Financial Operations Administration
Bureau of Organizational Services

Five-Year Capital Outlay Plan
FY2020 - FY2024

October 31, 2018

MICHIGAN DEPARTMENT OF HEALTH AND HUMAN SERVICES

2019 Five-Year Capital Outlay Plan

Mission Statement

The Michigan Department of Health and Human Services (MDHHS) provides opportunities, services, and programs that promote a healthy, safe and stable environment for residents to be self-sufficient.

Department History

In April 2015, the Department of Human Services (DHS) was merged with the Department of Community Health (DCH) to create MDHHS.

Department of Human Services

The Department of Human Services was created in 1965 as a principal department with the name of "Department of Social Services." Renamed in 1995 to "Family Independence Agency," the department was once again renamed in 2004 to indicate its status as a principal department as the "Department of Human Services."

Department of Community Health

The Department of Community Health was created in 1996 through an executive order merging Department of Public Health (as Community Public Health Agency), Department of Mental Health, Medical Services Administration from the Department of Social Services, responsibility for Liquor Control Commission, Licensing, Monitoring and Accreditation and Division of Occupational Health from Department of Commerce, Food Service Sanitation from the Department of Agriculture and many functions of Department of Social Services.

Merger

The merger of DHS and DCH was enacted by Governor Rick Snyder's Executive Order No 2015-4.

Department Overview

MDHHS administers a variety of programs that are largely managed by the department's core resource areas – Children, Adults, Family Support, Health Services, Population Health and Workforce. There are also several administrative divisions (for example, Finance and Operations, Policy, Planning and Legislative Services, Legal Affairs, Business Integration, and External Affairs and Communications) that provide vital services in support of the department's program operations.

Well maintained and functional facilities are needed to support programs such as juvenile justice facilities, psychiatric hospitals and centers, laboratories, vocational and technical institutions and customer service offices.

Ongoing maintenance and repairs are needed to preserve the longevity and ensure that the infrastructure remains operable, providing continued support for the programs and overall mission of the department. Proactive repair and replacement of critical infrastructure that is rapidly aging and deteriorating has become increasingly difficult. As maintenance is deferred and needed repairs and improvements continue to go unaddressed due to the lack of available funding, the risk of infrastructure failure increases. As infrastructure failures occur, funding that is available must be directed toward emergency repairs, often at a much greater expense.

Where there is flexibility regarding the allocation of available funding, MDHHS looks to establish priorities for capital outlay planning. These priorities are established focusing on the following factors:

- Operational need: The critical nature of the department's mission and responsibility to Michigan citizens and taxpayer's mandates that the department's facilities be sufficient to meet their service functions. Full utilization of the department's varied resources is dependent upon sufficient and functional facilities.
- Preventative Maintenance: The department must preserve its existing capital investments so that it may continue to fulfill its mission and provide services to Michigan residents. Effective preventative maintenance practices minimize costs over the long term, prevent health and safety hazards and allow for minimal interruptions of service.
- Accessibility: The department must strive to ensure that its facilities, programs and projects are barrier-free and accessible to all users.
- Energy-efficient facilities: The department seeks to promote energy-efficient facilities and reduce facility energy consumption. Opportunities include installing energy-efficient lights, water heaters, heating and ventilation systems and low-flow plumbing fixtures. Proper maintenance of roofs, installation of building insulation and the reduction of exterior air infiltration lead to further energy efficiencies.
- Partnering/consolidation: Where possible, the department shares facilities with other agencies to promote efficiencies and maximize the use of available funding. The department works with local government agencies and other entities to develop opportunities for Michigan residents.

The strategy for capital outlay planning interconnects with overarching priorities of the department. It focuses on:

- Serving people who have specialty services or support needs related to mental illness, developmental disability, substance use disorders and children with serious emotional disturbance.
- Being a leader in prevention and treatment for juvenile delinquency, building safe and healthy communities through our balanced approach, professionalism, and shared commitment to innovation and effective partnerships.
- Promoting and protecting the health of the population through surveillance and response to health issues, prevention of illness and injury and improvements in access to care.
- Providing emergency aid, food, child care and other services to eligible Michigan residents.
- Coordinating services for Michigan's aging and adult population.

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I. Mission Statement

The Juvenile Justice Program will be a national leader in prevention and treatment for juvenile delinquency, building safe and healthy communities through our balanced approach, professionalism and shared commitment to innovation and effective partnerships.

II. Programming Changes

Bay Pines Center is a 40-bed secure treatment facility for either gender who have been adjudicated for one or more felony counts. Bay Pines Center (BPC) has 14 female treatment beds and 22 male treatment beds. BPC also has four detention beds for youth who are awaiting a court decision (two female/two male). Bay Pines Center is licensed to accept up to 40 youth, age 11 to 21. BPC is a state operated residential facility.

BPC is in the beginning stages of becoming specialized in Mental Health and Behavior Stabilization and Substance Abuse Treatment while utilization a trauma informed treatment milieu.

III. Facility Assessment

BPC was built in 1994 and is located on 24 acres in Escanaba and is composed of multiple buildings consisting of a total square footage of 38,760.

a. Building utilization rates compared to industry standards:

   Utilization is a measure of facility efficiency. The ratios of program (beds) and support space is used as the basis of measure. Bay Pines Center has a ratio of 773 sf./bed which yields a 93 percent efficiency.

b. Mandated facility standards for program implementation, where applicable (for example, federal/industry standards for laboratory facilities, hospitals, compliance with consent decrees, etc.):

   The Bay Pines Center maintains compliance with Michigan Child Welfare Licensing standards as well as Department of Justice Prison Rape Elimination Act (PREA) standards.

c. Functionality of existing structures and space allocation to program areas served:

   Bay Pines Center - 33,000 sq. ft. (Residential Center)
   Frens Building - 1,920 sq. ft. (Storage)

McKeage Building - 1440 sq. ft. (Storage)
Pavilion - 720 sq. ft.
Pierce Building - 1680 sq. ft. (Storage)

d. Replacement value of existing facilities (insured value of structure to the extent available):

Unknown.

e. Utility system condition (such as heating, ventilation, and air conditioning (HVAC), water and sewage, electrical, etc.):

The current domestic hot water heating system has been replaced and in final stages of project completion.

Current air handler units are functioning properly however the units are 24 years old and approaching the end of their useful life. Based on this, an assessment of the units was completed, and total replacement is in the beginning stages.

The Muffin Monster (sewage grinder) and Sewer Pumps are currently minimally functioning and ongoing emergency maintenance is to avoid sewage back-up. Replacement is recommended to avoid potential complete failure and/or health and safety concerns due to sewage back-up.

f. Facility infrastructure condition (such as roads, bridges, parking structures, lots, etc.):

The security camera system has been replaced and in the final stages of project completion.

The current Polycom system was inherited by Bay Pines Center from Adrian Training School. This system is highly outdated therefore is becoming unpredictable and noncompatible with updated court systems. The Polycom system allows for Bay Pines Center staff not to have to transport a youth to and from court hearings. This system is a large cost savings for Bay Pines Center as two staff members are required to transport youth to and from all court hearings. Over 65 percent of the population at Bay Pines Center is from lower Michigan.

Currently when the fire alarm goes off all the doors to the outside yard automatically unlock allowing youth to exit in the event of a fire. Due to the security risk this poses, additional fencing in backyard around emergency exit doors are needed. This risk is being addressed with agency funds and is in the beginning stages of project completion.

Flooring needs to be replaced in the gym/hallway/recreational pods/youth rooms. This area of the flooring is original to Bay Pines Center therefore

approximately 24 years old. The flooring is composed of a rubberlike material. Currently the flooring is disintegrating very slowing causing a dust like material to cover the floors. This risk is being addressed with agency funds and is in the beginning stages of project completion.

Replacement of all interior/exterior locks to keyless pads will eliminate the cost of repairing/replacing keyed locks and eliminates security concerns regarding lost/stolen keys. Keyless pads would provide better controlled access keeping youth, staff, and buildings safe and secure. Complete conversion to keyless pads is in the beginning stages of project completion.

Parking lot needs repair/seal coat and cracks need to be filled to prevent further breakdown of asphalt. This project is in the beginning stages of completion.

The shower rooms on each of the five living pods and gym need to be refinished as the tile, plumbing and sufficient ventilation has been deemed a health and safety violation by the Delta County Health Department.

The drop ceiling within the secure residential area is very dirty, water stained and is sagging in multiple areas throughout the building. In addition to the above, the duct work located above the drop ceiling is very loud and is causing sound problems with the camera system. It is recommended that this be replaced with a better quality/sounds resistant product. The lack of ability to clearly hear when reviewing video footage is a safety and security risk.

Bay Pines Center continues to clean the walls and painted surfaces however paint is peeling off the walls and is discolored. Bay Pines Center has not had the interior of the building painted in over 10 years. This needs to be completed by a professional in order to ensure the surface area is properly prepared so the paint doesn't peel/scratch off the walls.

Current lobby furniture is worn and is becoming unstable (safety concern), conference room chairs are ripped, worn and wooden parts often have to be repaired (one visitor cut themselves on a metal object that came loose), visitation rooms are in need of a more family like setting. Office furniture is falling apart within the shift supervisors/group leaders/administrative offices.

g. Adequacy of existing utilities and infrastructure systems to current and five-year projected programmatic needs:

   Current utilities and infrastructure systems are adequate to meet the programmatic needs of the facility five years into the future with the above noted infrastructure and utility improvements.

h. Date of most recently completed energy audit, and, if an energy audit has yet to be completed, what is the plan/schedule for doing so?

Last energy audit is unknown.

i. Land owned by the agency, including a determination of whether capacity exists for future development, additional acquisitions are needed to meet future demands, or surplus land can be conveyed for a different purpose:

The Bay Pines site is currently located on 24 acres, which appears to be very adequate for present day needs and should be fully capable of providing additional space for any program development which may occur during the next five years.

IV. Implementation Plan

a. Itemized listing of major capital projects by priority, including brief description and estimated cost. (*Adjust previously developed or prior year's figures utilizing industry standard CPI indexes where appropriate*):

See Bay Pines Center (BPC) Capital Outlay Five-Year Plan spreadsheet in this document.

b. Define the impact of addressing deferred maintenance and structural repairs, including programmatic impacts, immediately versus over the next five years:

Failure to provide special maintenance or capital outlay funding to maintain the facility creates increased facility repair costs and unnecessary demands on facility maintenance staff and creates potential health and safety problems for staff and visitors. The BPC is a 24-hour juvenile secure residential facility and must maintain a secure, safe and functioning facility to maintain staff, patient and public safety.

c. Identify, to the extent possible, a rate of return on planned expenditures. This could be expressed as operational savings that a planned capital expenditure would yield in future years.

Delaying needed repairs until they become critical generally results in costlier future special maintenance project costs and longer disruption in the BPC mission of providing residential treatment to youth.

BAY PINES CENTER (BPC)

Capital Outlay Five-Year Plan (Attachment E - IV. a.)

Building	Project	Brief Project Description	Facility Priority	Cost Estimate	Status	Funding Source
BPC (Residential Center)	Refinish shower rooms located in each living pod as well as the gym locker rooms	The tile is currently coming off the walls which is a safety/security concern for the youth/staff. The plumbing fixtures are leaking and causing negative hygienic issues and facility damage. The ventilation within the showers isn't sufficient therefore resulting in mold. This has resulted in a citation by the Delta County Health Department.	1	$250,000		
BPC (Residential Center)	Replace Sewer Pumps/Muffin Monster	The Muffin Monster (sewage grinder) and Sewer Pumps are currently minimally functioning and ongoing emergency maintenance is to avoid sewage back-up. Replacement is recommended to avoid potential complete failure and/or health and safety concerns due to sewage back-up.	2	$30,000		
BPC (Residential Center)	Replace drop ceiling through out BPC secure area	The drop ceiling is very dirty, water stained and is sagging in multiple areas throughout the building. In addition to the above, the duct work located above the drop ceiling is very loud and is causing sound problems with the camera system. It is recommended that this be replaced with a better quality/sounds resistant product.	3	$225,000		
BPC (Residential Center)	Interior painting	Bay Pines Center continues to clean the walls and painted surfaces however paint is peeling off the walls and is discolored. Bay Pines Center has not had the interior of the building painted in over 10 years. This needs to be completed by a professional in order to ensure the surface area is properly prepared so the paint doesn't peel/scratch off the walls.	4	$150,000		
BPC (Residential Center)	Polycom	The current Polycom system was inherited by Bay Pines Center from Adrian Training School. This system is highly outdated therefore is becoming unpredictable and noncompatible with updated court systems. The Polycom system allows for Bay Pines Center staff not to have to transport a youth to and from court hearings. This system is a large cost savings for Bay Pines Center as two staff members are required to transport youth to and from all court hearings. Over 65% of the population at Bay Pines Center is from lower Michigan	5	$40,000		
BPC (Residential Center)	Replace outdated/highly used furniture	Current lobby furniture is worn and is becoming unstable, conference room chairs are ripped, worn and wooden parts often have to be repaired, visitation rooms are in need of a more family like setting. Office furniture is falling apart within the shift supervisors/group leaders/administrative offices.	6	$50,000		
BPC (Residential Center)	Replace Camera System	Existing system not working properly and is in progress of being replaced due to the safety and security risk this poses to the youth and staff.		$545,000	In Progress	2016 Agy Operating $ Project #: 431/16424.RMP
BPC (Residential Center)	Replacement of Boiler/Evaporator System.	Current system is failing and unable to meet facility demands. Complete failure of the system will result in no hot water within the facility. A lack of hot water will be safety risk for staff and residents and cause the facility to be out of licensing standards.		$573,600	In Progress	2015 Agy Operating $ Project #: 431/15289.RAA

BAY PINES CENTER (BPC)

Capital Outlay Five-Year Plan (Attachment E - IV. a.)

Building	Project	Brief Project Description	Facility Priority	Cost Estimate	Status	Funding Source
BPC (Residential Center)	Fence in backyard around emergency exit doors preventing escape.	Security/Safety- currently when the fire alarm goes off all the doors to the outside yard automatically unlock allowing youth to exit in the event of a fire. This feature also allows youth to escape from the facility easily by pulling the fire alarm and running out of the building through the doors that open up to a non-fenced in area. Multiple youth could exit at the same time and run multiple different directions. Bay Pines Center's groomed area of the backyard leads to a densely wooded and swamp like terrain which poses a safety risk to both youth and staff if they ran that direction. The fence would eliminate this risk.		$200,000	In Progress	2017 Agy Operating $ Project #: 431/17358.RAA
BPC (Residential Center)	Flooring - replace gym/hallway/recreational pods/youth rooms.	This area of the flooring is original to Bay Pines Center therefore approximately 22 years old. The flooring is composed of a rubber like material. Currently the flooring is disintegrating very slowly causing a dust like material to cover the floors. This results in staff/youth having to clean the floor often to avoid the safety risk of slippery floors. Youth often slip around in the gym when trying to play recreationally which causes concerns for youth injury.		$50,000	In Progress	2017 Agy Operating $ FIle #: 431/17358.RAA
BPC (Residential Center)	Replace Air Handler Units/Air Conditioning Unit	Units are outdated and in need of replacement. Repairs are costly and parts are becoming obsolete. If not addressed this project could become a health and safety concern for staff and visitors; cause facility climate related damage; and damage to the existing functioning units.		$150,000	In Progress	2017 Agy Operating $ File #: 431/17358.RAA
BPC (Residential Center)	Parking lot sealant/fix cracks	Preventative maintenance to avoid further breakdown in parking lot asphalt. Filling of current cracks and application of sealant.		$20,000	In Progress	2017 Agy Operating $ Project #: 431/17358.RAA
BPC (Residential Center)	Keyless Pads	Replace all interior/exterior locks with keyless pads/update software and computer.		$500,000	In Progress	LSSM- 491/18057
BPC (Residential Center)	Refinish shower rooms located on each living pod.	Phase I: Replace the tile and plumbing fixtures . The ventilation within the showers isn't sufficient therefore resulting in mold and needs to be repaired or replaced. This has resulted in a citation by the Delta County Health Department.		$50,000		MOP- Agency Funds

Five-Year Capital Outlay Plan Components

I. Mission Statement

The Juvenile Justice Program will be a national leader in prevention and treatment for juvenile delinquency, building safe and healthy communities through our balanced approach, professionalism and shared commitment to innovation and effective partnerships.

II. Programming Changes

Shawono Center is a secure treatment facility for male juveniles between the ages of 12 and 21 years who have been adjudicated for one or more felony counts. The center offers three specialized treatment programs. The Sex Offenders program has 20 beds and limits the contact with the other treatment groups. The Addictions/Substance Abuse Treatment group and the General Delinquents Treatment group, with mild to medium mental health issues, each have 10 treatment beds. Shawono Center also has up to two detention beds available for youth through 20 years of age.

There are currently no planned programming changes.

III. Facility Assessment

Shawono Center is located on a 10-acre parcel that is heavily wooded and contains a small lake in a secluded area, a few miles from the city of Grayling. The U.S. Military Affairs own the parcel of land.

a. Building utilization rates compared to industry standards:

   Utilization is a measure of facility efficiency. The ratios of program (beds) and support space is used as the basis of measure. Shawono Center has a ratio of 1,322 sf/bed, which yields a 54 percent efficiency rating.

b. Mandated facility standards for program implementation, where applicable (such as federal/industry standards for laboratory facilities, hospitals, compliance with consent decrees, etc.):

   The Shawono Center maintains compliance with Michigan Child Welfare Licensing standards as well as Department of Justice Prison Rape Elimination Act (PREA) standards.

c. Functionality of existing structures and space allocation to program areas served:

Main Building (1994) - 48,018 sq. ft. (Residential Center)
Department of Natural Resources Building (1974) - 5,500 sq. ft. (Storage)
Gas Storage Shed (1974) - 120 sq. ft.
Generator Housing (1979) - 100 sq. ft.

d. Replacement value of existing facilities (insured value of structure to the extent available):

Unknown.

e. Utility system condition (for example, heating, ventilation, and air conditioning (HVAC), water and sewage, electrical, etc.):

The current AC systems in the northeast classroom area, northeast Dorms, and medical corridor are over 20 years old. Those three units are requiring more frequent service calls. Newer systems would create more energy efficiency and reliability.

The emergency electrical system was upgraded within the last several years to include the kitchen area and coolers.

The plumbing in the building is aging. Plumbing for the rooms on South Pod, West Pod, and the isolation room need upgrading as parts are starting to fail. Replacement parts, when available, are being utilized but all rooms need upgrading. The bathrooms in the administrative section of the building are failing and pipes need to be replaced and a drain field added.

The control panels for the dorm areas are over 20 years old. Parts are no longer available for the system. This system is integrated with the door locks and intercom systems in the living areas within the building. The original mechanical locks in the Main Building are beginning to wear out and need to be replaced soon. A Miscellaneous Operating Project (MOP) was created this year to address the control panels and locks in in the building because they are an integrated issue. This project is in progress.

In evaluating electrical efficiency in the building, converting the lighting to LED would create a cost savings. The outside lighting is beginning to fail, replacing the outside lights will create efficiency while also increasing safety to Shawono residents, staff and visitors.

The CCTV system was brought over when the Adrian Training Center closed. The software system and cameras are out of date. The system goes down regularly and must be reactivated manually leading to time lapses in recording events at Shawono.

The kitchen equipment is over 20 years old. Some of the equipment is starting to have to be repaired more frequently. It is not as energy efficient as newer equipment, and some equipment is not performing optimally.

f. Facility infrastructure condition (such as roads, bridges, parking structures, lots, etc.):

Shawono Center did major improvements to the exterior of the building last year. The overall building is in good shape except for minor maintenance and roof repairs to the main building. There are several areas that leak when it rains.

The parking lot was last re-sealed in 2012. The administrative parking area needs to be expanded to meet the additional usage that occurred in 2017 as five MDHHS auditors were assigned to work at Shawono. The existing blacktop needs to be re-sealed.

g. Adequacy of existing utilities and infrastructure systems to current and five-year projected programmatic needs:

Current utilities and infrastructure systems are adequate to meet the programmatic needs of the facility five years into the future with the exception of the administrative bathrooms. The addition of five auditors to the Administrative wing has revealed that the drain system there is inadequate. This forces the auditors and Shawono Administrative staff to use restroom facilities in other areas of the building, exposing the auditors to contact with Shawono residents and possibly compromising their safety. A repair of this drain system is of the highest priority. The following recommendations are being made to replace/upgrade as soon as possible.

Site/Architectural Items:
Re-Sealing Driveway and Parking Area Expansion
Repairing Roof
Replacing Interior and Exterior Locks (In Progress)

Mechanical Items:
Replacement of three AC Units
Plumbing for Dorm Rooms and Isolation Rooms
Kitchen Equipment

Electrical Items:
Lighting Systems
Control Panels for Keyless Entry for Doors (In Progress)

h. Date of most recently completed energy audit, and, if an energy audit has yet to be completed, what is the plan/schedule for doing so?

Business Energy Survey completed in 2013 by Great Lakes Energy.

i. Land owned by the agency, including a determination of whether capacity exists for future development, additional acquisitions are needed to meet future demands, or surplus land can be conveyed for a different purpose:

Shawono Center is situated on a 10-acre site with a small lake which is well suited to meet the facility's current program needs. There is ample room for future building expansion should there be a need to expand the Treatment/Detention Program or accommodate other specific building space needs. U.S. Military Affairs own the land.

IV. Implementation Plan

a. Itemized listing of major capital projects by priority, including brief description and estimated cost. (*Adjust previously developed or prior year's figures utilizing industry standard CPI indexes where appropriate*):

See Shawono Center Capital Outlay Five-Year Plan spreadsheet in this document.

b. Define the impact of addressing deferred maintenance and structural repairs, including programmatic impacts, immediately versus over the next five years:

Failure to provide special maintenance or capital outlay funding to maintain the facility creates increased facility repair costs and unnecessary demands on facility maintenance staff and creates potential health and safety problems for staff and visitors. The Shawono is a 24-hour juvenile secure residential facility and must maintain a secure, safe, and functioning facility to maintain staff, patient, and public safety.

c. Identify, to the extent possible, a rate of return on planned expenditures. This could be expressed as operational savings that a planned capital expenditure would yield in future years.

Delaying needed repairs until they become critical generally results in costlier future special maintenance project costs and longer disruption in the Shawono Center mission of providing residential treatment to youth.

SHAWONO CENTER

Capital Outlay Five-Year Plan (Attachment E - IV. a.)

Building	Project	Brief Project Description	Facility Priority	Cost Estimate	Status	Funding Source
Shawono Center	Replace CCTV System	Most system components are from Adrian Training School, which closed in 2008. The system is out of date and the software crashes often.	1	$500,000 to $1,000,000		
Shawono Center	Convert All Lighting to LED	It would make us cheaper and greener if we could do it.	2	$150,000		
Shawono Center	Replace all interior and exterior locks to keyless pads.	The original mechanical locks are beginning to wear out and need to be replaced. The use of keyless pads instead of locks are essential to the public, staff, and youth safety. The replacement would mitigate risk factors and lower constant repair costs within the secure facility.		$450,000	In Progress	Agency Funds MOP #: 431/17357.TYC; LSSM 18604 (Keyless Pads)
Shawono Center	Fire Alarm System	Modernize fire detection system.		$26,000	In Progress	Agency Funds PO #: 431N7700690
Shawono Center	Security Control	Safety & Security concern: Replacement of walk-through metal detectors.		$5,000	Completed	Agency Funds PO #: 431N7700671
Shawono Center	Security Control	Safety & Security concern: Replacement of 2-way radios for staff use.		$29,500	Completed	Agency Funds PO #: 431N7700651

Five-Year Capital Outlay Plan Components

I. Mission Statement

The Office of Workforce Development and Training's (OWDT) mission is to support MDHHS and private agency staff it provides the critical mission services of the department. The Green Oaks Conference Center was formerly the W.J. Maxey Training School that was closed per October 2015 legislative order. The building is being repurposed as a MDHHS training center. The MDHHS Bureau of Organizational Services (BOS) provides facility support and management for OWDT at the Green Oaks Conference Center (GOCC).

II. Programming Changes

There are no major programming changes planned.

III. Facility Assessment

GOCC consists of three interconnected buildings (GOCC, Living Quarters, and Maintenance/Powerhouse) consisting of a total square footage of 71,878. The GOCC is located on 90 acres in Whitmore Lake and is primarily undeveloped except for the southwest corner where the buildings reside. The original part of the building was built in 1958 (GOCC) with an addition (living quarters) added in 2011.

a. Building utilization rates compared to industry standards:

   Not Applicable. The current training area and maintenance/power house areas are utilized to support the mission of the OWDT and MDHHS. The living quarters areas of the facility are vacant or being utilized as storage.

b. Mandated facility standards for program implementation, where applicable (for example, federal/industry standards for laboratory facilities, hospitals, compliance with consent decrees, etc.):

   Not Applicable.

c. Functionality of existing structures and space allocation to program areas served:

   GOCC training area - 38,229 sq. ft.
   Living quarters - 32,259 sq. ft. (closed used for storage)
   Maintenance and Powerhouse - 10,390 sq. ft.

d. Replacement value of existing facilities (insured value of structure to the extent available):

Unknown.

e. Utility system condition (such as heating, ventilation, and air conditioning (HVAC), water and sewage, electrical, etc.):

The current air handlers and controllers at the Green Oak Conference Center are outdated and in need of replacement. Repairs and parts are increasing in cost and parts are outdated and difficult to locate. If not addressed the issue will become a safety concern for staff as well as the facility damage due to climate control issues (frozen pipes, etc.).

f. Facility infrastructure condition (such as roads, bridges, parking structures, lots, etc.):

The existing condition appears to be adequate now.

g. Adequacy of existing utilities and infrastructure systems to current and five-year projected programmatic needs:

The existing utilities and infrastructure are being repaired to meet the current and five-year projected needs. A Miscellaneous Operating Project (MOP) was submitted for 2017 funds to repair and/or replace:

- Three heating and cooling units.
- Cold and return water lines.
- Powerhouse air compressor.
- Powerhouse water heater.
- Basement sump pump.
- Computer lab air conditioning units.
- Replace make-up tank lines.

h. Date of most recently completed energy audit, and, if an energy audit has yet to be completed, what is the plan/schedule for doing so:

Most recent energy audit was completed in 2010. Because of the audit, the lighting in all hallways and all exterior windows were replaced.

i. Land owned by the agency, including a determination of whether capacity exists for future development, additional acquisitions are needed to meet future demands, or surplus land can be conveyed for a different purpose:

The GOCC is located on approximately 90 acres. If there were a need to expand, there is space to do so.

IV. Implementation Plan

a. Itemized listing of major capital projects by priority, including brief description and estimated cost. (*Adjust previously developed or prior year's figures utilizing industry standard CPI indexes where appropriate*):

   See Green Oaks Conference Center (GOCC) Capital Outlay Five-Year Plan spreadsheet in this document.

b. Define the impact of addressing deferred maintenance and structural repairs, including programmatic impacts, immediately versus over the next five years:

   Failure to provide special maintenance or capital outlay funding to maintain the facility creates increased facility repair costs and unnecessary demands on facility maintenance staff and potential health and safety problems for staff and visitors.

c. Identify, to the extent possible, a rate of return on planned expenditures. This could be expressed as operational savings that a planned capital expenditure would yield in future years.

   Delaying needed repairs until they become critical generally results in costlier future special maintenance project costs and longer disruption in the GOCC mission of providing critical services support to the department.

GREEN OAKS CONFERENCE CENTER (GOCC)

Capital Outlay Five-Year Plan (Attachment E - IV.a.)

Building	Project	Brief Project Description	Facility Priority	Cost Estimate	Status	Funding Source
GOCC - Training	Replace 6 Air Handlers and Controllers	Air handlers and controllers in the Green Oak Center are outdated and in need of replacement. There are costly on-going repairs and parts are becoming more difficult to acquire due to the outdated model. If not addressed this project could become a health and safety concern for staff and visitors as well as cause potential facility damage due to climate related issues. (No heat, potential for pipes to burst)	1	$300,000		
	Various	See Below		$182,995		MOP submitted using AY2017 Funds 431/17356.000
GOCC - Training	Replace Heating/Cooling Units	Two units have failed and need to be replaced. The lack of production from the failed units are causing excess stress on the remaining functioning units. If not addressed this project could become a health and safety concern for staff and visitors; cause facility climate related damage; and damage to the existing functioning units.				
GOCC - Training	Replace Hot/Cold and Return Water Lines	Current lines are regularly failing causing flooding in the facility. The water lines are being constantly repaired upon discovery of the line failure. Flooding damage to the building is a safety issue for both the facility structure and personnel.			Hot water lines were completed in FY2017 with agency funds.	
GOCC - Powerhouse	Replace Powerhouse Air Compressor	This air compressor runs all the thermostats and heating valves in the power house and maintenance. The air compressor is aged and at a risk of failing. If the compressor fails the facility would lose climate control. The inability to control the climate in the building would be a safety issue for staff and visitors and cause a risk of climate related facility damage.				
GOCC - Powerhouse	Replace Powerhouse Water Heater	The water heater is aged and in need of replacement. Five years ago during the last inspection it was recommended that the tank be replaced soon. If the water heater fails there would be no hot water supplied to the GOCC and Maintenance/Power House and cause a potential health issue for staff.				
GOCC - Basement	Replace Basement Sump Pump	The sump pump is aged and in need of replacement. The pumps float has been repaired a number of times and still fails / also the outlet (body of pump) has deteriorated and now sprays water out of the crock, this has become a health and safety issue for staff.				
GOCC - Computer lab	Replace Computer Lab HVAC Unit	The HVAC unit is failing and in need of replacement. The controllers that operate the unit need to be updated but are no longer available so A/C runs all the time but never comes up to temp and will form condensation that could and has drip above the ceiling tiles. This could cause damage to the computers in the lab. We have come up with a temp fix to this problem by deverting (trunking) air from other areas.				
GOCC - Powerhouse	Replace make-up tank lines	The make-up tank lines are leaking and in need of replacement. 9 years ago the tank was reconditioned and at that time the inlet and outlet lines were fine, now the 4" supply line and 1 1/2 outlet lines are leaking and in need of replacement, this has created a hazard for employees. The lines supply water to the boilers, if this fails we would have to shut down the boilers and would not have any heat or hot water, this would become a health and safety issue for staff.				

Five - Year Capital Outlay Plan Components

I. Mission Statement

The Michigan Career & Technical Institute conducts vocational and technical training programs and provides the supportive services needed to prepare Michigan residents with disabilities for competitive employment.

II. Programming Changes

None.

III. Facility Assessment

Michigan Career and Technical Institute (MCTI) is an approved post-secondary educational facility and is recognized by the US Department of Education as a Pell granting facility. The school is administered by Michigan Rehabilitation Services, a bureau of the Michigan Department of Health and Human Services. MCTI is accredited by the Council on Occupational Education (COE) and the Commission on Accreditation of Rehabilitation Facilities (CARF).

As a separate entity from the traditional community college or technical school, MCTI has provided training for adults with disabilities in Michigan since 1944. MCTI offers a unique blend of caring support services and state of the art training for business and industry today.

The Pine Lake Fund, a non-profit foundation supporting MCTI, contracted with C2AE in November 2017 to conduct a Facilities Design Study. The scope of the design study includes: a visual review of the existing facility to become familiar with the construction and general condition of the facility, identification of any significant changes to the facility since completion of the 2009 Facility Assessment by M.C. Smith Associates, and develop conceptual plans and cost estimates for potential improvements to MCTI.

The recommendations developed in this planning process focus on the greatest needs prioritized by the MCTI Design Study Team and PLF Board for future implementation as budget appropriations from the Department of Technology, Management and Budget (DTMB), or private fundraising, allow. The facility is facing daunting challenges from outdated and aging infrastructure systems, i.e., architecture, mechanical (HVAC and plumbing), electrical, and lighting that is 50 years old, or older, well beyond its functional life expectancy.

MCTI is located on Pine Lake in Barry County in southwest Michigan on 72 acres of land, although most of the facility is located on the approximately 40 acres of lakefront property. The property includes parking for roughly 250 cars, and a variety of recreational amenities including swimming/fishing dock, softball field, tennis/basketball courts, initiatives course, and disc golf.

The original vocational shop building was constructed in 1944 and now anchors the west end of the main facility. In the mid-1960's additional training facilities were constructed, along with a multi-story student housing and dining facility. In the mid-1970's additions were constructed to connect the facilities into a single building, and an activity/recreational facility was built containing a gym, pool, locker rooms, art, music, four-lane bowling alley, and indoor archery range. A separate 6,000 square foot Maintenance/Storage Building was constructed in the mid-1970's, with a garage addition constructed at a later date. The current main facility consists of approximately 221,350 square feet not including the

Conference Center, Maintenance/Storage building, various service buildings and smoking shelters.

a. Building utilization rates compared to industry standards:

MCTI's daily building utilization (which includes students and staff) ranges from a low of 400 to a high of 650 persons with disabilities. Students have disabilities associated with ambulation, cognitive, emotional, hearing impairments and autism which require a facility with significantly more safety features than a typical public facility. Dormitory occupancy is 350; there are up to 20 commuter students. Current MCTI staffing (both Civil Service and contractual employees) is approximately 85.

b. Mandated facility standards for program implementation, where applicable (i.e. federal/industry standards for laboratory facilities, hospitals, compliance with consent decrees, etc.):

MCTI must comply with Michigan's State Building and Health Codes, and the standards of the Commission on Accreditation of Rehabilitation Facilities (CARF) and the Council on Occupational Education (COE). Given the high numbers of persons with disabilities that require a variety of accommodations, it is imperative MCTI have a safe and accessible environment.

c. Functionality of existing structures and space allocation to program areas served:

The 1960's and 1970's construction consists of single-story and multi-story additions combining masonry bearing walls and steel roof framing along with some steel-framed areas. Due to the sloping terrain on the property, many of the additions were constructed at different grade elevations, resulting in many stairs and ramps within the building; there is not elevator access to every floor level.

The building "fronts" the lake on the south side, but the main point of entry is on the north side of the building. The north side of the building is the primary service area of the building and presents an arrival experience that is not very attractive and welcoming.

Consideration should be given to re-directing traffic flow, parking, and visitor entry to the south (lake) side of the building, or to make significant improvements to the north side of the building, drives, and parking areas. An identifiable and more distinct main entrance should also be constructed to help with wayfinding and provide a more welcoming arrival experience.

Additionally, the visitor reception function is located at the south main entry and does not have the ability to visually monitor and directly control visitors arriving from either door. As part of enhancing the arrival experience to the south entry, and making it more secure, it is recommended to add a secured entry vestibule and reconfigure the reception function to control daytime visitors into and through the space.

There are numerous grading and drainage problems on the site and surrounding areas. The biggest issue appears to be the steep grade and associated runoff from the surrounding agricultural fields. During large rain events, sediment is washed onto MCTI property and causes washouts and clogging of the storm sewer. Storm water best

management practices (BMP's) should be developed to divert and manage runoff from the surrounding agricultural fields.

The overall condition of the facility is good given its age and generally year-round continuous use by a large student population. Exterior materials are very durable as most surfaces are brick. The original 1944 building has some siding that is in poor condition, and possibly asbestos containing, and should be removed and replaced if the building is to remain in use for more than a few more years. Interior materials are also very durable, consisting primarily of painted block walls with some brick accents, and tile floors (mostly vinyl, but some asbestos tile remains and should be replaced). The staff has done a good job of maintaining the facility over its many decades, on what have likely been restrictive maintenance budgets.

The following codes violations were observed during the inspections for our 2009 Facility Study:

Barrier-Free Code: Most of the doors throughout the facility do not contain barrier-free hardware and proper spacing adjacent to the doors for required barrier-free use. Another significant area where barrier-free access is lacking is within the public restrooms. A few strategic restrooms have been converted over the years to accommodate barrier-free use, but the facility as a whole is lacking barrier-free restroom facilities.

Michigan Building Code: Overall, the facility complied with the current building code at the time when each segment of the building was constructed. The building is currently "grandfathered" into the present-day regulations. If major renovations are planned, certain upgrades to meet the current code requirement will become necessary. One specific area which will require a more in-depth review is the separation of building segments from each other via fire related enclosures.

Michigan Mechanical Code Chapter 4 – Ventilation: The facility utilizes a combination of natural ventilation and mechanical ventilation systems. Ventilation (outdoor air) requirements do not appear to be met in various office, classrooms, and conference rooms. Specific areas of concern are program classrooms, conference rooms, weight training, canteen, cafeteria, locker rooms, and all toilet rooms.

Michigan Plumbing Code Chapter 4 – Fixtures: The facility is lacking basic restroom facilities within three main areas. The facility maintenance building lacks women restroom facilities. The cabinetmaking, graphic communications, electronics, and education areas lack men and women restroom facilities. The dining hall lacks both men and women restroom facilities. Barrier-free accessible restroom facilities are also lacking throughout the facility. Most of the existing plumbing fixtures do not meet the current minimum water efficiency standards. Anti-scald valves are required at all accessible fixtures.

Michigan Plumbing Code Chapter 7 – Sanitary Drainage: Due the age of the facility, the assumption is made there are portions of piping materials that do not meet current requirements.

Michigan Plumbing Code Chapter 10 – Traps, Interceptors, and Separators: Areas of concern include Machine Technology, Automotive and Culinary Arts.

National Electrical Code: Arc Flash Designations and proper clearances are not provided for in front of electrical panels.

d. Replacement value of existing facilities (insured value of structure to the extent available):

Unknown.

e. Utility system condition (i.e. heating, ventilation, and air conditioning (HVAC), water and sewage, electrical, etc.):

MECHANICAL SYSTEMS
Mechanical and plumbing systems throughout the Michigan Career and Technical Institute facility were reviewed during a site visit conducted on December 11, 2017. Prior to the site visit, a review of the most recent facility assessment report published in June 2009 was performed. The site visit intent was to establish what recommendations from that report have been completed to date as well as perform a visual evaluation of the existing conditions relative to the various mechanical and plumbing systems throughout the main building and adjacent maintenance buildings. No other buildings on the site were included in this evaluation effort.

The only items addressed from the 2009 report to the present 2018-time frame have been some restroom upgrades (ongoing), building management system (BMS) upgrades (just completing), dust collection system replacement (completed), and limited air handling unit (AHU) upgrades noted later on in this report.

The majority of the HVAC systems are past their useful service life and are operating inefficiently, resulting in poor heating/cooling control of many areas of the main building. Most of the main building is heated and cooled via a central two-pipe system that operates only in either heating or cooling mode, which further contributes to poor temperature control of the building. There are two boiler rooms within the building, one containing 50-year old steam boilers and an air-cooled chiller and a second room containing almost 20-year old hot water hydronic boilers and an air-cooled chiller. The chillers have had compressors replaced in the last four to five years. Some air handling units have had chilled water coils replaced with direct expansion (DX) refrigerant coils and separate grade-mounted condensers (a "split" system).

The cabinet making/millwork area dust collection system has been upgraded but the new system isn't functioning well. The cabinetmaking instructor believes the unit is oversized and does not have the ability to modulate depending on the number of pieces of equipment that are operating at one time. The old, undersized system was replaced with this system as recommended in the 2009 study.

The existing domestic water and sanitary piping is approaching the end of its service life, with approximately 10 to 15 years remaining, and can be continued in use in the short-term. This domestic water and sanitary piping should be replaced as part of the restroom upgrades. An internal visual camera inspection should be performed of all sanitary piping within the next five years to identify pipe sections for replacement.

The existing sanitary piping leaving the main building and the maintenance building is routed to two lift stations adjacent to the maintenance building that pump into the

municipal system. The lift stations appear to be properly sized and there were no reported operational issues. The lift stations are connected to the emergency power system.

Consumers Energy provides natural gas service to the site with one metered service entrance at the buildings located next to the county road and a second metered gas service into the main building. There were no reported issues with the natural gas service, which should be continued to be utilized.

ELECTRICAL

The facility had a complete upgrade to T-8 fluorescent lamps with electronic ballasts as the 2009 report recommended. The facility is currently in the process of upgrading to LED fixtures and is about 15-25 percent of their goal. Areas to receive LED fixtures include hallways, gym, cabinetmaking and maintenance. The gym and maintenance areas have been completed. Emergency lighting units have been upgraded to LED type. Exit signs have not been upgraded to LED however. Consumers Energy completed a review of the facility and recommended that the exit signs be changed to LED type. The facility is in the process of adding occupancy sensors to selected area.

There was originally a master clock system throughout the facility. This system is no longer functional. The facility is currently experimenting with stand-alone digital clocks and noted that some of their students cannot read analog clocks. There is no functioning bell system and such a system is not required.

There are a total of three generators, the 2009 study addresses only one of the generators. Two generators are near the kitchen wing on the north side. The larger 500kW Cummins unit is diesel fueled with a sub-base tank and serves the kitchen refrigeration, freezers, and hallway lighting. This generator has plenty of capacity available. It was not clear what the smaller Kohler generator serves. The third Generac natural gas fueled generator is located near the maintenance building and serves the lift station and the maintenance building.

The automatic transfer switch (ATS) for the larger generator is located outdoors near the generator unit. This switch was manufactured by ASCO. There have been reliability problems with this switch and ASCO has serviced it several times. The ATS works fine when tested but will fail to transfer when actually needed. The facility does have portable generators available and can connect to selected areas. The water tower is set up for a portable generator connection. The facility is in the process of having one of their transformers tested. Oil samples have been taken and they are awaiting results. They plan to test all three of the transformers.

The sound system is still in need of an overall upgrade. The existing system was recently repaired by a Kalamazoo firm which is preparing a quote to upgrade the system. The complaints noted in the 2009 report are still valid.

The facility is in the process of adding card key access to six exterior doors and have a contractor's quote for $28,000 +/- to install them. The goal would be to eventually expand the system to other exterior doors and many interior doors also.

There are security cameras located throughout the facility – about half are digital and half are analog. MCTI is in the process of changing to all digital. Cameras are monitored at the public safety office.

f. Facility infrastructure condition (i.e. roads, bridges, parking structures, lots, etc.):

Pavement conditions in the parking areas are deteriorating and exhibit numerous cracks. The pavement needs crack sealing maintenance at a minimum, and in many locations, appears to be near the end of its service life. MCTI has obtained an estimate for replacement of all asphalt paving from an engineering firm selected by the MI Department of Technology, Management, and Budget (DTMB). The estimate is split into four phases totaling approximately $1.3 million. Consideration should be given to new traffic and parking layouts to support the arrival experience discussed in the previous section, prior to moving forward with any pavement replacement projects. The handicap parking spaces throughout the campus are not ADA compliant and require new layout to be brought into compliance. Each handicap parking space needs to be located next to a striped access aisle.

Twenty years ago, in 1998, MCTI received funds from the Department of Transportation to complete the following: Construction improvements for parking lot adjacent to the maintenance building and parking lot west of the recreation building and construction of the parking lot adjacent to the dormitory, which includes the following items of work: drainage, structure adjustment, bituminous paving and pavement markings; together with necessary related work; all on the campus of MCTI.

During FY17, MCTI completed driveway repairs for the main entrance only. The rest of the drives are in very poor condition. In November of 2017 MCTI was given approval to use OMM Engineering under their ISID Contract and they conducted a topographic survey of the parking areas, access roads and sidewalks immediately adjacent to the main campus building. The topographic survey provided the necessary level of detail to allow us to engineer and design future rehabilitation plans for the site based off future projected yearly budget allocations.

OMM Engineering presented MCTI the outcome of their study. The estimate to complete the total project totals $1,289,008. The engineer separated the estimate into four categories: West Phase (Maintenance Lot) $165,728; South Phase (Lakeside Loop) $249,582; Southeast Phase (Dorm Loop) $98,179; North Phase (Administration to Dorm Loop) $775,519

g. Adequacy of existing utilities and infrastructure systems to current and five-year projected programmatic needs:

To further enhance the facility usability, life safety, and energy management, recommendations were made for the following items to be corrected and/or replaced as soon as the facility is able.

The costs for the recommendations are based on summer 2018 construction values and general square foot costs for the building type and specific use that represent durable, high quality materials and life cycle performance to last 40-50 years in the future. With good care and maintenance, they could last much longer, as MCTI has experienced with the current facility.

NOTE: C2AE did not conduct a visual review of the roofs but will use the assessment and MCTI knowledge of existing roof conditions/warranties to determine if replacement of portions of the roof is appropriate.

C2AE RECOMMENDATIONS:

- Replacement of the entire heating and cooling system at the main building except for those limited air handling units that have been more recently upgraded/modified in the Health area of the building. A new four-pipe system served by new air-cooled chillers and high-efficiency hot water boilers, pumps, and ancillary equipment should be provided to serve all areas of the main building. All mechanical equipment and terminal units (fin-tube radiation, unit ventilators, etc.) are past their useful service life and should be replaced.

- Modification of the dust collection system in the Millwork program area to reduce total airflow and balance the unit to only the actual required exhaust from the currently installed equipment. The dust collection system was replaced with a smaller system per the 2009 study recommendations. However, this new dust collection system still has operational issues at partial load conditions. The dust collection system controls should be modified to vary exhaust rate based on the amount of equipment actually operating. The HVAC unit serving this program area should be replaced.

- Replacement of plumbing fixtures within the dorm wing of the building as well as any original fixtures throughout the building. The student residences in particular should renovate the bathrooms with upgraded exhaust fan systems and floor drain modifications to prevent shower water from entering the living areas.

- Upgrade and renovate restrooms throughout the facility; recommends this process be accelerated and that the restrooms also be upgraded for Americans with Disabilities Act (ADA) accessibility.

- Add a water filtration unit at each water service entrance to the building to prevent sediment from the well/tower system entering the building piping. The water filter system should include low pressure loss filters.

- Replacement of the domestic water piping as restroom renovations take place along with elimination of any dead leg branch piping identified during renovation work. The existing domestic water distribution system piping is original and reaching the end of its service life within the next five to ten years.

- Replacement or modification of the water tower to provide higher pressure water to the building as part of the next major site improvement project for the facility. Two on-site wells provide water to a single water tower located adjacent to the main building. The water tower contains sufficient volume for the building demands but doesn't provide enough system pressure for the main building. Booster pumps currently provide additional pressure to the water distribution system into each building.

- MCTI to continue with the changeover to LED lighting, LED exit signs, LED emergency lighting and occupancy sensors.

- Automatic Transfer Switches be installed at the three on-site generators.
- Replacement of the 40 - 50-year-old primary MDP panels, branch panels, subpanels, distribution wiring, service outlets and control devices with new.
- New public-address system be installed throughout the facility that has room by room control and two-way communication.

h. Date of most recently completed energy audit, and, if an energy audit has yet to be completed, what is the plan/schedule for doing so:

Completed October 2008.

i. Land owned by the agency, including a determination of whether capacity exists for future development, additional acquisitions are needed to meet future demands, or surplus land can be conveyed for a different purpose:

MCTI is located on 72 acres in near Plainwell. Capacity does exist for future development and minimal expansion.

IV. Implementation Plan

a. Itemized listing of major capital projects by priority, including brief description and estimated cost. (*Adjust previously developed or prior year's figures utilizing industry standard CPI indexes where appropriate*):

- **ADA Restrooms Plumbing Fixtures and Replacement of Domestic Water and Sanitary Piping in Dormitory and throughout facility - $3,569,000 Priority 1**
  The following code violations were observed during the inspections for our 2009 Facility Study: Barrier-Free Code; Michigan Plumbing Code Chapter 4 – Fixtures; Michigan Plumbing Code Chapter 7 – Sanitary Drainage
- **Existing Student Dormitory – Light Remodel - $2,905,000 - Priority 2**
  MCTI's dormitory was built in the 1960s with 357 beds - four bed suites with common bathroom. Due to the age of the existing student living areas and bathroom, extensive remodeling is needed. This option is the light remodel. (Light remodel costs typically include room and minor wall reconfiguration; demolition, new finishes (floor, wall, and ceiling); does not include HVAC, plumbing, electrical, lighting, data, and security systems work.
- **Replace Service Panels and Distribution Wiring - $2,213,500 - Priority 3**
  The following code violations were observed during the inspections for our 2009 Facility Study: National Electrical Code: Arc Flash Designations and proper clearances are not provided for in front of electrical panels.
- **Driveway and Parking Lot Repairs - $1,289,000 - Priority 4**
  Pavement conditions in the parking areas are deteriorating and exhibit numerous cracks. The pavement needs crack sealing maintenance at a minimum, and in many locations, appears to be near the end of its service life. MCTI has obtained an estimate for replacement of all asphalt paving from an engineering firm selected by the MI Department of Technology, Management, and Budget (DTMB). The estimate is split into four phases totaling approximately $1.3 million.

- **Replace HVAC System - $8,356,000 - Priority 5**
  Replacement of the entire heating and cooling system at the main building except for those limited air handling units that have been more recently upgraded/modified in the Health area of the building. A new four-pipe system served by new air-cooled chillers and high-efficiency hot water boilers, pumps, and ancillary equipment should be provided to serve all areas of the main building. All mechanical equipment and terminal units (fin-tube radiation, unit ventilators, etc.) are past their useful service life and should be replaced.

- **Replace Water Tower Pressure Booster Pumps - $80,000 - Priority 6**
  C2AE recommends replacement or modification of the water tower to provide higher pressure water to the building as part of the next major site improvement project for the facility. Two on-site wells provide water to a single water tower located adjacent to the main building. The water tower contains sufficient volume for the building demands but doesn't provide enough system pressure for the main building. Booster pumps currently provide additional pressure to the water distribution system into each building.

- **Repair/replace roofs in ill repair or in need of significant repairs - $1,500,000 - Priority 7**
  Majority of roofs are in ill repair and in need of significant repairs/replacement. Per the 2009 study they recommend replacing black tar roofing which is causing roof drain closing, replace any roof past their useful life. An updated study will need to be completed as part of this project.

- **New Automatic Transfer Switches for Existing Back-up Generators - $60,000 - Priority 8**
  MCTI has a total of three generators. The automatic transfer switch (ATS) for the larger generator is located outdoors near the generator unit. There have been reliability problems with this switch and has serviced it several times. C2AE recommends new automatic transfer switches be installed at the three on-site generators.

- **Dust Collection System Modifications - $100,000 - Priority 9**
  Modification of the dust collection system in the Millwork program area to reduce total airflow and balance the unit to only the actual required exhaust from the currently installed equipment. The dust collection system was replaced with a smaller system per the 2009 study recommendations. However, this new dust collection system still has operational issues at partial load conditions. The dust collection system controls should be modified to vary exhaust rate based on the amount of equipment actually operating. The HVAC unit serving this program area should be replaced.

- **Replace Sound/PA System - $664,100 - Priority 10**
  New public-address system be installed throughout the facility that has room by room control and two-way communication.

- **Regrading, Landscaping, Retaining Wall and Storm Water Control Upgrades - $920,000 - Priority 11**
  There are numerous grading and drainage problems on the site and surrounding areas. The biggest issue appears to be the steep grade and associated runoff from

the surrounding agricultural fields. During large rain events, sediment is washed onto MCTI property and causes washouts and clogging of the storm sewer. Storm water best management practices (BMP's) should be developed to divert and manage runoff from the surrounding agricultural fields. Includes regrading, new landscaping, retaining wall, storm water control upgrades.

- **Replace Existing HMA Paving and Concrete Walkways - $1,472,000 - Priority 12**
  Main entrances do not have awnings so having these walkways heated will assist in keeping ice and snow from building up and significantly reducing possibility of slip and falls for our students, visitors, and staff.

- **Replace LED Lighting - $3,320,300 - Priority 13**
  The facility had a complete upgrade to T-8 fluorescent lamps with electronic ballasts as the 2009 report recommended. The facility is currently in the process of upgrading to LED fixtures and is about 15-25 percent of their goal. Areas to receive LED fixtures include hallways, gym, cabinetmaking and maintenance. The gym and maintenance areas have been completed. Emergency lighting units have been upgraded to LED type. Exit signs have not been upgraded to LED however. Consumers Energy completed a review of the facility and recommended that the exit signs be changed to LED type. The facility is in the process of adding occupancy sensors to selected area.

- **Replace w/ New Site Signage - $184,000 - Priority 14**
  Update, replace, add site signage.

b. Define the impact of addressing deferred maintenance and structural repairs, including programmatic impacts, immediately versus over the next five years:

The MCTI facility is in need of significant renovations to update and modernize the facility to operate efficiently and safely in the 21st century with relevant and evolving programs that train and prepare its students for success in today's world. MCTI's mission is valuable, if not critical, to those individuals that need alternative training and education programs that traditional post-secondary institutions do not provide for special needs adults seeking employable skills in the workplace.

c. Identify, to the extent possible, a rate of return on planned expenditures. This could be expressed as operational "savings" that a planned capital expenditure would yield in future years.

The facility is facing daunting challenges from outdated and aging infrastructure systems, i.e., architecture, mechanical (HVAC and plumbing), electrical, and lighting that is 50 years old, or older, well beyond its functional life expectancy. We believe the organization is at a Crossroads of either spending less money now to remodel and retrofit the facility with modern systems while the building is still in good condition or continue to maintain the facility and eventually have to replace it with a new one at much greater overall costs within the next 10-20 years. By implementing the recommendations, the facility gets closer to 'state-of-the-art' status sought by the instructional staff, MCTI Design Study Team and board, and the Pine Lake Fund board.

MICHIGAN CAREER TECHNICAL INSTITUTE (MCTI)
Capital Outlay Five-Year Plan (Attachment E - IV. a.)

Building	Project	Brief Project Description	Facility Priority	Cost Estimate	Status	Funding Source
Mechanical - Plumbing	ADA compliant restrooms and replacement of domestic water and sanitary piping in the dormitory and throughout the facility.	Barrier-free accessible restroom facilities are lacking throughout the facility. Most of the existing plumbing fixtures do not meet the current minimum water efficiency standards. Anti-scald valves are required at all accessible fixtures. Barrier-free access and hardware need to be addressed in the public restrooms. Replacing plumbing fixtures within the dormitory and throughout the facility is a critical need to maintain ADA compliance. Renovations are much needed in the student residences with upgraded exhaust fan systems and floor drain modifications to prevent shower water from entering the living areas. MCTI has been slowly upgrading and renovating various restrooms throughout the facility; C2AE recommends this process be accelerated and that the restrooms also be upgraded for ADA accessibility. The dormitory has 357 beds - 4 bed suites with common bathroom. ($2,020,000) The existing domestic water and sanitary piping is approaching the end of its service life. C2AE recommends replacement as restroom renovations take place. ($1,549,500) The following code violations were observed during the inspections for our 2009 Facility Study: Barrier-Free Code Michigan Plumbing Code Chapter 4 – Fixtures Michigan Plumbing Code Chapter 7 – Sanitary Drainage	1	$3,569,500	Identified in Facility Design Study completed June 2018	
Infrastructure Improvements	Existing Student Dormitory Remodel	MCTI's dormitory was built in the 1960s with 357 beds - 4 bed suites with common bathroom. Due to the age of the existing student living areas and bathrooms, C2AE strongly recommends extensive remodeling and gave two options. This option is the light remodel. (Light remodel costs typically include room and minor wall reconfiguration; demolition, new finishes (floor, wall, and ceiling); does not include HVAC, plumbing, electrical, lighting, data, and security systems work.	2	$2,905,000	Identified in Facility Design Study completed June 2018	
Electrical	Replace Electrical Service Panels and Replace Distribution Wiring	C2AE recommends replacement of the 40 - 50 year old primary MDP panels, branch panels, subpanels, distribution wiring, service outlets and control devices with new. Its critical that MCTI address this outdated service panel and wiring to provide a safe building for our students and staff. The following code violations were observed during the inspections for our 2009 Facility Study: National Electrical Code: Arc Flash Designations and proper clearances are not provided for in front of electrical panels.	3	$2,213,500	Identified in Facility Design Study completed June 2018	
Site Improvements	Driveway - Parking Lot Repairs	Pavement conditions in the parking areas are deteriorating and exhibit numerous cracks. The pavement needs crack sealing maintenance at a minimum, and in many locations, appears to be near the end of its service life. MCTI has obtained an estimate for replacement of all asphalt paving from an engineering firm selected by the MI Department of Technology, Management, and Budget (DTMB). The estimate is split into four phases totaling approximately $1.3 million.	4	$1,289,007	MCTI funded the engineering study thru OMM Engineering	Possible MRS/MCTI funding over the next 3 years
Mechanical - HVAC	Replacement of entire HVAC System	Replacement of the entire heating and cooling system at the main building except for those limited air handling units that have been more recently upgraded/modified in the Health area of the building. A new four-pipe system served by new air-cooled chillers and high-efficiency hot water boilers, pumps, and ancillary equipment should be provided to serve all areas of the main building. All mechanical equipment and terminal units (fin-tube radiation, unit ventilators, etc.) are past their useful service life and should be replaced.	5	$8,356,000	Identified in Facility Design Study completed June 2018	
Mechanical - Plumbing	Replace Water Tower Pressure Booster Pumps	C2AE recommends replacement or modification of the water tower to provide higher pressure water to the building as part of the next major site improvement project for the facility. Two on-site wells provide water to a single water tower located adjacent to the main building. The water tower contains sufficient volume for the building demands but doesn't provide enough system pressure for the main building. Booster pumps currently provide additional pressure to the water distribution system into each building.	6	$80,000	Identified in Facility Design Study completed June 2018	Possible FY19 funds MRS/MCTI

MICHIGAN CAREER TECHNICAL INSTITUTE (MCTI)
Capital Outlay Five-Year Plan (Attachment E - IV. a.)

Building	Project	Brief Project Description	Facility Priority	Cost Estimate	Status	Funding Source
Infrastructure Improvements	Roof Replacements	Majority of roofs are in ill repair and in need of significant repairs/replacement. Per the 2009 study they recommend replacing black tar roofing which is causing roof drain closing, replace any roof past their useful life. An updated study will need to be completed as part of this project.	7	$1,500,000		
Electrical	Automatic Transfer Switches	MCTI has a total of three generators. The automatic transfer switch (ATS) for the larger generator is located outdoors near the generator unit. There have been reliability problems with this switch and has serviced it several times. C2AE recommends new automatic transfer switches be installed at the 3 on-site generators.	8	$60,000	Identified in Facility Design Study completed June 2018	Possible FY19 funds MRS/MCTI
Mechanical - HVAC	Modification of Dust Collection System	C2AE recommends modification of the dust collection system in the Millwork program area to reduce total airflow and balance the unit to only the actual required exhaust from the currently installed equipment. The dust collection system was replaced with a smaller system per the 2009 study recommendations. However, this new dust collection system still has operational issues at partial load conditions. The dust collection system controls should be modified to vary exhaust rate based on the amount of equipment actually operating. The HVAC unit serving this program area should be replaced.	9	$100,000	Identified in Facility Design Study completed June 2018	Possible FY20 funds MRS/MCTI
Electrical	Public Address System	New public-address system be installed throughout the facility that has room by room control and 2-way communication.	10	$664,100	Identified in Facility Design Study completed June 2018	
Site Improvements	Regrading, Storm Control Upgrades	There are numerous grading and drainage problems on the site and surrounding areas. The biggest issue appears to be the steep grade and associated runoff from the surrounding agricultural fields. During large rain events, sediment is washed onto MCTI property and causes washouts and clogging of the storm sewer. Storm water best management practices (BMP's) should be developed to divert and manage runoff from the surrounding agricultural fields. Includes regrading, new landscaping, retaining wall, storm water control upgrades.	11	$920,000	Identified in Facility Design Study completed June 2018	
Site Improvements	Replace Existing HMA Paving and Concrete Walkways	Main entrances do not have awnings so having these walkways heated will assist in keeping ice and snow from building up and significantly reducing possibility of slip and falls for our students, visitors, and staff.	12	$1,472,000	Identified in Facility Design Study completed June 2018	
Electrical	Replace LED Lighting	The facility had a complete upgrade to T-8 fluorescent lamps with electronic ballasts as the 2009 report recommended. The facility is currently in the process of upgrading to LED fixtures and is about 15-25% of their goal. Areas to receive LED fixtures include hallways, gym, cabinetmaking and maintenance. The gym and maintenance areas have been completed. Emergency lighting units have been upgraded to LED type. Exit signs have not been upgraded to LED however. Consumers Energy completed a review of the facility and recommended that the exit signs be changed to LED type. The facility is in the process of adding occupancy sensors to selected area.	13	$3,320,300	Identifed in Facility Design Study completed in June 2018 MCTI has started this project and has expended $37,679	
Site Improvements	Replace New Site Signage	Update, replace, add site signage.	14	$184,000	Identified in Facility Design Study completed June 2018	
Mechanical - Boilers	Replace Boilers	Due to the age of our boilers, replacement is required. They are currently beyond their useful life and if not replaced will cause a health and safety concern for students and staff.		$ 42,684	**Completed**	MRS/MCTI
Mechanical - HVAC	Replace Chiller Compressors	3 units need to be replaced in the air conditioning system due to age and wear.		$ 72,389	**Completed**	MRS/MCTI
Security	Classroom Doors	We need to replace a number of doors in the classroom areas. During our recent intruder training it was recommended that we replace doors that have full glass.		$ 30,730	**Completed**	MRS/MCTI
Security	Security Cameras	Security camera update to IP video surveillance and head-end system/additional cameras		$ 124,055	**Completed**	MRS/MCTI
Electrical	Replace LED Lighting	Upgrade lighting in the following areas: Grounds Maintenance, Auto Shop, Cabinetmaking, Machine Technology, Maintenance Building, Warehouse, and Gym		$ 37,679	**Completed**	MRS/MCTI

MICHIGAN CAREER TECHNICAL INSTITUTE (MCTI)
Capital Outlay Five-Year Plan (Attachment E - IV. a.)

Building	Project	Brief Project Description	Facility Priority	Cost Estimate	Status	Funding Source
Site Improvements	Paving Project	Paving Project - We are adding $23,754 to the funding that Diane David has in order to complete all three alternatives for the main drive.		$ 23,754	**Completed**	MRS/MCTI
Security	Card Key Access	MCTI is lacking entry access control and security system. MCTI installed card key access to 6 exterior doors. These doors can also be programmed to lock and unlock automatically. These doors can be locked with a push of a button.		$ 41,698	**Completed**	MRS/MCTI
	Roadways and Parking Lots	South Phase parking lot and roadway rehabilitation at MCTI.		$249,582	In process	MRS/MCTI

Five - Year Capital Outlay Plan Components

I. Mission Statement

The mission of Caro Center is to provide an appropriate range of active inpatient psychiatric treatment services to best meet the needs of adults with severe mental illness in collaboration with community health agencies and authorities. Divisions of specialized care are identified to meet ongoing treatment needs that reflect multiple medical and psychiatric diagnoses. Consistent with Centers for Medicare and Medicaid (CMS), Joint Commission Standards and other applicable public acts, the environmental needs require ongoing assessment and maintenance to ensure safety and clinical functionality until a new hospital is constructed. The prevalence of clinical behaviors and medical disorders that demonstrate self-injurious acts, increased violence and medical needs have created the need for more intensive treatment and physical plant modifications to ensure safety and security measures are maintained in order to provide therapeutic activities for the patients.

II. Programming Changes

Therapeutic programmatic changes have involved the modification and the expansion of the Psychosocial Rehabilitation Program (PSR) that provide treatment for adults with chronic mental illness. The programs have an interdisciplinary approach that provides treatment focused on improving the biopsychosocial aspects for the individual patient as well as safety enhancements. The programs provide opportunities to participate in normalized roles and positive therapeutic relationships in an effort to prepare patients for community reintegration. Patient education, individual and group therapies involving recreational, occupational, music and activity therapies are planned in accordance with the person-centered plan of service. The wide range of therapeutic activities are delivered in the residential treatment areas due to the closure of the Recreation Center (Building 55). Building 27 South is currently being utilized for PSR services and two additional bathroom fixtures were installed in 2018. The annex at Building 27 North is currently used for the Adult Enrichment program.

Programmatic revisions in the therapeutic delivery system for patients with neuropsychiatric disorders are anticipated in the next five years in accordance with clinical symptomatology and staffing resources. Because this population has demonstrated increased multiple neurological, physical and mental impairments, the environment requires specialized physical modifications in order to maximize independence and ensure safety, particularly for the elderly who are often physically frail and fragile. Currently, Building 27 North provides residential accommodations for 32 patients who require this type of specialized service.

III. Facility Assessment

Caro Center consists of 36 buildings with a total square footage of 477,920 sq. ft. Building 26 was permanently closed in October 2015. All occupied houses on Private Drive and house 108 were permanently closed in April 2016. These homes, along with Murray Hall are scheduled for demolition in the summer of 2018. The Recreation Center (Building 55)

was permanently closed in May 2016. The oldest building was constructed in the early 1900's, while the newest non-residential building was constructed in the 1950's. Some residential buildings were remodeled in the 1970's to meet then existing regulatory standards for the population served. There has been no major remodeling since 1979. Several buildings on the premises of Caro Center are over 60 years old and require maintenance on an ongoing basis. Cosmetic improvements are needed more frequently to create an aesthetic environment compatible for treatment and operational support. All buildings need exterior improvements to facilitate an appropriate and safe presentation for patients, staff and visitors. The general physical condition is considered adequate. However, ongoing replacements are needed to the exterior of all buildings including windows, doors, improved parking lots, and standard cosmetic enhancements to building interiors.

Some buildings need roof replacements and improved space utilization for visitor and office space are needed to improve interior conditions.

A. Building utilization rates compared to industry standards

Caro Center is one of three public hospitals that provides adult inpatient psychiatric services to residents of the state. The current average census for mentally ill patients is 150.

B. Mandated Facility Standard for Program Implementation

The buildings in use are currently in compliance with Joint Commission and the Center for Medicaid and Medicare Services (CMS) standards but recommendations have been made to upgrade facilities and create a more home-like and safer environment for patients and staff consistent with accrediting/certifying regulatory agencies. All buildings should be upgraded to become Americans with Disabilities Act (ADA) compliant to facilitate functionality, particularly for individuals with physical disabilities.

C. Functionality of Existing Structures and Space Allocation to Program Areas Served

Buildings currently used meet the minimal necessary requirements for existing and projected space for program areas. Increased safety/security concern for patient therapeutic activities and specialized clinical needs require ongoing maintenance to address safety and active treatment needs. Minor renovations and cosmetic enhancements are made by hospital maintenance staff only if resources are available.

The physical plant in its current status continues to require repairs to improve orientation and therapeutic measures for the patients, particularly those with neurological impairments. Flooring in multiple buildings require replacement and a specialized weave in carpeted areas. Sleeping areas require sufficient storage and floor space to accommodate prosthetic devices such as wheelchairs, walkers and crutches for safe and independent mobility. Bathing, showering and toileting accommodations with prosthetic grab bars and devices are needed in each sleeping area for convenience and privacy, as well as facilitating and maintaining adult daily living skills and independence. Visiting room space is sparse to accommodate social gatherings for patients and visitors.

Shared living areas, such as dining rooms and social areas, require a more home-like atmosphere

that reflects appropriate size.

D. Replacement Value of Existing Facilities

Unknown

E. Utility System Condition

In 1989, an Energy Audit Report recommended decentralization of the Center's heating system by installing individual boilers in each occupied building. The recommendation was made because the Center's heating plant, distribution and condensate system are deteriorating. This project has been completed for several buildings on the southern part of the 650-acre campus. The water system consists of two (2) deep wells and distribution systems that currently meet Department of Environmental standards. Several improvements are being recommended by the DEQ including water main improvements. The Center is connected to the Caro municipality waste water system. The existing underground primary wire system is over the 25-year life expectancy with several failures noted in recent years. All utilized buildings should have the electrical capabilities increased to meet current demands for power particularly due to increased technology. The central air conditioning systems at Cottage 13 and Cottage 14 need to be replaced as there is no air conditioning in these buildings. Air conditioning in these buildings is provided by using window units and portable air conditioners. The remaining patient occupied buildings have partial air conditioning provided by several window units which need to be replaced by a more energy efficient central air conditioning system.

F. Infrastructure Condition

In 2004, Campus Drive and several service driveways were repaved. Most of the Center's roadways were capped with an asphalt surface several years ago. All parking lots require repair or expansion for the safety of patients, visitors and employees. Intermittent patching of these areas is inadequate thereby, creating safety hazards and potential hazards to vehicles.

G. Adequacy of Existing Utilities and Infrastructure Systems

The existing infrastructure and utilities will meet current and future projected needs once current projects are implemented. Failure to make these improvements would jeopardize continued operations and safety.

H. Energy Audit

The most recent energy audit was completed in 1989.

I. Land Capacity

Currently, all land on the main campus is utilized by the Caro Center. Local non-profit units of government and private entities have expressed interest in parcels of land that are separate from the main campus; however, these buildings continue to deteriorate

with each passing year. All utilities to these buildings have been disconnected. Several breaking and entering incidents have occurred causing damage. These incidents increase the potential of liability to the Caro Center

IV. Implementation Plan

A. Funding of $115 million was appropriated in the fall of 2017 to construct a new hospital consisting of 200 replacement beds. Plans for the structure are being developed on a 20-acre parcel on the south east part of the premises. Completion is scheduled for 2021.

B. Emergency repair improvements are being completed consisting of the following:

Partial roof replacement	27, 51
Air handler replacement	15, 16
Water main/hydrant replacement from Building 15 to Building 13	
Door repair/replacement	13, 14, 15, 16, 27
Elevator upgrade	51
Steam tunnel/road repair	63
Exterior stairwell repair	16

C. Delaying needed repairs until they become critical usually results in costlier special maintenance project costs and disruption in the hospital's mission of providing safe patient care and treatment.

CARO CENTER

Capital Outlay Five-Year Plan (Attachment E - IV.a.)

Building	Project	Brief Project Description	Facility Priority	Cost Estimate	Status	Funding Source
Caro - Buildings 1, 3, 5, 7, 9, 10, 11, 12, 17, 26, 55, 57, 101, 102, 103, 104, 106, 108, 109, 110, 112 & 114	Building Demolition	This project will enhance the safety of patients and staff as well as enhance the overall appearance of the Caro Center. These buildings have been vacant and unmaintained up to 20 years. They are becoming increasingly hazardous each year they are left standing.	1	$5,000,000	Caro- Buildings 57, 101, 102, 103, 104, 109, 110, 112 and maybe 106- to be demolished this summer	
Caro - Buildings 13, 14, 15, 16, 27, 51, 63, 66 & 68	Replace all exterior doors including frames and hardware on buildings.	This project will enhance the physical infrastructure of the buildings. Most of the exterior doors on the denoted buildings are 20 years old and are approaching or have exceeded their useful life.	2	$1,750,000		
Caro- Buildings 57, 101, 102, 103, 104, 109, 110, 112 and maybe 106	Demolitions	Scheduled demolitions for Summer 2018		TBD		

Five-Year Capital Outlay Plan Components (FY18)

I. Mission Statement

The Center for Forensic Psychiatry's (CFP) mission is to provide quality forensic mental health services to individuals and the Michigan court system.

II. Programming Changes

There are no major program changes planned.

III. Facility Assessment

The CFP is a 357,000 square foot facility consisting of *four* buildings. The main buildings opened in 2005. The main building comprising 347,554 sq. ft. is a two-story structure constructed of masonry, brick, concrete, and steel. The physical exterior of the building is in very good condition.

CFP is requesting funding to build an on grounds kitchen and dining room to serve the patients. Currently, we are contracting with a vendor that is preparing the patient meals at Walter Reuther Hospital and transporting the meals to the center.

a. Building utilization rates compared to industry standards:

The CFP, which is Michigan's sole certified forensic facility, conducts evaluations for all the district and circuit criminal courts in the state's 83 counties pursuant to state statutory requirements. The center is a 240-bed psychiatric facility that provides both diagnostic services to the criminal justice system and psychiatric treatment for criminal defendants adjudicated as incompetent to stand trial and/or acquitted due to insanity.

b. Mandated facility standards for program implementation, where applicable (such as federal/industry standards for laboratory facilities, hospitals, compliance with consent decrees, etc.):

The CFP maintains its accreditation by the Joint Commission and its certification by the Centers for Medicare and Medicaid Services (CMS).

c. Functionality of existing structures and space allocation to program areas served:

The facility is adequate to meet the current and projected needs of the program.

Main Building - 347,554 sq. ft. (Main Hospital)

Storage Building - 4,000 sq. ft.
Bar Screen Building - 1,440 sq. ft
Warehouse - 4006 sq. ft.

d. Replacement value of existing facilities (insured value of structure to the extent available):

Unknown.

e. Utility system condition (for example, healing, ventilation, and air conditioning (HVAC), water and sewage, electrical, etc.):

The electrical system at CFP is powered from two primary distribution systems provided by Detroit Edison. The system is in very good condition. The emergency power is provided from two 1000KV generators that supply all life safety, critical power and equipment branch power. The facility's emergency power load is approximately 600KV. The system is in very good condition, however, the manufacturer timeframe to implement preventative maintenance on the automatic transfer switches has been met.

The heating and ventilation system is in fair condition. Existing heating valves are failing. The facility staff has been replacing them, about 35 to date, but the frequency of failures is increasing as there are over 600 installed in the building. Also, all the heating piping though out the power plant and the facility has started to leak at the Victaulic fittings. We have started to replace them and to date, we have spent about $80,000. The increased frequency of leaks could potentially become an infection control concern (mold).The main building cooling chillers are approaching their end of life cycle within the next five years.

CFP has a lift station/ bar screen building that handles all the sewage from the facility. CFP is in final stages of the solution for addressing the handling of the bio waste by CFP staff.

f. Facility infrastructure condition (for example, roads, bridges, parking structures, lots, etc.):

The entire parking lot and all driveways were repaired and sealed in the summer of 2015. We are crack sealing and seal coating all the asphalt this summer 2018. The cracks should be sealed ever year but because of the cost it only has been done every three years which shortens the life expectancy. The asphalt in the handicap parking lot needs to be removed and replaced. A paved fire road needs to be installed inside the secured fence to ensure that fire trucks can access all the facilities fire hydrants in the event of an emergency.

The facility has four elevators that are in good working condition.

g. Adequacy of existing utilities and infrastructure systems to current and five-year projected programmatic needs:

The utilities systems are currently adequate.

h. Date of most recently completed energy audit, and, if an energy audit has yet to be completed, what is the plan/schedule for doing so?

Last energy audit was in 2006.

i. Land owned by the agency, including a determination of whether capacity exists for future development, additional acquisitions are needed to meet future demands, or surplus land can be conveyed for a different purpose:

The CFP is located on approximately 54 acres in Saline. If there were a need to expand, there is space to do so. Space or open ground around the facility is needed to maintain the privacy and safety of the patients.

IV. Implementation Plan

a. Itemized listing of major capital projects by priority, including brief description and estimated cost. *(Adjust previously developed or prior year's figures utilizing industry standard CPI indexes where appropriate):*

1. ***Build a Facility Kitchen ($8,000,000)*** - To ensure the safety of the meals the patients are being served. Currently, we are contracting with a vendor that is preparing the patient meals at Walter Reuther Hospital and *transporting* the meals to the center.

2. ***Anti-Ligature ($800,000)*** - We need to continue the risk assessment of the patient care areas and remove and/or replace items that could be identified by CMS or The Joint Commission as risks.

3. ***Upgrade Fire Alarm System ($100,000)*** – The computer is operating on "Windows 98" and needs to be replaced.

   Install Fire Roadway Inside Secured Fence ($500,000) – Install paved road to ensure fire trucks can access all the facility's fire hydrants in the event of an emergency.

4. ***Replace Heating Control Valves and heating system Victaulic fitting. ($850,000)*** --Existing valves and Victaulic fitting are failing. The increased frequency of leaks could potentially become an infection control concern (mold).

5. ***Automatic Transfer Switches, Sub Stations and Primary Transformers. ($400,000)*** – Perform Preventive Maintenance on all the automatic transfer switches, substations and primary transformers for the emergency power system and the primary power system. Recommended manufacturer timeframe to implement preventative maintenance has been met.

6. ***Modify Bar Screen Building Roof ($75,000)*** -The roof needs something to prevent heavy snow from sliding off and onto someone entering building. This is a safety hazard.

7. ***Parking Lot Maintenance ($25,000 annually; $50,000 bi-annual)*** - Perform maintenance on the parking areas to ensure the safety of visitors and staff. This needs to be done annually. Crack sealing annually. Seal coating biannually. If not done it shortens the life expectancy.

8. ***Repair Terrazzo Flooring ($300,000)*** – Due to cracking and missing pieces, the terrazzo flooring needs repairs to prevent trips and falls in our main street area (patient activities area) and tweener area leading to the units.

9. ***Replace Audio Visual Systems ($500,000)*** – The AV systems in the Auditorium, Bureau and Conference Rooms are out dated. It's hard to hold conferences and seminars as the system equipment is not compatible to the current software and operating systems.

10. ***Replace Handicap Parking Lot ($700,000)*** – All asphalt needs to be removed and replaced due to ongoing cracking and heaving; which, creates a safety risk and the potential of not meeting ADA requirements.

    Repave Service Area ($500,000) – Replace the asphalt and redesign docking area based on usage and the increased traffic in the area.

11. ***Replace the Building Security System (PLC) ($400,000)*** – The Allen Bradley Programmable Logic Controllers (PLC) are at the end of life for support and replacement.

12. ***Replace Carpet in Non-Patient Areas (($500,000) –*** Carpet in non-patient areas is becoming worn, discolored and frayed.

13. ***Replace Main Building Cooling Chillers ($900,000)*** – Units are approaching their end of life cycle. In need of replacement to eliminate future high maintenance costs and reliability.

14. ***Replace all Parking Lot and outside building lighting with LED lights. ($250,000)*** - LED lighting is more efficient. The saving on the energy cost and maintenance upkeep will pay for the cost.

15. ***Building landscaping renovation ($100,000)*** - The existing landscaping is unsightly and unappealing. If replaced with a lower annual maintenance requirement type, it would give the facility a new look and feel that could be enjoyed by the visitors, employees and the community.

b. Define the impact of addressing deferred maintenance and structural repairs, including programmatic impacts, immediately versus over the next five years:

   Failure to provide special maintenance or capital outlay funding to maintain the facility creates increased facility repair costs, unnecessary demands on facility maintenance staff, and potential health and safety problems for staff, patients, and visitors. The CFP is a 24-hour psychiatric hospital and must maintain a secure, safe, and functioning facility for patients, staff, and visitors.

c. Identify, to the extent possible, a rate of return on planned expenditures. This could be expressed as operational savings that a planned capital expenditure would yield in future years.

   Delaying needed repairs until they become critical generally results in costly special maintenance and/or capital outlay project funding and longer disruption to the CFP mission of providing psychiatric treatment to patients.

CENTER FOR FORENSIC PSYCHIATRY (CFP)

Capital Outlay Five-Year Plan (Attachment E - IV.a.)

Building	Project	Brief Project Description	Facility Priority	Cost Estimate	Status	Funding Source
CFP	Build a Facility Kitchen	To ensure the safety of the meals the patient are being served.	1	$8,000,000		
CFP	AntiLigature	We need to continue the risk assessment of the patient care areas and remove/or replace items that could be identified by CMS or The Joint Commission as risks.	2	$800,000		
CFP	Install Fire Roadway Inside Secured Fence & Upgrade Fire Alarm System	Install paved road to ensure fire trucks can access all of the facility fire hydrants in the event of an emergency. The computer is operating on windows 98 and needs to be replaced.	3	$600,000		
CFP	Replace Heating Control Valves & heating system Victaulic fittings.	Existing valves and Victaulic fitting are failing. The increased frequency of leaks could potentially become an infection control concern (mold).	4	$850,000		
CFP	Automatic Transfer Switches, Sub Stations and Primary Transformers.	Perform Preventive Maintenance on all the automatic transfer switches, substations and primary transformers for the emergency power system and the primary power system. Recommended manufacturer timeframe to implement preventative maintenance has been met.	5	$400,000		
CFP	Modify Bar Screen Building Roof	The roof needs something to prevent heavy snow from sliding off and onto someone entering building. This is a safety hazard.	6	$75,000		
CFP	Parking Lot Maintenance	Perform maintenance on the parking areas to ensure the safety of visitors and staff. This needs to be done annually. Crack sealing annually. Seal coating biannually. If not done it shortens the life expectancy.	7	$25000 annually $50000 biannual		
CFP	Repair Terrazzo Flooring	Due to cracking and missing pieces, the terrazzo flooring needs repairs to prevent trips and falls in our main street area (patient activities area) and tweener area leading to the units.	8	$300,000		
CFP	Audio Visual Systems	The AV systems in the Auditorium,Bureau and Conference Room are out dated. It's really hard to hold conferences and seminars as the system equipment is not compatible the current software and operating systems.	9	$500,000		
CFP	Replace Handicap Parking Lot Service Area	All asphalt needs to be removed and replaced due to ongoing cracking and heaving; which, creates a safety risk and the potential of not meeting ADA requirements. Replace the asphalt and redesign docking area based on usage and the increased traffic in the area.	10	$1,200,000		
CFP	Replace the Building Security System PLC's	The Allen Bradley PLC are at the end of life for support and replacement.	11	$400,000		
CFP	Replace Carpeting in Non-Patient Areas.	Carpet in non-patient are is becoming worn, discolored and frayed.	12	$500,000		
CFP	Replace Main Building Cooling Chillers	Units are approaching their end of life cycle. In need of replacement to eliminate future high maintenance costs and reliability.	13	$900,000		
CFP	Replace all Parking Lot and outside building lighting with LED lights.	LED lighting is more efficient. The saving on the energy cost and maintenance upkeep will pay for the cost.	14	$250,000		
CFP	Building landscaping renovation	The existing landscaping is unsightly and unappealing. If replaced with a lower annual maintenance requirement type, it would gave the facility a new look and feel that could be enjoyed by the visitors, employees and the community as a whole.	15	$100,000		

CENTER FOR FORENSIC PSYCHIATRY (CFP)

Capital Outlay Five-Year Plan (Attachment E - IV.a.)

Building	Project	Brief Project Description	Facility Priority	Cost Estimate	Status	Funding Source
CFP	Food Carts & Anti-Ligature	Replace Aging Food Carts/Chiller System & Anti-Ligature		$1,446,000	In Progress	Split 50/50: 2016 LSSM Allocation & 2016 Agy Operating Funds 391/16265.APL
CFP	Domestic Hot Water System	The CFP building was designed without hot water return piping from the patients units. To ensure proper and safe water temperature at all times, a hot water return piping system needs to be installed.		$200,000	In Progress	2017 LSSM Allocation 391/17164.APL
CFP	Various	See projects listed below: ($2,170,000 plus DTMB fees)		$2,554,090		2016 Agy Operating Funds Proj #: 391/16443.APL
CFP	Anti-Ligature	Anti-Ligature in bathrooms and showers.		$355,000	In Progress	391/16443.APL
CFP	Anti-Ligature: Replace Patient Furniture	Replace worn out patient beds and chairs which is now an infection control and safety problem for the patients at CFP.		$445,000	In Progress	391/16443.APL
CFP	Upgrade Emergency Energy Source	Replace Propane Emergency alternative energy source to ensure reliability.		$200,000	In Progress	391/16443.APL
CFP	Reglazing Building Envelope	Replace all deteriorated glazing and caulking to ensure the thermal efficiency and water integrity is maintained on the building exterior.		$75,000	In Progress	391/16443.APL
CFP	Replace Bathroom Exhaust Diffusers, Clean and Balance the Exhaust System Serving the Patient Units.	Replace the steel ceiling diffusers with stainless steel, clean and balance the exhaust system that serves the patient units at CFP ensure its maintaining system efficiency.		$150,000	In Progress	391/16443.APL
CFP	Replace Chilled Water Filter System	In need of replacement to eliminate future high maintenance problem and costs.		$85,000	In Progress	391/16443.APL
CFP	Parking Lot Maintenance	Perform maintenance on the parking areas to ensure the safety of visitors and staff.		$50,000	In Progress	391/16443.APL
CFP	Repair/Replacement of Cooling System #7 Ice Tank	The CFP facility has a Thermal Energy Storage System that has seven ice tanks that match building cooling load. Part of tank #7 needs repair to maintain the cooling capacity of the system.		$200,000	In Progress	391/16443.APL
CFP	Add Cooling Chillers to the Building Emergency Generator Power.	The CFP building has a limited number of outside windows. In a long term power outage during the summer months, the building will not be able to maintain the proper air quality standards unless the cooling chillers are added to the building emergency generator power.		$250,000	In Progress	391/16443.APL
CFP	Various	Cement Repairs		$300,000	In Progress	391/16443.APL
CFP	Various	Window/Tempered Glass		$60,000	In Progress	391/16443.APL

I. MISSION STATEMENT AND PROGRAM DESCRIPTION

The mission of Hawthorn Center is to provide children and adolescents with evidence based/supported and trauma-informed inpatient mental health services that meet the highest standards of quality in the context of an integrated, patient centered, wellness oriented, pro-active safety culture.

Hawthorn Center is the only state hospital that offers inpatient psychiatric care to emotionally impaired and mentally ill children and adolescents who are residents of the State of Michigan.

Hawthorn Center treats children and adolescents who have a severe mental illness and serious emotional disturbances. Most of the patients have longstanding histories of trauma, extreme difficulties in functioning at home, in school, and in the community. Almost all have had previous mental health interventions, including multiple inpatient treatment episodes, and many have a variety of medical complications.

An interdisciplinary team provides treatment, with the goal to provide a client centered and trauma informed/integrated treatment approach that includes individual psychotherapy, psychoeducation, milieu and activity therapy (both in hospital and outside community), individualized special education experience, psychopharmacology treatment and family treatment. Behavior treatment plans are developed when therapeutically indicated.

Currently, there are four active patient units with a capacity of 14 patients per unit, or 56 patients for the hospital. The physical plant does have two additional units that are located in the administrative (Main) portion of the hospital that are not being utilized due to their physical condition. Each one of these areas have the capacity to house an additional 14 patients per unit but would require extensive overhaul including modernizing and creating barrier free bathrooms, and showers, improving site lines for patient safety, removing potential ligature risks, and updating bedroom and common room furniture.

The hospital's current spending plan, condition of the physical plant, and behavioral exigencies permit up to 56 patients in four units.

The Hawthorn Center has a certified school on site to meet the special education needs of the children and adolescents.

Hawthorn Center's mission statement also makes clear the facility's commitment to integrated patient safety systems. An integrated patient safety system is a health care organizational safety infrastructure that supports the following:

- A learning organization culture;
- A fair and just safety culture;
- A robust quality improvement system that collects data, analyzes data, uses data to inform decisions, and reports findings;
- Validated methods to improve processes and systems;
- A proactive approach to risk reduction;
- Standardized ways for interdisciplinary teams to communicate and collaborate;
- Safely integrated technologies;
- A patient centered approach that encourages patient and family activation in the safety process

II. PROGRAMMING CHANGES

Hawthorn Center mission statement indicates a commitment to respond to the changing needs of the service community. All admissions, other than Incompetent to Standard Trial admissions, require Community Mental Health Authority approval and involvement during patient stay and discharge planning bearing the responsibility for post discharge treatment. Hawthorn Center accepts both long-term patients and short-term patients.

In recent years, the problems of the patients have become much more complex - they have more severe mental illness, extreme behaviors, co-morbid developmental and medical conditions. There are a number of patients with minimal or no family contact, and there are patients who are the responsibility of the Michigan Department of Health and Human Services and/or have involvement with the juvenile/family court system. There are also adolescents with court ordered treatment due to incompetence to stand trial (IST) and not guilty for reasons of insanity (NGRI). As a result of these changes in the nature of our patient population, the average length of stay has increased from about 89.9 days in FY 15-16 to about 135.3 days this current fiscal year. Consequently, throughput has diminished with decreasing numbers of admissions per year, and longer waiting lists.

In order to better meet the needs of our population, we have developed a Transitional Unit for youth who still need hospital level care but who are awaiting return home while sophisticated after care plans are developed. Without such sophisticated aftercare plans, youth are prone to psychiatric hospitalization re-admission. Children's Behavioral Action Team helps to develop these sophisticated plans and technically assists the community in maintaining them. Children's Behavioral Action Team is housed at Hawthorn Center and supervised by Hawthorn Center Medical Staff.

Hawthorn Center has also developed a Developmental Behavioral Unit for children that have been diagnosed with severe developmental/behavioral problems (Autism Spectrum Disorder and Intellectual and Developmental Disability). This unit specializes in the use of applied behavior analysis for the care and treatment of this very challenging population. This requires a very structured and staff intensive treatment environment as well as specialized educational programming.

III. FACILITY ASSESSMENT

Subjective Narrative:

Hawthorn Center is comprised of Main Building (North Wing) which houses two patient living areas that are currently unoccupied, and the South Wing which houses four patient living units that are currently occupied. The facility is about 250,000 square feet on about 45 acres.

The Main Building was built in 1955 and is a two-story structure constructed of masonry, brick, concrete, and steel. This includes A, B, C, and D sections. E, F and G sections were added to the Main Building in 1962, 1964, and 1967. This building houses two closed patient living areas, clinical, business, and administrative offices, Office of Recipient Right offices, support service areas such as the Main Kitchen and a Maintenance Shop, recreational facilities such as a gym, movie theater, and swimming pool, classrooms for the Special

Education services and storage space. All but the closed living areas are used.

The South Wing was built in 1975 and is a two-story structure constructed of masonry, brick, concrete and steel and is attached to the Main Building. The South Wing includes H, J, K, L, and M sections. The building houses four patient living areas, reception and visiting area, classrooms for Special Education services, clinical office space, kitchen, swimming pool and gym. It is in somewhat better condition than the Main portion. A project to install a new roof on South Wing was completed in 2009.

Both structures are settling resulting in regular and serious foundation and plumbing problems. Asbestos abatement is necessary in both structures in order to make even surface improvements. Heating, ventilation, and cooling systems are manually operated making it very difficult to manage comfort. As a whole, due to adjacency issues, the facility is not conducive to current medical community expectations for behavioral care, treatment, and services.

In FY17, funding was approved for the following:

- Risk Mitigation Building Project: A proactive risk analysis had identified areas as presenting potential ligature/safety risks to the population being served. Areas that were addressed in this project included: Seclusion Room bathrooms, Sick Bay bathrooms, Common Area ligature management (door knobs), Locker Rooms, School bathrooms, Lobby bathrooms.
- Infection Control: All bedroom furniture which was over 15 years old and constructed from pressed board was replaced with plastic furniture helping to address cleanliness with patients that are incontinent of urine and/or feces as well as infection control concerns with bedroom furniture constructed of wooden pressed board.
- Infection Control: The carpeting on the four living areas that are located in the South Wing was replaced with vinyl flooring to address an infection control concern being created by patients that are incontinent of urine and/or feces making it easier to maintain a clean and sanitary environment.
- Hospital Safety: The steps and sidewalk leading from the school courtyard to the parking lot are in disrepair causing a tripping/safety hazard for both patients and staff and are being replaced.
- Boiler replacement "C": The primary boiler in "C" machine room was replaced as it had previously failed and was off-line.
- The utility road in the back of the hospital will be milled and repaved to allow access to the generator, and other equipment.
- Utility barn is being constructed for housing hospital equipment such as tractors and lawn equipment.
- A concrete threshold leading to one of the hospital's entrances as well as the foundation support beam for the entrance was deteriorating and was replaced.

<u>Specific Narrative:</u>

a. Building utilization rates compared to industry standards - Hawthorn Center is the only state hospital that offers inpatient psychiatric care to children and adolescents (ages 4

through 17) who have a serious emotional disturbance or severe mental illness who are residents of the State of Michigan.

b. Mandated facility standards for program implementation - Hawthorn Center maintains its accreditation with Joint Commission for Accreditation of Healthcare Organizations. Further, it is monitored by the state Medicaid Office for compliance with the Centers for Medicare and Medicaid Services (CMS) guidelines.

c. Functionality of existing structures and space allocation to program areas served -There are two gyms, two swimming pools, two occupational therapy rooms, a music therapy room, an art room, and dance therapy. In addition, there are patient care areas, a school, and dining space. These are all separate, presenting significant line of sight and adjacency issues which make safe and modern behavioral programming challenging.

d. Replacement value of existing facilities - $65 million

e. Utility system condition - Electrical service to the Main Building was designed and installed 60 years ago. During FY2003, a 500 KVA transformer replaced an undersized 225 KVA transformer.

   As a result of the Separation of Utility Services Project at Hawthorn Center in 2006, heat in the Main Building and South Wing is provided from gas fired boilers that produce hot water that is used for radiant heat and domestic use. The HVAC system in the South Wing is 42 years old. The HVAC systems in both buildings are manual/pneumatic making it near impossible to maintain consistent comfort. Hawthorn Center has received several Recipient Rights complaints specifically related to significant temperature fluctuations in the building especially during weather/temperature transitions. Energy efficiency and pneumatic controls still need to be upgraded.

   The Main Building had completed an overhaul of the HVAC system on the second floor in FY2002. The overhaul of the first floor HVAC started with the replacement of windows in FY2003. Funding is needed to complete the first floor HVAC project.

   A full building inspection of sewage waste lines is necessary due to the building subsidence mentioned earlier. Two fractured lines have been repaired this FY16.

f. Facility infrastructure condition – the Main building roof has passed its' useful life and is currently ponding and leaking into the building. This creates potential health and safety hazards.

g. Adequacy of existing utilities and infrastructure systems to current and five-year projected programmatic needs – The utilities and infrastructure systems in this post-World War II structure are failing. As noted earlier, the manually controlled pneumatic HVAC system cannot provide consistent comfort for staff and patients. Further, the structure is subsiding resulting in damage to foundation and plumbing. Finally, adjacency issues make safe provision of behavioral treatment, care and services a challenge. Foundations are failing. Transformer(s) are aging, storm drain and sewer system is old and needs examination/repair. As noted previously, Hawthorn Center's

Main building was built over 60 years ago. Plumbing consists of galvanized pipe. Decades of exposure to water have caused galvanized pipes to corrode and rust on the inside seriously reducing water flow and quality. Some of the galvanized plumbing has rusted through causing leaks. The galvanized plumbing in the hospital's Main building should be replaced eliminating potential exposure from leaching pipes. In a new study researchers clearly show that lead present in the zinc coating of galvanized steel pipes can be a very significant long-term source of lead in water. Recently, a new dishwasher was installed in the Main building. All new plumbing had to be run to the dishwasher as the old galvanized pipes were too occluded to provide proper water flow,

h. Date of most recently completed energy audit - February, 2009

i. Land owned by the agency - Hawthorn Center is located on approximately 45 acres. If there were a need to expand, there is space to do so, particularly after the cottages were demolished. When cottages are torn down, the space could be used to build a Storage Pole Building/Green House. Space or open ground around the facility is needed to maintain the privacy and safety of the patients.

j. Conclusions – given the exigencies noted above, consideration needs to be given regarding viability of the structure where behavioral treatment, care and services are rendered.

IV. IMPLEMENTATION PLAN

Project Title: Safety and Security: Replace Mortise Locksets Project

Estimated Costs: $750,000

Project Description: Replace 60 year old mortise locksets and keys that are used throughout the hospital.

The mortise locksets and cylinders that are currently used throughout the hospital are over 60 years old and replacement parts are no longer manufactured. This is beginning to create both a safety and security risk to building occupants as keys or locksets fail. Replace mortise locksets throughout the entire hospital. This project has been funded with agency funds.

Project Title: Safety and Security: Keyless entry. Proximity card access to key hospital access points.

Estimated Costs: $250,000

Project Description: Expand keyless entry/computerized system that uses proximity cards to allow access to secure locations throughout the hospital. Approximately 60 doors would have this system installed. Networked through hospital camera security system to add/remove access rights. This project has been funded with agency funds.

Project Title: Main Building Renovations

Estimated Costs: $7,225,000

Project Description: Hawthorn Center currently has two unoccupied living areas that are located in the Main Building. The following would be needed in order to make these areas suitable for patient care: new bedroom suites, new TV room furniture, new office furniture, bathroom/shower renovations, ligature mitigation, remove carpet and replace with vinyl flooring, install video surveillance, upgrade electric system (both living areas and A/G sections), upgrade plumbing (from galvanized to PEX pipes), paint rooms/hallways, demolish and move staff office to improve sight lines, install redundant boiler per requirements (engineering study for this has already been conducted by Century A & E); Main Building lobby renovations including removal of carpet (replace with vinyl), section off lobby from administrative offices, install reception desk, replace lobby furniture, remove display cabinets, install new lighting, security cameras, and new ceiling; A Section upgrades to classrooms, includes removal of asbestos tiles (replacement with vinyl), upgrade electrical, install new lighting (LED), install new windows, install air conditioning, paint walls and ceilings; Central Playground play area install security fencing with tip-ins and add playscape; install central air conditioning in Main building upper floor – cafeteria, pharmacy, children's library, A/G-section offices (air conditioning in these areas is limited and provided by window units where possible). Replace carpet in administrative lower floor halls and offices and section of offices, pharmacy, children's library and patient activity/training rooms and the Office of Recipient Rights area on second floor. This project has been funded with agency funds except for the galvanized piping portion of the project which has been funded with FY19 Lump Sum Special Maintenance funds.

Priority 1

Project Title: South Wing Lobby

Estimated Costs: $120,000

Project Description: Install visitor lockers, install security cameras (hospital entrance with video connect to switchboard and central nursing office; visiting rooms, admission room, South Wing Main Conference room), replace lobby furniture which is over 20 years old and presents an infection control risk.

Priority 2

Project Title: Replace Exterior Doors

Estimated Costs: $30,000

Project Description: Exterior doors/frames are beginning to wear and become not serviceable, includes High school entrance, Maintenance Dept., Day School Lobby to Courtyard, High school to Courtyard.

Priority 3

Project Title: Replace Hospital Lobby Furniture/South Wing

Estimated Costs: $50,000

Project Description: Replace furniture in the lobby and visiting rooms. Furniture is 20 years old and present an infection control risk.

Priority 4

Project Title: G Section Hallway and Classrooms

Estimated Costs: $500,000

Project Description: Replace ceiling tiles, upgrade lighting to LED, paint hallway and classroom walls, abate asbestos flooring/replace with vinyl.

Priority 5

Project Title: Renovate Day School Lobby

Estimated Costs: $50,000

Project Description: Remove desk/cabinets, replace doors leading to High School, remove carpet, paint walls and floor.

Priority 6

Project Title: Air Conditioning - Main Building First Floor

Estimated Costs: $1,650,000

Project Description: Air condition north wing, first floor – administrative offices, intern and resident offices, training area. Current air conditioning provided by window units.

Priority 7

Project Title: Replace Loading Docks

Estimated Costs: $60,000

Project Description: Safety Risk: Loading docks are in disrepair, one has been closed as it is unsafe for staff.

Priority 8

Project Title: Window Privacy film – South Wing living areas

Estimated Costs: $35,000

Project Description: Patient Safety/Privacy; patient bedrooms and living area common areas: install privacy film and glass guard on second floor windows in M, K, L, and classroom wings.

Priority 9

Project Title: Laundry Equipment

Estimated Costs: $25,000

Project Description: Replace industrial washers and dryers.

Priority 10

Project Title: South Wing Kitchen Equipment

Estimated Costs: $50,000

Project Description: Replace range, dishwasher, and refrigeration unit, replace plumbing for grease trap.

Priority 11

Project Title: Day School Courtyard

Estimated Costs: $60,000

Project Description: Replace gate and metal grating

Priority 12

Project Title: South Wing Gym

Estimated Costs: $7,000

Project Description: Refinish gymnasium floor

Priority 13

Project Title: Upgrade HVAC System

Estimated Costs: $5,000,000 to $8,000,000

Project Description: Install energy management system; replace pneumatic system with Direct Digital Control system, replace air-handlers, remove cellulose fibers from ductwork in South Wing.

Priority 14

Project Title: Repave Parking Lot

Estimated Costs: $1,500,000

Project Description: Rebuild subbase to improve drainage, install retention pond, apply new asphalt, rebuild curbs where needed.

HAWTHORN

Capital Outlay Five-Year Plan (Attachment E - IV.a.)

Building	Project	Brief Project Description	Facility Priority	Cost Estimate	Status	Funding Source
Hawthorn Center	**Safety and Security Risk.** Southwing Lobby	Install visitor lockers, install security cameras (hospital entrance with video connect to switchboard and central nursing office; visiting rooms, admission room, Southwing Main Conference room)	1	$70,000		
Hawthorn Center	Replace Exterior Doors	High school entrance, Maintenance Dept., Day School Lobby to Courtyard, High school to Courtyard	2	$30,000		
Hawthorn Center	**Infection Control Risk.** Replace Hospital Lobby Furniture/South Wing	Replace furniture in the hospital lobby and visiting rooms. **Furniture is over 20 years old and presents an infection control risk.**	3	$50,000		
Hawthorn Center	G Section Hallway and Classrooms	Replace ceiling tiles, upgrade lighting to LED, paint, abate asbestos flooring/replace with vinyl	4	$500,000		
Hawthorn Center	Renovate Dayschool Lobby	Remove desk/cabinets, replace doors leading to High School, remove carpet, paint walls and floor	5	$50,000		
Hawthorn Center	Air Conditioning - Main Building First Floor	Air condition north wing, first floor – administrative offices, intern and resident offices, training area. Current air conditioning provided by window units.	6	$1,650,000		
Hawthorn Center	**Safety Risk.** Replace loading docks	Loading docks are in disrepair, one has been closed as it is unsafe for staff	7	$60,000		
Hawthorn Center	Window Privacy film – South Wing living areas	Patient bedrooms and living area common areas: install privacy film and glassguard on second floor windows in M, K, L, and classroom wings.	8	$35,000		
Hawthorn Center	Laundry	Replace washers and dryers	9	$25,000		
Hawthorn Center	South Wing Kitchen	Replace range, dishwasher, refrigeration unit, replace plumbing for grease trap	10	$50,000		
Hawthorn Center	Dayschool Courtyard	Replace gate and metal grating	11	$60,000		
Hawthorn Center	Southwing Gym	Refinish floor	12	$7,000		
Hawthorn Center	Upgrade HVAC System	Install energy management system; replace pneumatic system with Direct Digital Control system, replace air-handlers, remove cellulose fibers from ductwork in Southwing	13	$5,000,000 to $8,000,000		
Hawthorn Center	Repave Parking Lot	Rebuild subbase to improve drainage, install retention pond, apply new asphalt, rebuild curbs where needed.	14	$1,500,000		
Hawthorn Center	LED Lighting	Upgrade all hospital flourescent lighting to LED lights	15			
Hawthorn Center	Install Elevator/Main Building	Install elevator on first floor	16			
Hawthorn Center	Equipment Storage Building		17	$500,000		

Hawthorn Center	Building Demolition	Demolish Cottages 1,2,3,4,5			Completed	2016 LSSM & 2016 Agy Operating Funds 391/16189.APL
Hawthorn Center	Replace Carpet/Flooring Main Building	Carpet administrative lower floor halls and offices and section of offices, pharmacy, children's library and patient activity/training rooms and the Office of Recipient Rights area on second floor. This was last done more than two decades ago.		$300,000	In Progress	FY 18- LSSM 491/18068
Hawthorn Center	Anti-ligature	Secondary ligature risks not addressed in FY16-17 MOP. (Missed Door Knobs and other identified risks)		$500,000	In Progress	FY18 LSSM 491/18065.APL
Hawthorn Center	**Life Safety/Fire**	Install fire dampers on L1, K1, L2, K2 hallways		$70,000	In Progress	Agency Operating funds 491/18216.SDW
Hawthorn Center	Courtyard step demolition/replacement	Safety hazard. Steps and sidewalk leading from the school courtyard are in disrepair. Although the steps have been patched, they continue to deteriorate causing a tripping hazard for both patients and staff. Steps leading from the school to the parking lot should be replaced.		$150,000	In Progress	2017 LSSM Allocation Proj #: 391/17162.APL combine with Agy MOP Proj #: 391/16444.APL

HAWTHORN

Capital Outlay Five-Year Plan (Attachment E - IV.a.)

Building	Project	Brief Project Description	Facility Priority	Cost Estimate	Status	Funding Source
Hawthorn Center	Replace Bedframes, Wardrobes, Desks	Furniture in the hospital is over 15 years old. All bedroom furniture is constructed from pressed board. Laminate on the furniture is beginning to deteriorate creating an infection control and safety concern. Several patients are incontinent which increases cleanliness and infection control concerns with bedroom furniture constructed of wooden pressed board.		$157,000	In Progress	2017 LSSM Allocation Proj #: 391/17199.AGY
Hawthorn Center	Various	See Below $2,300,000 plus DTMB fees:		$2,848,340		391/16444.APL
Hawthorn Center	Anti-Ligature Safety	Anti-ligature and Safety Risk Mitigation and partially renovate locker rooms and showers located in the South wing and gym.			In Progress	2016 Agency Funds 391/16444.APL
Hawthorn Center	Boiler Replacement	Boiler replacement "C": The primary boiler has failed and is no longer on-line. Heat is being provided to three main sections (A, B, and C) of the hospital with a back-up boiler system which does not sufficiently heat these sections. If this back-up system fails, these sections of the hospital would no longer be heated. Century A&E has already done an engineering study for the replacement of the boiler.			In Progress	2016 Agency Funds 391/16444.APL
Hawthorn Center	Courtyard step demolition/replacement	Safety hazard. Steps and sidewalk leading from the school courtyard are in disrepair. Although the steps have been patched, they continue to deteriorate causing a tripping hazard for both patients and staff. Steps leading from the school to the parking lot should be replaced.			In Progress	2017 LSSM Allocation Proj #: 391/17162.APL combine with Proj #: 391/16444.APL
Hawthorn Center	Paving	Utility Access Road in back of Hospital - Need accessable roadway to generator, tractors			In Progress	2016 Agency Funds 391/16444.APL
Hawthorn Center	Storage	Construct new barn for storage needs.			In Progress	2016 Agency Funds 391/16444.APL
Hawthorn Center	Flooring	Replaced carpet with vinyl flooring in hallways.			In Progress	2016 Agency Funds 391/16444.APL
Hawthorn Center	Flooring	Cafeteria tile replacement			Completed	Hospital Funds
Hawthorn Center		Feasibility study of sewer line			Completed	Hospital Funds
Hawthorn Center	Replace 60 year old mortise locksets and keys that are used throughout the hospital.	The mortise locksets and cylinders that are currently used throughout the hospital are over 60 years old and replacement parts are no longer manufactured. This is beginning to create both a safety and security risk to building occupants as keys or locksets fail. **Replace mortise locksets throughout the entire hospital.**		$750,000		Agency Funds: MOP 391/16444
Hawthorn Center	Keyless entry. Proximity card access to key hospital access points.	Expand keyless entry/computerized system that uses proximity cards to allow access to secure locations throughout the hospital. Approximately 60 doors would have this system installed. Networked through hospital camera security system to add/remove access rights.		$250,000		Agency Funds: MOP 391/16444
Hawthorn Center	Safety Risk. Replace galvanized plumbing - Main Buliding	Hawthorn Center's Main building was built over 60 years ago. Plumbing consists of galvanized pipe. Decades of exposure to water have caused galvanized pipes to corrode and rust on the inside seriously reducing water flow and quality. Some of the galvanized plumbing has rusted through causing leaks. **Replace galvanized plumbing in hospital Main building eliminating potential exposure from leaching pipes. In a new study researchers clearly show that lead present in the zinc coating of galvanized steel pipes can be a very significant long-term source of lead in water.**		$750,000		FY19 Enterprisewide Special Maintenance
Hawthorn Center	**Main Building Renovations- Listed below:**			$8,288,900		Agency Funds

HAWTHORN
Capital Outlay Five-Year Plan (Attachment E - IV.a.)

Building	Project	Brief Project Description	Facility Priority	Cost Estimate	Status	Funding Source
	Living Area Renovations	Hawthorn Center currently has two unoccupied living areas that are located in the Main Building. The following would be needed in order to make these areas suitable for patient care: new bedroom suites, new TV room furniture, new office furniture, bathroom/shower renovations, remove carpet and replace with vinyl flooring, install video surveillance, upgrade electric system, upgrade plumbing, paint rooms/hallways, demolish and move staff office to improve sight lines		$1,700,000		
	Air Conditioning - Main Building Upper Floors	Air condition Main building first floor lobby and A section classrooms. Current air conditioning provided by window units.		$1,750,000		
	Roof Replacement A, B, C, D, E, and F sections	Roof Replacment - Roof is currently in disrepair requiring monitoring and patching. Water is ponding on roof. Delaying project increases risk of mold.		$1,000,000		
	Redundant Boiler for Living Areas	Joint Commission requires that a suitable back-up system be installed. Engineering study has been conducted by Century A & E		$150,000		
	Safety and Security - Outside Perimeter	Install tip-ins to current fenced play area; fence Central Playground with security fencing and add playscape		$400,000		
	Electrical Upgrade	Living Areas - St. Clair and Superior, also A and G sections.		$175,000		
	Anti-ligature (Missed Door Knobs and other identified risk)	Secondary ligature risks not addressed in FY17-18 MOP (A and G sections)		$500,000		
	A Section Classrooms	Update A section classrooms, includes removal of asbestos tiles (replacement with vinyl), upgrade electrical, install new lighting (LED), install new windows, install air conditioning, paint walls and ceiling		$200,000		
	Renovate Main Building Lobby	Remove carpet (replace with vinyl), section off lobby from administrative offices, install reception desk, replace furniture, remove display cabinets, install new lighting, security cameras, and new ceiling		$100,000		
	Replace Carpet/Flooring Main Building	Replace carpet in administrative lower floor halls and offices and section of offices, pharmacy, children's library and patient activity/training rooms and the Office of Recipient Rights area on second floor. This was last done more than two decades ago.		$500,000		

Five-Year Capital Outlay Plan – Kalamazoo Psychiatric Hospital

I. Mission Statement

The Kalamazoo Psychiatric Hospital will provide trauma informed person-centered inpatient psychiatric service and support, respecting the needs, dignity, individuality and cultural diversity of its patients, employees, volunteers and the communities it serves.

II. Programming Changes

None – Continue to work with nursing department to provide necessary physical improvements to the environment.

III. Facility Assessment

The Kalamazoo Psychiatric Hospital (KPH) provides inpatient adult psychiatric services through a lease agreement with Western Michigan University (WMU) for utilization of specific buildings. KPH operates its hospital service programs from a quadrangle complex of buildings (six), with some of its support operations housed in the separate buildings. An assessment of the physical condition of the buildings, leased by KPH, is reflected below by specific hospital service system.

Quad Building Structure (Good Condition)

The hospital structure is solid.

The minor concerns are:

1) Brickwork tuck pointing - Tuck-pointing of brickwork is necessary to maintain the structural integrity of the building brickwork fascia. The eight penthouses are of the most concern, and will be addressed first. This project is scheduled for FY2018 with hospital funding.

2) Window conditions - Some thermal-ply windows have lost their seal, which results in condensation between the panes. KPH maintenance staff has replaced some windows with more requested to be replaced. We have some security screens that need to be added and some windows that will not open. This is being addressed currently.

3) Plaster conditions - A great deal of plaster repair is required due to the age of the facility. Maintenance continues to find and repair these issues as quickly as possible.

4) Trees – The property has several dead or dying trees on the property. KPH has started working with a vendor to remove them; however, it will take some time to accomplish the task. Trees that are a safety issue will be dealt with

first followed by trees that could affect the structural integrity of the hospital buildings.

The major concerns are:

1) Anti-ligature project. The scope of this project is to address ligature concerns expressed by Joint Commission during their 2016 inspection. Includes replacement or modification of toilet dispensers, sinks and faucets, shower control panels, beds, door knobs, grab bars (complete), towel dispensers, hinges, garment hooks, heater grates, light fixtures and more.

2) Sewer Lines – The drainage and sewer lines are very old and have been subjected to years of chemical cleaning that has weakened or destroyed them. Piping is replaced as necessary, however great lengths of it are buried within the facility floors/walls. Our greatest risk is the pipe from the kitchen to the sewer system. Nearly 100 feet of that has been replaced by our licensed plumber, however hundreds more feet need to be addressed. The last section of pipe replaced in July 2017 had sections of piping that had eroded 50 percent away. We expect the piping to improve the further we get away from the kitchen area, the point of entry for the harsh cleaning chemicals that were formerly used, however we know that there is more pipe damage down slope from what we have already replaced.

3) Phone system – The phone system is antiquated at best. Continuously see issues with phone connectivity and programming. Obtaining replacement phones are now next to impossible. This is becoming a safety issue for both staff and patients outside of the patient rights issues that a lack of a working phone can create.

4) Physical Security – KPH has made significant strides in security over the last few years. Camera coverage exists in most areas of the hospital and nearly 100 percent coverage in common patient areas. Need to expand camera coverage to the exterior of the hospital in 360 degrees and of all parking lots. More physical security is needed for the administrative staff area; staff are vulnerable should there be an active assailant situation. KPH would like to strengthen the access points with additional measures that may stop or at least slow down an assailant.

Building Roof (Fair Condition)

The building roof has continued to age and shows additional end of life failures such as seam failures. KPH is attempting to repair/replace and coat the roof in 2017 to extend the life for 12 more warrantied years.

a. Building utilization rates compared to industry standards

KPH is one of three public hospitals that provide adult inpatient psychiatric services to residents of the state. Hospital overall bed capacity is 205 beds. The current average census is 150.

b. Mandated facility standards for program implementation, where applicable (for example, federal/industry standards for laboratory facilities, hospitals, compliance with consent decrees, etc.):

KPH follows Joint Commission and Life Safety Code standards; however, our departments are continually looking at methods of further improving our compliance.

c. Functionality of existing structures and space allocation to program areas served.

The programming areas within the Kalamazoo Psychiatric Hospital have been made as functional and aesthetically pleasing as possible, given the structural limitations of the buildings. The facility is adequate to meet the current and projected needs of the program.

Projects aimed at improving the programming areas available within the hospital include:

1) Installation or replacement of air conditioning in various areas.

2) Installation of a HVLS (high volume, low speed) fan in the tower theatre.

3) Installation of a replacement whirlpool tub on our geriatrics unit.

4) Renovation of two medication rooms in Building 4, 1st floor. 75 percent complete.

5) Renovation of a former office wing into a unit to expand the availability of patient beds and streamline patient therapeutic and learning opportunities.

6) Installation of rubber pavement to make a concrete padded tennis and basketball court more patient friendly to reduce injuries.

7) The addition of a CMMS (computerized maintenance management software) to streamline maintenance efforts, improve communication, and improve repair part stocks not provided by SIGMA.

8) Moving our school section to a vacant unit to keep that and the activity therapy sections on the same level while moving the vacant unit to where the school was and expanding the vacant unit to cover areas not previously used for patients thus expanding the overall total bed capacity soon.

BUILDING	BUILDING PURPOSE	STATUS	SQ. FT.
Administration (1)	Office Building	Active	58,765
Acute Medical (3)	Hospital	Active	35,147
Booster Pump (72)	Utility Storage	Active	N/A
Children's Unit/Pheasant Ridge (7)	Custodial	Active	37,176
Female Infirmary (4)	Hospital	Active	44,134
Female Receiving (1A)	Hospital	Active	58,909
Gate Cottage (42)	Museum	Active	2,199
Interfaith Chapel (14)	Chapel	Active	6,323
Male Infirmary (2)	Hospital	Active	35,399
Male Receiving (1B)	Hospital	Active	37,016
Shed	Warehouse/Storage	Active	N/A
Shed	Warehouse/Storage	Active	N/A
Water Tower (49)	Utility Storage	Active	0
Grounds Building (8)	Maintenance	Active	1500

d. Replacement value of existing facilities (insured value of structure to the extent available):

   Not known now.

e. Utility system condition (for example, heating, ventilation, and air conditioning (HVAC), water and sewage, electrical, etc.):

   Electrical System (Good Condition)

   Under the lease agreement with Western Michigan University (WMU), primary electrical service is the responsibility of the WMU Power Plant.

   Most of our quadrangle complex buildings were recently upgraded to support the growing demand for electrical equipment. Installations in some upgraded areas have outdistanced available panel boards and secondary electrical rewiring is needed in some areas. KPH Maintenance staff has undertaken the installation of additional panel boards and the upgrading of electrical wiring when possible Usage of some current raceways are maxed out based on electrical code. New raceways are needed in some instances. Old incandescent and fluorescent lighting is being replaced with LED lamps and fixtures with the overriding goal to convert all lighting to LED over the one to two years. The installation of two 200 kW generators and improvements made to the emergency distribution panel have improved the emergency power capability.

Water System (Good Condition)

Cold water lines are operationally solid but they are very old. The main water supply for domestic cold water and the fire suppression system has been upgraded in recent years and is in good working condition. Secondary lines are old and in need of occasional repair.

The hot water lines are in fair condition. In recent years repairs have been made to the main line from the WMU power plant. The installed hot water recirculating system continues to supply hot water on demand to our patient areas.

Drain System (Fair Condition)

The drainage/sewer lines are very old and have been subjected to years of chemical clean-out use that has weakened them. While drainage/sewer piping is replaced as necessary, great lengths of it are buried within the facility floors/walls. Most of the internal piping is in good condition, KPH is at risk with the piping coming out of the kitchen preparation area as previously mentioned. There has also been a leak detected in the sewer line at the back of the property. KPH will have to get this leak fixed using an outside contractor. KPH is hoping to have the latter issue repaired in FY2017 or early FY2018.

Steam System (Fair to Good Condition)

The steam lines are in fair to good condition. The insulation of the steam piping is problematic from an economic and safety perspective. Because of the insulation's poor condition, large amounts of heat are lost to the atmosphere, increasing utility costs. Also, the pipe insulation is an asbestos containing material. An independent contractor performs encapsulation and/or removal when necessary. Under the lease agreement with WMU, primary steam service is the responsibility of the WMU powerpPlant.

The steam and condensate piping within this section of tunnel from KPH Building 4 to the power plant should be considered for replacement pending verification of condition once individual services can be isolated to accomplish the infrastructure repairs. It is suspected that the condensate pipe is in the worst condition, but the steam line has likely been in service since the 1920's and may well require replacement. It is suggested that a renewal program include an allowance for replacement to assure the long-term reliability of these services. A consequence of not performing this work would be the loss of steam to the facility. If it would be in the winter time, both the high-pressure steam to the kitchen and the facility heat source for the air handlers would be lost. Before this project is considered, repairs to the tunnel structure on the Capital Outlay must be considered and approved.

Ventilation System (Good Condition)

The ventilation system is operationally sound and an upgrade to the air handling units has been requested and approved. This upgrade will replace the existing old air handler controllers to the makeup air handler units. This will help us control the fresh air exchange and control the heat more efficiently.

Compressed Air System (Excellent Condition)

The WMU Power Plant reliably supplies quality compressed air (dried) for use with the hospital's refrigeration and ventilation equipment. KPH has an air compressor with an air dryer that is capable of supplying quality compressed air to equipment in the case of a WMU Power Plant failure.

f. Facility infrastructure condition (for example, roads, bridges, parking structures, lots, etc.):

Roadway Systems/Parking (Fair to Good Condition)

The roadway system which services our hospital is in fair condition. Certain areas suffer from significant pot holes and cracking and patches are failing. Repaving of these areas is needed.

Utility Tunnel from WMU Power Plant to KPH Building 4

The utility tunnel from WMU Power Plant to KPH Building 4 that supplies steam, electric and soft water to the hospital. The tunnel has major structural deficiencies, putting all the utilities at risk should it collapse. Some minor repairs that have been completed, include replacing pipe hangers and installation of new hangers to the high voltage feeder lines. A cost estimate of $3,500,000 for structural repairs. This utility tunnel is also utilized by WMU.

g. Adequacy of existing utilities and infrastructure systems to current and five-year projected programmatic needs:

The utilities and infrastructure systems are adequate for current and five-year projected programmatic needs.

h. Date of most recently completed energy audit, and, if an energy audit has yet to be completed, what is the plan/schedule for doing so?

2006.

i. Land owned by the agency, including a determination of whether capacity exists for future development, additional acquisitions are needed to meet future demands, or surplus land can be conveyed for a different purpose:

The Kalamazoo Psychiatric Hospital leases buildings and surrounding areas from Western Michigan University. The hospital buildings and grounds occupy approximately 35 acres, which is maintained by the hospital maintenance staff.

IV. Implementation Plan

a. Itemized listing of major capital projects by priority, including brief description and estimated cost. (*Adjust previously developed or prior year's figures utilizing industry standard CPI indexes where appropriate*):

See Kalamazoo Psychiatric Hospital (KPH) Capital Outlay Five-Year Plan spreadsheet in this document.

b. Define the impact of addressing deferred maintenance and structural repairs, including programmatic impacts, immediately versus over the next five years:

This facility has several projects listed on the FY2018 Capital Outlay Special Maintenance Request. Of those KPH has started on the security screens, anti-ligature, roof replacement, and the broken sewer line repair. KPH must show continual progress of this anti-ligature project to satisfy the Joint Commission. All other special maintenance requests will be performed in order of priority, once funding is secured.

c. Identify, to the extent possible, a rate of return on planned expenditures. This could be expressed as operational savings that a planned capital expenditure would yield in future years.

Delaying needed repairs until they become critical usually results in costlier special maintenance project costs and disruption in the hospital's mission of providing safe patient care and treatment.

KALAMAZOO PSYCHIATRIC HOSPITAL (KPH)

Capital Outlay Five-Year Plan (Attachment E - IV.a.)

Building	Project	Brief Project Description	Facility Priority	Cost Estimate	Status	Funding Source
KPH	Repair/Replace Doors	To be compliant with the Joint Commission and the 2012 Life Safety Code (NFPA 101), we will need to conduct repairs and replacement of several fire doors. Most doors are original or near original and modifications over the years, to older and less stringent fire codes, have rendered these doors non-compliant. Failure to replace them placed patients at risk and will create citations from TJC and Fire Marshal.	1	$200,000		
KPH	Install Sprinklers	Phase II- KPH need to be 100% sprinklered per the 2012 NFPA 101 and therefore the Joint Commission as well as for the overall safety of patients and staff. Approximately 1/3 of the hospital is sprinklered already so much of the infrastructure exists. Phase I was funded with FY 19 Enterpisewide Special Maintenance funds. All patient areas must be done with ligature concerns in mind which dramatically increases the cost. It is recommended to break this project up into samller chunks over the next several years to make to manageable.	2	$4,800,000		
KPH	Security Upgrade	Add interior security checkpoints and add exterior camera coverage. KPH needs to control visitors better. There are currently no physical barriers, as in other State facilities, to keep visitors from gaining access to the heart of the hospital. Further, better camera coverage on the exterior of the building is needed to protect staff and visitors. We currently do not have camera coverage on all parking lots and in some areas we cannot get a good enough picture due to the camera technology at the time of installation, that leaves our staff and visitors at risk from bad actors.	3	$150,000		
KPH	Storm Drain Repairs	A minimum of 4 storm drains are not working properly, causing water to back up or not otherwise being taken away properly. This is potentially placing the hospital at an environmental risk by having rain run off going to the earth and creating the potential of erosion damage.	4	$300,000		
KPH - Bldgs 2, 3, 4, 7	Repair/replace roof	Roof shows signs of being past its life expectancy (over 20 years old) and needs to be repaired or replaced to prevent further damage within the hospital. We recommend the application of the same product as we did building 1, 1A, and 1B in to reduce costs significantly over a complete reroof. The applied membrane material generates a 12 year warranty at approximately 1/2 the cost. This request also includes addressing, at a minimum the cap stone and facia needs.	5	$1,500,000		
KPH - Kent St. & Kent Circle	Replace Existing Roadway	The roadway has numerous pot holes that have been patched over the years and is in need of significant patching or replacement.	6	$300,000		
KPH - All areas	Phone replacement	Replace the phone system. It is antiquated and continued use puts the hospital at risk of not being able to communicate internally or externally with patient guardians, first responders, etc.	7	$500,000		
KPH	Tennis Court Revamp	Install a rubber asphalt on the outside tennis and basketball courts. This is to allow patient use of a recreation space that is currently used very little because of the risk factors of patients being hurt on the asphalt.	8	$40,000		

KALAMAZOO PSYCHIATRIC HOSPITAL (KPH)

Capital Outlay Five-Year Plan (Attachment E - IV.a.)

Building	Project	Brief Project Description	Facility Priority	Cost Estimate	Status	Funding Source
KPH - Kitchen	Install AC	Install AC in the kitchen cooking area. With ovens, stoves, steamers, dish machines, temperatures in the kitchen get quite warm. In order to properly size any AC, air studies need to be completed.	9	$80,000		
Gate Cottage	Historic Repairs	Repairs are needed for the roof, chimney, and interior walls. This is a historic building that the SOM is currently responsible for. We are looking to possibly turn this over to WMU, however until that is completed, KPH and the SOM are responsible.	10	$50,000		
KPH	Anti-ligature	Continues to be a need to address ligature concerns throughout the hospital. Joint Commission requires that this continue to be an ongoing priority.	11	$500,000		
KPH - Life Safety Drawings	Create Life Safety Drawings	The hospital does not have good life safety drawings. The ones it has are hand drawn and lack certain critical information due to a lack of CAD capability. LSD are critical to providing answers for questions and requirements the Joint Commission, Fire Marshal, and other inspecting agencies will look for.		$50,000	Complete	Paid from Hospital Funds. Money originally designated for this had to be moved to the handrail project.
KPH - Tunnel area between Bldg 4 and power plant	Repair of tunnel structure	The tunnel that carries the steam and condensate piping between the WMU power plant and KPH has been structurally compromised over the years of service, most likely the 1920's. The tunnel could collapse removing steam heat from KPH, the hospital's primary heating and cooking source.		$3,500,000	Closed - WMU sured up tunnel	N/A
KPH - All patient areas	Security Screens	Installation of security screens. With an increasing number of patients being admitted the risk of attempted patient escape has risen. Proposal is to install screens in the unsupervised patient occupied areas keeping the screens compatible with the ones previously installed with the new window project in 2014.		$300,000	Complete	16442.CAK
KPH - All patient areas	Anti-Ligature	Replace all objects in patient areas with like anti ligature object, per Joint Commission request. Includes items such as beds, door knobs, grab bars, light fixtures, shower control panels, sinks & faucets, and many others. We intend to focus this money on patient safety projects and fixtures.		$600,000	In Progress - $435,000 remains	16442.CAK
KPH - All roof areas	Repair/replace roof	Roof shows signs of being past its life expectancy and needs to be repaired or replaced to prevent further damage within the hospital. Scheduled to be completed in FY2018.		$832,000	Substantially Complete	16442.CAK
KPH - Handrails	Repair several handrails and entrance concrete	We have several areas that are significantly compromised either by bad concrete, bad handrails, or both. This has created significant safety issues with patients and visitors.		$163,263	Substantially Complete	2017 Enterprise wide Special Maintenance Allocation.
KPH - Exterior Sewer	Repair broken sewer line	Deteriorated sewer lines outside of building 3 was located a few years ago. This needs to be repaired/replaced. We expect to complete this repair in late FY2017 or early 2018 and is currently in progress.		$75,000	Substantially Complete	2017 Enterprise wide Special Maintenance Allocation.
KPH - All patient areas	Anti-Ligature	Replace all objects in patient areas with like anti ligature object, per Joint Commission request. Includes items such as beds, door knobs, grab bars, light fixtures, shower control panels, sinks & faucets, and many others.		$800,000	In progress - $798160 remains	18055.CAK

Five - Year Capital Outlay Plan Components

I. Mission Statement

The mission of Walter P. Reuther Psychiatric Hospital is to provide an appropriate range of active inpatient psychiatric treatment services to best meet the needs of adults with severe mental illness in collaboration with community mental health agencies and authorities.

II. Programming Changes

Walter P. Reuther Psychiatric Hospital's (WRPH) programming accepts adult patients from 18 years of age and up. The top Capital Outlay priority are Ligature Resistant Fixtures throughout the facility, Establishing Secure Entry/Exit points with card access, and replace update antiquated operational environmental equipment to ensure a Healthy, Secure and Safe environment throughout the facility and campus. WRPH has no planned program eliminations or facility closures.

III. Facility Assessment

The WRPH is a 270,867 sq. ft. facility consisting of three buildings that was originally constructed in 1973. The main building comprising 256,982 sq. ft houses patients. The main building requires multiple updates and repairs as requested below.

a. Building utilization rates compared to industry standards.

WRPH is one of five public hospitals that provide inpatient psychiatric services to residents of the state. For fiscal year 2018, the daily census averaged 170 patients.

b. Mandated facility standards for program implementation, where applicable (i.e. federal/industry standards for laboratory facilities, hospitals, compliance with consent decrees, etc.).

The Joint Commission (JC) and Centers for Medicaid and Medicare Services (CMS) visited in 2017 and again in 2018 resulting in WRPH cited for several deficiencies. In 2017 the following repairs were completed: replaced exam tables, installed ligature resistant hand rails in shower room toilet areas on RU1 through RU6.

In 2018 the current projects underway addressing deficiencies include: Installation of ligature resistant door knobs/hinges on all patient rooms, installation of ligature resistant faucets in all patient bathrooms, replacement of all non-ligature resistant patient beds, replacement of all patient wardrobes with ligature resistant lockers, replacement of window sills, replacement of all non-ligature resistant hallway and stairwell handrails throughout main Hospital and patient areas, installation of fire suppression system and smoke detectors throughout the hospital.

The kitchen area located in the basement will require renovation according to CMS physical plant findings of 2017. Kitchen floor does not slope to remove water in dish tank and pot and pan tank areas. Stagnant water on floors, dented equipment, and non-working equipment requires updating and replacement.

In 2014 JC minor deficiencies were cited and the repairs completed. These items included: developed Annex egress sidewalk, mechanical shaft steel platforms, emergency egress lighting/wiring, and duct cleaning. Recent repairs completed include: Installation of new boiler controls, replace fill in cooling towers, replace concrete structures, and installed new fire suppression system on seventh floor.

Office of Attorney General Audit finding of front and back hospital entry/exit points not secure and in constant need of repair. This finding was completed and cited deficiencies in 2018. Audit finding for WRPH key control and accountability no upgrade for key locking has been done since 1993. Install Card access for all facility entry points. Install new Best Core locks throughout hospital. Current project to install and upgrade entry/exit doors adding card swipe entry system is to begin end of FY18.

Request to purchase new Key System for Locksmith that would allow tracking of all keys cored/issued to each individual working within the hospital. Currently, the system being used is over 20 years old, cannot be updated and is only provided on one computer with no back up. The current key system is being input manually on an Excel spreadsheet.

Install cameras on perimeter and ground area for patient safety and security of state buildings and land. Upgrade security system throughout interior and exterior hospital, current system is not adequate, and parts are not available. CMS requirement of additional activities/programs included throughout the interior of the hospital as well as exterior grounds leading out to multiple roadways. Security system including but not limited to cameras is required to ensure patient security and safety throughout the property.

Window sills require replacement along with the outside window sealants throughout the hospital as cited by Joint Commission and CMS in 2017/2018 audit.

Replace and install fencing and ground area for patient security and safety to conduct required outside activities and programs as required by CMS.

Construct equipment storage building on site to secure multiple lawn care and snow removal equipment, storage of salt, dirt and gravel used throughout the complex annually. Currently, all equipment is stored outside exposed to inclement weather year - round decreasing useful life

cycle, increasing cost of repairs and preventive maintenance.

Repair and resurface north parking and side road for safety. Parking areas have broken concreate, crushed stone, and pot holes creating safety concerns for staff, visitors. Increased cost to maintain snow equipment broken from servicing this area. Area is needed to accommodate the number of staff working at the hospital.

c. Functionality of existing structures and space allocation to program areas served with additional activity therapy building.

In 2016 WRPH increased its census to approximately 180 patients.

WRPH completed the construction build of an 18,000 square foot A.T. Building which is connected to the eastside of the hospital. The A.T. Building provides the purpose of addressing the space needs for physical activities and scheduled programs required for our patients.

With both the main hospital building and the A.T. Building, patients are provided with easy access to full-spectrum of mental health services and programs.

Reuther Hospital - 256,982 sq. ft.
Reuther Administrative Wing - 13,862 sq. ft.
Power Plant - 3000 sq. ft.

d. Replacement value of existing facilities (insured value of structure to the extent available).

Facility Condition Assessment by FTC&H Architects and Engineering completed January 2015; assessment provided a comprehensive facility review of the infrastructure of WRPH. A Capital Cost Model was prepared for Walter P. Reuther Psychiatric Hospital Facility Condition Assessment to generate cost estimates to summarize and compare potential investments over the planning horizon.

e. Utility system condition (i.e. heating, ventilation, and air conditioning (HVAC), water and sewage, electrical, etc.).

All utility systems at WRPH are beyond their useful life currently at 45+ years.
The HVAC chillers and cooling tower are also beyond their life expectancy. A new HVAC computer system upgrade has been completed FY18.
However, replacement of: Absorption Chillers, controls, air handlers, dampers, actuators, and duel duct boxes are required to complete the upgrading of this system.
An additional cooling tower is required to balance operations of the overall system it was estimated that one of the two original cooling towers

was previously removed and not replaced in prior years. Upgrading these systems will increase hospital's cooling capacity and greatly reduce energy consumption and will meet life safety requirements.

Replacement of high voltage electrical panels and electrical switchgears which includes the main distribution panel to the hospital and the main transformer. The electrical panels require replacement due to excessive water damage and past useful life 45+ years to meet Life Safety Code.

Plumbing systems are of original construction (45+ years) and develop frequent leaks causing disruption to patient care need to update domestic hot water system. The system requires updating heat exchanger and hot water pumps. One pump is working the back up pump is not workable, past its useful life and parts are not replaceable. If system goes down there is no hot water throughout hospital.

The current roof project is to begin in FY18 and go through FY19 and will include the replacement of the roof on the Main Building and Annex. These roofs are in disrepair and past its useful life. The main roof is leaking in several areas throughout the 7th floor. Minimal repairs and patching was made in 2017 in an attempt to prolong annual weathering.

WRPH has an emergency power generator newly installed with the addition of the A.T Building project. The plan to move the generator from the perimeter of the Main Parking area to the Power Plant and direct connect to gas is being submitted. This would remove the use of storage tank in the parking lot area and allow direct supply of energy. Relocating the generator would also allow direct observation to the grounds area for patient's activities for patient security and safety.

f. Facility infrastructure condition (i.e. roads, bridges, parking structures, lots, etc.).

The main hospital's roof listed in the Facility Condition Assessment by FTC&H Architects and Engineering completed January 2015 and Capital Outlay report is focused to begin in FY2018 through 2019 for completion and the facility condition assessment.

g. Adequacy of existing utilities and infrastructure systems to current and five-year projected programmatic needs.

Infrastructure systems are not adequate and require current and five-year projected programmatic needs with a plan for replacement, update and repair of items listed in Capital Outlay request

h. Date of most recently completed energy audit, and, if an energy audit has yet to be completed, what is the plan/schedule for doing so:

Last energy audit is unknown. WRPH will reach out to utility companies to

see if one has been completed and/or if one can be completed in the future.

i. Land owned by the agency, including a determination of whether capacity exists for future development, additional acquisitions are needed to meet future demands, or surplus land can be conveyed for a different purpose:

The WRPH is located on approximately 14.33 acres in Westland. If there were a need to expand, there is space to do so. Space or open ground around the facility is needed to maintain the privacy and safety of the patients.

IV. Implementation Plan

This facility is currently requesting major capital projects and has been submitted in priority order listing total of 19 items.

a. Itemized listing of major capital projects by priority, including brief description and estimated cost. (*Adjust previously developed or prior year's figures utilizing industry standard CPI indexes where appropriate*):

See Attached Spreadsheet.

b. Define the impact of addressing deferred maintenance and structural repairs, including programmatic impacts, immediately versus over the next five years:

Failure to provide special maintenance funding to maintain the facility consistent with industry standards and national patient safety goals creates increased facility repair costs and unnecessary demands on facility maintenance staff; creates potential health and safety problems for patients and staff; results in WRPH non-compliant with Joint Commission and Centers for Medicare and Medicaid Service and typically results in taking programming areas out of service while critical projects are being performed. Failure to address structural operational issues can result in shut down of basic functions of heat, water and cooling.

c. Identify, to the extent possible, a rate of return on planned expenditures. This could be expressed as operational "savings" that a planned capital expenditure would yield in future years.

Delaying needed repairs until they become critical will result in higher cost, increased special maintenance project costs and disruption in the hospital's mission of providing safe patient care and treatment. Delays in operational equipment replacements i.e. hot water, chillers, electrical panels etc. can result in implementation of an emergency plan to ensure safety and security of patients. Delaying repairs can result in non - compliance with Joint Commission and Center for Medicare and Medicaid accreditation.

WALTER REUTHER PSYCHIATRIC HOSPITAL (WRPH)
Capital Outlay Five-Year Plan (Attachment E - IV.a.)

Building	Project	Brief Project Description	Facility Priority	Cost Estimate	Status	Funding Source
WRPH Facility	Kitchen Renovation and Upgrade	CMS audit for FY17 identified physical plant issues in Kitchen areas; stagnant water on floors, improper drainage, storage work space.	1	$1,750,000		
WRPH Facility	Domestic Hot Water System	Heat exchanger and hot water pumps have reached end of useful life approx. 40+ years old Life Safety.	2	$110,000		
WRPH Facility	Replace fencing and ground area	Secure outside area for patient movement, activity and programs conducted outside and weekends	3	$200,000		
WRPH Facility	Cooling Tower Replacment/Installation of second tower.	Replace Cooling Tower on Main Building.	4	$750,000		
WRPH Facility	Replace Main Transformer	Replace Main Transformer for Hospital - current is 40+ years and needs replacment. Failure would result in complete power loss.	5	$682,500		
WRPH Facility	Replace Main Distribution Panel	Replace panels for Facility Power Distribution - Life Safety Code Issue with Joint Commssion	6	$212,000		
WRPH Facility	Replace Electrical Panels	Replace - due to water damamge and age - Life Safety Code	7	$289,000		
WRPH Facility	Air Handler Ugrade	Install variable motor fans updated Air handlers/return fans balance air - Cost Efficiencies - Quality Life	8	$485,000		

WALTER REUTHER PSYCHIATRIC HOSPITAL (WRPH)
Capital Outlay Five-Year Plan (Attachment E - IV.a.)

Building	Project	Brief Project Description	Facility Priority	Cost Estimate	Status	Funding Source
WRPH Facility	Replace Duel Duct Boxes	Replace all dual duct boxes to update and include DDC controls - current system is past useful life. Convert Pnuematgic to Electronic	9	$320,000		
WRPH Facility	Replace Absorption Chillers and controlls	Current are past useful life 40+ years. Life safety for patients and staff. All parts are obsolete, recognized as one of oldest in state. Not able to retrofit parts.	10	$1,371,900		
WRPH Facility	Replace energy recovery unit and dampers and actuators	Replace unit, dampers and actuators - Potential Life safety Issue . Joint Commission and Energy Savings.	11	$225,000		
WRPH Facility	Equipment Storage building	Protect and Secure Maintenance trucks, lawn care and snow removal equipment, store bulk salt, dirt, gravel.	12	$500,000		
WRPH Facility	Site Security Upgrade	Upgrade existing security camera system to meet increased camera installations for fencing and observation areas within/outside the hospital	13	$350,000		
WRPH Facility	Upgrade office/training areas	Cubicles removed. Build walls with doors/windows for office areas to upgrade area and meet demand changes of department staffing and operations. Current configurations and equipment are 30+ years	14	$75,000		
WRPH Facility	Main Generator - relocate to Outside Power Plant with fuel.	Secure main parking area discontinue use of underground tank system. Open existing area to yard for patient activity and excersize.	15	$350,000		

WALTER REUTHER PSYCHIATRIC HOSPITAL (WRPH)
Capital Outlay Five-Year Plan (Attachment E - IV.a.)

Building	Project	Brief Project Description	Facility Priority	Cost Estimate	Status	Funding Source
WRPH	Anti-ligature	Continues to be a need to address ligature concerns throughout the hospital. Joint Commission requires that this continue to be a priority	16	$1.7M		
WRPH Facility	Pyxis Automatic Pharmacutical	Dispensing system for accuracy Patient Pharmaceutical distritubution and equipment storage areas		$2,200,000		Agency Funds
WRPH Facility	Physical plant and overall hospital enviroment must be delveloped and maintained safe and wellbeing of patients.	Joint Commission multiple ligature points throughout facility in patient rooms door knobs, door handles, hinges, faucets parts of beds.		$675,000	391/16266 In Progress	Work Order Legislative Appropriation. 391/16266.MNB, 391/16441.MNB
WRPH Facility	Replace Bathroom Doors on Five Units R2-R6	Remove and Replace 100 bathroom doors existing doors are past useful life and cause safety hazard.		$307,000	Four of Five units complete. Currently working on Fith unit	Enterprise Special Maintenance Allocation 391/16266
WRPH Facility	Install new smoke detectors in patient rooms, add fire suppresion system throughout patient wards, patient activity and education rooms as well as monitoring points to current fire alarm system.	Patient and facility safety, fire code compliance.		$1,141,622	IN Progress on 4th unit, Lobby through Patient Dining Area in Admin. MOP Rev 2 Installation is completed on 6 areas.	Work Order Legislative Appropriation. 391/14072.MNB, 391/14076.MNB
WRPH Facility	Built in Furniture,	Built in Furniture - ligature points throughout Patient rooms		$600,000	In Progress; Design and build completed mock up to be installed 7/19/18	391/16441.MNB Established Agency MOP

WALTER REUTHER PSYCHIATRIC HOSPITAL (WRPH)
Capital Outlay Five-Year Plan (Attachment E - IV.a.)

Building	Project	Brief Project Description	Facility Priority	Cost Estimate	Status	Funding Source
WRPH Facility	Install/replace items requiring Anti-Ligature for safety concern; granite window sills, window caulking inside/out of all patient/facility windows; all hinges etc. Cover exposed piping, vent covers, stobes, handles, fire/electrical panel handles etc. etc.	Replace broken/loose granit sills and caulk all windows inside/outside. CMS and Joint Commission Life Safety. Cover exposed pipes, replace hinges, vent covers, light fixtures, door handles, strobes, bulletin boards, mirros, window cranks, curtains linens, pipes etc. Throughout hospital.		$600,000	WRPH Committee completed a list of of items requiring repair/installation of anti-ligature materials for compliance. P.O's are being created to purchase supplies.	Work Order - 491/18067.MNB Legislative Appropriation
WRPH Facility	Replace Entry Doors	Replace Front Entry Lobby Dorrs and Rear Access Point doors per OAG audit FY17		$125,000	P.O completed - submitted Work to begin in JULY 2018 and complete by September 2018	Agency - Facility Appropriation Funds
WRPH Facility	Install card access	Security access entry for State Operated Facility doors - install card access for limited entrance/exit doors and entry.		$106,000	P.O completed - submitted Work to begin in JULY 2018 and complete by September	Agency - Facility Appropriation Funds
WRPH Facility	Roof Replacement	Roof leaks and is seperating form parapit. Existing is 40+ years old. Life safety, health and sanitation.		$985,000	DTMB processing project - Posted in SIGMA. Selection of Contractor in process Estimated Work to begin September/October.	Work Order - 491/18056.MNB Legislative Appropriation
WRPH	ADD CARD READER ENTERY/EXIT TO ALL BATHROOMS/CONFERENCE ROOMS AND OTHER All purpose staff areas.	To reduce the number of keys distributed to 396 staff for secured areas of Bathrooms/conference rooms and other. Per FY18 OAIS Audit		$150,000	Facility Funds are currently being utilized to purchase card readers for entry, unit, other doors. System allows for adding on. These areas carded would decrease the number of keys given to staff and taken	Agency Funding

WALTER REUTHER PSYCHIATRIC HOSPITAL (WRPH)
Capital Outlay Five-Year Plan (Attachment E - IV.a.)

Building	Project	Brief Project Description	Facility Priority	Cost Estimate	Status	Funding Source
WRPH	ADD CARD READER ENTERY/EXIT TO ALL BATHROOMS/CONFERENCE ROOMS AND OTHER All purpose staff areas.	To reduce the number of keys distributed to 396 staff for secured areas of Bathrooms/conference rooms and other. Per FY18 OAIS Audit		$150,000	Facility Funds are currently being utilized to purchase card readers for entry, unit, other doors. System allows for adding on. These areas carded would decrease the number of keys given to staff and taken home.	Agency Funding

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