

BOARD OF REGENTS

EASTERN MICHIGAN UNIVERSITY

SECTION: 12

DATE:

November 27, 2007

RECOMMENDATION

MONTHLY REPORT-FINANCE, AUDIT AND INVESTMENT COMMITTEE, INFORMATIONAL REPORTS AND INFORMATIONAL PRESENTATIONS

ACTION REQUESTED

It is recommended that the Board of Regents receive and place on file the Monthly Report and Working Agenda for November 27, 2007; the minutes for the September 21, 2007.

STAFF SUMMARY

The Monthly Report and Notes

Regular Agenda items discussed at the September 21, 2007 Finance, Audit and Investment Committee were: the Monthly Report, Information Reports (ICT Initiatives & Grants and Contracts); Informational Presentations (Financial Update and Capital Projects Progress Report); Easements with Ypsilanti Community Utilities Authority, 2008-2009 General Fund Total Financial Aid Request, Consolidated Financial Statements and Supplementary Information as of June 30, 2007 and 2006.

Informational Reports

Included in this section are: Grants and Contracts report for periods September 1 through October 31, 2007 and ICT Strategic Initiatives Progress Report as of November 2007.

Informational Presentations

Informational Presentations includes Financial Update as of September 30, 2007 and Capital Projects Progress Report as of September 30, 2007.

FISCAL IMPLICATIONS

None

ADMINISTRATIVE RECOMMENDATION

The proposed Board action has been reviewed and is recommended for Board approval.

University Executive Officer

Date

EASTERN MICHIGAN UNIVERSITY

Board of Regents

201 Welch Hall

(734) 487-2410

Tuesday, November 27, 2007

2:30 p.m.

FINANCE, AUDIT AND INVESTMENT COMMITTEE

CONSENT AGENDA

- Section 1: Staff Appointments Report (**Action Required**)
- Section 2: Staff Separations/Retirements Report (**Action Required**)

REGULAR AGENDA

- Section xx: Recommendation: Monthly Report Informational Reports and Informational Presentations
- Notes from September 21, 2007 meeting (**Action Required**)
 - Grants & Contracts and ICT Strategic Initiatives Progress Report (Informational Only)
 - Financial Update (Informational Only)
 - Net Assets, Cash & Investments, Accounts Receivable, Budget Status
 - Capital Progress Report
- Section xx: Recommendation: FY 2007 EMU Foundation Annual Report, presented by Laura Wilbanks (**Action Required**)
- Section xx: Recommendation: FY 2009 Capital Outlay Project Request (**Action Required**)
- Section xx: Recommendation: Approval of External Auditors (**Action Required**)
- Section xx: Recommendation: Approval of Mark Jefferson Science Complex Program Manager (**Action Required**)
- Section xx: Recommendation: Approval of Mark Jefferson Science Complex Architect Engineer (**Action Required**)
- Section xx: Recommendation: Approval of Funding for the Eastern Washtenaw Leaders Group Business Incubator (**Action Required**)

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CAPITAL OUTLAY REQUEST FY 2009
FACILITY ASSESSMENT**

The following engineering studies have been performed on selected portions of campus:

- Map the existing system to include GPS location of manholes
- Review the capacity of the existing storm system
- Determine the elevations of the inverts and building basements
- Calculate the required system capacity
- Compare inlet and outlet capacities at each manhole

Dialogue continues regarding a plan of action and the associated costs for the recommendations of these studies.

Chilled Water Sub-Systems

Overview:

The University Chilled Water system is a major component of the HVAC system and is used to provide air conditioning for a large portion of campus. The system is composed of seven main loops utilizing nine (9) steam absorption units totaling 4,014 tons and nine (9) electric chillers totaling 3,539 tons. Buildings are connected to the loops via chilled water supply and return piping running through the steam tunnels or buried underground. Most University pumping systems include a backup condenser water pump and a backup chilled water pump. Cooling is typically needed from mid-April through the end of October. Halle Library requires year-round cooling.

Chilled Water System maintenance requires chiller tube bundles be serviced each winter to keep heat transfer surfaces clean; cooling tower water and chilled water require a constant, active water treatment program to control biological growth and prevent scaling and corrosion; steam absorbers require overhauls at three year intervals to maintain proper operation; and eddie current testing is performed every five years on both electric and absorption units to verify the integrity of the internal tubes.

System Condition and Adequacy:

The campus chilled water loop system lacks redundancy. Many of the components are approaching the end of their useful lives creating the potential for disruption of service. Because the components are so inter-dependent, any single equipment failure could take a loop out of service causing the loss of one or more buildings.

Loop 1 is the Pierce Loop and serves nine (9) buildings. Loop 1 cooling includes three (3), 250-ton steam absorption units with three cooling towers located at Pierce Hall. All units are in good condition. The distribution piping for Loop 1 has experienced several failures and will require repair to other sections which are in poor condition.

Loop 2 is the Mark Jefferson Loop and consists of two (2), 781-ton steam absorbers, one installed in 1998 and one installed in 1969. This loop includes the McKenny ice storage system consisting of one 300-ton electric chiller and nine ice storage tanks. The ice storage

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system has experienced a major control failure which prevents ice-making. This loop serves five (5) buildings. The University has added piping and pumps to connect Halle Library into this loop, allowing the two Mark Jefferson units to be used as backup for the chiller at Halle. The Halle chiller has experienced several failures in the past 2 years. The distribution piping for Loop 2 has experienced several significant failures and will require repair to other sections which are in poor condition.

Loop 3 is the Porter Loop and serves seven buildings. Chillers included in this loop are located in Pray-Harrold and Porter College of Education Building. Porter C.O.E. has one (1), 590-ton steam absorber and one (1), 600-ton electric chiller, both in good condition. Pray-Harrold has one (1), failed 280-ton steam absorber and one (1), 560-ton electric chiller which has undergone a major retrofit and upgrade in 2007. The electric unit continues to use Freon 11 which has environmental issues.

Loop 4 is the Alexander Loop. This loop currently serves two buildings. It consists of three chillers located in Alexander Music Building – one (1), 255-ton electric chiller which is in good condition, and (2), 130-ton steam absorption units, which have exceeded their useful life. The loop is at capacity and is challenged on hot, humid days.

Loop 5 is the College of Business Loop and serves one building. It contains one (1), 320-ton electric chiller. A ten (10) year major overhaul was completed in July of 2006. This unit uses Freon 11 which has environmental issues.

Loop 6 is the Convocation Center Loop and serves one building. It contains two (2), 380-ton electric chillers which are in good condition.

Loop 7 is the New Student Center Loop. It contains two (2), 372 ton centrifugal chillers utilizing R 134-a. This was put into operation in November 2006 and is in good condition.

Eastern Michigan University
Chilled Water Loop
Equipment Data Sheet
Table 12

		CHILLER MODEL & SERIAL NUMBERS		Chiller Type				Run Time (hrs)		Cooling Tower		
Building		Model Number	Serial Number	Electrical (Tonnage)	(Year)	Absorption (Tonnage)	(Year)	2006	Cumulative	(Tonnage)	(Type)	(Year)
Loop 1	Pierce	ABSC022ALP01AAFA	L99M04867M-TRANE			250	1999	3014	15475	250	Marley	1999
		ABSC022A0101AAADA	L95C03092-TRANE			250	1994	2832	33382	250	Marley	1994
		ABSC022A0101AAADA	L95C03091-TRANE			250	1994	3421	20091	250	Marley	1994
	Loop 1 Total		Loop 1 Total			750				750		
Loop 2	Halle-Library	ABTE093FLD01AAABAB	L96K07725-TRANE			852	1998	2882	43220	1000	BAC	1997
	Mark Jefferson	ABSC085FLP01AAA	L98H05010-TRANE			781	1998	2349	24434	1600	Marley	2004
		B8C-3	2782-TRANE			781	1967	1830	47805			
	McKenny	RTHA300FCN0LDUI2LF	U91C03742-TRANE	300	1991			9	14057	300	Marley	1991
	Loop 2 Total			300		2414				2900		
Loop 3	John C. Porter	CVHF064FAIB03UT	L98L06781-TRANE	600	1998			2620	19501	499	Marley	1998
		ABSC05J0LGIF1	L92E13549-TRANE			590	1992	246	29821	400	Marley	1992
										400	Marley	1992
										400	Marley	1992
	Pray-Harold	CVHF050FAF2RB2571	L84M2478U-TRANE	560	1984			0	20994	860	Marley	2000
	Loop 3 Total			1160		590				2559		
Loop 4	Alexander	RTHB255FLC00EN	U95C06249-TRANE	255	1994			2440	14320	250	Marley	1994
		ABSC01C4SG6BCE	L79E01587-TRANE			130	1977	584	53688	250	Marley	1994
		ABSC01C4SG6BCE	L79E01588-TRANE			130		378	53356			
	Loop 4 Total			255		260				500		
Loop 5	College of Business	CVHE032FAV2JC233	L89K03460-TRANE	320	1989			926	33091*	300	Evapco	1989
	Loop 5 Total			320		0				300		
Loop 6	Convocation Center	RTHB380FLF00	U97K05886-TRANE	380	1997			1911	13891	400	Marley	1997
		RTHB380FMF00	U97K05887-TRANE	380	1997			400	5577	400	Marley	1997
	Loop 6 Total			760		0				800		
Loop 7	New Student Center	E2612BE2-A	WA5310045	372	2006			0	0	375	Evapco	2006
		E2612BE2-A	WA5310046	372	2006			0	0	375	Evapco	2006
	Loop 7 Total			744		0				750		
Combined loop totals				3539		4014				8559		

* Note: hour meter replaced January 2006 @ 33091.

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FACILITY ASSESSMENT**

Domestic Water Supply Sub-Systems

Overview:

The University water supply system consists of approximately 13,700 feet of supply line (pipe). Included in this system is a 1,650 foot section of line running through the center of campus. This section was replaced in 1988 in collaboration with the Ypsilanti Community Utilities Authority and is in excellent condition.

System Condition and Adequacy:

The remaining lines on campus are old, and are believed to be in satisfactory condition with the exception of the following sections:

- Line extending West from Porter on West Circle Drive approximately 900 feet.
- Line extending South from Porter on West Circle Drive approximately 600 feet
- Line extending North from Goddard to East Circle approximately 1200 feet in length
- Line extending West from Goddard to West Circle Drive about 750 feet in length. There are 10 water main shut off valves associated with these that need to be replaced plus 5 additional water-main shut-off valves on campus that are in need of repair.

The future plan is to phase the replacement of these line section and valves to minimize the impact on connected building.

Mechanical System Deficiencies By Building
Table 13

Building Name	Building Sq. Ft.	Date Built/ Number	2009 Building Replacement Value	Mechanical System Deficiencies
<u>Before 1900</u>				
Starkweather Hall	8,706	1896	\$ 2,160,294.94	\$ 83,000.00
Welch Hall	36,840	1896	9,141,427.30	291,000.00
Total	45,546	2	\$ 11,301,722.24	\$ 374,000.00
<u>1900-1949</u>				
Sherzer	35,253	1903	\$ 8,747,631.29	\$ 347,000.00
School House	900	1905	622,336.11	2,000.00
Boone	45,210	1914	11,218,347.66	50,000.00
Pease	30,181	1914	7,489,072.11	413,000.00
Roosevelt	75,639	1924	18,768,958.18	1,201,000.00
Ford Hall	33,333	1929	8,271,205.09	512,000.00
McKenny Union	107,103	1931	26,576,392.15	1,735,000.00
Briggs	9,500	1937	2,357,317.03	36,000.00
Rackham	45,890	1938	11,387,081.95	845,000.00
King	61,450	1939	16,930,621.46	162,000.00
Pierce Hall	61,275	1948	15,204,694.83	105,000.00
Total	505,734	11	\$ 127,573,657.86	\$ 5,408,000.00
<u>1950-1969</u>				
Heating Plant	23,856	1951	\$ 41,256,093.12	\$ 4,055,000.00
Bowen	89,220	1955	22,138,928.97	951,000.00
Strong	80,713	1957	20,028,013.59	1,335,000.00
Quirk	58,205	1959	14,442,909.22	707,000.00
Sculpture Studio	4,648	1959	1,153,348.38	13,000.00
Snow	30,035	1959	10,664,566.66	821,000.00
Warner	95,349	1964	23,659,770.66	1,171,000.00
Sill Hall	92,635	1965	22,986,322.40	381,000.00
John W. Porter	143,775	1966	35,676,132.17	138,000.00
Pray Harold	237,108	1967	58,835,655.33	3,325,000.00
Oestrike Stadium	1,312	1968	1,715,994.09	0.00
Ryneason Football Stadium	49,595	1968	14,883,805.48	65,000.00
Mark Jefferson	180,802	1969	64,759,837.54	5,155,000.00
Total	1,087,253	13	\$ 332,201,377.61	\$ 18,117,000.00
<u>1970-1979</u>				
West Cross Street, 611	4,050	1970	\$ 1,004,961.47	\$ 42,000.00
Central Stores	10,140	1972	2,516,125.75	37,000.00
Krusge Center	12,606	1974	3,128,035.62	41,000.00
Total	26,796	3	\$ 6,649,122.84	\$ 120,000.00
<u>1980-1989</u>				
Alexander	86,900	1980	\$ 21,563,247.33	\$ 1,418,000.00
Cooper Building	12,150	1984	3,014,884.40	115,000.00
Olds/Robb Center	180,631	1984	44,821,529.68	2,297,000.00
Paint Research	8,000	1987	2,771,288.24	27,000.00
Corporate Education Center	37,200	1989	10,299,241.29	0.00
Total	324,881	5	\$ 82,470,190.94	\$ 3,857,000.00
<u>1990-1999</u>				
Owen C.O.B.	126,000	1990	\$ 37,813,479.03	\$ 1,308,000.00
Physical Plant	25,300	1995	6,277,907.44	166,000.00
Physical Plant Storage	8,500	1995	2,109,178.39	36,000.00
Team Building	13,536	1995	3,356,804.55	57,000.00
Convocation Center	198,385	1998	49,226,983.00	233,000.00
Greenhouse & Aquatic	5,200	1998	1,290,320.89	0.00
Halle Library	273,715	1998	67,919,266.34	271,000.00
Total	650,636	7	\$ 167,995,939.64	\$ 2,071,000.00
<u>Post 2000</u>				
Everett C. Marshall	70,324	2000	\$ 17,450,101.33	\$ -
Hover	11,021	1941/2002	3,816,523.00	16,000.00
University House	10,700	2003	3,183,669.07	0.00
Student Union	176,000	2006	39,179,536.00	0.00
Total	268,045	4	\$ 63,629,829.40	\$ 16,000.00
<u>Sitework, Drains, & Infrastructure</u>				
Campus Buildings	n/a	n/a	n/a	\$ 2,130,000.00
Coral Sub	n/a	n/a	n/a	0.00
Tunnels	n/a	n/a	n/a	686,000.00
Total	n/a	n/a	n/a	\$ 2,816,000.00
Total Building Deficiencies	2,908,891.00	45	\$ 791,821,840.53	\$ 32,779,000.00

Memo:

Average Cost Per Sq. Ft.

\$ 272.00

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Steam Supply and Distribution System

Steam Supply

Overview:

The EMU Heating Plant supplies steam to campus for all of its heating requirements and that portion of the cooling requirements not supplied with electric chillers. The following steam production equipment is located in the Heating Plant:

- Two (2) 1967 Erie City conventional forced draft boilers rated at 120,000 pounds/hour.
- One (1) 1951 Wickes conventional forced draft boiler rated at 50,000 pounds/hour.
- One (1) 1987 Deltak cogeneration heat recovery boiler rated at 50,000 pounds/hr

The conventional boilers are capable of burning No. 6 and No. 2 fuel oil. There are six underground fuel oil tanks which were installed in 1967, each with a nominal capacity of 30,000 gallons of oil for a total capacity of 180,000 gallons.

System Condition and Adequacy:

The two (2) Erie City boilers are 40 years old but serviceable. Experience has shown that at production rates above 85,000 lbs/hours they shake and vibrate to the point that operating staff are using that as the upper limit for each unit. If operated at higher rates it is expected that service problems would rise exponentially and the life expectancy of these unit would be seriously impacted. Smoke stacks on both units are experiencing deterioration and will require replacement before the boilers need to be replaced.

The 50,000 lb/hr Wickes Boiler while still operable must be fired in a manual base load state. It is inefficient, difficult to operate and control, and is only called into production if no other option is available. This boiler needs to be replaced. Estimated replacement cost is \$3.8 million dollars.

The 50,000 lb/hr Deltak cogeneration boiler can only be use when the cogeneration unit is running. The price of natural gas has caused the University to shut down the cogeneration unit. It is used as back-up to DTE in the event DTE loses one of its two (2) supply lines to campus or during storms for reliability and stability. The boiler is in very good condition.

Auxiliary systems within the plant which are required during steam production are old, but serviceable; or are being replaced on an as needed basis.

The fuel oil storage tanks and system no longer meet the regulatory requirements for Underground Storage Tank (UST) facilities. Public Act 451 of 1994 as amended in the Flammable Liquid / Combustible Liquid (FL/CL) Rules requires that the University be in compliance by August 13, 2008. Due to the single walled type of tanks currently installed and their age it is not possible to bring the current system into compliance. Since 1951 the University has maintained an alternate fuel capability for producing steam in the event that the primary source of fuel, natural gas was interrupted. In the winter, loss of heat on campus from loss of the primary fuel supply could potentially result in millions of dollars of damage from frozen water lines and heating coils. In addition to physical damage to

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University assets, without heat normal business operations and classes would have to be canceled, and residents would not be able to stay in the residence halls. EMU affords significant benefits by having an alternative fuel capability available in the event of primary fuel supply loss. Eastern Michigan University's exposure and risks are greatly reduced by the oil tank farm. The storage tanks and system are scheduled for replacement (Self - Funded) during the Summer of 2008.

Improvements Completed or Schedule for Completion are as follows:

- | | |
|---|---------------|
| • Emergency Black Start Generator Rebuilt | June 2007 |
| • SCADA System Upgrade | October 2007 |
| • Feed water Pumps 1 and 5 replacement | December 2007 |
| • Condensate Polisher Tank Replacement | June 2008 |
| • Water Softeners | June 2008 |
| • Reverse Osmosis Water Treatment System | June 2008 |
| • Make-Up Water Well | June 2008 |
| • Tank Farm Replacement | August 2008 |

Steam Distribution Sub-Systems

Overview:

The steam distribution system is a major component of the campus mechanical systems supplying the energy needed to heat the majority of the main campus building from a central Heating Plant. The steam distribution piping runs from the Heating Plant through two tunnel systems: 1) the North loop running from the Heating Plant eastward to Alexander Music Building serves most of the buildings on the North half of campus and is approximately 5,000 feet in length including a six inch spur line serving the Student Center, and 2) the South loop which is approximately 4,620 feet in length and runs from the Heating Plant southeast toward Sherzer then branching off in two directions to Pease and Goddard Hall.

The steam lines transport the steam at 40 pounds per square inch (psi) and vary in diameter from fourteen inches at the Heating Plant to six inches at the far extremity between Goddard and Alexander. While the North and South tunnels are not connected, the steam lines are joined between Goddard and Alexander by this six-inch line. Additionally, an eight inch steam line provides 120 psi steam to the two-stage steam absorber at Halle Library via the South tunnel.

System Condition and Adequacy:

The North and South tunnels are cast-in-place concrete, which appears to be in good condition with the exception of some isolated areas showing structural distress in the form of varying degrees of reinforcement corrosion and concrete spalling due to water infiltration. There is water seepage in the tunnel at various expansion joints. Drainage and ventilation needs to be improved. Pipe support systems are comprised of painted steel frames, located at a twelve to fifteen foot interval. These frames are experiencing varying stages of corrosive deterioration. The steam lines, expansion joints, and condensate return lines are in serviceable condition. The asbestos insulation was surveyed and areas of deterioration were either removed and reinsulated, or encapsulated. All remaining lines are original and insulated with asbestos. The ingress and egress points also need repair and modification, as well as security system renovation.

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A listing of repairs required in the tunnels includes:

- Repair spalled concrete and corroded reinforcement steel
- Improve drainage by cutting a wider trench and removing mineral deposits
- Install new and/or repair existing sump pumps
- Install new and/or repair existing ventilation fans
- Repair condensate leaks
- Repack steam line expansion joints
- Replace corroded pipe support frames and exposed steel (painted)
- Selective sealing of exterior joints
- Repair the lighting system
- Encapsulate insulation systems
- Repair manhole steps and lock down system
- Repair mechanical room entry and exit doors
- Repack/rebuild leaking steam and condensate valves
- Install new isolation valves as needed
- Repair traps as needed

Improvements Completed:

- Replaced five (5) sump pumps
- Water infiltration repair
- Ann Street Ventilation Fan
- Goddard Ventilation Intake
- McKenny Ventilation Intake
- Sherzer Ventilation Intake
- Repaired/replaced eighty-four (84) pipe support stanchions
- Hover supply and return piping and pump
- North Loop lighting/power circuit repair
- Repaired fifteen (15) Steam Line expansion joints
- McKenny Steam/Condensate Line Replaced

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CAPITAL OUTLAY REQUEST FY 2009
FACILITY ASSESSMENT**

ELECTRICAL SYSTEMS (BUILDINGS)

Overview:

The electrical system components within each building include: power transformers, switchgear, power distribution panel main breakers, electric distribution wiring, branch circuit breaker panels, motor control fuse switches and starters, receptacles, and lighting. Like mechanical systems, these systems are vital, complex and intra-dependent. Failure in one component can result in complete system failure.

System Condition and Adequacy:

The average age of Electrical Systems in General Fund buildings is 26 years (19 buildings have electrical systems at least 30 years old). As these electrical systems age, replacement parts have become increasingly difficult to obtain. Furthermore, the older systems were not designed to meet contemporary technology demands. In many instances the systems are at maximum capacity limiting the University's ability to support new educational programs. The University has identified over \$7.6 million dollars in electrical system deficiency needs in the General Fund buildings with 18% of the deficiencies in Pray-Harold and Mark Jefferson. Electric distribution system deficiencies include outdated inefficient lighting systems, an inadequate number of distribution circuits and panels with no spare breakers, or electric capacity. The electrical system deficiency cost estimates pertain to existing systems and do not reflect the cost to expand electrical capacity that is needed in Pray-Harold and Mark Jefferson.

Since 2004 the University has spent nearly \$1.1 million preserving the electrical system assets of campus facilities. EMU's future investments in the electrical systems of campus buildings are detailed in the 2009-2013 Asset Preservation Listing within the Implementation Plan later in this document.

Improvements Completed:

Installation of new energy efficient lamps and ballasts have been, or will be, completed as follows (improvements more than five (5) years old are not included):

- | | |
|-------------------|-------------------------|
| • Mark Jefferson | Completed December 2006 |
| • Cooper Building | Completed December 2006 |
| • Alexander Music | Completion June 2008 |

Electrical System Deficiencies By Building

Table 14

Building Name	Building Sq. Ft.	Date Built/ Number	2009 Building Replacement Value	Electrical System Deficiencies
<u>Before 1900</u>				
Starkweather Hall	8,706	1896	\$ 2,160,294.94	\$ 10,000.00
Welch Hall	36,848	1896	9,141,427.30	125,000.00
Total	45,554	2	\$ 11,301,722.24	\$ 135,000.00
<u>1900-1949</u>				
Sherzer	35,253	1903	\$ 8,747,631.29	\$ 195,000.00
School House	900	1905	622,336.11	0.00
Buone	45,210	1914	11,218,347.66	10,000.00
Pease	30,181	1914	7,489,072.11	168,000.00
Roosevelt	75,639	1924	18,768,956.18	138,000.00
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Total	505,734	11	\$ 127,573,857.86	\$ 1,763,000.00
<u>1950-1969</u>				
Heating Plant	23,856	1951	\$ 41,256,093.12	\$ 1,691,000.00
Bowen	89,220	1955	22,138,928.97	211,000.00
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Sculpture Studio	4,648	1959	1,153,348.38	45,000.00
Snow	30,035	1959	10,664,566.66	203,000.00
Warner	95,349	1964	23,659,770.66	271,000.00
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John W. Porter	143,775	1966	35,676,132.17	0.00
Pray Harold	237,108	1967	55,835,655.33	1,160,000.00
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<u>1970-1979</u>				
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<u>1980-1989</u>				
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Corporate Education Center	37,200	1989	10,299,341.29	0.00
Total	324,881	5	\$ 82,470,190.94	\$ 185,000.00
<u>1990-1999</u>				
Owen C.O.B.	126,000	1990	\$ 37,813,479.03	\$ 50,000.00
Physical Plant	25,300	1995	6,277,907.44	0.00
Physical Plant Storage	8,500	1995	2,109,178.39	0.00
Team Building	13,536	1995	3,358,804.55	0.00
Convocation Center	198,385	1998	49,226,983.00	0.00
Greenhouse & Aquatic	5,200	1998	1,290,320.89	0.00
Halle Library	273,715	1998	67,919,266.34	0.00
Total	650,636	7	\$ 167,995,939.64	\$ 50,000.00
<u>Post 2000</u>				
Everett C. Marshall	70,324	2000	\$ 17,450,101.33	\$ 3,000.00
Hoover	11,021	1941/2002	3,816,523.00	30,000.00
University House	10,700	2003	3,183,669.07	0.00
Student Union	176,000	2006	39,179,536.00	0.00
Total	268,045	4	\$ 63,629,829.40	\$ 33,000.00
<u>Sitework, Drains, & Infrastructure</u>				
Campus Buildings	n/a	n/a	n/a	\$ 910,000.00
Coral Sub	n/a	n/a	n/a	0.00
Tunnels	n/a	n/a	n/a	0.00
Total	n/a	n/a	n/a	\$ 910,000.00
Total Building Deficiencies	2,908,891.00	45	\$ 915,218,405.53	\$ 7,566,000.00

Memo:

Average Cost Per Sq. Ft.

\$ 272.00

**EASTERN MICHIGAN UNIVERSITY
CAPITAL OUTLAY REQUEST FY 2009
FACILITY ASSESSMENT**

ELEVATOR SYSTEMS

Overview:

The elevator equipment at Eastern Michigan University varies in age and condition. The oldest General Fund building elevator car still in service was installed in 1936. Elevators are a vital component to meet the ADA requirements and provide access to our campus buildings and facilities. There are a total of 44 elevators in General Fund buildings.

System Condition and Adequacy:

All 44 elevators are maintained by the Physical Plant staff and are continuously evaluated for condition safety. Nine (9) elevators need to be updated to meet current ADA compliance. There are five buildings of two or more stories that do not have elevators.

Funding was allocated for separate elevator modernization projects in the Mark Jefferson (\$0.61 million), Pray-Harrold (\$0.82 million) and Snow Health Center (\$0.18 million) buildings. Snow Elevator was funded from the FY2005 Asset Preservation. Mark Jefferson and Pray-Harrold elevator modernization projects were funded with Facility Fee Funds. Since 2004 the University has spent nearly \$1.8 million preserving the elevator assets of campus facilities.

The University has identified over \$2.6 million in Elevator System deficiency needs in the General Fund buildings. EMU's future investments in the elevator systems of campus buildings are detailed in the 2009-2013 Asset Preservation Listing within the Implementation Plan later in this document.

Improvements Completed:

Recent Elevator System improvements on campus include, but are not limited to, the following:

- | | |
|---|--------------------------|
| • Snow Health Center Elevator | Completed October 2005 |
| • Mark Jefferson Elevators (3 systems/cars) | Completed September 2006 |
| • Pray-Harrold Elevators (4 systems/cars) | Completed December 2006 |

Elevator System Deficiencies By Building

Table 15

Building Name	Building Sq. Ft.	Date Built/ Number	2009 Building Replacement Value	Elevator System Deficiencies
<u>Before 1900</u>				
Starkweather Hall	8,706	1896	\$ 2,160,294.94	\$ 150,000.00
Welch Hall	36,840	1896	9,141,427.30	45,000.00
Total	45,546	2	\$ 11,301,722.24	\$ 195,000.00
<u>1900-1949</u>				
Sherzer	35,253	1903	\$ 8,747,631.29	\$ -
School House	900	1905	622,336.11	0.00
Boone	45,210	1914	11,218,347.66	50,000.00
Pease	30,181	1914	7,489,072.11	5,000.00
Roosevelt	75,639	1924	18,768,958.18	0.00
Ford Hall	33,333	1929	8,271,205.09	0.00
McKenny Union	107,103	1931	26,576,392.15	210,000.00
Briggs	4,500	1937	2,357,317.03	0.00
Rackham	45,890	1938	11,387,081.95	120,000.00
King	61,450	1939	16,930,621.46	200,000.00
Pierce Hall	61,275	1948	15,204,694.83	55,000.00
Total	505,734	11	\$ 127,573,657.86	\$ 640,000.00
<u>1950-1969</u>				
Heating Plant	23,856	1951	\$ 41,256,093.12	\$ -
Bowen	89,220	1955	22,138,928.97	40,000.00
Strong	80,713	1957	20,028,013.59	170,000.00
Quirk	55,205	1959	14,442,909.22	15,000.00
Sculpture Studio	4,648	1959	1,153,348.38	0.00
Snow	30,035	1959	10,664,566.66	0.00
Warner	95,349	1964	23,659,770.66	160,000.00
Sill Hall	92,635	1965	22,986,332.40	120,000.00
John W. Porter	143,775	1966	35,676,132.17	0.00
Pray Harrold	237,108	1967	58,835,655.33	0.00
Oestrike Stadium	1,312	1968	1,715,994.09	0.00
Rynearson Football Stadium	49,595	1968	14,883,805.48	0.00
Mark Jefferson	180,802	1969	64,759,837.54	0.00
Total	1,087,253	13	\$ 332,201,377.61	\$ 505,000.00
<u>1970-1979</u>				
West Cross Street, 611	4,050	1970	\$ 1,004,961.47	\$ -
Central Stores	10,140	1972	2,516,125.75	0.00
Kresge Center	12,606	1974	3,128,035.62	0.00
Total	26,796	3	\$ 6,649,122.84	\$ -
<u>1980-1989</u>				
Alexander	86,900	1980	\$ 21,563,247.33	\$ 150,000.00
Cooper Building	12,150	1984	3,014,884.40	36,000.00
Olds/Robb Center	180,631	1984	44,821,529.68	250,000.00
Paint Research	8,000	1987	2,771,288.24	0.00
Corporate Education Center	37,200	1989	10,299,241.29	0.00
Total	324,881	5	\$ 82,470,190.94	\$ 436,000.00
<u>1990-1999</u>				
Owen C.O.B.	126,000	1990	\$ 37,813,479.03	\$ 95,000.00
Physical Plant	25,300	1995	6,277,907.44	0.00
Physical Plant Storage	8,500	1995	2,109,178.39	0.00
Team Building	13,536	1995	3,358,804.55	0.00
Convocation Center	198,385	1998	49,226,983.00	20,000.00
Greenhouse & Aquatic	5,200	1998	1,290,320.89	0.00
Halle Library	273,715	1998	67,919,260.34	50,000.00
Total	650,636	7	\$ 167,995,939.64	\$ 165,000.00
<u>Post 2000</u>				
Everett C. Marshall	70,324	2000	\$ 17,450,101.33	\$ -
Hover	11,021	1941/2002	3,816,523.00	22,000.00
University House	10,700	2003	3,183,659.07	0.00
Student Union	176,000	2006	39,179,536.00	0.00
Total	268,045	4	\$ 63,629,829.40	\$ 22,000.00
<u>Sitework, Drains, & Infrastructure</u>				
Campus Buildings	n/a	n/a	n/a	\$ 675,000.00
Coral Sub	n/a	n/a	n/a	0.00
Tunnels	n/a	n/a	n/a	0.00
Total	n/a	n/a	n/a	\$ 675,000.00
<u>Total Building Deficiencies</u>				
	2,906,891.00	45	\$ 791,821,840.53	\$ 2,632,000.00

Memo:

Average Cost Per Sq. Ft.

\$ 172.00

EASTERN MICHIGAN UNIVERSITY
CAPITAL OUTLAY REQUEST FY 2009
FACILITY ASSESSMENT

FIRE PROTECTION SYSTEMS

Overview:

The Fire Protection category, formerly referred to as Life Safety, within the building includes the fire alarm system, central alarm reporting system, fire sprinkler system, fire pumps, standpipes, portable fire extinguishers, special hazard protection systems, components of the means of egress such as exit signs and emergency lighting systems, fire doors, and eye wash/shower systems.

Systems Condition and Adequacy:

The University Fire Protection systems are functional but many have aged to the point of requiring repair or replacement. The University's central reporting (Keltron) system that reports fire and trouble alarms to the Department of Public Safety (DPS) has been updated and is complete. The University continues to schedule buildings with old conventional systems to be upgraded giving DPS the ability to receive point-specific information from buildings having addressable fire alarm systems. This information will allow DPS to know the location and nature of the alarm prior to arrival at the facility. This upgrade system will have improved reliability and redundancy with loop connectivity between all buildings.

The following buildings are completed with the ability to send this point-specific information to DPS:

General Fund

- Boone
- Convocation Center
- Ford
- Hover
- Mark Jefferson
- Marshall
- Porter
- Rackham
- Warner
- Student Center
- University House

The University has identified over \$4 million dollars in Fire Protection System deficiency needs in General Fund buildings. Since 2004 the University has spent nearly \$0.78 million preserving the Fire Protection assets of campus facilities. EMU's future investments in the Fire Protection systems of campus buildings are detailed in the 2009-2013 Asset Preservation Listing within the Implementation Plan later in this document.

**EASTERN MICHIGAN UNIVERSITY
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FACILITY ASSESSMENT**

Fire Alarm System Replacements have been completed or are scheduled as follows:

- | | |
|--------------------|------------------------|
| • Ford | Completed October 2004 |
| • Warner | Completed June 2005 |
| • Mark Jefferson | Completed June 2005 |
| • Sculpture Studio | Completion June 2008 |
| • Alexander | Completion June 2008 |
| • Cooper | Completion June 2008 |
| • Sill | Completion June 2009 |
| • Roosevelt | Completion June 2010 |
| • Briggs | Completion June 2011 |
| • Rynearson | Completion June 2011 |
| • Snow | Completion June 2012 |
| • Bowen | Completion June 2013 |

Fire Protection System Deficiencies By Building

Table 16

Building Name	Building Sq. Ft.	Date Built/ Number	2009 Building Replacement Value	Fire Protection System Deficiencies
<u>Before 1900</u>				
Starkweather Hall	8,706	1896	\$ 2,160,294.94	\$ 20,000.00
Welch Hall	36,840	1896	9,141,427.30	0.00
Total	45,546	2	\$ 11,301,722.24	\$ 20,000.00
<u>1900-1949</u>				
Sherzer	35,253	1903	\$ 8,747,631.29	\$ 48,000.00
School House	900	1905	622,336.11	0.00
Roone	45,210	1914	11,218,347.66	0.00
Pease	30,181	1914	7,489,072.11	0.00
Roosevelt	75,639	1924	18,768,958.18	250,000.00
Ford Hall	33,333	1929	8,271,205.09	0.00
McKenny Union	107,103	1931	26,576,392.15	275,000.00
Briggs	9,500	1937	2,357,317.03	75,000.00
Rackham	45,890	1938	11,387,081.95	0.00
King	61,450	1939	16,930,621.46	50,000.00
Pierce Hall	61,275	1948	15,204,694.83	225,000.00
Total	505,734	11	\$ 127,573,657.86	\$ 923,000.00
<u>1950-1969</u>				
Heating Plant	23,856	1951	\$ 41,256,093.12	\$ 100,000.00
Bowen	89,220	1955	22,138,928.97	175,000.00
Strong	80,713	1957	20,028,013.59	225,000.00
Quirk	58,205	1959	14,442,909.22	0.00
Sculpture Studio	4,648	1959	1,153,348.38	0.00
Snow	30,035	1959	10,664,566.66	200,000.00
Warner	95,349	1964	23,659,770.66	155,000.00
Sill Hall	92,635	1965	22,986,322.40	200,000.00
John W. Porter	143,775	1966	35,676,132.17	0.00
Pray Harold	237,108	1967	58,835,655.33	200,000.00
Oestrike Stadium	1,312	1968	1,715,994.09	0.00
Rynearson Football Stadium	49,595	1968	14,883,805.48	60,000.00
Mark Jefferson	180,802	1969	64,759,837.54	0.00
Total	1,087,253	13	\$ 332,201,377.61	\$ 1,315,000.00
<u>1970-1979</u>				
West Cross Street, 611	4,050	1970	\$ 1,004,961.47	\$ -
Central Stores	10,140	1972	2,516,125.75	10,000.00
Kresge Center	12,606	1974	3,128,035.62	0.00
Total	26,796	3	\$ 6,649,122.84	\$ 10,000.00
<u>1980-1989</u>				
Alexander	86,900	1980	\$ 21,563,247.33	\$ -
Couper Building	12,150	1984	3,014,884.40	0.00
Olds/Robb Center	180,631	1984	44,821,529.68	55,000.00
Paint Research	8,000	1987	2,771,288.24	0.00
Corporate Education Center	37,200	1989	10,299,241.29	0.00
Total	324,881	5	\$ 82,470,190.94	\$ 55,000.00
<u>1990-1999</u>				
Owen C.O.B.	126,000	1990	\$ 37,813,479.03	\$ 400,000.00
Physical Plant	25,300	1995	6,277,907.44	0.00
Physical Plant Storage	8,500	1995	2,109,178.39	0.00
Team Building	13,536	1995	3,358,804.55	0.00
Convocation Center	195,385	1998	49,226,983.00	10,000.00
Greenhouse & Aquatic	5,200	1998	1,290,330.89	0.00
Halle Library	273,715	1998	67,919,266.34	0.00
Total	656,636	7	\$ 167,995,939.64	\$ 410,000.00
<u>Post 2000</u>				
Everett C. Marshall	70,324	2000	\$ 17,450,101.33	\$ -
Hoover	11,021	1941/2002	3,816,523.00	0.00
University House	16,700	2003	3,183,669.07	0.00
Student Union	176,000	2006	39,179,536.00	0.00
Total	268,045	4	\$ 63,629,829.40	\$ -
<u>Sitework, Drains, & Infrastructure</u>				
Campus Buildings	n/a	n/a	n/a	\$ 1,298,000.00
Coral Sub	n/a	n/a	n/a	0.00
Tunnels	n/a	n/a	n/a	0.00
Total	n/a	n/a	n/a	\$ 1,298,000.00
<u>Total Building Deficiencies</u>				
	2,905,891.06	45	\$ 791,821,840.53	\$ 4,031,000.00

Memo:

Average Cost Per Sq. Ft.

\$ 272.00

**EASTERN MICHIGAN UNIVERSITY
CAPITAL OUTLAY REQUEST FY 2009
FACILITY ASSESSMENT**

ELECTRIC SUPPLY AND DISTRIBUTION SYSTEMS

Overview:

The Electrical Supply and Distribution System consists of an electric substation (Coral Substation) containing two 15/20/25.000 kVa transformers supplied by two separate DTE 40 kV feeder lines. The substation is supplying the campus with power at 13,200-volts (13.2 kV). Two new 13.2 kV distribution loops are served directly from the new substation, and two 13.2 kV tie lines connect the new substation to the Heating Plant 4800-volt buss through 2 step-down transformers. Two distribution loops served from the Heating Plant are operated at 4,800-volts. The Heating Plant includes a 3.5-megawatt turbine cogeneration unit. These improvements were the result of a University \$5.5 million dollar self-funded project in fiscal year 1999. This phase I electrical distribution project relieved many of the critical deficiencies in the Electrical Supply and Distribution system.

System Condition and Adequacy:

The University has taken steps to limit or contain increased loading on the all campus feeders, by selective use of steam versus electric chillers during the expected peak period, and load shedding selective motors and chillers. Additionally, the University has begun a lighting retrofit program that will reduce energy consumption. Campus electrical peak demand and loop loading is reported below. Evidence of efforts in load control is shown by the decrease in coincident demands since 2002. In 2007 the construction of the Student Center representing 1.2 MW in peak demand was added to the Electrical Supply and Distribution system. It should be noted that while non-coincident peak demand on loop where the Student Center is located grew .62 MW, that through aggressive load control efforts Campus Coincident Peak Demand grew by only .223 MW of Demand.

Campus Coincident Peak Demand		Loop Non-Coincident Peak Demand	
Year	Demand (MW)		(MW)
1997	8.700	Loop 1	2.062
1998	9.200	Loop 2	2.448
1999	9.130	Loop 3	3.596
2000	9.231	Loop 4	2.167
2001	9.225		
2002	9.472	Total Non - Coincident	10.273
2003	8.769		
2004	8.453		
2005	8.764		
2006	8.585		
2007	8.808		

The 1999 Utility Master Plan prepared by Stanley Consultants, Inc. identified a number of deficiencies in the electric supply and distribution system. Construction of the new 42/13.2 kV Coral substation

**EASTERN MICHIGAN UNIVERSITY
CAPITAL OUTLAY REQUEST FY 2009
FACILITY ASSESSMENT**

with two 15/20/25,000 kVa transformers fed from two (2) DTE Energy 40 kV transmission lines, construction of the 12-cell duct bank between the substation and the Heating Plant and installation of two new 13,200-volt feeders from Coral Substation to the Heating Plant eliminated the first major issue of DTE Supply capacity and reliability. Other deficiencies remain and are summarized as follows:

1. EMU's 4,800-volt distribution circuits were loaded near capacity during the peak period.
2. Sections of the 4,800-volt distribution circuits and cables had been in operation 30 to 40 years and are lead-paper insulated.

Loops 3 and 4 have been converted to 13.2 kV, with the final 2400-foot section of Loop 3 converted in September 2005. These two loops are served directly from Coral Substation.

Loops 1 and 2 continue to supply main campus from the Heating Plant at 4800-volts, with each loop being normally open at their respective mid-points. Loop cables in the underground duct bank are the old 450-kcmil lead paper insulation cable. These 4800-volt distribution cables have outlived their useful lives. Each building has its own 4800-volt service transformer and loop switches, which require upgrading to 13.2 kV.

Loop loading continues to be a concern for Loops 1 and 2. Loop metering has been upgraded at the Heating Plant on Loops 1 and 2 in order to more accurately track loop loading. The new metering connects to the Heating Plant SCADA system which was installed with the Coral Substation. Loops 1 and 2 have minimal growth capacity. As a result, construction of new facilities on these distribution feeders will necessitate upgrading the feeder involved to 13,200 volts to eliminate the potential for overloading, and ultimately cable failure. When approval of the capital projects funding for Pray-Harold and Mark Jefferson occurs, the Loop 2 cables will need to be converted to 13.2 kV to each building in order to provide a reliable electrical service.

Master Plan recommendations included a phased construction approach, to meet the long-term projected campus load growth. Future planning includes:

1. Extend the new 13.2 kV distribution circuits to supply all existing and new loads on the Main Campus.
2. All new construction will be developed using the 13.2 kV sub-station.
3. Mapping to include manhole surveys with GPS locations on as-built drawings. - Completed
4. Continue to implement a power monitoring system. - Completed
5. Conversion of the Heating Plant, all conductors, and all building transformers in the campus distribution system. A phased approach will be used to avoid disruptions in normal business.
6. Future building additions on main campus at EMU will require conversion of the Loop serving the project in order to insure the electrical system will have adequate capacity during the peak loading period and provide a reliable source of power for the building project.

EASTERN MICHIGAN UNIVERSITY
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FACILITY ASSESSMENT

Funding Requirements:

Phase I – \$5.5 million - Complete

Phase II - \$3,284,000

Conversion of the following:

Heating Plant Switchgear

Generator

Loop 1/1a and 2/2a to first set of buildings (four buildings)

3400 feet of distribution circuit conductors

Phase III - \$ 2,964,000

Conversion of the following:

\$1,707,000 - 15 Building Transformers and 10,600 ft cable Loop 1

\$1,258,000 - 7 Building Transformers and 9300 ft cable Loop 2

Improvements Completed:

Loop 3 conversion to 13.2 kV

Completed September 2005

Campus Electrical Metering/Monitoring

Completed September 2006

Electric System Mapping

Completed September 2007

EASTERN MICHIGAN UNIVERSITY
CAPITAL OUTLAY REQUEST FY 2009
FACILITY ASSESSMENT

SITE WORK and DRAINAGE SYSTEMS

Overview:

Site work and drainage systems are integral components of primary building systems and include sidewalks, loading docks, exterior ADA improvements, and signage. An assessment of these systems has identified over \$750,000 in needed improvements. Improving these systems will protect the University's assets and enhance the image of the owner and the quality of life on campus.

System Condition and Adequacy:

These systems have been continually evaluated and consequently two (2) miles of sidewalks has been replaced in the past three (3) years with another one (1) mile to be completed in the next year. Drainage repairs have been accomplished to prevent flooding, minimize damage to building system and landscaping. This work has included installation of new drain tile, repair of catch basins, curbing, and re-grading of certain areas. A continual campus landscape evaluation takes places to install new trees, repair turf, and revitalize landscaping on an as needed basis. Improvements adhere to ADA and building code requirements, resulting in a safer and more accessible campus.

- Oestrike Turf Replacement

Completed May 2007

Site Work and Drainage System Deficiencies by Buildings
Table 17

<u>Building Name</u>	<u>Building Sq. Ft.</u>	<u>Date Built/ Number</u>	<u>2009 Building Replacement Value</u>	<u>Site Work & Drainage System Deficiency</u>
<u>Before 1900</u>				
Starkweather Hall	8,706	1896	\$ 2,160,294.94	\$ -
Welch Hall	36,840	1896	9,141,427.30	-
Total	45,546	2	\$ 11,301,722.24	\$ -
<u>1900-1949</u>				
Sherzer	35,253	1903	\$ 8,747,631.29	\$ -
School House	900	1905	622,336.11	-
Boone	45,210	1914	11,218,347.66	-
Pease	30,181	1914	7,489,072.11	-
Roosevelt	75,639	1924	18,768,958.18	6,000.00
Foru Hall	33,333	1929	8,271,205.09	-
McKenny Union	107,103	1931	26,576,392.15	-
Briggs	9,500	1937	2,357,317.03	-
Rackham	45,890	1938	11,387,081.95	-
King	61,450	1939	16,930,621.46	-
Pierce Hall	61,275	1948	15,204,694.83	-
Total	505,734	11	\$ 127,573,657.86	\$ 6,000.00
<u>1950-1969</u>				
Heating Plant	23,856	1951	\$ 41,256,093.12	\$ -
Bowen	89,220	1955	22,138,928.97	-
Strong	80,713	1957	20,028,013.59	-
Quirk	58,205	1959	14,442,909.22	-
Sculpture Studio	4,648	1959	1,153,348.38	-
Snow	30,035	1959	10,664,566.66	-
Warner	95,349	1964	23,659,770.66	-
Sill Hall	92,635	1965	22,986,322.40	-
John W. Porter	143,775	1966	35,676,132.17	150,000.00
Pray Harold	237,108	1967	58,835,655.33	-
Oestrich Stadium	1,312	1968	1,715,994.09	-
Rynearson Football Stadium	49,595	1968	14,883,805.48	-
Mark Jefferson	180,802	1969	64,759,837.54	-
Total	1,087,253	13	\$ 322,201,377.61	\$ 150,000.00
<u>1970-1979</u>				
West Cross Street, 611	4,050	1970	\$ 1,004,961.47	\$ -
Central Stores	16,140	1972	2,516,125.75	-
Kresge Center	12,606	1974	3,128,035.62	-
Total	26,796	3	\$ 6,649,122.84	\$ -
<u>1980-1989</u>				
Alexander	86,900	1980	\$ 21,563,247.33	\$ -
Couper Building	12,150	1984	3,014,884.40	-
Olds/Robb Center	180,631	1984	44,821,529.68	-
Paint Research	8,000	1987	2,771,288.24	-
Corporate Education Center	37,200	1989	10,299,241.29	-
Total	324,881	5	\$ 82,470,190.94	\$ -
<u>1990-1999</u>				
Owen C.O.B.	126,000	1990	\$ 37,813,479.03	\$ -
Physical Plant	25,300	1995	6,277,907.44	-
Physical Plant Storage	8,500	1995	2,109,178.39	-
Team Building	13,536	1995	3,358,804.55	-
Convocation Center	198,385	1998	49,226,983.08	-
Greenhouse & Aquatic	5,200	1998	1,290,320.89	-
Halle Library	273,715	1998	67,919,266.34	-
Total	650,636	7	\$ 167,995,939.64	\$ -
<u>Post 2000</u>				
Everett C. Marshall	70,324	2000	\$ 17,450,101.33	\$ -
Hover	11,021	1941/2002	3,816,523.00	-
University House	10,700	2003	3,183,669.07	-
Student Union	176,000	2006	39,179,536.00	-
Total	268,045	4	\$ 63,629,829.40	\$ -
<u>Site Work, Drains, & Infrastructure</u>				
Campus Buildings	n/a	n/a	n/a	\$ 475,000.00
Coral Sub	n/a	n/a	n/a	-
Tunnels	n/a	n/a	n/a	126,000.00
Total	n/a	n/a	n/a	\$ 595,000.00
<u>Total Building Deficiencies</u>				
	2,906,891	45	\$ 791,821,840.53	\$ 751,000.00
<u>Memor:</u>				
Average Cost Per Sq. Ft.			\$	272.00

EASTERN MICHIGAN UNIVERSITY
CAPITAL OUTLAY REQUEST FY 2009
FACILITY ASSESSMENT

ROADS, STREETS, PARKING LOTS AND STRUCTURES

Overview:

The University Parking and Roadway System contain twenty-eight primary parking lots, multiple specialized parking lots, and two parking structures for a total of 10,288 parking spaces. The System also contains 5.2 miles of roads, 10.4 miles of curbs, and 23 miles of sidewalks, providing access to all points on campus for pedestrian and vehicular traffic.

System Condition and Adequacy:

The overall condition of the System is fair to good. The tables that follow evaluate the present condition of pavements within the system, estimate future performance trends, determine the asset preservation and repair needs, and identifies a single and five-year prioritized pavement maintenance plan for the system.

The plan consists of several distinct steps to obtain the baseline inventory and condition information and to evaluate the data to create the single and five-year maintenance plan:

- Prepare a single-year and integrated five-year pavement and architectural civil plan
- Divide the overall pavement system into a series of distinct branches and sections based on their location, design, usage, and estimated construction or major maintenance dates
- Perform visual surveys of the paved areas
- Evaluate the field condition survey data
- Develop maintenance policies that can be used to identify repair and maintenance procedures/strategies, determine schedule and budget priorities, and establish serviceability levels for the various pavements

EMU's future investments in the University Parking and Roadway System are detailed in the Conditions Assessments Table, the University Parking 5 Years Plan, and the Annual Parking Maintenance Tables that follow:

**EASTERN MICHIGAN UNIVERSITY
CAPITAL OUTLAY REQUEST FY 2009
FACILITY ASSESSMENT**

CONDITION ASSESSMENT

University Roads

Street Name	Condition	Year of Replacement/ Improvement	Estimated Cost	Proposed Funding Source
Ainsley Extension	Poor	2015	\$200,000	General Fund
Convocation Center Service Drive	Fair	2015	\$55,000	Auxillaries
East Circle Drive (S & W)- Lowell to Blount	Poor	2010	\$300,000	Auxillaries
East Circle Drive (N) - Blount to Ann Street	Fair	2011	\$100,000	Auxillaries
Jones-Goddard Drive	Fair	2016	\$140,000	Auxillaries
Mayhew Street	Fair	2014	\$300,000	General Fund
McKenny Drive	Fair	2015	\$145,000	General Fund
Oakwood Street - West Circle to Washtenaw	Fair	2020	\$300,000	MDOT/General Fund
Oakwood Street -West Circle to Mayhew	Poor	2014	\$220,000	General Fund
Oakwood Street -West Circle to Huron River	Fair	2016	\$145,000	General Fund
Parking Structure Drive	Fair	2015	\$145,000	General Fund
Pheips-Sellers Service Drive	Good	2015	\$65,000	General Fund
West Circle Drive - North	Fair	2017	\$215,000	General Fund
West Circle Drive - South	Poor	2014	\$235,000	General Fund
Westview Entrance Drive	Good	2016	\$146,280	Auxillaries
Westview Apartments - North	Excellent	2020	\$50,000	Auxillaries
Westview Apartments - West	Excellent	2020	\$70,000	Auxillaries
Total			\$2,831,280	
(1) Reflected in 2007 Dollars				
(2) Inflation Rate 6% over 2006 Dollars				

EASTERN MICHIGAN UNIVERSITY
CAPITAL OUTLAY REQUEST FY 2009
FACILITY ASSESSMENT

CONDITION ASSESSMENT

University Parking Lots

Parking Lot Name	Condition	Year of Replacement/Improvement	Estimated Cost	Proposed Funding Source
526 St Johns	Fair	2015	\$ 25,000.00	
600 W Forest	Poor	2014	\$ 15,000.00	
611 W Cross	Fair	2016	\$ 75,000.00	
Alexander	Very Good	2020	\$ 175,000.00	
Ann Street	Poor	2009	\$ 504,000.00	
Bowen	Fair	2014	\$ 375,000.00	
Bowman	Poor	2010	\$ 225,000.00	
Central Stores	Fair	2016	\$ 12,000.00	
Children's Center	Fair	2012	\$ 80,000.00	
College of Business Parking Structure	Fair	2014	\$ 5,700,000.00	
Convocation Center	Fair	2014	\$ 2,500,000.00	
Convocation Center Dock	Fair	2020	\$ 120,000.00	
Cooper	Poor	2016	\$ 155,000.00	
Cornell Courts	Good	2015	\$ 150,000.00	
DC-1 Dock	Fair	2014	\$ 75,000.00	
Downing Meters	Fair	2015	\$ 50,000.00	
Ford Lot	Fair	2013	\$ 700,000.00	
Halle Dock	Very Good	2020	\$ 50,000.00	
Hoyt Lot	Good	2018	\$ 340,000.00	
Mark-Jefferson	Poor	2014	\$ 150,000.00	
Mayhew #1	Very Good	2013	\$ 340,000.00	
Mayhew #2	Good	2015	\$ 80,000.00	
McKenny	Poor	2013	\$ 800,000.00	
McKenny Dock	Fair	2016	\$ 50,000.00	
Norma Street	Fair	2015	\$ 150,000.00	
North Campus #1 East	Good	2016	\$ 2,200,000.00	
North Campus #1 - West	Fair	2014	\$ 2,000,000.00	
North Campus #2	Poor	2011	\$ 1,100,000.00	
Oakwood Meters	Good	2019	\$ 40,000.00	
Oakwood North - Paid	Good	2017	\$ 175,000.00	
Oakwood South	Fair	2012	\$ 900,000.00	
Oakwood Staff	Good	2016	\$ 175,000.00	
Oestrike Stadium	Poor	2014	\$ 100,000.00	
Parking Structure	Fair	2015	\$ 19,500,000.00	
Pease	Very Good	2019	\$ 500,000.00	
Phelps-Putnam Meters	Fair	2014	\$ 100,000.00	
Physical Plant Paid	Good	2016	\$ 25,000.00	
Physical Plant Staff	Good	2018	\$ 75,000.00	
Pierce	Poor	2010	\$ 50,000.00	
Pray-Harold Dock	Good	2017	\$ 55,000.00	
Pray-Harold Meters	Good	2017	\$ 12,000.00	
Quirk	Fair	2012	\$ 60,000.00	
Roosevelt	Fair	2014	\$ 200,000.00	
Rynearsen Stadium	Poor	2015	\$ 2,300,000.00	
Sculpture Studio	Poor	2014	\$ 55,000.00	
Sellers	Poor	2014	\$ 70,000.00	
Sill	Very Good	2017	\$ 150,000.00	
Smith	Poor	2010	\$ 125,000.00	
Snow	Poor	2010	\$ 100,000.00	
Softball Complex	Poor	2016	\$ 500,000.00	
Student Center	Excellent	2020	\$ 330,000.00	
Student Center Dock	Excellent	2020	\$ 50,000.00	
Student Center North	Good	2016	\$ 270,000.00	
Walton	Fair	2016	\$ 100,000.00	
Westview Apartments	Fair	2014	\$ 400,000.00	
Total			\$ 44,714,000.00	
(1): Reflected in 2007 Dollars				
(2): Inflation Rate 6% over 2006 Dollars				

EASTERN MICHIGAN UNIVERSITY CAPITAL OUTLAY REQUEST FY 2009 FACILITY ASSESSMENT

University Parking - 5-Year Plan
2009 - 2013
Table 18

<u>Lot Name</u>	<u>Lot Condition</u>	<u>Action</u>	<u>Est. Cost</u>
<u>Fiscal Year 1 - 2008-2009</u>			
Ann Street	Poor	Replacement	\$634,000
Campus		Maintenance	\$50,000
Storm Detention		Maintenance	\$20,000
Misc. Concrete		Maintenance	\$20,000
Re-stripe		Maintenance	\$7,500
Estimated Year Total			\$701,500
<u>Fiscal Year 2 - 2009-2010</u>			
Pierce	Poor	Replacement	\$50,000
Snow	Poor	Replacement	\$100,000
Bowman	Poor	Replacement	\$225,000
Campus		Maintenance	\$50,000
Storm Detention		Maintenance	\$20,000
Misc. Concrete		Maintenance	\$20,000
Re-stripe		Maintenance	\$7,500
Estimated Year Total			\$472,500
<u>Fiscal Year 3 - 2010-2011</u>			
East Circle Drive (S & W Segments)	Poor	Replacement	\$300,000
Campus		Maintenance	\$50,000
Storm Detention		Maintenance	\$20,000
Misc. Concrete		Maintenance	\$20,000
Re-Stripe		Maintenance	\$7,500
Estimated Year Total			\$397,500
<u>Fiscal Year 4 - 2011-2012</u>			
Oakwood South	Fair	Restoration	\$900,000
East Circle Drive (N Segment)	Poor	Replacement	\$100,000
Smith	Poor	Replacement	\$125,000
Children's Center	Fair	Restoration	\$80,000
Quirk	Fair	Restoration	\$60,000
Campus		Maintenance	\$50,000
Storm Detention		Maintenance	\$20,000
Misc. Concrete		Maintenance	\$20,000
Re-stripe		Maintenance	\$7,500
Estimated Year Total			\$1,362,500
<u>Fiscal Year 5 - 2012-2013</u>			
Ford	Fair	Restoration	\$550,000
McKenny	Poor	Replacement	\$800,000
Mayhew	Fair	Restoration	\$340,000
Campus		Maintenance	\$50,000
Storm Detention		Maintenance	\$20,000
Misc. Concrete		Maintenance	\$20,000
Re-stripe		Maintenance	\$7,500
Estimated Year Total			\$1,787,500
Five Year Project Total			\$4,721,500

EASTERN MICHIGAN UNIVERSITY
CAPITAL OUTLAY REQUEST FY 2009

Eastern Michigan University
Annual Parking Maintenance Funding
Table 19

PARKING STRUCTURES							
Name	Year Constructed or Replaced	Size	Re-striping Every 3 Yrs	Repairs Every 8 Yrs	Replacement Cost	Planned Year of Renovation or Improvement	Annual Funding Required
COB Parking Structure	1990	356	\$ 114,000.00	\$ 570,000.00	\$ 5,700,000.00	2014	\$ 250,000.00
Main Parking Structure	1992	780	\$ 390,000.00	\$ 1,950,000.00	\$ 19,500,000.00	2015	\$ 900,000.00
Total Parking Structures		1136					\$ 1,150,000.00

PARKING LOTS							
Name	Year Constructed or Replaced	Size	Re-striping Every 3 Yrs	Repairs Every 8 Yrs	Replacement Cost	Planned Year of Renovation or Improvement	Annual Funding Required
Ann Street Lot	1984	452	\$ 12,080.00	\$ 60,400.00	\$ 604,000.00	2009	\$ 26,000.00
Bowen Lot	1995	191	\$ 7,520.00	\$ 37,600.00	\$ 376,000.00	2014	\$ 21,000.00
Bowman Lot	1985	87	\$ 4,500.00	\$ 22,500.00	\$ 225,000.00	2010	\$ 10,000.00
Children's Center Lot	1990	16	\$ 1,600.00	\$ 8,000.00	\$ 80,000.00	2012	\$ 4,000.00
Convocation Center Lot	1998	958	\$ 50,000.00	\$ 250,000.00	\$ 2,500,000.00	2014	\$ 17,000.00
Ford Lot	1994	335	\$ 14,000.00	\$ 70,000.00	\$ 700,000.00	2013	\$ 39,000.00
Hoyt Parking Lot	1986	250	\$ 6,800.00	\$ 34,000.00	\$ 340,000.00	2018	\$ 11,000.00
Jefferson Lot	1993	39	\$ 3,000.00	\$ 15,000.00	\$ 150,000.00	2014	\$ 8,000.00
Mayhew Lot	1998	356	\$ 6,800.00	\$ 34,000.00	\$ 340,000.00	2013	\$ 24,000.00
McKenny Union Lot	1993	388	\$ 16,000.00	\$ 80,000.00	\$ 800,000.00	2013	\$ 42,000.00
New Alexander Lot	2002	72	\$ 3,500.00	\$ 17,500.00	\$ 175,000.00	2020	\$ 10,000.00
Normal Street Lot	1992	71	\$ 3,000.00	\$ 15,000.00	\$ 150,000.00	2015	\$ 7,000.00
North Campus Lot #1- East	1991	896	\$ 44,000.00	\$ 220,000.00	\$ 2,200,000.00	2014	\$ 101,000.00
North Campus Lot #1 -East Addition	2002	856	\$ 40,000.00	\$ 200,000.00	\$ 2,000,000.00	2016	\$ 151,000.00
North Campus Lot #2	1986	407	\$ 22,000.00	\$ 110,000.00	\$ 1,100,000.00	2011	\$ 47,000.00
Oakwood Lot	1998	494	\$ 18,000.00	\$ 90,000.00	\$ 900,000.00	2012	\$ 68,000.00
Oakwood North	1998	100	\$ 3,500.00	\$ 17,500.00	\$ 175,000.00	2017	\$ 10,000.00
Parking Structure Surface Lot	1995	107	\$ 4,500.00	\$ 22,500.00	\$ 225,000.00	2016	\$ 11,000.00
Pease Lot	2005	287	\$ 10,000.00	\$ 50,000.00	\$ 500,000.00	2019	\$ 38,000.00
Pierce Lot	1988	9	\$ 1,000.00	\$ 5,000.00	\$ 50,000.00	2010	\$ 2,000.00
Rackham Lot	1989	11	\$ 1,590.00	\$ 7,950.00	\$ 79,500.00	2012	\$ 4,000.00
Roosevelt Lot	2000	66	\$ 4,000.00	\$ 20,000.00	\$ 200,000.00	2014	\$ 15,000.00
Rynearson Lot	1987	962	\$ 46,000.00	\$ 230,000.00	\$ 2,300,000.00	2015	\$ 87,000.00
Sill Lot	2002	75	\$ 3,000.00	\$ 15,000.00	\$ 150,000.00	2017	\$ 11,000.00
Soffhall Complex Lot	2003	356	\$ 10,000.00	\$ 50,000.00	\$ 500,000.00	2018	\$ 35,000.00
Smith Lot	1992	68	\$ 2,500.00	\$ 12,500.00	\$ 125,000.00	2010	\$ 7,000.00
Snow Lot	1989	45	\$ 2,000.00	\$ 10,000.00	\$ 100,000.00	2010	\$ 5,000.00
Student Center Lot	2006	207	\$ 6,600.00	\$ 33,000.00	\$ 330,000.00	2020	\$ 25,000.00
Student Center Loading Dock Drive	2006	7	\$ 1,000.00	\$ 5,000.00	\$ 50,000.00	2020	\$ 4,000.00
Total Parking Lots		8168					\$ 840,000.00

EASTERN MICHIGAN UNIVERSITY
CAPITAL OUTLAY REQUEST FY 2009

Eastern Michigan University
Annual Parking Maintenance Funding
Table 19

OTHER PARKING AREAS							
Name	Year Constructed or Replaced	Size	Re-striping Every 3 Yrs	Repairs Every 8 Yrs	Replacement Cost	Planned Year of Renovation or Improvement	Annual Funding Required
611 W. Cross	1969	39	\$ 1,500.00	\$ 7,500.00	\$ 75,000.00	2011	\$ 1,700.00
Central Receiving Gravel Lot	1985	4	\$ 240.00	\$ 1,200.00	\$ 12,000.00	2009	\$ 400.00
Cooper Parking Lot	1984	69	\$ 3,100.00	\$ 15,500.00	\$ 155,000.00	2015	\$ 5,100.00
East Circle Drive Parking (South Segment)	1994	24	\$ 1,000.00	\$ 5,000.00	\$ 50,000.00	2007	\$ 3,500.00
Heating Plant - Library Service Area	1998	12	\$ 1,000.00	\$ 5,000.00	\$ 50,000.00	2018	\$ 2,400.00
Jones-Goddard Drive Parking	1992	25	\$ 1,060.00	\$ 5,300.00	\$ 53,000.00	2012	\$ 2,600.00
Mayhew Drive Parking	2001	55	\$ 1,600.00	\$ 8,000.00	\$ 80,000.00	2013	\$ 6,100.00
McKenny Loading	1993	6	\$ 1,000.00	\$ 5,000.00	\$ 50,000.00	2011	\$ 2,300.00
North Ryneerson	1987	11	\$ 600.00	\$ 3,000.00	\$ 30,000.00	2018	\$ 1,100.00
Oestrike Parking Lot	1975	34	\$ 2,000.00	\$ 10,000.00	\$ 100,000.00	2013	\$ 2,700.00
Parking Structure Drive	1995	7	\$ 500.00	\$ 2,500.00	\$ 25,000.00	2015	\$ 1,300.00
Physical Plant Yard and Parking	1995	74	\$ 2,000.00	\$ 10,000.00	\$ 100,000.00	2015	\$ 5,600.00
Physical Plant Meters	1995	49	\$ 3,500.00	\$ 17,500.00	\$ 175,000.00	2015	\$ 9,300.00
Pray Harrold Meters	2002	13	\$ 500.00	\$ 2,500.00	\$ 25,000.00	2018	\$ 1,800.00
Quirk-Sponberg Theatre Entrance	1985	3	\$ 1,200.00	\$ 6,000.00	\$ 60,000.00	2011	\$ 2,400.00
Sculpture Studio Lot	1994	12	\$ 1,100.00	\$ 5,500.00	\$ 55,000.00	2011	\$ 2,900.00
University Computing Loading Dock	1994	3	\$ 150.00	\$ 750.00	\$ 7,500.00	2011	\$ 300.00
West Circle Drive Parking	2001	37	\$ 2,500.00	\$ 12,500.00	\$ 125,000.00	2013	\$ 9,400.00
Total Other Parking Areas		477					\$ 60,900.00

EASTERN MICHIGAN UNIVERSITY
CAPITAL OUTLAY REQUEST FY 2009

Eastern Michigan University
Annual Parking Maintenance Funding
Table 19

HOUSING PARKING LOTS							
Name	Year Constructed or Replaced	Size	Re-striping Every 3 Yrs	Repairs Every 8 Yrs	Replacement Cost	Planned Year of Renovation or Improvement	Annual Funding Required
600 W. Forest	1985	3	\$ 300.00	\$ 1,500.00	\$ 15,000.00	2014	\$ 500.00
Cornell Bellows	1982	25	\$ 1,500.00	\$ 7,500.00	\$ 75,000.00	2015	\$ 2,400.00
Cornell - Estabrook	1985	10	\$ 1,500.00	\$ 7,500.00	\$ 75,000.00	2015	\$ 2,700.00
(DC I)	1985	10	\$ 1,500.00	\$ 7,500.00	\$ 75,000.00	2014	\$ 2,700.00
Downing Meter	1989	26	\$ 1,000.00	\$ 5,000.00	\$ 50,000.00	2015	\$ 2,000.00
East Circle Drive - Best	1989	24	\$ 1,000.00	\$ 5,000.00	\$ 50,000.00	2010	\$ 2,500.00
East Circle Drive (W & N Segment)	1989	45	\$ 2,000.00	\$ 10,000.00	\$ 100,000.00	2011	\$ 4,800.00
Goddard Meter	1989	15	\$ 1,000.00	\$ 5,000.00	\$ 50,000.00	2015	\$ 2,000.00
Jones Meters	1985	8	\$ 500.00	\$ 2,500.00	\$ 25,000.00	2015	\$ 900.00
Walton Parking	1989	46	\$ 2,000.00	\$ 10,000.00	\$ 100,000.00	2016	\$ 3,900.00
Sellers Parking	1989	29	\$ 1,400.00	\$ 7,000.00	\$ 70,000.00	2014	\$ 3,000.00
St. Johns Parking Lot	1985	8	\$ 500.00	\$ 2,500.00	\$ 25,000.00	2015	\$ 900.00
Towers - Hoyt Center Lot	1990	6	\$ 500.00	\$ 2,500.00	\$ 25,000.00	2015	\$ 1,100.00
Towers Parking - West	1998	27	\$ 1,000.00	\$ 5,000.00	\$ 50,000.00	2018	\$ 2,700.00
Westview Apartments - Northeast Lot	1986	57	\$ 2,000.00	\$ 10,000.00	\$ 100,000.00	2014	\$ 3,800.00
Westview Apartments - Northwest Lot	1986	59	\$ 2,000.00	\$ 10,000.00	\$ 100,000.00	2014	\$ 3,800.00
Westview Apartments - South Lot	1991	53	\$ 2,000.00	\$ 10,000.00	\$ 100,000.00	2014	\$ 4,600.00
Westview Apartments - West Lot	1986	55	\$ 2,000.00	\$ 10,000.00	\$ 100,000.00	2014	\$ 3,800.00
Total Housing Parking Lots		507					\$ 48,100.00
Less Housing Contribution (75%)							\$ 36,075.00
Revised Housing Parking Lot Total							\$ 12,025.00

TOTAL PARKING		
PARKING STRUCTURES	1136	\$ 1,150,000.00
PARKING LOTS	8168	\$ 840,000.00
OTHER PARKING AREAS	477	\$ 60,900.00
HOUSING PARKING LOTS	507	\$ 12,025.00
OVERALL TOTAL	10288	\$ 2,062,925.00

EASTERN MICHIGAN UNIVERSITY
CAPITAL OUTLAY REQUEST FY 2009

Implementation Plan

- Pray-Harrold Modernization
- Campus Facility Index Plan
- Backlog Deficiency – Excluding Major Building Renewals
- Asset Preservation Listing (FY 2009 – 2013)
- Building Maintenance Projects Greater Than \$1 Million (FY 2009 – 2013)
- Summary of Major Building Renovation Projects
- Self-Funded Projects

EASTERN MICHIGAN UNIVERSITY
CAPITAL OUTLAY REQUEST FY 2009
IMPLEMENTATION PLAN

PRAY-HARROLD MODERNIZATION

<i>Is the Project a Renovation or New Construction?</i>	Ren (X)	New (X)
<i>Is there a 5-Year Master Plan available?</i>	Yes (X)	No ()
<i>Are Professionally-Developed Program Statements and/or Schematic Plans Available Now?</i>	Yes (X)	No ()
<i>Are Match Resources Currently Available?</i>	Yes (X)	No ()
<i>Has the University Identified Available Operating Funds?</i>	Yes (X)	No ()

A. Project Description Narrative

The Pray-Harrold Classroom Building is the largest classroom building on the Eastern Michigan University (EMU) Campus, serving 10,000 students each day. When it was opened in 1969, it was the largest classroom building in the State of Michigan. Pray-Harrold houses the offices of the College of Arts and Sciences and the Departments of English Language and Literature, History and Philosophy, African American Studies, Economics, Computer Science, Mathematics, Political Science, Sociology, Anthropology and Criminology, as well as the Writing Center and the Mathematics Center. Pray-Harrold also incorporates the University's Information and Communications Technology (ICT) Department. Virtually every undergraduate student who attends EMU has classes in Pray-Harrold.

Deficiencies in Pray-Harrold include the following:

- Inadequate technology infrastructure;
- Inadequate HVAC systems that are not designed for new technology;
- A taxed electrical system operating at maximum capacity;
- Energy inefficient original windows and other building envelope maintenance issues;
- Inadequate handicap accessibility;
- Overcrowded classrooms and laboratory space;
- Lack of student commons areas;
- Outdated departmental and faculty offices.

The project will include renovation of the existing structure and a net 45,000 square foot addition on the west side of the building that will include classrooms, lecture halls, and student commons areas. Renovation of the existing 237,108-square-foot structure will include reconfiguration of existing space to accommodate additional classroom and computer lab space as well as new technology; a new dedicated electrical primary service; replacing and modifying the HVAC system; wiring for information technology; replacement of architectural, structural, mechanical and electrical systems; and additional upgrading to comply with ADA standards.

The additional net 45,000 square footage will provide the students with much needed gathering space for impromptu meetings with faculty and other classmates. The addition will also provide flexibility in classroom configuration to adapt to the changing instructional environment.

**EASTERN MICHIGAN UNIVERSITY
CAPITAL OUTLAY REQUEST FY 2009
IMPLEMENTATION PLAN**

The total project is estimated to cost \$57,000,000 broken down in the following components:

• Infrastructure	\$16,000,000
• Renovation	7,100,000
• New Addition	12,800,000
• Technology	3,300,000
• Fees, Contingencies, Permits and Administrative Costs	12,100,000
• Owner Costs	<u>5,700,000</u>
Total	\$57,000,000

It is estimated that the project can begin as early as January 2008, and would be completed within 45 months.

The estimated additional annual operating costs are \$125,000 and would be funded from the University's General Fund. There will be no impact on student tuition and fees.

B. Other Alternatives Considered

Demolition and replacement of the Pray-Harrold Classroom Building was considered and abandoned for several reasons. As the largest classroom building on campus, the University cannot offer its full academic program without continuous use of this facility. There is no other academic building that can accommodate the 10,000 students who attend classes there daily or the faculty whose offices are located on the top floors. More than \$10.5 million was invested in Pray-Harrold in 2000 following a fire in the Mechanical Room. The fire restoration project included replacement of an air handler, asbestos abatement, new lighting system, ceilings, partial replacement of the roof and reconstruction of the Mechanical Room. We believe it is fiscally responsible to renovate this academic facility and to preserve the investment already made.

The building is centrally located on campus, close to residence halls, other academic facilities, including the library, and parking. There is no other space on central campus that can accommodate the foot print needed for the building. Relocating the building to another site loses its centrality to the core campus and would require additional parking and new infrastructure for utilities at costs that far exceed renovation costs. The building's structure is in good condition and therefore warrants renovation rather than a new building. Pray-Harrold would still have to be renovated or razed should a new edifice be constructed.

Eastern Michigan University is the second oldest campus in the State of Michigan, with the University of Michigan being the oldest institution. The state's investment in buildings and infrastructure should be preserved when possible and financially feasible to do so. The construction costs associated with a new building were carefully studied and found not to be fiscally prudent given the constraints on available state and institutional funds for capital projects. We believe, when possible, existing buildings that are structurally sound should be renovated and modernized as opposed to razing buildings for new structures.

**EASTERN MICHIGAN UNIVERSITY
CAPITAL OUTLAY REQUEST FY 2009
IMPLEMENTATION PLAN**

C. Programmatic Benefit to State Taxpayers and Specific Clientele or Constituencies

The programmatic benefit of this project will be to better serve current and future students through enhanced learning spaces and technology and to help the University recruit and retain students and faculty. Classes are held in Pray-Harrold six days each week (Monday through Saturday), up to 14 hours per day. As many as 10,000 students attend classes in Pray-Harrold on a daily basis, which is more than 40 percent of EMU's student population. As the most utilized classroom building on campus, renovation of Pray-Harrold will impact virtually every undergraduate student, many graduate students and the largest number of faculty in any building on campus.

At the time Pray-Harrold opened, EMU served a student population of approximately 17,000. Today, EMU serves almost 23,000 students, which has resulted in an increased utilization of Pray-Harrold of more than 35 percent since it opened. Faculty and students have identified issues in Pray-Harrold for well over a decade, including some major HVAC concerns. But most pressing is the lack of infrastructure to support modern technology such as data ports for student laptops and computer-assisted instructional capabilities for faculty. This 21st century technology is available in many of the high schools and community colleges that our students have attended.

The Pray-Harrold Renovation Project will provide economic benefit to the City of Ypsilanti and the eastern Washtenaw County area, both economically depressed areas, through the creation of more than 250 new construction jobs over a 45 month period. The creation of new jobs is critical for this economically depressed area. EMU has a significant impact on the local economy. For this area of Washtenaw County, it is imperative that EMU remain a vital and vibrant institution. Further, this project will renovate existing facilities in order to utilize existing infrastructure and promote reinvestment on EMU's central campus.

D. Funding Resources

Matching funds of \$14,250,000 will be provided through the sales of bonds. The University is prepared, and has the financial capacity, to execute the borrowing. Repayment of these bonds will be funded by the four-percent tuition and fee increase that began in FY 2006 to address the campus' capital needs.

EASTERN MICHIGAN UNIVERSITY
CAPITAL OUTLAY REQUEST FY 2009
IMPLEMENTATION PLAN

CAMPUS FACILITY INDEX PLAN

The campus facility index model incorporates current and projected building deterioration rates, inflation rates, price indexes, and other factors and variable for the purpose of demonstrating the affect of various funding levels on overall facility condition and backlog deficiency levels. The model can also be used to project over a specific duration of time the funding required to achieve a facilities-condition index goal.

Accepted facility condition index standards fall into three categories: an index of less than .05 is considered 'good'; .05 to .10 is considered 'fair'; and greater than .10 is rated 'poor'. Of the University's general fund buildings, 55 percent have an index level of 'good', 20 percent are rated 'fair' and 25 percent are rated 'poor'. The University's overall facility condition index is .07 - 'fair' (Table 8 reflects facility condition index by building). The University's facility index goal is to achieve and maintain an overall rating of 'good'.

Campus Facility Condition Index
BACKLOG DEFICIENCY -- EXCLUDING MAJOR BUILDING RENEWALS

Table 20

Campus Systems Repair vs. Replacement model

(Architectural, Mechanical, Electrical, Elevators, Life Safety)

Parameters:

Current Replacement Value	CRV	\$791,821,841
Systems Replacement Value (50% of CRV)	SRV	\$395,910,920
Deficiencies Backlog, current total campus	DB	\$64,866,000
General Fund Square Footage, total campus		2,908,891
Net Replacement Value	NRV	\$726,955,841
Average Annual Deterioration Rate	ADR	1.50%
Accelerated Annual Deterioration Rate	AcDR	0.00%
Producer Price Index	PPI	1.40%
Useful Life	UL	30
Rate of Appreciation	A	1.20%
Current Campus Facilities Condition Index	FCI	0.08
Annual Asset Preservation Spending		\$2,600,000

Year	Backlog Deficiency	FCI	Current Facility Replacement Value (CRV)	System Replacement Value (SRV)	Net System Value	Annual Asset Preservation Expense
2006 - 2007	\$64,866,000	0.08	\$791,821,841	\$395,910,920	\$331,044,920	\$2,600,000
2007 - 2008	\$69,076,388	0.09	\$812,542,234	\$406,271,117	\$337,194,729	\$2,600,000
2008 - 2009	\$73,501,124	0.09	\$833,804,840	\$416,902,420	\$343,401,296	\$2,600,000
2009 - 2010	\$78,147,276	0.09	\$855,623,845	\$427,811,922	\$349,664,646	\$2,600,000
2010 - 2011	\$83,022,117	0.09	\$878,013,809	\$439,006,905	\$355,984,788	\$2,600,000
2011 - 2012	\$88,133,130	0.10	\$900,989,675	\$450,494,837	\$362,361,707	\$2,600,000
2012 - 2013	\$93,488,016	0.10	\$924,566,773	\$462,283,386	\$368,795,370	\$2,600,000
2013 - 2014	\$99,094,699	0.10	\$948,760,836	\$474,380,418	\$375,285,719	\$2,600,000
2014 - 2015	\$104,961,331	0.11	\$973,588,009	\$486,794,005	\$381,832,673	\$2,600,000
2015 - 2016	\$111,096,300	0.11	\$999,064,861	\$499,532,430	\$388,436,130	\$2,600,000
2016 - 2017	\$117,508,235	0.11	\$1,025,208,390	\$512,604,195	\$395,095,960	\$2,600,000
2017 - 2018	\$124,206,013	0.12	\$1,052,036,043	\$526,018,021	\$401,812,009	\$2,600,000
2018 - 2019	\$131,198,767	0.12	\$1,079,565,722	\$539,782,861	\$408,584,094	\$2,600,000

Eastern Mic. University
Asset Preservation Listing
Fiscal Year 2009

Building	Project No.	Project Name	Con	Need	Freq	Total	System	Budget
Bowen	0028	BOWE - Plumbing & fixtures 2009	03	04	02	09	Mechanical	\$29,000.00
Campus	0462	CAMP - Annual NPDES Storm Water Repairs 2009	03	03	02	08	Site Work Drainage	\$45,000.00
Campus	0719	CAMP - Annual Loop switchgear/transformer cleaning 2009	04	03	02	09	Electrical	\$25,000.00
Campus	1091	CAMP - Annual Steam/condensate repair 2009	04	03	02	09	Mechanical	\$45,000.00
Campus	1094	CAMP - Contingency money 2009	04	03	02	09	Mechanical	\$250,000.00
Campus	2365	CAMP - Annual Backflow prevention 2009	02	03	03	08	Fire Protection	\$40,000.00
Campus	2468	CAMP - ADA Accessibility 2009	04	05	02	11	Architectural	\$25,000.00
Campus	2865	CAMP - Site work and Sidewalk restoration 2009	01	05	02	08	Site Work Drainage	\$50,000.00
Campus	2866	CAMP - Floors and Finishes 2009	03	03	03	09	Architectural	\$150,000.00
Campus	2971	CAMP - Emergency Contingency money 2009	04	03	02	09	Architectural	\$250,000.00
Campus	2972	CAMP - Annual Fire Pump Testing & Repairs 2009	02	03	02	07	Fire Protection	\$40,000.00
Campus	2973	CAMP - Annual Sprinkler Flow Testing & Repairs 2009	02	02	02	06	Fire Protection	\$25,000.00
Campus	1087	CAMP - Annual Water main repair 2009	03	03	02	08	Mechanical	\$35,000.00
Campus	1089	CAMP - Annual Damper repairs and filter replacement 2009	04	03	02	09	Mechanical	\$50,000.00
Campus	1090	CAMP - Annual Fire safety 2009	02	03	02	07	Fire Protection	\$65,000.00
Campus	2219	CAMP - Chillers 3 yr. overhaul 2009	04	04	02	10	Mechanical	\$18,000.00
Campus	2237	CAMP - Cooling Tower and Chilled water sys. chem treat 2009	04	04	02	10	Mechanical	\$30,000.00
Campus	2242	CAMP - Chillers - Eddie Current Testing 2009	04	03	02	09	Mechanical	\$15,000.00
Campus	2277	CAMP - Electrical repairs 2009	04	03	02	09	Electrical	\$25,000.00
Campus	2288	CAMP - Annual Generator Emergency services 2009	04	03	02	09	Electrical	\$20,000.00
Campus	2281	CAMP - Elevator repairs 2009	04	03	02	09	Elevators	\$25,000.00
Campus	2248	CAMP - Annual HVAC Controls, valves and damper repairs 2009	04	03	02	09	Mechanical	\$60,000.00
Campus	2229	CAMP - Annual HVAC Controls, valves and damper repairs 2009	04	04	02	10	Mechanical	\$16,000.00
Campus	2229	CAMP - Annual Coil Winterizing 2009	03	03	03	09	Architectural	\$75,000.00
Campus	2909	CAMP - Painting & Architectural Repairs 2009	03	03	03	09	Architectural	\$100,000.00
Campus	2914	CAMP - Roof Repairs 2009	03	03	03	09	Architectural	\$100,000.00
Ford	0163	FORD - Roof Repairs 2009	02	03	02	07	Mechanical	\$347,000.00
Heating Plant	2263	HEAT - Air Handling Unit #1 and #2 replacement 2009	03	04	01	08	Architectural	\$95,000.00
Olds/Robb Center	2270	HEAT - Roof replacement 2009	04	03	04	11	Mechanical	\$10,000.00
Physical Plant	2483	OLDS - Annual HVAC Pool Pak maintenance 2009	04	03	04	11	Architectural	\$25,000.00
Porter	2864	PHYS - Roofing & Architectural repairs 2009	01	03	03	07	Site Work Drainage	\$150,000.00
Roosevelt	2867	PORT - Retaining Wall Replacement 2009	03	02	05	10	Architectural	\$50,000.00
Roosevelt	2869	ROOS - ADA Restrooms 2009	03	02	04	09	Architectural	\$100,000.00
Sculpture Studio	2418	ROOS - Auditorium Refurbishment 2009	04	03	03	10	Mechanical	\$13,000.00
Sill	0514	SCUL - HVAC Systems 2009	04	03	03	10	Fire Protection	\$200,000.00
Tunnels	0420	SILL - Fire alarm repairs 2009	03	03	01	07	Mechanical	\$33,000.00
Tunnels	0416	TUNN - Structural repairs - walls & pipe supports 2009	03	03	01	07	Mechanical	\$39,000.00
Warner	2444	TUNN - Steam & condensate repairs 2009	04	03	03	10	Architectural	\$30,000.00
		WARN - Door replacement gyms A,B,C - 2009						

Grand Total: \$2,600,000.00

Eastern Michigan University
Asset Preservation Listing
Fiscal Year 2010

Building	Project No.	Project Name	Con	Need	Freq	Total	System	Budget
Campus	3006	CAMP - Annual HVAC Controls, valves and damper repairs 2010	04	03	02	09	Mechanical	\$50,000.00
Campus	3010	CAMP - Annual Steam/condensate repair 2010	04	03	02	09	Mechanical	\$30,000.00
Campus	1088	CAMP - Annual Sitework and Sidewalk Restoration 2010	03	03	02	08	Site Work Drainage	\$25,000.00
Campus	2974	CAMP - Annual Sprinkler Flow Testing & Repairs 2010	02	02	02	06	Fire Protection	\$25,000.00
Campus	2975	CAMP - Annual Fire Pump Testing & Repairs 2010	02	03	02	07	Fire Protection	\$40,000.00
Campus	2976	CAMP - Emergency Contingency money 2010	04	03	02	09	Electrical	\$250,000.00
Campus	2977	CAMP - Contingency money 2010	04	03	02	09	Fire Protection	\$250,000.00
Campus	2979	CAMP - Annual NPDES Storm Water Repairs 2010	03	03	02	08	Site Work Drainage	\$40,000.00
Campus	2983	CAMP - Annual Fire safety 2010	02	03	02	07	Fire Protection	\$55,000.00
Campus	2984	CAMP - Annual Backflow prevention 2010	02	03	03	08	Fire Protection	\$30,000.00
Campus	3000	CAMP - ADA Accessibility 2010	04	05	02	11	Architectural	\$25,000.00
Campus	2220	CAMP - Absorber 3 yr. overhauls 2010	04	02	02	08	Mechanical	\$33,000.00
Campus	2238	CAMP - Cooling Tower and Chilled water sys. chem treat 2010	04	04	02	10	Mechanical	\$38,000.00
Campus	2243	CAMP - Chillers - Eddie Current Testing 2010	04	04	02	10	Mechanical	\$15,000.00
Campus	2289	CAMP - Annual Generator Emergency services 2010	04	03	02	09	Electrical	\$20,000.00
Campus	3016	CAMP - Annual Water main repair 2010	03	03	02	08	Mechanical	\$35,000.00
Campus	2282	CAMP - Elevator repairs 2010	04	03	02	09	Elevators	\$40,000.00
Campus	2284	CAMP - Annual Electrical repairs 2010	04	03	02	09	Electrical	\$25,000.00
Campus	3020	CAMP - Annual Loop switchgear/transformer cleaning 2010	04	03	02	09	Electrical	\$20,000.00
Campus	2230	CAMP - Annual Coil Winterizing 2010	04	04	02	10	Mechanical	\$26,000.00
Campus	2249	CAMP - Annual Damper repairs/filter replacement 2010	04	03	02	09	Mechanical	\$60,000.00
Campus	2892	CAMP - Floors and Finishes 2010	04	05	02	11	Architectural	\$75,000.00
Campus	2910	CAMP - Painting & Architectural Repairs 2010	04	05	02	11	Architectural	\$75,000.00
Campus	2915	CAMP - Roof Repairs 2010	04	05	02	11	Architectural	\$50,000.00
Ford	0157	FORD - Lecture hall upgrades 2010	04	04	03	11	Architectural	\$28,000.00
Ford	0158	FORD - Roof flashing repairs 2010	03	03	03	09	Architectural	\$70,000.00
Heating Plant	0173	HEAT - AIR compressor replacement 2010	03	03	01	07	Mechanical	\$95,000.00
Heating Plant	0182	HEAT - Flash tank replacement include ash 2010	04	04	01	09	Mechanical	\$40,000.00
Pray Harrold	2868	PRAY - Flooring Replacement 2nd Floor 2010	03	04	03	10	Architectural	\$150,000.00
Quirk	0297	QUIR - Replace AHU #2, #3 2010	02	03	02	07	Mechanical	\$275,000.00
Quirk	0508	QUIR - Masonry repairs 2010	03	04	03	10	Architectural	\$105,000.00
Roosevelt	0328	ROOS - Roof repairs 2010	03	03	03	09	Architectural	\$135,000.00
Roosevelt	2919	ROOS - Fire Alarm Replacement 2010	01	02	03	06	Fire Protection	\$250,000.00
Ryncarson Football	0327	RYNE - Electrical Tower Light repairs 2010	04	03	04	11	Electrical	\$35,000.00
Ryncarson Football	0336	RYNE - Doors & hardware replacement 2010	04	04	04	12	Architectural	\$10,000.00
Sculpture Studio	0349	SCUL - Doors & Hardware Replacement 2010	04	04	03	11	Architectural	\$11,000.00
Tunnels	2292	TUNN - Annual Steam, Condensate & Structural Repairs 2010	03	03	01	07	Mechanical	\$64,000.00

Grand Total: \$2,600,000.00

Eastern Michigan University
Asset Preservation Listing
Fiscal Year 2011

Building	Project No.	Project Name	Con	Need	Freq	Total	System	Budget
Bowen	0031	BOWE - Doors & hardware 2011	04	04	04	12	Architectural	\$43,000.00
Campus	3001	CAMP - ADA Accessibility 2011	04	05	02	11	Architectural	\$25,000.00
Campus	2893	CAMP - Floors and Finishes 2011	04	05	02	11	Architectural	\$100,000.00
Campus	2911	CAMP - Painting & Architectural Repairs 2011	04	05	02	11	Architectural	\$75,000.00
Campus	2916	CAMP - Roof Repairs 2011	04	05	02	11	Architectural	\$50,000.00
Campus	2285	CAMP - Annual Generator Emergency services 2011	04	03	02	09	Electrical	\$20,000.00
Campus	3021	CAMP - Annual Loop switchgear/transformer cleaning 2011	04	03	02	09	Electrical	\$20,000.00
Campus	3024	CAMP - Annual Electrical repairs 2011	04	03	02	09	Electrical	\$25,000.00
Campus	0735	CAMP - Annual Elevators repairs 2011	04	03	03	10	Elevators	\$40,000.00
Campus	2232	CAMP - Contingency money 2011	04	03	02	09	Elevators	\$250,000.00
Campus	2233	CAMP - Emergency Contingency money 2011	04	04	02	10	Elevators	\$250,000.00
Campus	2985	CAMP - Annual Backflow prevention 2011	02	03	03	08	Fire Protection	\$40,000.00
Campus	2987	CAMP - Annual Fire safety 2011	02	03	02	07	Fire Protection	\$65,000.00
Campus	2991	CAMP - Annual Fire Pump Testing & Repairs 2011	02	03	02	07	Fire Protection	\$40,000.00
Campus	2992	CAMP - Annual Sprinkler Flow Testing & Repairs	02	02	02	06	Fire Protection	\$25,000.00
Campus	3007	CAMP - Annual HVAC Controls, valves and damper repairs 2011	04	03	02	09	Mechanical	\$60,000.00
Campus	0709	CAMP - Absorber 3 yr overhauls 2011	04	04	02	10	Mechanical	\$17,000.00
Campus	2239	CAMP - Cooling Tower and Chilled water sys. chem treat 2011	04	04	02	10	Mechanical	\$30,000.00
Campus	2244	CAMP - Chillers - Eddie Current Testing 2011	04	04	02	10	Mechanical	\$18,000.00
Campus	3011	CAMP - Annual steam/condensate repair 2011	04	03	02	09	Mechanical	\$45,000.00
Campus	3017	CAMP - Annual Water main repair 2011	03	03	02	08	Mechanical	\$35,000.00
Campus	2250	CAMP - Annual damper repairs/filter replacement 2011	04	03	02	09	Mechanical	\$60,000.00
Campus	2206	CAMP - Annual Coil winterizing 2011	04	04	02	10	Mechanical	\$21,000.00
Campus	2980	CAMP - Annual NPDES Storm Water Repairs 2011	03	03	02	08	Site Work Drainage	\$45,000.00
Campus	2997	CAMP - Annual Sitework and Sidewalk Restoration 2011	03	03	02	08	Site Work Drainage	\$40,000.00
Olds/Robb Center	2271	OLDS - Annual HVAC Pool Pak maintenance 2011	04	03	04	11	Mechanical	\$10,000.00
Olds/Robb Center	2427	OLDS - Plumbing mechanical upgrades 2011	03	03	04	10	Mechanical	\$20,000.00
Owen	0241	OWEN - Masonry repairs 2011	03	03	03	09	Architectural	\$100,000.00
Pray Harrold	2886	PRAY - Flooring Replacement 3rd Floor 2011	03	03	03	09	Architectural	\$150,000.00
Quirk	2970	QUIR - AHU #5,#6 replace 2011	02	03	02	07	Mechanical	\$286,000.00
Ryncarson Football	0335	RYNE - Light replacement 2011	04	03	04	11	Electrical	\$60,000.00
Ryncarson Football	0511	RYNE - Fire alarm repairs 2011	04	03	04	11	Fire Protection	\$60,000.00
Sill	2408	SILL - Roof replacement phase 2 to NE side of roof 2011	03	03	03	09	Architectural	\$290,000.00
Sill	2897	SILL - Auditorium Refurbishment 2011	04	03	04	11	Architectural	\$100,000.00
Tunnels	0111	TUNN - Annual Steam/condensate and structural repairs 2011	04	04	01	09	Mechanical	\$40,000.00
Welch	0094	WELC - Elevator repairs 2011	04	04	02	10	Elevators	\$45,000.00

Grand Total: \$2,600,000.00

Eastern Michigan University
Asset Preservation Listing
Fiscal Year 2012

Building	Project No.	Project Name	Con	Need	Freq	Total	System	Budget
Briggs	0038	BRIG - Doors & hardware & windows 2012	04	03	03	10	Architectural	\$20,000
Campus	0063	CAMP - Floors and Finishes 2012	04	04	02	10	Architectural	\$100,000
Campus	3002	CAMP - ADA Accessibility 2012	04	05	02	11	Architectural	\$25,000
Campus	2912	CAMP - Painting & Architectural Repairs 2012	04	05	02	11	Architectural	\$75,000
Campus	2917	CAMP - Roof Repairs 2012	04	05	02	11	Architectural	\$100,000
Campus	2252	CAMP - Annual Electrical repairs 2012	04	04	02	10	Electrical	\$40,000
Campus	3012	CAMP - Annual Generator Emergency services 2012	04	03	02	09	Electrical	\$20,000
Campus	3022	CAMP - Annual Loop switchgear/transformer cleaning 2012	04	03	02	09	Electrical	\$20,000
Campus	2718	CAMP - Contingency money 2012	04	04	02	10	Electrical	\$250,000
Campus	3004	CAMP - Annual Elevators repairs 2012	04	03	03	10	Elevators	\$30,000
Campus	2986	CAMP - Annual Backflow prevention 2012	02	03	03	08	Fire Protection	\$40,000
Campus	2989	CAMP - Annual Fire safety 2012	02	03	02	07	Fire Protection	\$43,000
Campus	2993	CAMP - Annual Fire Pump Testing & Repairs 2012	02	02	02	06	Fire Protection	\$25,000
Campus	2995	CAMP - Annual Sprinkler Flow Testing & Repairs 2012	02	03	02	07	Fire Protection	\$40,000
Campus	3040	CAMP - Annual Fire Pump Testing & Repairs 2012	04	04	02	10	Fire Protection	\$250,000
Campus	3040	CAMP - Emergency Contingency money 2012	04	04	02	10	Fire Protection	\$40,000
Campus	3008	CAMP - Annual HVAC Controls, valves and damper repairs 2012	04	03	02	09	Mechanical	\$40,000
Campus	3013	CAMP - Annual Steam/condensate repair 2012	04	03	02	09	Mechanical	\$40,000
Campus	3018	CAMP - Annual Steam/condensate repair 2012	03	03	02	08	Mechanical	\$35,000
Campus	3018	CAMP - Annual Water main repair 2012	04	04	02	10	Mechanical	\$18,000
Campus	3029	CAMP - Chillers - Eddie Current Testing 2012	04	04	02	10	Mechanical	\$17,000
Campus	3031	CAMP - Absorber 3 yr overhauls 2012	04	04	02	10	Mechanical	\$20,000
Campus	3034	CAMP - Annual Coil winterizing 2012	04	04	02	10	Mechanical	\$20,000
Campus	3034	CAMP - Annual Coil winterizing 2012	04	03	02	09	Mechanical	\$40,000
Campus	3036	CAMP - Annual damper repairs/filter replacement 2012	04	04	02	10	Mechanical	\$35,000
Campus	3046	CAMP - Cooling Tower and Chilled water sys. chem treat 2012	04	04	02	10	Mechanical	\$35,000
Campus	2981	CAMP - Annual NPDES Storm Water Repairs 2012	03	03	02	08	Site Work Drainage	\$45,000
Campus	2981	CAMP - Annual NPDES Storm Water Repairs 2012	03	03	02	08	Site Work Drainage	\$40,000
Campus	2998	CAMP - Annual Sitework and Sidewalk Restoration 2012	04	03	03	09	Architectural	\$25,000
Ford	0161	FORD - Truck point and seal 2012	04	03	03	09	Architectural	\$100,000
Olds/Robb Center	2439	OLDS - Masonry repairs 2012	03	03	04	10	Architectural	\$250,000
Olds/Robb Center	0240	OLDS - Elevator Repairs (1) Car 2012	04	03	04	11	Elevators	\$25,000
Olds/Robb Center	2580	OLDS - Condensate Receivers replacement 2012	04	03	04	11	Mechanical	\$10,000
Olds/Robb Center	2272	OLDS - Annual Pool Pak maintenance 2012	04	03	04	11	Mechanical	\$150,000
Pray Harrold	2887	PRAY - Flooring Replacement 4th Floor 2012	03	04	03	10	Architectural	\$75,000
Ryncarson Football	2412	RYNE - Water Proofing Walls & finishes 2012	03	03	04	11	Architectural	\$35,000
Sherzer	2438	SHER - Masonry Repairs 2012	03	04	03	10	Architectural	\$35,000
Sherzer	2438	SHER - Masonry Repairs 2012	04	03	02	09	Fire Protection	\$200,000
Snow	0374	SNOW - Fire alarm repairs 2012	04	03	02	09	Fire Protection	\$245,000
Snow	2523	SNOW - AHU #1 and #4 replacement 2012	02	03	02	07	Mechanical	\$37,000
Snow	2523	SNOW - AHU #1 and #4 replacement 2012	04	04	02	10	Architectural	\$37,000
Starkweather	0385	STAR - Masonry repairs 2012	04	04	02	10	Architectural	\$40,000
Tunnels	3025	TUNN - Annual Steam/condensate and structural repairs 2012	04	04	01	09	Mechanical	\$40,000

Grand Total: \$2,600,000

**Eastern Michigan University
Asset Preservation Listing
Fiscal Year 2013**

Building	Project No.	Project Name	Con	Need	Freq	Total	System	Budget
Alexander	0553	ALEX - Elevator repairs 2013	04	03	03	10	Elevators	\$150,000
Bowen	0494	BOWE - Fire alarm upgrade/repairs 2013	02	02	03	07	Fire Protection	\$175,000
Campus	2918	CAMP - Roof Repairs 2013	04	05	02	11	Architectural	\$75,000
Campus	3003	CAMP - ADA Accessibility 2013	04	05	02	11	Architectural	\$25,000
Campus	3044	CAMP - Contingency money 2013	04	04	02	10	Architectural	\$250,000
Campus	2895	CAMP - Floors and Finishes 2013	04	05	02	11	Architectural	\$100,000
Campus	2913	CAMP - Painting & Architectural Repairs 2013	04	05	02	11	Architectural	\$75,000
Campus	2275	CAMP - Annual Electrical repairs 2013	04	03	02	09	Electrical	\$40,000
Campus	3014	CAMP - Annual Generator Emergency services 2013	04	03	02	09	Electrical	\$20,000
Campus	3023	CAMP - Annual Loop switchgear/transformer cleaning 2013	04	03	02	09	Electrical	\$20,000
Campus	3005	CAMP - Annual Elevators repairs 2013	04	03	03	10	Elevators	\$40,000
Campus	2988	CAMP - Annual Backflow prevention 2013	02	03	03	08	Fire Protection	\$55,000
Campus	2990	CAMP - Annual Fire safety 2013	02	03	02	07	Fire Protection	\$25,000
Campus	2994	CAMP - Annual Sprinkler Flow Testing & Repairs 2013	02	02	02	06	Fire Protection	\$40,000
Campus	2996	CAMP - Annual Fire Pump Testing & Repairs 2013	02	03	02	07	Fire Protection	\$45,000
Campus	1095	CAMP - Annual HVAC controls, valves & damper repairs 2013	04	03	02	10	Mechanical	\$20,000
Campus	3030	CAMP - Chillers - Eddie Current Testing 2013	04	04	02	10	Mechanical	\$17,000
Campus	3032	CAMP - Absorber 3 yr overhauls 2013	04	04	02	10	Mechanical	\$35,000
Campus	3033	CAMP - Annual Water main repair 2013	03	03	02	08	Mechanical	\$25,000
Campus	3035	CAMP - Annual Coil winterizing 2013	04	04	02	10	Mechanical	\$50,000
Campus	3037	CAMP - Annual damper repairs/filter replacement 2013	04	03	02	09	Mechanical	\$40,000
Campus	3038	CAMP - Annual steam/condensate repair 2013	04	03	02	09	Mechanical	\$250,000
Campus	3045	CAMP - Emergency Contingency money 2013	04	04	02	10	Mechanical	\$40,000
Campus	3047	CAMP - Cooling Tower and Chilled water sys. chem treat 2013	04	04	02	10	Mechanical	\$45,000
Campus	2982	CAMP - Annual NPDES Storm Water Repairs 2013	03	03	02	08	Site Work Drainage	\$50,000
Campus	2999	CAMP - Annual Sitework and Sidewalk Restoration 2013	03	03	02	08	Site Work Drainage	\$10,000
Campus	3039	CAMP - Annual HVAC Pool Pak maintenance 2013	04	03	04	11	Mechanical	\$150,000
Olds/Robb Center	2888	PRAY - Flooring Replacement 5th Floor 2013	03	04	03	10	Architectural	\$38,000
Pray Harrold	0332	ROOS - AHU #4, and #5 replacement 2013	02	03	02	07	Mechanical	\$28,000
Roosevelt	2553	ROOS - Condensate Receiver Replacement 2013	04	04	03	11	Mechanical	\$57,000
Sill	0370	SILL - AC Replacement 2013	04	04	03	11	Mechanical	\$250,000
Snow	3041	SNOW - AHU #2 and #3 replacement 2013	04	04	04	12	Mechanical	\$70,000
Tunnels	3026	TUNN - Annual Steam/condensate and structural repairs 2013	04	04	01	09	Mechanical	\$250,000
Warner	2413	WARN - Roof repairs 2013	03	04	03	10	Architectural	\$250,000

Grand Total: \$2,600,000

EASTERN MICHIGAN UNIVERSITY
FY 2009 CAPITAL OUTLAY REQUEST
IMPLEMENTATION PLAN

BUILDING MAINTENANCE PROJECTS GREATER THAN \$1 MILLION (FY 2009 - 2013)	Amount
Pray Harrold	\$8,808,000
Mark Jefferson	\$8,617,000
Heating Plant	\$6,032,000
Olds\Robb Center	\$2,963,000
McKenney Union	\$2,885,000
Strong	\$2,829,000
Warner	\$2,579,000
Owen C.O.B.	\$2,453,000
Roosevelt	\$2,340,000
Alexander	\$2,248,000
Sill Hall	\$1,892,000
Bowen	\$1,811,000
Rackham	\$1,665,000
Snow	\$1,354,000
Total Building Projects Greater Than \$1 Million	<u>\$48,476,000</u>

Note:

1. All self-funded Capital Projects costing greater than \$1 million but less than \$3 million will be reported to the Joint Capital outlay Subcommittee on a bi-annual basis.
2. Use and Finance Statement will be submitting for all projects in excess of \$3 million.

**EASTERN MICHIGAN UNIVERSITY
CAPITAL OUTLAY REQUEST FY 2009
IMPLEMENTATION PLAN**

SUMMARY OF MAJOR BUILDING RENOVATION PROJECTS

Established in 1849, Eastern Michigan University has one of the oldest campuses in the State of Michigan. EMU has not had a capital outlay project funded by the state since 1996, despite enrolling more than 8 percent of the students attending a Michigan public university over that span. EMU also ranks last in percentage of capital outlay funding among the 15 public universities.

Several of EMU's major classroom buildings are in serious need of renovation, including the Pray-Harrold Classroom Building, the Mark Jefferson Science Complex, and Strong Hall. EMU's top capital priority is the \$57.0 million renovation of the Pray-Harrold Classroom Building, the largest classroom building on campus.

Faculty and students have identified issues with Pray-Harrold for over a decade. Deficiencies include inadequate technology infrastructure; inadequate HVAC systems that are not designed for new technology; a taxed electrical system operating at maximum capacity; energy inefficient original windows and other building envelope maintenance issues; inadequate handicap accessibility; overcrowded classrooms and laboratory space; lack of student commons areas; and outdated departmental and faculty offices. Equally pressing is the lack of infrastructure to support modern technology—technology that is available in many of the high schools and community colleges that our students have attended.

State Cost Participation Requests

Pray-Harrold Classroom Building Renovation

Pray-Harrold Classroom Building Renovation is EMU's top priority capital outlay request for state funding for FY 2009. The project request is for \$57.0 million.

Pray-Harrold is the largest classroom building on EMU's campus, serving 10,000 students each day. It was built in 1969 when EMU's student population was approximately 17,000. Today, EMU serves almost 23,000 students, which has increased the building's utilization by more than 35 percent since it opened in 1969. This project has been included in EMU's capital outlay requests to the state since 1999. A project description, other alternatives considered, programmatic benefit and funding resources are detailed in the FY 2009 Capital Outlay Project Request.

Other capital projects anticipated in the future in which state cost participation may be requested include: Strong Hall Renovation and a Fine and Performing Arts Building.

Strong Hall Renovation

Strong Hall was built in 1957 as an 80,713 square-foot, three-story building to house the physical science programs that include geography, geology, physics, and astronomy. The building has had no major renovations and is in need of classroom upgrades, technology repair and replacement of infrastructure and building improvements including mechanical and electrical

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systems, removal of asbestos, etc. The foot-print of the building will remain unchanged, although it will be connected to Mark Jefferson on its west side via the addition to Mark Jefferson. The program statement to renovate Strong Hall is being developed with a projected cost of between \$30 and \$40 million.

Integrated Arts, Communication and Applied Technology Village

The intersecting disciplines of Art, Communication, Creative Writing, Dance, Music, Integrated and Applied Technology, and Theatre have experienced healthy growth over recent decades as evidenced in the number of majors. While Communication & Theatre Arts was once housed exclusively in Quirk, current enrollment demands have spread classes to Pray-Harrold, Ford, Roosevelt, Warner, and Best Hall Lounge. The Department of Art is faced with a similar dilemma and uses locations across campus. The electronic communications and applied technology needs cannot be met in existing buildings. The primary facilities at the University for arts, communication, and technology are housed in eleven buildings scattered throughout the campus. These facilities are brick and block structures encompassing 368,945 square feet and were constructed between 1903 and 1980. Eight of the eleven buildings were designed for purposes/activities other than their current use.

In addition to being scattered across a wide area, current structures are worn and out-of-date; issues include leaky roofs, lack of climate control, lack of sound buffering, inadequate electrical wiring, absence of storage space, no quantitative research laboratories, and acoustically poor performances spaces. Innovative and cutting-edge programming has often been stifled. Times have changed yet these facilities have remained unchanged resulting in a decline in our ability to adequately serve current majors (undergraduate and graduate), as well as compete for prospective students. Eastern Michigan University provides no facility that encourages collaborative interdisciplinary work between the programs in Art, Integrated and Applied Technology, Communication & Theatre Arts, Creative Writing, and Music & Dance. Compartmentalization of these separate yet interrelated disciplines is perpetuated by currently available facilities and technology.

The goals for Eastern Michigan University's Integrated Arts, Communication and Applied Technology Village are to:

- ❖ Redesign the uncoordinated collection of spaces currently in use to form an Integrated Arts Communication and Applied Technology Village.
- ❖ Provide a state-of-the-art environment in which to house an interdisciplinary mix of creative departments, including theatre/music/art/creative writing/journalism/communications technology/applied technology by creating a village atmosphere that encourages collaboration and cross-discipline creativity with spaces that meet the specialized technical and environmental needs of each discipline.
- ❖ Create spaces that serve diverse and specific needs such as instrument repair shops, costuming creation/storage, prop fabrication/repair, television production facilities with sets and green rooms, computer labs, animation labs, visual arts studios, lighting design studios, acoustic studios, distance-learning lab, equipment library for independent

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creative projects, dance studios, fitness facilities, full wireless and satellite communication capabilities, film screening, computer gaming room, fundraising venue with commercial kitchen, and digital imaging and printing. The complex also should include at least one large theater/auditorium with full lighting, sound and recording capabilities.

- ❖ Incorporate design features that will meet current needs and accommodate future information technology within a structural envelope that is energy-efficient and environmentally friendly. The design should be imaginative, cutting edge, yet functional, with features that encourage student/faculty interaction and faculty collaboration.
- ❖ Create a signature campus complex that makes a strong visual statement about the disciplines it houses while serving as a magnet for both campus and non-campus populations. It is vitally important that the design be conducive to learning and interaction, yet inviting to non-campus and community groups
- ❖ Create a facility with built-in flexibility to accommodate future programming needs
- ❖ Provide improved accessibility for the disabled
- ❖ Provide a more safe and secure environment for learning and teaching
- ❖ Improve efficiency and lower operational and maintenance costs—specifically electrical demand charges
- ❖ Establish another attractive “gateway” to campus with adequate, safe parking
- ❖ Enhance the University’s global standing as a learning center for the performing and creative arts
- ❖ Respond to needs of the arts and entertainment industry

Feasibility studies, preliminary program statement and cost estimates are yet to be determined.

SELF-FUNDED PROJECTS

Mark Jefferson Science Building Renovation

The renovation and modernization of the Mark Jefferson Science Building has been identified in the University’s Five-Year Capital Outlay Plan since 1998. The Mark Jefferson building houses the Biology, Chemistry and Psychology departments. Built in 1969, the 180,802 square-foot building has deficiencies that include aging mechanical and electrical system conditions and capabilities, lack of specialized academic spaces and a lack of technology. Structural erosion, health and safety issues and other critical building systems require immediate attention so as not to compromise the integrity of the building.

A new addition to the Mark Jefferson Building for science laboratories and research space to serve the biology, chemistry and psychology departments would encompass Phase 1 of the Mark-Jefferson Science Complex Project. The scope of the renovation and modernization of Mark Jefferson will focus on infrastructure including mechanical system, electrical

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systems/building transmission loop, structural improvements to the building exterior, roof replacement, interior improvements and scientific instrumentation. Renovations to this building would be Phase 2 and in addition to infrastructure and systems needs, would address classrooms, faculty office updates and student commons space. A program statement has been completed and the hiring of an architect is in process. The projected cost of this project is \$100,000,000 and is planned to be totally funded by the University.

Pease Auditorium Masonry Repairs

Built in 1914, Pease Auditorium is an integral part of the Eastern Michigan University campus. With superb acoustical capabilities, Pease is home to numerous music and other concerts throughout the year. In 1995, Pease underwent a major restoration to the interior of the building. While originally identified in the 1995 restoration, the exterior masonry was not restored. This means that the exterior of Pease Auditorium has not received any major repairs since it was built. Due to this the terracotta at the main entrance is in need of a major restoration along with repairing/restoring the masonry around the remaining exterior. The restoration project will encompass rebuilding the terracotta at the main entrance, restoring the remaining exterior masonry, re-roofing the entire building, and repairing the plaster in the main stairwells that has been damaged due to water intrusion. These necessary repairs, estimated at \$2,295,000, will help Pease Auditorium return to the grandeur it possessed when it was originally built.

Department of Public Safety Facility

The University Department of Public Safety (DPS) has been serving the campus community as a Police Department since 1963. DPS has been in its current campus location, in the Main Parking Structure, since 1970. Since the campus is continually changing, DPS is required to evolve with it and keep up with the growing security and everyday needs of today's universities. Since the current DPS facility is nearing 40 years of age, it is necessary to update DPS to meet the current and future needs of the University.

In 2007, the Eastern Michigan University Department of Public Safety facility lacks the necessary infrastructure to accommodate the ever-changing security technology required for a 21st century institution of higher learning. EMU is exploring utilizing existing facilities to meet the needs of today's department. A different facility will need to provide increased visibility and accessibility, opportunity to meet current and future growth needs in technology and personnel, a more modern and secure facility offering high tech security provisions, a state of the art security infrastructure in an environment where students will feel secure, and additional parking in the space vacated by the current DPS facility. The new renovated facility will show the campus community that EMU is dedicated to the safety and security of the University's students, faculty, staff, and visitors to campus. Currently the University is negotiating with an architect that will review vacant facilities on campus and provide a cost estimate for renovation. The budget for this project is \$2,615,000.

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Student-Athletic Performance Enhancement Center

The Student-Athletic Performance Enhancement Center is proposed for construction as a self-funded project by the Intercollegiate Athletics Department. The facility will house an Academic Center for student-athletes and serve as a practice area for several sports programs including football, baseball, women's softball, women's soccer, men's and women's golf and men's and women's track. The facility also would be utilized for strengthening and conditioning of all student athletes. This facility will enhance EMU's ability to attract, recruit and retain quality student-athletes and maintain competitiveness within the State of Michigan and the Mid-American Conference. The estimated cost to construct the facility on the west campus Athletics Complex is \$45 million. Sources of funding include fundraising, rental fees, corporate sponsorships and athletics revenues.

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Appendix

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APPENDIX I

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PRAY-HARROLD MODERNIZATION

<i>Is the Project a Renovation or New Construction?</i>	Ren (X)	New (X)
<i>Is there a 5-Year Master Plan available?</i>	Yes (X)	No ()
<i>Are Professionally-Developed Program Statements and/or Schematic Plans Available Now?</i>	Yes (X)	No ()
<i>Are Match Resources Currently Available?</i>	Yes (X)	No ()
<i>Has the University Identified Available Operating Funds?</i>	Yes (X)	No ()

A. Project Description Narrative

The Pray-Harrold Classroom Building is the largest classroom building on the Eastern Michigan University (EMU) Campus, serving 10,000 students each day. When it was opened in 1969, it was the largest classroom building in the State of Michigan. Pray-Harrold houses the offices of the College of Arts and Sciences and the Departments of English Language and Literature, History and Philosophy, African American Studies, Economics, Computer Science, Mathematics, Political Science, Sociology, Anthropology and Criminology, as well as the Writing Center and the Mathematics Center. Pray-Harrold also incorporates the University's Information and Communications Technology (ICT) Department. Virtually every undergraduate student who attends EMU has classes in Pray-Harrold.

Deficiencies in Pray-Harrold include the following:

- Inadequate technology infrastructure;
- Inadequate HVAC systems that are not designed for new technology;
- A taxed electrical system operating at maximum capacity;
- Energy inefficient original windows and other building envelope maintenance issues;
- Inadequate handicap accessibility;
- Overcrowded classrooms and laboratory space;
- Lack of student commons areas;
- Outdated departmental and faculty offices.

The project will include renovation of the existing structure and a net 45,000 square foot addition on the west side of the building that will include classrooms, lecture halls, and student commons areas. Renovation of the existing 237,108-square-foot structure will include reconfiguration of existing space to accommodate additional classroom and computer lab space as well as new technology; a new dedicated electrical primary service; replacing and modifying the HVAC system; wiring for information technology; replacement of architectural, structural, mechanical and electrical systems; and additional upgrading to comply with ADA standards.

The additional net 45,000 square footage will provide the students with much needed gathering space for impromptu meetings with faculty and other classmates. The addition will also provide flexibility in classroom configuration to adapt to the changing instructional environment.

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The total project is estimated to cost \$57,000,000 broken down in the following components:

• Infrastructure	\$16,000,000
• Renovation	7,100,000
• New Addition	12,800,000
• Technology	3,300,000
• Fees, Contingencies, Permits and Administrative Costs	12,100,000
• Owner Costs	<u>5,700,000</u>
Total	\$57,000,000

It is estimated that the project can begin as early as January 2008, and would be completed within 45 months.

The estimated additional annual operating costs are \$125,000 and would be funded from the University's General Fund. There will be no impact on student tuition and fees.

B. Other Alternatives Considered

Demolition and replacement of the Pray-Harrold Classroom Building was considered and abandoned for several reasons. As the largest classroom building on campus, the University cannot offer its full academic program without continuous use of this facility. There is no other academic building that can accommodate the 10,000 students who attend classes there daily or the faculty whose offices are located on the top floors. More than \$10.5 million was invested in Pray-Harrold in 2000 following a fire in the Mechanical Room. The fire restoration project included replacement of an air handler, asbestos abatement, new lighting system, ceilings, partial replacement of the roof and reconstruction of the Mechanical Room. We believe it is fiscally responsible to renovate this academic facility and to preserve the investment already made.

The building is centrally located on campus, close to residence halls, other academic facilities, including the library, and parking. There is no other space on central campus that can accommodate the foot print needed for the building. Relocating the building to another site loses its centrality to the core campus and would require additional parking and new infrastructure for utilities at costs that far exceed renovation costs. The building's structure is in good condition and therefore warrants renovation rather than a new building. Pray-Harrold would still have to be renovated or razed should a new edifice be constructed.

Eastern Michigan University is the second oldest campus in the State of Michigan, with the University of Michigan being the oldest institution. The state's investment in buildings and infrastructure should be preserved when possible and financially feasible to do so. The construction costs associated with a new building were carefully studied and found not to be fiscally prudent given the constraints on available state and institutional funds for capital projects. We believe, when possible, existing buildings that are structurally sound should be renovated and modernized as opposed to razing buildings for new structures.

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C. Programmatic Benefit to State Taxpayers and Specific Clientele or Constituencies

The programmatic benefit of this project will be to better serve current and future students through enhanced learning spaces and technology and to help the University recruit and retain students and faculty. Classes are held in Pray-Harold six days each week (Monday through Saturday), up to 14 hours per day. As many as 10,000 students attend classes in Pray-Harold on a daily basis, which is more than 40 percent of EMU's student population. As the most utilized classroom building on campus, renovation of Pray-Harold will impact virtually every undergraduate student, many graduate students and the largest number of faculty in any building on campus.

At the time Pray-Harold opened, EMU served a student population of approximately 17,000. Today, EMU serves almost 23,000 students, which has resulted in an increased utilization of Pray-Harold of more than 35 percent since it opened. Faculty and students have identified issues in Pray-Harold for well over a decade, including some major HVAC concerns. But most pressing is the lack of infrastructure to support modern technology such as data ports for student laptops and computer-assisted instructional capabilities for faculty. This 21st century technology is available in many of the high schools and community colleges that our students have attended.

The Pray-Harold Renovation Project will provide economic benefit to the City of Ypsilanti and the eastern Washtenaw County area, both economically depressed areas, through the creation of more than 250 new construction jobs over a 45 month period. The creation of new jobs is critical for this economically depressed area. EMU has a significant impact on the local economy. For this area of Washtenaw County, it is imperative that EMU remain a vital and vibrant institution. Further, this project will renovate existing facilities in order to utilize existing infrastructure and promote reinvestment on EMU's central campus.

D. Funding Resources

Matching funds of \$14,250,000 will be provided through the sales of bonds. The University is prepared, and has the financial capacity, to execute the borrowing. Repayment of these bonds will be funded by the four-percent tuition and fee increase that began in FY 2006 to address the campus' capital needs.