



**Financial Operations Administration  
Bureau of Organizational Services**

**Five-Year Capital Outlay Plan  
FY2019 - FY2023**

**October 31, 2017**

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# MICHIGAN DEPARTMENT OF HEALTH AND HUMAN SERVICES

## 2019 Five-Year Capital Outlay Plan

### **Mission Statement**

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 the Department of Human Services (DHS) and the Department of Community Health 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.

## **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**

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 18 female treatment beds and 18 male treatment beds. BPC also has four detention beds for youth who are awaiting a court decision. Bay Pines Center is licensed to accept up to 40 youth, age 11 to 21. BPC is a state operated residential facility.

There are currently no planned programming changes.

### **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)

**ATTACHMENT E -  
BAY PINES CENTER**

- 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 is in process of getting replaced.

Current air handler units are functioning properly they currently just require regular cleaning, maintenance and inspection. The units are 23 years old and approaching the end of their useful life.

Sewer pumps are currently sufficient with on-going maintenance. Replacement is recommended to avoid potential failure due to age.

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

The current security camera system is not working properly and is in progress of being replaced due to the safety and security risk this poses to the youth and staff.

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, additional fencing in backyard around emergency exit doors are needed. This risk is being addressed with agency funds.

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 23 years old. The flooring is composed of a rubberlike material. Currently the flooring is disintegrative very slowing causing a dustlike material to cover the floors. This risk is being addressed with agency funds.

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. Select areas are currently being addressed with agency funds.

Parking lot needs repair/seal coat and cracks need to be filled to prevent further breakdown of asphalt.

The shower rooms on each of the four living pods need to be refinished as the tile and plumbing are beginning to fail.

**ATTACHMENT E -  
BAY PINES CENTER**

The Pierce building (storage) needs rain gutters to keep water away from the building and prevent water intrusion and potential mold issues.

- 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.



**ATTACHMENT E -  
BAY PINES CENTER**

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 four shower rooms located in each living pod.	The tile is currently coming off the walls which is a safety/security concern for the youth/staff. The plumbing fixtures are beginning to fail and need to be replaced. The failing fixtures are leaking and causing negative hygienic issues and facility damage.	1	\$50,000		
BPC (Residential Center)	Air conditioning in gym	Currently there is no air conditioning within the gym only duct work that circulates outside air. Gym often is very warm and poses safety concern for youth during recreational activities.	2	\$300,000		
BPC (Residential Center)	Replace all interior/exterior locks to keyless pads	Replacement will eliminate the cost of repairing/replacing locks and eliminates security concerns regarding lost/stolen keys. Keyless pads would provide better controlled access keeping youth, staff, and buildings safe and secure. Select areas are being addressed with 2017 agency funds.	3	\$450,000		
BPC (Residential Center)	Replace Sewer Pumps	It is projected that these will need to be replaced within 5 years due to the age of the pumps. Replacement will eliminate future high maintenance condition and costs.	4	\$10,000		
BPC (Pierce Building)	Install gutters on building.	The Pierce building (storage) is in need of rain gutters to keep water away from the building and prevent water intrusion and potential mold issues.	5	\$15,000		
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.	6	\$30,000		
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.	7	\$500,000		
Bay Pines Center	Replace Pavement Areas	The parking lot is in disrepair and the recreation yard is unpaved and hazardous due to weather conditions. The repair/sealing and painting of the parking lot will prevent long term high maintenance issues and provide increased safety for staff, residents, and visitors. The paving and increased square footage of the recreational yard will allow for consistent usage of outdoor space allowing for increased successful residential programming.	8	\$300,000		

## **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:

**ATTACHMENT E –  
SHAWONO CENTER**

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 N/E classroom area, N/E 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 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 the building because they are an integrated issue.

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.

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

**ATTACHMENT E –  
SHAWONO CENTER**

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, and will need to be re-sealed within the next five years.

- 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. The following recommendations are being made to replace/upgrade as soon as possible.

Site/Architectural Items:

Re-Sealing Driveway and Parking Areas

Repairing Roof

Replacing Interior and Exterior Locks

Mechanical Items:

Replacement of three AC Units

Plumbing for Dorm Rooms and Isolation Rooms

Electrical Items:

Lighting Systems

Control Panels for Keyless Entry for Doors

- 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*

**ATTACHMENT E –  
SHAWONO CENTER**

*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	Upgrade AC Units	Current units are aging, service calls on them are accelerating.	1	\$30,000		
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 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.	3	\$500,000 to \$1,000,000		
Shawono Center	Individual Room Plumbing Upgrade	The plumbing fixtures and pipes in the residents' room (south unit, west unit, and isolation unit) are failing and causing regular leaks. The plumbing in the rooms is essential to resident safety and meeting Child Welfare Licensing Standards. The parts are outdated and replacement parts are extremely difficult to locate.	4	\$27,000		
Shawono Center	Roof Repair	Shawono's metal roof is leaking in numerous places.	5	\$50,000		
Shawono Center	Re-seal and Paint Blacktop	It needs to be done every few years. The last time was in 2012.	6	\$20,000		
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		Agency Funds MOP #: 431/17357.TYC
Shawono Center	Fire Alarm System	Modernize fire detection system.		\$26,000		Agency Funds PO #: 431N7700690
Shawono Center	Security Control	Safety & Security concern: Replacement of walk-through metal detectors.		\$5,000		Agency Funds PO #: 431N7700671
Shawono Center	Security Control	Safety & Security concern: Replacement of 2-way radios for staff use.		\$29,500		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 10/15 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):



**ATTACHMENT E –  
GREEN OAKS CONFERENCE CENTER**

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 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 diverting (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**

A separate entity from the traditional community college or technical school, Michigan Career & Technical Institute (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.

### **III. Facility Assessment**

On June 22, 2019 MCTI received the results of a professionally developed facility assessment (attached). This assessment reviewed all the building systems and the site elements as well as recommendations for the next 10 years.

The MCTI facility consists of various building sections joined together under one roof and consisting of one-story, two-story, three-story, and four-story components. The overall square footage of the facility is approximately 266,000 square feet. The facility includes three and four-story dormitories, food service and recreational facilities, a two-story administrative facility, a one-story instructional and maintenance facility, as well as a gymnasium and an indoor swimming pool, together with other miscellaneous support facilities.

The facility assessment addressed all the existing building systems and makes recommendations regarding improvements necessary to meet present day building codes and standards, and addresses general recommendations for improvements to upgrade the facility to present day standards.

The facility assessment also addressed cost opinions for the recommended improvements. The assessment report does not provide detailed cost estimates, but rather cost opinions which will be low since the assessment was completed in 2009.

Finally, the assessment report includes digital floor plans, and a site plan of the facility.

#### **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

**ATTACHMENT E –  
MICHIGAN CAREER AND TECHNICAL INSTITUTE**

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 90.

- b. Mandated facility standards for program implementation, where applicable (such as 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:

**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 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

**ATTACHMENT E –  
MICHIGAN CAREER AND TECHNICAL INSTITUTE**

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.

<b>BUILDING</b>	<b>BUILDING PURPOSE</b>	<b>YEAR BUILT</b>	<b>STATUS</b>	<b>SQ. FT.</b>
SHOP BUILDING	Shop Building	1944	Active	6,700
BOAT HOUSE	Warehouse/Storage	2008	Active	650
CLASSROOMS AND ADMINISTRATION	Office Building	1970	Active	61,000
COMPRESSOR HOUSE	Utility Storage	1982	Active	204
COOLING TOWER	Utility Storage	1968	Active	600
DORM AND COMMONS	Housing	1964	Active	79,300
FLAMMABLE STORAGE	Warehouse/Storage	1989	Active	1,400
HEALTH AND RECREATION	Health and Recreation	1974	Active	43,000
KELLOGG CHAPMAN HOUSE	Housing	2005	Active	1,800
MAINTENANCE SHOP	Mechanic Shops	1974	Active	6,000
SHOP BUILDING	Shop Building	1968	Active	64,000
WASTE WATER TREATMENT	Utility Storage	1962	Active	204
WATER TOWER AND BUILDING	Utility Storage	1928	Active	100
WEST CABIN	Housing	1932	Active	480

- 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.):

As part of the facility assessment they reviewed the overall condition of the existing mechanical and plumbing systems at MCTI. Within the mechanical

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assessment, the following systems were examined and recommendations for improvements were made. Most of the mechanical systems are nearing the end of their useful life. The aging systems have been maintained well and repaired to continue operation as designed. The current system results in extremely poor temperature control and inefficient energy usage. There are severe comfort deficiencies throughout the entire facility and major energy inefficiencies with the current mechanical systems.

Within the past 10 years, the facility had an emergency system installed for emergency power for the dormitory and kitchen areas in the event of a utility company power loss. This emergency system is limited to an area and doesn't cover enough of the building.

As part of the facility assessment they reviewed the overall condition of the existing electrical system at MCTI. A portion of the main electrical distribution has recently been upgraded and is in good condition in the lower level of the kitchen/dining wing.

However, the remainder of the electrical infrastructure is aging and nearing the end of its useful life throughout the remainder of the building. Recommendations are to begin to replace electrical panels over time. The panels are becoming very antiquated and have not been routinely operated and maintained.

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

The outdoor facilities at MCTI provide a variety of opportunities for the students. Outdoor recreation facilities include a softball field, tennis/basketball court, initiatives course and beach area. Students frequently use the waterfront access and picnic area in summer months presenting a unique experience on site. Informal recreation facilities include large open lawn spaces to the south of the building. The existing parking is conveniently located near the building. Additional parking spaces are recommended along with a more distinct main entrance to enhance the overall circulation and arrival experience at the facility. The addition of Americans with Disabilities Act accessible paths to various areas of the site would result in additional amenities being available to greater number of people. The possibility also exists to improve the drainage system by repairing the bituminous pavement and adjacent surfaces.

- 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.

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Site/Architectural Items:

- Expansion of the existing parking **(Priority 4)**
- Repair/replace roofs in ill repair and in need of significant repairs **(Priority 5)**
- Erosion and flooding prevention **(Priority 6)**
- Upgrade public restrooms/hardware to meet barrier-free requirements **(Priority 8)**
- Upgrade dormitory bathrooms **(Priority 11)**
- Addition of new entrance to the building **(Priority 13)**
- All life safety / code violations
- All energy related items

Mechanical Items:

- Replace water heater **(Priority 1)**
- Replace heated sidewalks **(Priority 7)**
- Replacement of the existing HVAC system **(Priority 9)**
- Replace pool filtration system **(Priority 10)**
- Domestic water source – Painting of water tower **(Priority 12)**
- Temperature control system

Electrical Items:

- Lighting systems **(Priority 2)**
- Power distribution equipment – electrical transformer **(Priority 3)**
- Emergency / exit lighting systems
- Emergency power systems
- Public address system

- 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):*

See Michigan Career Technical Institute (MCTI) Capital Outlay Five-Year Plan spreadsheet in this document.



**ATTACHMENT E –  
MICHIGAN CAREER AND TECHNICAL INSTITUTE**

- 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, patients, and visitors. The MCTI is a 24-hour vocational school and must maintain a secure, safe, and functioning facility to maintain staff and student 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 MCTI mission of providing education to Michigan residents with disabilities.

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
	Replace Water Heater	Per facility assessment due to the age and efficiency of the water heater replacement is recommended with a high efficiency, semi-instantaneous condensing unit.	1	\$100,000		
Classrooms	Upgrade lighting	The lighting in the classrooms is inadequate and needs to be updated to more energy efficient fixtures.	2	\$80,000		
Classrooms	Replace Classroom Wing Electrical Transformer	Outdated & unsafe: Electrical transformer in the classroom wing is currently outdated, and should be replaced. The main distribution panel in the same area is also outdated, along with the distribution panel in the Leisure Wing. We also have to trip a switch on the electrical pole near the dorm distribution when the power needs to be turned back on after a repair on an outage. Electrical transformer and main distribution panel in the classroom wing need to be replaced. The old bucket style distribution panel in leisure also needs to be replaced. An SNC 2500 amp switch on the ground needs to be installed by the dorm distribution site.	3	\$300,000		
Roads & Parking Lots	Re-pave Roads & Parking Lots	Roads & parking lots are deteriorating at a rapid rate. Replacement to improve traffic flow & prevent long-term/higher maintenance issues.	4	\$500,000	Main entrance completed in FY17 using DHHS/MRS funds. The remaining drives and parking lots still need to be completed	
Various	Roof Replacements	Majority of roofs are in ill repair and in need of significant repairs/replacement.	5	\$1,500,000		
Landscape	Erosion & Flooding Prevention	Runoff from the adjacent field causes erosion problems behind the chiller and leads to clogging the drain in the drive. Add boulders behind the chiller and above the chain link fence forming a retaining wall. Rev-vegetate side slopes with permanent erosion control grass seed with mulch blanket.	6	\$100,000		
Front & Dorm Entrance	Replace Heated Sidewalks	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.	7	\$100,000		
Public Restrooms	Renovate 10 Public Restrooms	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. 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. Barrier-free access and hardware need to be addressed in some of the public restrooms.	8	\$1,500,000		
	Replace HVAC	Existing central systems are inefficient and incapable of handling diverse heating and cooling demands required at the facility. Most of the mechanical systems are at the end of their useful life and are nearing replacement. We would like to move from a 2 pipe system to 4 pipe system, allow both heat and cooling to run at the same time.	9	\$2,000,000		

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
Pool	Replace Pool Filtration System	The pool filtration system is original to the pool (40 years plus). When we need to replace the filter they must be custom built because of the age of the filtration system.	10	\$60,000		
Dorm	Bathroom Renovations	Bathrooms haven't been updated since structure was built in 1964. Chipped countertops, tile falling off in showers, air vents not functioning properly.	11	\$3,000,000		
Water Tower	Painting	Repaint interior and exterior of the water tower in order to maintain and provide safe water campus wide.	12	\$200,000		
Front Entrance	Front Entrance Restructure	Reconfigure the entrance, add awnings, update locking mechanisms for the doors, and replace carpet.	13	\$200,000		
Admin & Dorm	Replace Chiller Compressors	3 units need to be replaced in the air conditioning system due to age and wear.		\$180,000	Completed	Purchase Orders - Agency Funding
Admin Wing	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.		\$500,000	Completed	Purchase Orders - Agency Funding

## **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 extensive remodeling to ensure safety and clinical functionality. 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 and staff.

### **II. Programming Changes**

Therapeutic programmatic changes have involved the modification and the expansion of the Psychosocial Rehabilitation Program (PSR) that provides 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 renovated for PSR services. 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. 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 sixty 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 roofing replacements, central air conditioning 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 standards for program implementation, where applicable (i.e. federal/industry standards for laboratory facilities, hospitals, compliance with consent decrees, etc.):

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. 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 building renovations 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 extensive modifications to improve orientation and therapeutic measures for the patients, particularly those with neurological impairments. Improved safety measures need to be developed to control access and enhance the lighting for visual contrast. 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. Additional visiting room space is needed to accommodate social gatherings for patients and visitors.

Shared living areas, such as dining rooms and social areas, require a home-like atmosphere that reflects appropriate size. Dining areas must be large enough to accommodate large prosthetic devices and appliances but small enough to foster a social climate that avoids over-stimulation preventing confusion and agitation.

**ATTACHMENT E –  
CARO CENTER**

<b>BUILDING</b>	<b>BUILDING PURPOSE</b>	<b>STATUS</b>	<b>SQ. FT.</b>
COTTAGE 1 - Skyview	Cabin, Housing, Lodging, Residence	Closed	16,152
26 - WK ACTIVITY CENTER.		Closed	25,617
27 - A.E.P - Annex (Adult Education Program)		Active	
27 - THE MEADOWS		Active	25,532
ADMINISTRATIVE BLDG #51	Office Building	Active	59,079
ADULT ACTIVITY #55		Closed	21,897
APARTMENT 108	Cabin, Housing, Lodging, Residence	Closed	5,826
APPLEGATE 106	Cabin, Housing, Lodging, Residence	Closed	22,471
COTTAGE 11 - Mapleview	Cabin, Housing, Lodging, Residence	Closed	11,895
COTTAGE 12 - SPRING OAK	Cabin, Housing, Lodging, Residence	Closed	11,975
COTTAGE 15 - GARDENVIEW	Cabin, Housing, Lodging, Residence	Active	17,124
COTTAGE 16 - WILDWOOD	Cabin, Housing, Lodging, Residence	Active	18,035
COTTAGE 3	Cabin, Housing, Lodging, Residence	Closed	8,731
COTTAGE 5 - WOODSIDE	Cabin, Housing, Lodging, Residence	Closed	10,697
COTTAGE 7 -EDGEWATER	Cabin, Housing, Lodging, Residence	Closed	18,178
COTTAGE 9 - PINEGROVE	Cabin, Housing, Lodging, Residence	Closed	15,210
COTTAGE 9A	Cabin, Housing, Lodging, Residence	Closed	362
COTTAGE10 - SUGARBUSH	Cabin, Housing, Lodging, Residence	Closed	11,881
COTTAGE13 - WESTGATE	Cabin, Housing, Lodging, Residence	Active	17,046
COTTAGE14 - SOUTHLA'NN	Cabin, Housing, Lodging, Residence	Active	16,992
COTTAGE17 - PARKLANE	Cabin, Housing, Lodging, Residence	Closed	11,662
COTTAGE18 CLOSED	Cabin, Housing, Lodging, Residence	Closed	23,215
GROUNDS DEPT BUILDING #122	Office Building	Closed	3,675
LAUNDRY #69	Laundry	Closed	11,195
Lift Station	Utility Storage	Active	
MAINTENANCE SHOP #67	Maintenance Building/Storage	Active	7,247
MAINTENANCE SHOP #68	Maintenance Building/Storage	Active	9,341
MURRAY HALL NO. 57		Closed	10,639
Old Picnic Shelter 700	Pavilion	Closed	
PAVILLION #58	Pavilion	Active	216
Picnic Shelter 80	Pavilion	Closed	
POWERHOUSE #63 (AREA/CAPACITY = BTU/HR)	Utility Storage	Active	35
POWERHOUSE/BUS GARAGE/CAR WASH 118	Maintenance Building/Storage	Active	3,554
PUMP HOUSE #1	Well House	Closed	108
PUMP HOUSE #2	Well House	Closed	108
PUMP HOUSE #3	Well House	Active	108
PUMP HOUSE #4	Well House	Active	169
PUMP HOUSE #5	Well House	Active	169
RESIDENCE 101	Cabin, Housing, Lodging, Residence	Closed	2,237
RESIDENCE 102	Cabin, Housing, Lodging, Residence	Closed	2,237
RESIDENCE 104	Cabin, Housing, Lodging, Residence	Closed	2,913
RESIDENCE 109	Cabin, Housing, Lodging, Residence	Closed	2,699
RESIDENCE 110	Cabin, Housing, Lodging, Residence	Closed	1,893
RESIDENCE 112	Cabin, Housing, Lodging, Residence	Closed	2,245
RESIDENCE 114	Cabin, Housing, Lodging, Residence	Closed	2,455
RESIDENCE AND GARAGE 103	Cabin, Housing, Lodging, Residence	Closed	3,486
RESIDENCE GARAGE	Cabin, Housing, Lodging, Residence	Closed	727
SERVICE BUILDING #66	Utility Storage	Active	44,774
WATER TOWER #65	Utility Storage	Active	50

- 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.):

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 Natural Resources and Environment standards. Several improvements are being recommended by the Department of Natural Resources and Environment 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. Facility infrastructure condition (i.e. roads, bridges, parking structures, lots, etc.):

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 to current and five-year projected programmatic needs:

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. 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:

The most recent energy audit was completed in 1989.

- 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 Caro Center is located on 650 acres near Caro. 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. 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 Caro 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 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; and typically results in taking programming areas out of service while critical projects are being performed.

- 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 more costly 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 13, 14, 15, 16, 27, 51, 66, 67 & 68	Primary & Secondary Electrical Distribution	Upgrade all electrical wiring to current code and increase electrical capability to meet current demands due to increased technology systems.	1	\$1,750,000		
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 13, 14, 27, 51 & 66	Remove and replace all flooring surfaces (tile, linoleum, carpet, etc.).	The flooring in these building contain asbestos in varying amounts. This project will enhance the safety of patients, staff and visitors as well as enhance the overall appearance of the buildings.	3	\$3,200,000		
Caro	Replace Pavement Areas	Remove and replace a significant portion of the existing roadways and parking lots on the Caro Center campus. This project will enhance the safety of patients, staff and visitors. This project should also reduce damage to vehicles.  Note: The Caro Center received funding in AY13 for an engineering firm to survey the existing roads and parking lots and provide a cost estimate for replacement. This has not yet been completed.	4	See Note		
Caro - Building 27	Renovate toilet/shower facilities	Update toilet facilities with shower accommodations in each of the sleeping areas. Remodeling must meet ADA, Department of Consumer Industry Services, fire codes and all other applicable standards.	5	\$1,750,000		
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.	6	\$5,000,000		

## **Five-Year Capital Outlay Plan Components**

### **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**

CFP will be opening an eighth unit in FY17; which increased the bed capacity to a 240-bed psychiatric facility.

### **III. Facility Assessment**

The CFP is a 348,170-square foot facility consisting of three buildings that opened in 2005. The main building comprising 338,660 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 targeting 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 - 338,660 sq. ft. (Main Hospital)

**ATTACHMENT E -  
CENTER FOR FORENSIC PSYCHIATRY**

Storage Building - 4,000 sq. ft.  
Bar Screen Building - 1,440 sq. ft.  
New Warehouse – 4070 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 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. 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. 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*):

See Center for Forensic Psychiatry (CFP) 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, patients, and visitors. The CFP is a 24-hour psychiatric hospital 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 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	Install Fire Roadway Inside Secured Fence	Install paved road to ensure fire trucks can access all of the facility fire hydrants in the event of an emergency.	1	\$400,000		
CFP	Replace Heating Controls/Valves	Existing 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 each installed in the building.	2	\$800,000		
CFP	Automatic Transfer Switch Preventative Maintenance Service	Perform maintenance on all of the automatic transfer switches for the emergency power system. Recommended manufacturer timeframe to implement preventative maintenance has been met.	3	\$175,000		
CFP	Replace Flooring in Patient Areas	The existing flooring has become an infection problem due to age.	4	\$400,000		
CFP	Athletic Field Repairs	The fitness pads, track and basketball court are in need of repairs due to normal wear/usage.	5	\$200,000		
CFP	Repair Terrazzo Flooring	Due to cracking and missing pieces, the terrazzo flooring is in need of repairs to prevent trips and falls in our main street (patient activities area)	6	\$250,000		
CFP	Audio Visual Systems	The AV systems in the Auditorium and the Bureau Conference Room are out dated and in need of replacement. The speaker equipment is not compatible the facility computer equipment.	7	\$300,000		
CFP	Replace Handicap Parking Lot	All asphalt needs to be removed and replaced due to ongoing cracking and heaving Risk of not meeting ADA requirements.	8	\$500,000		
CFP	Upgrade Fire Alarm System	The computer is operating system "windows 98" is obsolete and needs to be replaced.	9	\$75,000		
CFP	Replace Parking Lot Lighting with LED Lights	Will reduce energy usage and increase reliability due to higher efficiency.	10	\$250,000		
CFP	Replace the Building Security System PLC's	The Allen Bradley Programmable Logic Controllers (PLC) are at the end of life for support and replacement.	11	\$800,000		
CFP	Replace Carpetering in Non-Patient Areas.	Carpet in non-patient areas is becoming worn, discolored and frayed.	12	\$300,000		
CFP	Re-Pave Service Area	Replace the asphalt and redesign docking area based on usage and the increased traffic in that area.	13	\$400,000		
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.	14	\$1,200,000		
CFP	Build a Facility Kitchen	Build a kitchen with dining room area connected to the building.	15	\$6,000,000		
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

**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	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

## **Five-Year Capital Outlay Plan Components**

### **I. Mission Statement**

The mission of Hawthorn Center is to provide emotionally disturbed 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, pro-active safety culture.

### **II. Programming Changes**

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. Physical plant capacity was for 120 patients in six units. Spending plan, condition of the physical plant, and behavioral exigencies permit up to 55 patients in four units, however. 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. 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 many patients with minimal or no family contact, and there are patients who are the responsibility of the MDHHS and/or are involved with the juvenile/family court system. There are also adolescents with court ordered treatment due to incompetence to stand trial and not guilty for reasons of insanity. Because of these changes in our patient population, the average length of stay has increased from about 20 days five years ago to about 90 days currently. Consequently, throughput has diminished with decreasing numbers of admissions per year, and longer waiting lists.

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.

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. The Children's Transition Support Team helps to develop these sophisticated plans and technically

## **ATTACHMENT E – HAWTHORN CENTER**

assists the community in maintaining them. The Children's Transition Support Team is housed at Hawthorn Center and supervised by Hawthorn Center Medical Staff.

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

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.

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.

### **III. Facility Assessment**

Hawthorn Center is comprised of Main (North Wing Portion with two closed living units), and the South Wing (four living units). The facility is about 250,000 square feet on roughly 40 acres.

The Main (North Wing portion) was built in 1955 and is a two-story structure constructed of masonry, brick, concrete, and steel. Other sections were added to this section in 1962, 1964, and 1967 that include a laboratory and research area, maintenance area, administrative offices, and the library area. This building houses two closed patient living areas, clinical and business, 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 building houses four patient living areas, reception and visiting area, classrooms for special



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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.

The land that Hawthorn Center occupies has been impacted over the last several years by significant changes to the surrounding ecosystem. These changes may be contributing factors that are causing the building to shift/sink which has resulted in breaks in the supply lines to the South Wing swimming pool, breaks in drainage lines, caused floor drains to heave, and has caused significant water damage to support structures.

Asbestos abatement is necessary in both structures to make even surface improvements such as removing/replacing floor tiles. Heating, ventilation, and cooling systems are manually operated making it very difficult to manage comfort. Due to adjacency issues, the facility is not conducive to current medical community expectations for behavioral care, treatment and services.

The physical plant is continuously assessed for patient safety concerns, including ligature and infection control risks. Although the structure continues to be updated to address these recognized risks, such as through a current Miscellaneous Operating Project, multiple risks are still apparent which will require additional resources to mitigate said risks.

Furniture that is in common areas on patient units and in the hospital lobby is over 20 years old, is worn, presents an infection control risk and should be replaced with furniture designed for a modern behavioral health care facility.

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

Hawthorn Center maintains its accreditation with Joint Commission for Accreditation of Healthcare Organizations. Further, the state Medicaid office monitors for compliance with Medicare and Medicaid Services (CMMS) 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 six patient care areas, a school and dining space. The four patient care living areas

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located in the main building are not currently occupied and would require extensive renovations if patient care were to be provided in these areas. All patient care areas are separate, and present significant line of sight and adjacency issues which make safe and modern behavioral programming challenging.

Main Building - 189,078 sq. ft. (Hospital)

Storage Building - 4,000 sq. ft.

South Wing 99,727 - sq. ft. (Hospital)

- 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.):

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.

Because 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 41 years old. The HVAC systems in both buildings are manual/pneumatic making it near impossible to maintain consistent comfort. In the Main Building, we are currently running on a back-up boiler that can provide about 70 percent of the heat that the failed primary boiler could. The primary boiler is being replaced this year as part of a Miscellaneous Operating Project (MOP). South Wing boiler conditions are good. 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.

The A and G sections of the Main Building have air conditioning provided by window units. This includes the patient's cafeteria, pharmacy, children's library, A/G-section offices. These sections do not have adequate power to support both window air conditioners and computers. Funding would be needed to install central air conditioning to these areas and to upgrade the electric service.

Hawthorn Center's Main building was built over 60 years ago. Plumbing consists of galvanized lead pipe which has become occluded, is experiencing restricted flow and, at times, sections of pipe need to be removed and replaced. To eliminate potential lead exposure from the galvanized pipes in the Main Building,

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the lines are flushed regularly in accordance with recommendations. As these pipes are becoming more and more occluded it is recommended that the galvanized lead plumbing be replaced with copper and PVC plumbing.

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

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

Hawthorn Center has a utility access road behind the hospital which is being upgraded this year as part of a miscellaneous operating project.

The mortise locksets and cylinders that are currently used throughout the hospital are over 40 years old and replacement parts are no longer manufactured.

The A, B, C, D, E, and F sections of the main building have a flat roof which is over 30 years old and is currently in disrepair requiring monitoring and patching. The roof has exceeded its' useful life and should be replaced. Delaying project increases the likelihood that the roof will leak, increasing the risk of mold.

- 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, space for storage of facilities large equipment is limited.

The old/outdated mortise locksets and cylinders are beginning to create both a safety and security risk to building occupants as keys or locksets fail. Staff have reported being trapped in certain areas of the hospital because their keys will no longer work in the door they are attempting to open. Because hospital staff need to be able to move throughout the hospital when responding to an environmental safety emergency, a psychiatric emergency, or a medical emergency, all the mortise locksets and cylinders throughout the entire hospital need to be replaced.

- 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?

The most recent energy audit was completed in February 2009.

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- 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:

Hawthorn Center is located on approximately 40 acres. If there were a need to expand, there is space to do so. The space where cottages were demolished in FY17 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.

**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 Hawthorn 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 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, patients, and visitors. The Hawthorn Center is a 24-hour psychiatric hospital 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 Hawthorne Center mission of providing psychiatric treatment to patients.

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

Building	Project	Brief Project Description	Facility Priority	Cost Estimate	Status	Funding Source
Hawthorn Center	Replace Mortise Locksets & Keys	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 40 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. Safety and Security Risk	1	\$750,000		
Hawthorn Center	Anti-ligature	Secondary ligature risks not addressed in FY16-17 MOP. (Missed Door Knobs and other identified risks)	2	\$500,000		
Hawthorn Center	Replace galvanized plumbing - Main Building	Hawthorn Center's Main building was built over 60 years ago. Plumbing consists of galvanized lead pipe. Replace galvanized plumbing in hospital Main building eliminating potential lead exposure from leaching pipes.	3	\$750,000		
Hawthorn Center	Replace Living Area Common Room Furniture and Hospital Lobby Furniture	Replace furniture in common areas on patient units and in the hospital lobby. Furniture is over 20 years old and presents an infection control risk.	4	\$100,000		
Hawthorn Center	Window Privacy film – South Wing living areas	Patient bedrooms and living area common areas: install privacy film between glass on the lower floor living areas, install privacy glass and glassguard on second floor windows in M, K, L, and classroom wings.	5	\$75,000		
Hawthorn Center	Roof Replacement A, B, C, D, E, and F sections	Roof Replacement - Roof is currently in disrepair requiring monitoring and patching. Delaying project increases risk of mold.	6	\$850,000		
Hawthorn Center	Air Conditioning - Main Building Upper Floors	Air condition Main building upper floor – cafeteria, pharmacy, children's library, A/G-section offices. Current air conditioning provided by window units.	7	\$1,750,000		
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.	8	\$1,650,000		
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.	9	\$300,000		
Hawthorn Center	Ground Water Management/Hydrology Study	The land that Hawthorn Center occupies has been impacted over the last several years by significant changes to the surrounding ecosystem. These changes may be contributing factors that are causing the building to shift/sink which has resulted in breaks in drainage lines, caused floor drains to heave, and has caused significant water damage to support structures.	10	\$30,000		
Hawthorn Center	Building Demolition	Demolish Cottages 1,2,3,4,5			Completed	2016 LSSM & 2016 Agy Operating Funds 391/16189.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.		\$150,000	In Progress	2017 LSSM Allocation Proj #: 391/17162.APL combine with Agy MOP Proj #: 391/16444.APL
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**  
Capital Outlay Five-Year Plan (Attachment E - IV.a.)

Building	Project	Brief Project Description	Facility Priority	Cost Estimate	Status	Funding Source
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 accessible 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

## **Five-Year Capital Outlay Plan – Kalamazoo Psychiatric Hospital**

### **I. Mission Statement**

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

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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 warranted 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.



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- 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, 1<sup>st</sup> 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.

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<b>BUILDING</b>	<b>BUILDING PURPOSE</b>	<b>STATUS</b>	<b>SQ. FT.</b>
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, 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.

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*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 FY 2017 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 power plant.

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.

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*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.

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- 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, Bldg 1	Interior drain lines replacement	Replace the drain/sewer lines in building 1 from the last repair to the exterior sewer system.	4	\$100,000		
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.	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 replacement. This request is for additional funding to complete the work begun with agency funds under MOP #: 391/16442.CAK	3	\$250,000		
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.	5	\$3,500,000		
KPH	Security Upgrade	Add interior security checkpoints and add exterior camera coverage.	2	\$150,000		
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.		\$410,000	In Progress	2017 LSSM Allocation Proj #: 391/17163.CDP
KPH	Various	See Below (\$1,465,000 plus DTMB fees):		\$1,824,350		2016 Agency Operating Funds 391/16442.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.		\$615,000	In Progress	2016 Agency Operating Funds 391/16442.CAK
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 replacement.		\$100,000	In Progress	2016 Agency Operating Funds 391/16442.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.		\$700,000	In Progress	2016 Agency Operating Funds 391/16442.CAK
KPH - Tower Theatre Auditorium	Air Conditioning of the Tower Theatre Auditorium	This area is used by patients for activities as well as staff training. During summer months, the use of the auditorium is limited due to high temperatures.		\$50,000	In Progress	2016 Agency Operating Funds 391/16442.CAK
KPH	Handrail Replacement	Replace eroded handrails outside of buildings 1,2,3,4, & 7 and replace damaged concrete.		\$50,000	In Progress	2017 Agency Operating Funds 391/17272.CAK
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	In Progress	2017 Agency Funds Project #: 391/17273.CAK
KPH	Transformer Replacement	Replace 2 High-Voltage transformers.		\$310,800	Complete	Split 50/50: 2016 LSSM Allocation & Agency Operating Funds Proj #: 391/16264.CAK
KPH - Bldg 1 & Bldg 2	Heat Controllers	This project will complete the heat control project for the entire hospital allowing all heat controllers to be controlled via computer from one location. Heat controllers would operate more efficiently, and reduce heat loss.		\$26,000	Completed	

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 - Facility wide	Replace Insulated Window Glass	There are a number of older windows with insulated glass that have lost their seal causing condensate to form between the panes of glass. This causes windows to fog up and lose insulating power. This is also a cosmetic concern and would enhance the look of the hospital.		\$250,000	Completed	
KPH - Tunnel area between Bldg 4 and power plant	Replacement of Steam and Condensate Piping	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. A consequence of not performing this work would be loss of steam to the facility. If it would be in the winter, both the high pressure steam to the kitchen and the facility heat source for the air handlers would be lost.		\$400,000	Completed	

**ATTACHMENT E-  
WALTER P. REUTHER PSYCHIATRIC HOSPITAL**

**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. WRPH has no planned programming changes.

**III. Facility Assessment**

The WRPH is a 273,844 sq. ft. facility consisting of three buildings that was originally constructed in 1973. The main building comprising 256,982 sq. ft. houses patients. The building needs 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 2017, the daily census averaged 171 patients.

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

Because of the Joint Commission (JC) and Center for Medicaid/Medicare Services (CMS) visit in 2017 deficiencies were cited and repairs completed included; replaced exam tables, installed anti-ligature hand rails in shower room toilet areas on RU1 through RU6.

The current project to complete deficiencies include: install anti-ligature handrails on R1 and R2, install anti-ligature door knobs on patient rooms, install anti-ligature faucet in all patient bathrooms, replace non-anti-ligature patient beds.

FY 2018 continued deficiency completion includes: replace window sills, replace patient wardrobes with anti-ligature lockers, replace ligature handrails on R3 through R6 and all stairwells, install fire suppression system and smoke detectors on all floors. Kitchen area located in basement will require renovation according to CMS physical plant findings of 2017. Kitchen floor does not slope to remove water on floors and old equipment dented holds stagnant water in dish area.

In 2014 JC minor deficiencies were cited and the repairs completed. These items included: Annex egress sidewalk development, mechanical shaft steel platforms,



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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 roadways, and installed new fire suppression system on seventh floor.

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

WRPH completed the construction of an 18,000 sq. ft. A.T. building in 2016 which is connected to the eastside of the hospital. The A.T. building provides the purpose of addressing the space needs for physical activities 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.

Reuther Hospital - 256,982 sq. ft.  
Reuther Administrative Wing - 13,862 sq. ft.  
Power Plant – 3,000 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 (for example, heating, ventilation, and air conditioning (HVAC), water and sewage, electrical, etc.).

The HVAC chillers and cooling tower are beyond their life expectancy. A new HVAC computer system upgrade is being completed in FY18 to ensure proper heating/cooling continues. Replacement of absorption chillers, controls, air handlers, dampers, actuators, and duct boxes are still required to complete the upgrade of the system. The overall system is 40+ years old and past its useful life. Upgrading these systems will increase hospital's cooling capacity and greatly reduce energy consumption and will meet life safety requirements.

High voltage electrical panels and electrical switchgears are also of original construction.

Plumbing systems are of original construction and develop frequent leaks causing disruption to patient care. Domestic hot water system needs updating.

WRPH does have an emergency power generator that provides emergency power 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

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also allow direct observation of the grounds area for patient's activities.

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

Roof on Main Building and Annex are in disrepair past useful life, Main Roof is leaking in several areas with buckets located throughout the seventh floor. Minimal repair/patch was made in 2017 to prolong annual weathering.

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

Replace and install fencing and ground area for patient outside activities for safety and security.

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

Infrastructure systems will be adequate for 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. WRPB 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 WRPB 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**

- 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 Walter Reuther Psychiatric Hospital (WRPB) Capital Outlay Five-Year Plan spreadsheet in this document.

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

Failure to provide 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; and typically results in taking programming areas out of service while critical projects are being performed.

- 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 repair/replacement costs, and disruption in the hospital's mission of providing safe patient care and treatment. Delaying repairs may potentially result in possible 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	Roof Replacement	Existing roof is 40+ years old, leaks and is seperating from parapit.	1	\$985,000		
WRPH	Kitchen Renovation and Upgrade	CMS audit for FY17 identified physical plant issues in Kitchen areas; stagnant water on floors, improper drainage, storage work space.	2	\$1,750,000		
WRPH	Replace Main Transformer	Replace Main Transformer for Hospital - current is 40+ years and needs replacment. Failure would result in complete power loss.	3	\$685,000		
WRPH	Replace fencing and grounds area	Secure outside area for patient movement, activity and programs conducted outside and weekends.	4	\$200,000		
WRPH	Replace granite window sills	Replace broken/loose granite sills - Potential Life Safety Issue with Joint Commission.	5	\$332,000		
WRPH	Replace Entry Doors	Replace front entry lobby doors and rear access point doors per FY17 OAG audit.	6	\$125,000		
WRPH	Install card access	Security access entry for facility doors - Install card access for limited exit doors and entry.	7	\$106,000		
WRPH	Replace exterior joint sealants (windows/doors)	Replacement of all exterior joint sealants	8	\$110,000		
WRPH	Domestic Hot Water System	Heat exchanger and hot water pumps have reached end of useful life approx. 40+ years old.	9	\$110,000		
WRPH	Replace Main Distribution Panel	Replace panel for Facility for Power Distribution - Life Safety Code Issue with Joint Commission	10	\$212,000		
WRPH	Replace Electrical Panel Boards	Replace - due to water damage and age potential Life Safety Code issue with Joint Commission	11	\$289,000		
WRPH	HVAC - Air Handler Upgrade	Install variable motor fans, update Air handlers/return fans, balance air - Cost Energy Efficiecies	12	\$485,000		
WRPH	Replace Duel Duct Boxes	Replace all dual duct boes to update and include DDC controls - current system is past useful life. Convernt pneumatic to electronic.	13	\$320,000		
WRPH	Replace Absorption Chillers and controls	Current are past useful life 40+ years. Life safety issue for patients and staff.	14	\$1,375,000		
WRPH	Replace energy recovery unit and dampers and actuators	Replace unit, dampers and actuators - Potential Life safety Issue with Joint Commission and Energy Savings.	15	\$128,000		
WRPH	Equipment Storage building	Construct equipment storage building to protect trucks, lawn, snow and other equipment from weather conditions. Store bulk salt, dirt, gravel.	16	\$500,000		
WRPH	Site Security Upgrade	Upgrade existing security camera system to meet increased camera installations for fencing and observation areas within/outside the hospital.	17	\$350,000		
WRPH	Upgrade office/training areas	Remove cubicles, design and build office area and meet demand changes of department staffing and operations.. Current configurations and equipment are 30+ years.	18	\$75,000		
WRPH	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 excercise.	19	\$350,000		

**WALTER REUTHER PSYCHIATRIC HOSPITAL (WRPH)**

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

<b>Building</b>	<b>Project</b>	<b>Brief Project Description</b>	<b>Facility Priority</b>	<b>Cost Estimate</b>	<b>Status</b>	<b>Funding Source</b>
WRPH	Various	See Below:		\$1,189,459		Combined 2014 LLSM , 2016 LSSM, 2017 LSSM & 2016 Agency Operating Funds 391/16266.MNB
WRPH	Anti-Ligature	Joint Commission multiple ligature points throughout facility. (Door knobs, hinges)			In Progress	
WRPH	Replace Bathroom Doors on Five Units R2-R6	Remove and Replace 100 bathroom doors existing doors are past useful life and cause safety hazard.			In Progress	
WRPH	Patient and facility safety, fire code compliance	Install new smoke detectors in patient rooms, add fire suppression system throughout patient wards, patient activity and education rooms as well as monitoring points to current fire alarm system.			In Progress	
WRPH	Anti-Ligature	Lockers		\$600,000	In Progress	391/16441.MNB
WRPH	Pyxis Automatic Pharmaceutical	Patient pharmaceutical dispensing system for accuracy.		\$200,000		Hospital Operating Funds

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