**FCI**
.3%	4.2%
DMB	**DMB**
$34,354	$480,955
DMB EXCESS	**DMB EXCESS**
$0	$0
Over APPA 5% benchmark	Over APPA 5% benchmark

MAINTAIN DMB
$229,026
Annual cost to maintain current DMB

1 YEAR

5 YEAR

DOSER BUILDING

Facility:	Farmhouse Conference Center
Use Type(s):	Conference (recorded as residential)
Built:	1916
Area:	2,550 SF
Floors:	2

Observation Highlights:

- ***2015 – farmhouse no longer used by college, leased out***
- *Older tin roof – in fair condition.*
- *Older single pane glazing – in good condition.*
- *Repainted and resided (60%) in 2003.*
- *2007 – Exterior entry door replaced.*
- *2009 – exterior repainted*
- *Piping in basement older – all else replaced in 1995.*
- *Life safety/Fire protection – no central alarm system.*
- *2013 – main entry door frame due for repair or replacement*
- *2013 – exterior concrete steps due for replacement*
- *2014 – furnace replaced*
- *2014 – exterior steps and ramp replaced*
- *2015 – entry porch rebuilt*
- *2015 – well water supply piping replaced*
- *2016 – exterior envelope continues to deteriorate*
- *2018 - No changes reported. No reported problems.*
- *2019 - No changes reported. No reported problems.*
- **2021 - No changes reported. No reported problems.**

CRV
$515,235

Priority Issues	0-5 Year
FCI	**FCI**
1.15%	6.45%
DMB	**DMB**
$5,925	$33,233
DMB EXCESS	**DMB EXCESS**
$0	$7,471
Over APPA 5% benchmark	Over APPA 5% benchmark

MAINTAIN DMB
$10,305
Annual cost to maintain current DMB

1 YEAR

5 YEAR

FARMHOUSE CONFERENCE CENTER

Facility:	Kenneth J Smith Instructional Building
Use Type(s):	Classroom, Lab
Built:	1966
Area:	25,132 SF
Floors:	2

Observation Highlights:

- *2015 - Recently renamed from Instruction East*
- *2007 – Significant updates as part of Ash Building Project.*
- *Greenhouse glazing in poor condition.*
- *Restroom fixtures and associated exposed plumbing replaced in 1999. New sinks & faucets 2003*
- *2012 – Original HVAC system controls upgraded to digital as part of $600,000 campus-wide energy management system upgrade (part of ECM).*
- *2013 – The greenhouse (now used for storage) is in poor condition and should be considered for major repairs or demolition. Roofing and trim are old, the exterior doors are damaged, window frames are rusting, and brick is spalling from ice and water damage. A new greenhouse has been built elsewhere on campus.*
- *2016 – Roof report indicates membrane replacement due around 2024*
- *2016 – greenhouse roof, brick and windows continue to deteriorate*
- *2018 – Greenhouse brick has substantial moisture damage.*
- *2018 – Building controls were improved in 2009 with occupancy sensors, though recommended to upgrade building controls with the standard BEMS system.*
- *2018 – The present classroom unit ventilators do no perform well in providing comfort & noise control. Recommend horizontal units to be replaced with improved floor mounted vertical type.*
- *2018 – Systems throughout the building were mostly upgraded around 2007 and there are no immediate concerns with lighting, fire alarm, or other systems.*
- *2018 – Carpet replacement in selected area.*
- *2019 – Replaced selected doors*
- **2021 – Construction underway for expansion/renovation of building.**

CRV
$7,689,465

Priority Issues	0-5 Year
FCI	**FCI**
1.5%	6.25%
DMB	**DMB**
$115,342	$480,592
DMB EXCESS	**DMB EXCESS**
$0	$96,119
Over APPA 5% benchmark	Over APPA 5% benchmark

MAINTAIN DMB
$153,789
Annual cost to maintain current DMB

1 YEAR

5 YEAR

KENNETH J. SMITH INSTRUCTIONAL BUILDING

Facility:	Instruction North
Use Type(s):	Vo/Tech
Built:	1968
Area:	21,780 SF
Floors:	1

Observation Highlights:

- *2007 - Building underwent extensive exterior wall repair, renovations to the east half, and functional change.*
- *2007 – Primary electrical system original, distribution upgraded.*
- *2007 – West half of building converted to storage and not generally occupied. Majority of original equipment, finishes, HVAC system and lighting in the west half of building is original and is nearing end of expected life.*
- *2012 – Original HVAC system controls upgraded to digital as part of $600,000 campus-wide energy management system upgrade (part of ECM).*
- *2016 – Roof report indicates membrane replacement due around 2019*
- *2016 – No other significant changes reported. West half of building retains most original systems, finishes, HVAC system and lighting, with most nearing end of expected life.*
- *2018 – The metal building has minimal insulation and is currently under-utilized.*
- *2018 – Roof replacement scheduled in 2024.*
- *2018 - Recommend old steam radiators (at shop classrooms/storage) to be replaced with hot water.*
- *2018 – The transformer appears old, rusted, with a possible leak. Recommend full electrical testing on this transformer to help in determining remaining useful life and budgeting for its replacement.*
- *2018 – Recommend replacement of all Federal Pacific panels for life safety reasons.*
- *2018 – Recommend replace remaining T8, T12 and exterior wall packs with LEDs.*
- *2018 – Asphalt paving is in poor condition and should be replaced.*
- *2019 – No changes reported.*
- **2021 – Improvements include classroom carpeting, additional electrical service in labs, concrete floor repair, monitors and teaching stations in classrooms, and condensate pump replacement.**

CRV

$4,355,610

Priority Issues	0-5 Year
FCI	**FCI**
3.85%	9.85%
DMB	**DMB**
$167,691	$429,028
DMB EXCESS	**DMB EXCESS**
$0	$211,248
Over APPA 5% benchmark	Over APPA 5% benchmark

MAINTAIN DMB

$87,112

Annual cost to maintain current DMB

1 YEAR

5 YEAR

INSTRUCTION NORTH

Facility:	Les Morford Instructional Building
Use Type(s):	Classroom, Auditorium
Built:	1969
Area:	11,184 SF
Floors:	2

Observation Highlights:

- *2012 – Lighting upgraded as part of $190,000 campus-wide Energy Conservation Measures contract (ECM).*
- *2012 – Majority of HVAC system replaced as part of ECM contract (building project cost of $200,000): New Trane heat pump/steam coil RTU's, controls, VAV units, actuators, dampers, and water pumps. Distribution ductwork reworked as required for new system.*
- *2013 – Toilet rooms renovated to meet ADA*
- *2014 – Office carpet is due for replacement.*
- *2014 – Roof at penthouse repaired.*
- *2016 – Roof report indicates membrane replacement due around 2024, with continued maintenance*
- *2016 – Exterior entrance doors worn and in need of replacement*
- *2016 – Office carpet is due for replacement.*
- *2018 – Penthouse has corrosion of steel, cracking at block and efflorescence at brick – Recommend cleaning, sealed, painted and side bearing required.*
- *2018 – Roof scheduled for replacement in 2024.*
- *2018 – Steam heating AHUs are to be replaced with new hot water system (serves the Auditorium). Recommend HVAC system control upgrades integrated into the Campus BEMS, including security access control. District should consider new gas fired water heater.*
- *2018 – Recommend new roof drains and overflow drains at time of roof upgrades.*
- *2018 – The pull stations are not at a height that complies with current ADA requirements.*
- *2018 – Recommend replacement with LED technology and upgraded controls, will trigger life safety code requirements.*
- *2018 – Selected sidewalks replaced in 2017.*
- *2019 - Four entry heaters replaced.*
- **2021 – Replaced unit ventilators; replaced furniture in one classroom.**

CRV

$3,382,785

Priority Issues	0-5 Year
FCI	**FCI**
2.75%	6.75%
DMB	**DMB**
$93,027	$228,338
DMB EXCESS	**DMB EXCESS**
$0	$59,199
Over APPA 5% benchmark	Over APPA 5% benchmark

MAINTAIN DMB

$73,248

Annual cost to maintain current DMB

1 YEAR

5 YEAR

LES MORFORD INSTRUCTIONAL BUILDING

Facility:	Burns Library and Administration Building
Use Type(s):	Library, Administration
Built:	1966
Area:	28,720 SF
Floors:	2

Observation Highlights:

- *2015 – Recently renamed from LRC / Administration Building 2007 – Brick sills at screen wall louvers deteriorating, mortar loosening, some bricks loose, due for tuckpointing. Original stone site walls deteriorating. Water infiltration causing mortar failure and loose stones. Walls due for repair and tuckpointing.*
- *ADA/accessibility issues need to be addressed in first floor toilet rooms.*
- *2010 – Carpet discolored, worn and due for replacement.*
- *2012 – Lighting upgraded as part of $190,000 campus-wide Energy Conservation Measures contract (ECM).*
- *2012 – Original HVAC system controls upgraded to digital as part of $600,000 campus-wide energy management system upgrade (part of ECM).*
- *2013 – Exterior stone wall deterioration accelerating. Significant repair or replacement expected.*
- *2016 – Roof report indicates membrane replacement due around 2019*
- *2016 – Exterior stone wall deterioration continuing.*
- *2016 – Surrounding site and parts of lower level flooded due to heavy rainstorm in 2016.*
- *2016 – Brick sills at air louvers budgeted for repair*
- *2018 – Roof replacement scheduled in 2024.*
- *2018 - Recommend CO2 controls for demand ventilation and de-humidification reheat added to the lower level AHUs. The AHU systems need to expand with controls upgrades. (Evidence of high humidity in lower level Library where ceiling tiles are sagging)*
- *2018 - The main electrical room seems to be lacking any emergency lighting, recommend adding for safety. Recommend switchover to LEDs in future.*
- *2018 – Some retaining wall repair was completed in 2017.*
- *2019 – New Writing Center in library. Entry heater replaced.*
- **2021 – New carpet and newly painted walls at upper floor; heat exchanger was replaced; power supply replaced at elevator; work at library associated with move of student success to this building.**

CRV
$8,682,660

Priority Issues	0-5 Year
FCI	**FCI**
1.2%	6.3%
DMB	**DMB**
$104,192	$547,008
DMB EXCESS	**DMB EXCESS**
$0	$112,875
Over APPA 5% benchmark	Over APPA 5% benchmark

MAINTAIN DMB
$173,653
Annual cost to maintain current DMB

1 YEAR

5 YEAR

BURNS LIBRARY AND ADMINISTRATION BUILDING

Facility:	Technology and Learning Center (formerly MTEC-Greenville)
Use Type(s):	Classroom, Technology Lab, Auditorium
Built:	2001
Area:	19,495 SF
Floors:	1

Observation Highlights:

- *2007 – Sills at east windows pitched in and allowing water to collect, causing efflorescence of block. Caulk deteriorating, due for replacement in these locations.*
- *2007 – One boiler retubed due to excessive corrosion. Second boiler in good condition.*
- *2009 – Caulking at window sills replaced.*
- *2012 – Exterior masonry wall cleaned and resealed*
- *2012 – Original HVAC system controls upgraded to digital as part of $600,000 college-wide energy management system upgrade (part of ECM). HVAC noise issues corrected.*
- *2013 – Minor roof leaks at rooftop fan unit curbs – repaired.*
- *2013 – floor slab cut and repaired where regular cracking had occurred.*
- *2015 – Compressor on RTU #3 replaced*
- *2015 – parking lot lighting upgraded to LED*
- *2016 – Minor floor cracking continues due to settlement.*
- *2016 – Roof report indicates membrane replacement due around 2022.*
- *2018 – Systems appear to be in good condition. MTEC Building is fully sprinkled.*
- *2018 – Some exit signs likely past life, should be replaced.*
- *2019 – No changes reported.*
- **2021 – Replaced rooftop unit; added monitors and teleconferencing software at classrooms.**

CRV

$6,068,265

Priority Issues	0-5 Year
FCI	**FCI**
0.0%	2.73%
DMB	**DMB**
$0	$165,664
DMB EXCESS	**DMB EXCESS**
$0	$0
Over APPA 5% benchmark	Over APPA 5% benchmark

MAINTAIN DMB

$121,365

Annual cost to maintain current DMB

1 YEAR

5 YEAR

TECHNOLOGY AND LEARNING CANTER (MTEC – GREENVILLE)

Facility:	Braman Family Center for Education (Greenville)
Use Type(s):	Lab, Classroom
Built:	2012
Area:	16,585 SF
Floors:	1

Observation Highlights:

- *2013 – Building opened in 2013. No issues reported.*
- *2014 – No issues reported.*
- *2015 – Past leaks in clerestory caused water infiltration into receiving area. Condition resolved.*
- *2015 – Step-up transformer added to power new CNC equipment. Distribution panel disconnects, and bus ducts added for new industrial training equipment. Total cost approx. $60,000.*
- *2015 – Carpet removed for repurposing rooms for equipment.*
- *2016 – Carpet being damaged from change in building use.*
- *2016 – Projected roof membrane replacement due for 2022.*
- *2016 – Exhaust system added for new welding equipment.*
- *2016 – Floor damaged from new industrial building use.*
- *2018 – Shop classrooms should have the ventilation verified and add controls to help meet current demands and shut-off airflow when not occupied.*
- *2018 – Future planning should include a careful look at each room to ensure that the power is as flexible as possible for the anticipated use.*
- *2018 – Existing T8 and fluorescent should be considered for replacement with LEDs in future.*
- *2018 – The Braman Building is fully sprinkled.*
- *2019 – Welding Lab expansion and Robotics Lab expansion completed.*
- **2021 – Planning to add rooftop unit for welding lab in 2022.**

CRV
$5,262,495

Priority Issues	0-5 Year
FCI	**FCI**
1.5%	3.0%
DMB	**DMB**
$78,937	$157,875
DMB EXCESS	**DMB EXCESS**
$0	$0
Over APPA 5% benchmark	Over APPA 5% benchmark

MAINTAIN DMB
$105,250
Annual cost to maintain current DMB

1 YEAR

5 YEAR

BRAMAN FAMILY CENTER FOR EDUCATION (GREENVILLE)

Facility:	Pole Barn
Use Type(s):	Storage
Built:	1998
Area:	1,800 SF
Floors:	1

Observation Highlights:

- *2007 - No reported problems.*
- *Has gas hookup for future addition of heater.*
- *2011 – No changes reported.*
- *2013 – New weather seals installed on overhead doors.*
- *2014 – No changes reported.*
- *2015 – lighting upgraded*
- *2015 – exterior man-door replaced*
- *2016 – Roof report indicates shingle replacement due around 2022*
- *2018 - No changes reported. No reported problems.*
- *2019 - No changes reported. No reported problems.*
- **2021 - No changes reported. No reported problems.**

CRV

$222,810

Priority Issues	0-5 Year
FCI	**FCI**
0.0%	0.0%
DMB	**DMB**
$0	$0
DMB EXCESS	**DMB EXCESS**
$0	$0
Over APPA 5% benchmark	Over APPA 5% benchmark

MAINTAIN DMB

$4,456

Annual cost to maintain current DMB

1 YEAR

5 YEAR

POLE BARN

Facility:	Power Plant
Use Type(s):	Power Plant
Built:	1966
Area:	3,840 SF
Floors:	1

Observation Highlights:

- *No life safety/fire protection.*
- *New electrical service to power plant lift station installed in 2004, improved reliability.*
- *2009 – De-aerator installed*
- *2011 – Boilers inspected/tested. No reported problems.*
- *2011 – Lighting replaced with fluorescent high-bay fixtures.*
- *2012 - Boiler system controls upgraded as part of ECM contract. New LonWorks DDC Energy Management System installed for campus ($600,000).*
- *2015 – Boiler valves replaced, blowdown added. Boilers nearing 30 years old – college should begin budgeting for replacement.*
- *2015 – well pump upgraded with to improve pressure control*
- *2016 – Roof report indicates membrane replacement due around 2022.*
- *2016 – Failures in direct-buried steam and condensate return lines indicate system is at end of life. College investigating a switch from central steam to individual hot-water boilers in each building. May allow for reduced operation costs.*
- *2018 - Storage shed behind building has substantial settlement, cracks in block, near end of life.*
- *2018 – Majority of HVAC systems were rather recently replaced and are in good condition. Recommend HVAC control upgrades be integrated into Campus BEMS.*
- *2018 – Recommend replacing fire alarm system and adding power off buttons to be compliant. Recommend energy monitoring systems be re-instated & power usage monitored.*
- *2018 – Recommend adding egress lighting and exit signs (currently absent) for safety. Recommend replace remaining T8 with LEDs in future. Consider additional exterior pole locations for safety & security.*
- *2019 - Tubes redone on boilers. Lift station rebuilt.*
- **2021 - No changes reported. No reported problems.**

CRV
$2,477,895

Priority Issues	0-5 Year
FCI	**FCI**
0.25%	6.75%
DMB	**DMB**
$6,195	$167,258
DMB EXCESS	**DMB EXCESS**
$0	$43,363
Over APPA 5% benchmark	Over APPA 5% benchmark

MAINTAIN DMB
$49,558
Annual cost to maintain current DMB

1 YEAR

5 YEAR

POWER PLANT

Facility:	Ash Building
Use Type(s):	Classroom, Laboratory
Built:	2007
Area:	28,800 SF
Floors:	1

Observation Highlights:

- *2007 - New construction, connected to Instruction East*
- *HVAC system interconnected to Instruction East system – chillers in common loop, DDC controls on same system.*
- *2009 – Some minor grout cracking in floor in lower level east corridor, reported to be repaired and stabilized.*
- *2010 – Chillers balanced.*
- *2010 – Dedicated ventilation system added for spectrometer.*
- *2011 – Heat recovery wheel issues corrected.*
- *2012 – Original HVAC system controls upgraded to digital as part of $600,000 campus-wide energy management system upgrade (part of ECM).*
- *2015 – No changes reported. No reported problems.*
- *2016 – No changes reported. No reported problems.*
- *2018 – Signs of moisture migration and possible flashing issue at grade level. Signs of water leakage in server room at conduit entry points.*
- *2018 – Roof replacement schedule in 2035.*
- *2018 – The Ash Building is fully sprinkled.*
- *2018 – Recommend horizontal units to be replaced with improved floor mounted vertical type.*
- *2018 – Recommend replacing existing T8, fluorescent and exterior wall packs with LEDs in future.*
- *2019 - No changes reported. No reported problems.*
- **2021 – Monitors and teleconferencing software added in classrooms.**

CRV

$8,742,195

Priority Issues	0-5 Year
FCI	**FCI**
0%	2.75%
DMB	**DMB**
$0	$240,410
DMB EXCESS	**DMB EXCESS**
$0	$0
Over APPA 5% benchmark	Over APPA 5% benchmark

MAINTAIN DMB

$174,844

Annual cost to maintain current DMB

1 YEAR

5 YEAR

ASH BUILDING

Facility:	Maintenance Building
Use Type(s):	Storage
Built:	2007
Area:	8,000 SF
Floors:	1

Observation Highlights:

- *Houses facilities offices.*
- *2007 - New construction. Pole-barn type construction.*
- *2012 – energy management system upgraded to DDC LonWorks system*
- *2012 – Lighting upgraded as part of $190,000 campus-wide Energy*
- *Conservation Measures contract (ECM).*
- *2016 – Roof report indicates shingle replacement due around 2030.*
- *2018 – Roof replacement scheduled for 2025.*
- *2019 – No reported changes. No reported problems.*
- **2021 – Light fixtures replaced with LED.**

CRV
$451,500

Priority Issues	0-5 Year
FCI	**FCI**
0%	0%
DMB	**DMB**
$0	$0
DMB EXCESS	**DMB EXCESS**
$0	$0
Over APPA 5% benchmark	Over APPA 5% benchmark

MAINTAIN DMB
$9,030
Annual cost to maintain current DMB

1 YEAR

5 YEAR

MAINTENANCE BUILDING

Facility:	Pole Barn (Greenville)
Built:	Storage
Built:	Date unknown
Area:	4,900 SF
Floors:	1

Observation Highlights:

- *Originally built as fairgrounds building. Owned by MCC and converted to storage.*
- *2013 – No reported problems.*
- *2014 – Power extended to building to support security systems and heater.*
- *2014 – Infrared heater installed.*
- *2014 – Security system and cameras installed.*
- *2016 – No changed reported. No reported problems.*
- *2018 - No changes reported. No reported problems.*
- *2019 - No changes reported. No reported problems.*
- **2021 - No changes reported. No reported problems.**

CRV
$222,810

Priority Issues	0-5 Year
FCI	**FCI**
0%	0%
DMB	**DMB**
$0	$0
DMB EXCESS	**DMB EXCESS**
$0	$0
Over APPA 5% benchmark	Over APPA 5% benchmark

MAINTAIN DMB
$4,456
Annual cost to maintain current DMB

1 YEAR

5 YEAR

POLE BARN (GREENVILLE)

DATABASE REPORTS