

Energy Management Annual Report – Fiscal Year 2015

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University of Michigan Hospitals and Health Centers Energy Management Annual Report – FY2015

TABLE OF CONTENTS

1.	EXECUTIVE SUMMARY	1-1
2.	ENERGY PERFORMANCE	2-1
3.	ENERGY CONSERVATION	3-1
4.	ENVIRONMENTAL IMPACT	4-1
5.	BUILDING SUMMARY & ENERGY STAR	5-1

1. EXECUTIVE SUMMARY

In fiscal year 2015, energy management teams continued to expand energy conservation efforts in University of Michigan Hospital and Health Centers (UMHHC) facilities and as a result, UMHHC continues to show improvements in energy efficiency.

Energy Performance

In fiscal year 2015, UMHHC facilities consumed over \$25 Million in utilities. Typical annual reporting metrics were unique in 2015 due to significant adjustments in utility rates and building area, and due to activation of the new Northville facility. Core UMHHC facilities improved their energy efficiency by 1% compared to the previous year, resulting in approximately \$450,000 of avoided utility cost. For further details, see section 2, "Energy Performance" of this report.

Energy Conservation

Fiscal year 2015 continued energy conservation efforts by various energy teams, and continue to show improvements to the overall UMHHC building portfolio. During this year, 2 energy conservation projects were completed in existing facilities which are anticipated to save \$215,000 annually. These projects cost \$308,237 to implement, yielding a 1.4 year overall payback period. For further details, see section 3, "Energy Conservation" of this report.

Environmental Impact

In addition to the demand reduction and cost benefits of energy conservation, improvements also provide a significant environmental benefit by reducing the greenhouse gas emissions associated with the generation of building utilities. Existing facilities improved total utility driven greenhouse gas emission efficiency by 1% compared to fiscal year 2014, yielding approximately 1,700 Tons of avoided greenhouse gas emissions. For further details, see section 4, "Environmental Impact" of this report.

Building Summary & Energy Star

Based on analyses of building utilities and efficiencies, the following buildings are identified as the most efficient UMHHC facilities, categorized by building type:

• Hospital Building: Cardiovascular Center – 186.1 kBTU/ft²

• Medical Office Building: Briarwood 4 – 55.7 kBTU/ft²

• General Office Building: Traverwood 1 – 53.7 kBTU/ft²

In total, on a scale of 0 to 100 (100 being the most efficient) the UMHHC building portfolio has earned a score of 35 in the U.S. EPA Energy Star rating system. For further details and a complete listing of UMHHC building performance, see section 5, "Building Summary & Energy Star" of this report.

2. ENERGY PERFORMANCE

In fiscal year 2015, the total utility cost for all UMHHC facilities was \$25.2 Million. When compared to fiscal year 2014, this represents \$1.4 Million in utility cost savings (5% savings). Conversely, total UMHHC facilities' building area normalized energy efficiency was 1% less efficient than 2014. There were several key factors which contributed to these figures:

- Electric utility rates were reduced which resulted in a total average electric rate reduction of 6%, therefore providing \$1.0 Million in electric utility cost savings.
- The 2014 portfolio energy report included a significant amount of building area with little or no associated energy consumption. These areas were not included in the 2015 portfolio energy report which reduced total portfolio building area by 2%, therefore driving the energy per unit area efficiency figure to indicate less efficiency.
- The 2014 portfolio energy report included the new Northville Health Center facility, but did not accrue significant utility consumption in that year. In 2015, this facility consumed nearly \$250,000 in utilities, therefore driving the overall energy per unit area efficiency figure to indicate less efficiency.

In all facilities besides Northville and the building area removals, energy efficiency improved by 1%, resulting in approximately \$450,000 in total avoided utility cost. Figure 2.1 below illustrates comparative energy performance in several of the top UMHHC energy consuming buildings.

Figure 2.1: Key Building Utility vs. FY2014

Building	FY2015 Energy Consumption	Energy Change from FY2014	Percent Change from FY2014	Avoided Utility Cost
316 University Hospital	413,222 MMBtu	-2,379 MMBtu	-1%	\$50,000
5173 C&W Hospital	213,421 MMBtu	-5,124 MMBtu	-2%	\$110,000
5109 Cardiovascular	82,795 MMBtu	-5,100 MMBtu	-6%	\$110,000
317 Taubman Center	52,027 MMBtu	-2,091 MMBtu	-4%	\$45,000
350 EAA Health Center	42,176 MMBtu	1,656 MMBtu	+4%	-\$35,000
301 Cancer Center	46,746 MMBtu	-4,631 MMBtu	-9%	\$100,000

Since utility cost rates and the UMHHC portfolio of building area are continually changing, it is important to normalize utility figures for comparison and evaluation of efficiency and performance from year to year. Figure 2.2 illustrates the recent history of total UMHHC building energy efficiency (measured in BTU/ft²) and utility cost efficiency (measured in \$ft²). Energy efficiency normalizes electric, steam, and natural gas utility into a common energy unit, BTU. Since water & sewer are not an energy utility, this data is not included in this chart. UMHHC facility efficiency has improved 18% since fiscal year 2005.

Figure 2.2: Total UMHHC Historical Energy & Cost Efficiency

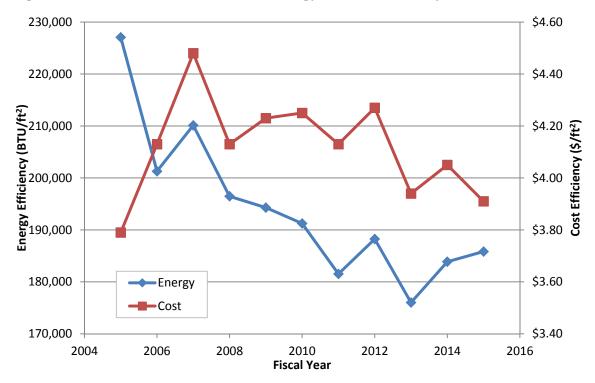


Figure 2.3 below shows the total UMHHC energy and utility cost in recent history without normalizing against building area.

Figure 2.3: Total UMHHC Historical Energy Use & Utility Cost

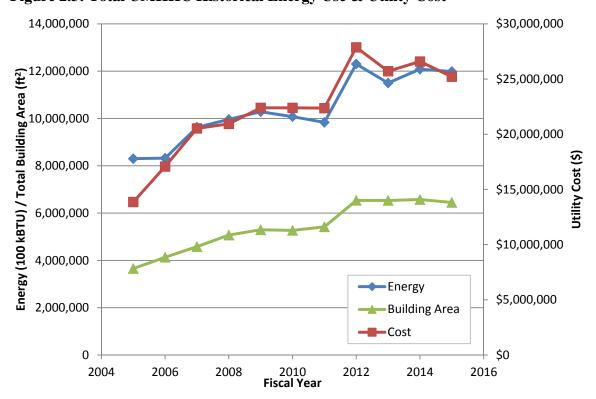
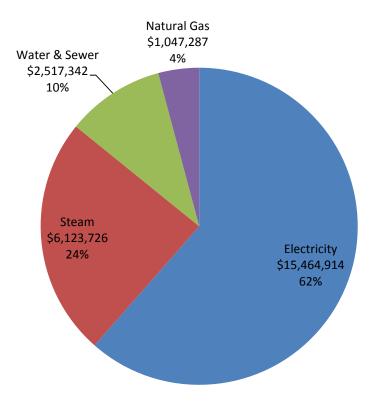


Figure 2.4 below illustrates the distribution and total costs of each of the four primary utilities included in UMHHC facilities for fiscal year 2015.

Figure 2.4: Total FY2015 UMHHC Utility Cost Distribution



3. ENERGY CONSERVATION

Energy Conservation is a combined effort of numerous groups and departments throughout UMHHC. These efforts primarily fall into the following categories:

• New Construction

Efficient design and construction practices for new capital construction.

• Energy Conservation Measures (ECMs)

Projects in existing facilities designed to improve energy performance.

• Operations & Maintenance

Maintain, manage, and optimize building operational efficiency.

GreenIT

Manage power consumption from UMHS computers and IT equipment.

New Construction

UMHHC strives to incorporate energy efficient strategies and practices in all new capital construction projects. This first includes participation and compliance with the University's energy & water conservation standard (SID-D), including several standardized efficiency practices, compliance with the ASHRAE 90.1-2007 energy standard, and achieving 30% energy improvement from baseline compliance for projects over \$10 Million in construction whenever possible. Every UMHHC capital construction project is now reviewed for compliance with these energy and water requirements, and for opportunities to implement other energy conserving design innovations where feasible.

Whenever possible, UMHHC also follows the University's sustainability in facility design and construction standard (SID-K). Among other sustainable practices, this standard also includes a requirement that all new buildings and building addition projects with over \$10 Million in associated construction costs, are required to achieve Silver certification under the Leadership in Energy and Environmental Design (LEED) system managed by the United States Green Building Council (USGBC). This LEED program and rating/certification system is designed to encourage sustainable design practices, covering numerous disciplines including site selection & protection during construction, energy & water efficiency, material selection & sourcing, indoor environmental quality, and more. This program offers building certification awards; base certification, silver, gold and platinum.

Energy Conservation Measures (ECMs)

In fiscal year 2015, 2 new energy conservation projects were completed in existing facilities which are anticipated to provide approximately \$215,000/year in incremental energy savings. These cost \$308,237 to implement, yielding a 1.4 year overall payback period. This is summarized in Figure 3.2 below.

Figure 3.2: ECM Projects Completed in FY2015

Building	Project Description	Project Cost	Estimated Savings	Payback (Years)
Children's &	Install new occupancy sensors in 4 th floor	\$194,929	\$190,000	1.0
Women's Hospital	Operating Rooms and ventilation unit			
	controls to allow automatic turndown of			
	airflow during unoccupied periods, and to			
	optimize HVAC system controls.			
University Hospital	Replace cafeteria lighting with new high	\$113,308	\$25,000	4.5
Building	efficiency LED fixtures.			
	Totals:	\$308,237	\$215,000	1.4

Operations & Maintenance

UMHHC Operations & Maintenance teams are continuously working to maintain equipment at peak efficiency, to improve and optimize operations wherever possible, and to quickly respond and resolve operational issues at all 6.5 million ft² of UMHHC buildings. This includes several key tasks for an extensive body of equipment and instruments. Examples of key equipment are listed below:

- Building automation systems
- Environmental controls & instruments
- Room temperature controls
- Air handling units
- Pumps
- Chillers
- Boilers
- Steam Traps

GreenIT

The GreenIT initiative began in 2009 with the goal of reducing desktop computer power consumption to over 15,000 workstations across the health system. This initiative seeks to set automatic on and off times and enable power saving standby modes for system computers when feasible. This initiative has resulted in more than a 40% reduction in health system computer power consumption.

GreenIT teams are continuously working to further improve computer and IT system power management and to maintain energy performance amidst continuous changes to the Health System equipment and software, which now includes approximately 20,000 workstations. GreenIT teams are currently working to identify and update energy management of remaining departments and workstations unnecessarily operating computers and IT equipment continuously.

4. ENVIRONMENTAL IMPACT

In addition to the benefits of reducing overall energy and utility resource demands, efficiency improvements provide further benefits by reducing the greenhouse gas emissions generated during the production of utilities. Figure 4.1 below shows the total historical UMHHC greenhouse gas emission quantities and greenhouse gas emission efficiencies, normalized against total UMHHC building area. Emissions are measured in metric tons of carbon dioxide (MTCO₂). Please note that these figures only include greenhouse gas emissions due to the generation of utilities consumed by facilities, and do not include emissions from other institution operations. In fiscal year 2015, UMHHC decreased utility driven emissions by 1%. This equates to nearly 1,700 MTCO₂ of avoided greenhouse gas emissions, which is equivalent to removing over 300 automobiles from the road.

In 2011, UM President Coleman announced new sustainability commitments for the University. These commitments include a 25% reduction in total greenhouse gas emissions by FY2025, compared to a FY2006 baseline. It is anticipated that this will be accomplished through improvements to a number of areas of University operations, including major upgrades to onsite utility generation plants, in addition to improvements to existing buildings, University vehicle upgrades, etc. Thus far, UMHHC has increased its total building utility driven emissions by 51% compared to FY2006, however this is across a period of 56% growth in total UMHHC building area in that time. When normalized against total building area, UMHHC has improved its total emission per square foot efficiency by 3% since FY2006. Therefore, UMHHC has significantly expanded but has improved total emission efficiency during that time.

200,000 0.0350 180,000 0.0300 160,000 0.0250 Total Emmissions (MTCO₂) 140,000 Emmission Efficiency (MTCO 120,000 0.0200 100,000 0.0150 80,000 60,000 0.0100 40,000 Total MTCO2 0.0050 20,000 MTCO2/SF 0.0000 0 2004 2006 2008 2010 2012 2014 2016 **Fiscal Year**

Figure 4.1: UMHHC Utility Driven Greenhouse Gas Emission History

5. BUILDING SUMMARY & ENERGY STAR

During fiscal year 2012, a comprehensive profile was created for all UMHHC facilities within the Energy Star Portfolio Manager benchmarking tool, provided by the U.S. Environmental Protection Agency (EPA) and the Department of Energy (DOE). This tool organizes facility energy data, normalizes data against building size, weather, geographic location, building use types, occupancy, number of licensed beds, etc., and generates a rating score that can be used for benchmarking. Scores range from 0 to 100. A score of 50 is the national average. A score of 75 qualifies a building for the Energy Star Certification award. In fiscal year 2015, UMHHC facility scores in aggregate calculated to a total portfolio score of 35. This is improved from a baseline score of 25 in fiscal year 2012. Figure 5.1 below illustrates UMHHC's Energy Star rating progress towards national average and Energy Star Award levels.

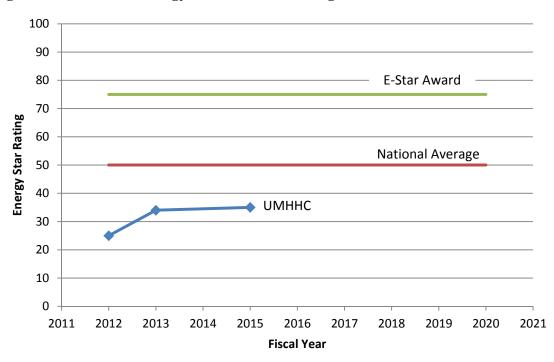


Figure 5.1: UMHHC Energy Star Portfolio Rating

Figure 5.2 indicates the most efficient UMHHC buildings in fiscal year 2015, sorted by the primary Energy Star building type. Due to combined metering and shared utilities between facilities, several buildings are not included in this list because the available utility data does not represent the total utility consumed by the building, and therefore does not provide an accurate measure of efficiency. It should be noted, that energy and efficiency data provided within this report and the table below are based on "site" energy use, which is used for billing. Energy Star ratings are based on "source" energy use which incorporates the efficiency of the utility plant supplying the facility.

Figure 5.2: FY2015 UMHHC Most Energy Efficient Buildings

Rank	ID	Building	Efficiency (kBTU/ft ²)	Energy Star Rating	Total Utility Cost							
<u>Hospitals</u>												
1.	5109	Cardiovascular Center	186.1	N/A	\$1,992,391							
2.	5173	Children's & Women's Hospital	187.3	57	\$4,879,724							
3.	0316	University Hospital Building	240.0	10	\$8,809,420							
		<u>Medical Office Build</u>	ings									
1.	8042	Briarwood 4	55.7	54	\$27,004							
2.	8161	Kellogg Eye Center – Brighton	66.7	54	\$10,590							
3.	8149	Dexter Family Practice	70.2	55	\$14,192							
4.	8065	Briarwood 3	72.8	46	\$24,734							
5.	8111	Howell Health Center	75.9	N/A	\$6,032							
		<u>General Office Build</u>	ings									
1.	8162	Traverwood 1	53.7	81	\$14,401							
2.	5153	Traverwood 3	66.6	77	\$52,252							
3.	8137	Michigan House	70.9	70	\$171,057							
4.	8100	2101 Commonwealth	76.1	77	\$68,473							
5.	8126	KMS Fusion Building	80.7	72	\$240,107							

Figure 5.3 (attached) shows fiscal year 2015 information vs. fiscal year 2014 including energy and utility cost comparison data. Please note that data is not directly comparable since data for several buildings does not include total consumed utility due to combined meters and shared utilities.

Figure 5.3: FY2015 vs. FY2014 UMHHC Building Utility Summary

		1	F`	Y14		FY15				FY Comparison					
ID Name	E-Star Bldg Type	SQFT	Cost	BTU/SF	kBTU	SQFT	Cost	BTU/SF	kBTU	SQFT	Cost	Cost %	BTU/SF	kBTU	kBTU %
195 Upjohn Ctr Clinical Pharmacology	N/A	8,946	\$53	0	0	0	\$0	0	0	-8,946	-\$53	-100%	0	0	#DIV/0!
301 Cancer Center	Laboratory	136,120	\$1,105,967	377,440	51,377,133	136,120	\$948,481	343,418	46,746,058	0	-\$157,486	-14%	-34,022	-4,631,075	-9%
306 East Mechanical Bldg	N/A	8,006	\$345,441	1,839,734	14,728,910	8,006	\$304,729	1,622,733	12,991,600	0	-\$40,712	-12%	-217,001	-1,737,310	-12%
308 Med Inn	Medical Office	121,126	\$355,619	152,904	18,520,650	121,126	\$336,285	142,481	17,258,154	0	-\$19,334	-5%	-10,423	-1,262,496	
309 UH South Unit 1	Medical Office	67,494	\$121,769	95,763	6,463,428	67,494	\$123,606	96,458	6,510,336	0	\$1,837	2%	695	46,908	
312 UH South Unit 2	Medical Office	266,038	\$290,979	68,426	18,203,916	266,038	\$330,108	77,455	20,605,973	0	\$39,129	13%	9,029	2,402,057	13%
314 UH South Unit 3	Medical Office	19,998	\$83,714	265,626	5,311,989	19,988	\$66,582	225,422	4,505,735	-10	-\$17,132	-20%	-40,204	-806,254	-15%
316 University Hospital Building	Hospital	1,721,523	\$9,622,411	241,415	415,601,475	1,721,523	\$8,809,420	240,033	413,222,330	0	-\$812,991	-8%	-1,382	-2,379,145	
317 Taubman Health Center	Medical Office	396,965	\$1,176,228	136,329	54,117,841	396,965	\$1,045,767	131,061	52,026,630	0	-\$130,461	-11%	-5,268	-2,091,212	
318 UH South Unit 4	Medical Office	157,595	\$248,839	98,807	15,571,489	157,595	\$222,267	89,136	14,047,388	0	-\$26,572	-11%	-9,671	-1,524,101	-10%
319 Medical Professional Building 320 Parking - M22 Simpson Circle	Office N/A	37,298 207,308	\$62,589 \$59,400	71,914 0	2,682,248	37,298 204,063	\$61,863 \$59,270	71,513 0	2,667,292	-3,245	-\$726 -\$130	-1% 0%	-401 0	-14,956 0	
325 Parkview Medical Center	N/A	44,499	\$239	0	0	204,003	\$09,270	0	0	-44,499	-\$239	-100%	0	0	
327 1018 Fuller Building	N/A	8,349	\$12,637	60,859	508,112	8,349	\$10,238	58,094	485,027	-44,499	-\$2,399	-100%	-2,765	-23,085	
328 Turner Geriatric Services	N/A	24,695	\$171	00,039	500,112	0,543	\$10,230	0,034	405,027	-24.695	-\$171	-100%	-2,703	-23,003	
332 300 N Ingalls	Office	238,579	\$542,310	113,694	27,125,001	238,791	\$497,305	106,982	25,546,339	212	-\$45,005	-8%	-6,712	-1,578,662	
348 Chelsea Family Practice	Medical Office	25,136	\$60,165	110.089	2,767,197	25.136	\$58,086	108,055	2,716,070	0	-\$2,079	-3%	-2,034	-51,127	-2%
350 EAA Health Center	Medical Office	97,158	\$1,024,079	417,055	40,520,230	97,158	\$951,393	434,097	42,175,996	0	-\$72,686	-7%	17,042	1,655,767	4%
390 Child Care Center	N/A	14.950	\$38,626	119,042	1,779,678	14,850	\$28,031	105,291	1,563,571	-100	-\$10,595	-27%	-13,751	-216,107	
399 NCAC	Office	133.741	\$377,780	167,882	22,452,707	133.741	\$290,538	157.086	21,008,839	0	-\$87,242	-23%	-10,796	-1,443,868	
419 Laundry	Specialty	48,304	\$478,711	871,166	42,080,802	48,298	\$490,065	910,376	43,969,340	-6	\$11,354	2%	39,210	1,888,538	
829 RP Housing 1322 Wilmott	N/A	1,819	\$3,918	103,518	188,299	1,819	\$3,858	99,355	180,727	0	-\$60	-2%	-4,163	-7,572	
5011 Burlington Office Center	Office	67,106	\$104,649	38,086	2,555,799	64,283	\$86,861	36,932	2,374,100	-2,823	-\$17,788	-17%	-1,154	-181,699	
5019 Canton Health Center	Medical Office	51,552	\$152,398	120,732	6,223,976	51,552	\$126,102	95,012	4,898,059	0	-\$26,296	-17%	-25,720	-1,325,917	-21%
5029 Brighton Heath Center	Medical Office	41,500	\$193,991	250,032	10,376,328	41,500	\$170,086	230,568	9,568,572	0	-\$23,905	-12%	-19,464	-807,756	-8%
5038 EAA Surgery Center	Ambulatory Surgery Ctr	49,906	\$141,717	280,547	14,000,979	49,906	\$183,634	279,025	13,925,022	0	\$41,917	30%	-1,522	-75,957	-1%
5056 New Hope Baptist Church	N/A	866	\$1,754	86,499	74,908	866	\$1,179	15,372	13,312	0	-\$575	-33%	-71,127	-61,596	-82%
5058 Michigan Visiting Nurses	N/A	2,140	\$1,160	16,877	36,117	2,140	\$1,363	19,198	41,084	0	\$203	18%	2,321	4,967	14%
5070 Eisenhower CP	Warehouse	37,606	\$93,595	105,566	3,969,915	37,606	\$79,611	99,303	3,734,389	0	-\$13,984	-15%	-6,263	-235,526	-6%
5098 Kellogg Eye Center - Milford	Medical Office	2,523	\$6,779	119,076	300,429	2,523	\$5,616	106,945	269,822	0	-\$1,163	-17%	-12,131	-30,607	-10%
5109 Cardiovascular Center	Hospital	444,952	\$2,086,211	197,539	87,895,373	444,952	\$1,992,391	186,076	82,794,888	0	-\$93,820	-4%	-11,463	-5,100,485	-6%
5117 Upjohn Rachel Building	Medical Office	117,097	\$72,213	68,260	7,993,041	117,097	\$95,951	91,930	10,764,727	0	\$23,738	33%	23,670	2,771,686	
5143 Traverwood II	Office	27,836	\$154,698	285,815	7,955,946	27,836	\$161,621	294,593	8,200,291	0	\$6,923	4%	8,778	244,344	3%
5153 Traverwood III	Office	27,624	\$52,777	64,511	1,782,052	27,624	\$52,252	66,636	1,840,753	0	-\$525	-1%	2,125	58,701	3%
5165 Great Lakes Environmental Lab	N/A	14,286	\$3,420	30,720	438,866	14,286	\$2,430	16,240	232,005	0	-\$990	-29%	-14,480	-206,861	-47%
5173 Children's & Women's Hospital	Hospital	1,139,406	\$4,884,582	191,806	218,544,907	1,139,406	\$4,879,724	187,309	213,420,998	0	-\$4,858	0%	-4,497	-5,123,909	-2%
5223 NC Auxiliary Support Bldg	Data Center	53,530	\$674,695	514,388	27,535,190	53,530	\$688,775	526,149	28,164,756	0	\$14,080	2%	11,761	629,566	
5241 Traverwood IV	Laboratory	9,640	\$113,654	687,922	6,631,568	9,640	\$103,525	667,201	6,431,818	0	-\$10,129	-9%	-20,721	-199,750	
5296 Howell Teen Clinic	N/A	785	\$1,570	99,206	77,877	785	\$1,411	97,964	76,902	0	-\$159	-10%	-1,242	-975	
5340 River Place Offices	Office	7,124	\$25,459	155,639	1,108,772	7,124	\$20,634	115,142	820,272	0	-\$4,825	-19% 696%	-40,497	-288,501	-26%
5341 Northville Health Center 5353 719 Ellsworth Rd	Medical Office N/A	102,228 7.127	\$31,120 \$4,963	12,762 82,742	1,304,634 589,702	102,228 7.127	\$247,642 \$4,474	118,426 71,495	12,106,453 509,545	0	-\$489	-10%	105,664 -11,247	10,801,819 -80,157	-14%
8016 Briarwood 5	Medical Office	9,378	\$54,815	337,432	3,164,437	9,378	\$55,809	373,502	3,502,702	0	\$994	2%	36,070	338,264	11%
8030 Briarwood Cntr	Medical Office	15,924	\$68,789	199,077	3,170,102	15,924	\$67,736	220,128	3,505,702	0	-\$1,053	-2%	21,051	335,204	
8036 Survival Flight Ann Arbor Airport	N/A	10,000	\$18,023	172,083	1,720,830	10,000	\$17,171	162,653	1,626,530	0	-\$852	-5%	-9,430	-94,300	
8039 RP Housing 1011 Cornwell Place	N/A	2,879	\$6,482	131,158	377,604	2,879	\$5,752	127,470	366,986	0	-\$730	-11%	-3,688	-10,618	
8042 Briarwood 4	Medical Office	14,063	\$27,509	49,708	699,044	14,063	\$27,004	55,674	782,943	0	-\$505	-2%	5,966	83,900	
8060 101 Simpson Rd	N/A	2,791	\$2,518	36,307	101,333	2,791	\$2,406	34,485	96,248	-	-\$112	-4%	-1,822	-5,085	
8063 RP Housing 1035 Wall	N/A	10,400	\$55	00,007	0	2,701	\$0	0 1, 100	00,210	-10,400	-\$55	-100%	0	0,000	
8065 Briarwood 3	Medical Office	10,611	\$29.525	78,905	837.261	10.611	\$24.734	72,778	772.247	0	-\$4.791	-16%	-6.127	-65.014	
8072 Eisenhower Park West	Medical Office	76,726	\$308,591	151,859	11,651,534	76,726	\$283,630	142,471	10,931,230	0	-\$24,961	-8%	-9,388	-720,304	-6%
8076 Briarwood 1	Medical Office	17,699	\$101,506	264,193	4,675,952	17,699	\$91,137	273,977	4,849,119		-\$10,369	-10%	9,784	173,167	4%
8096 Livonia Specialty Care	Medical Office	46,607	\$195,634	180,283	8,402,450	46,607	\$202,197	215,364	10,037,470	0	\$6,563	3%	35,081	1,635,020	
8100 Plymouth Park	Office	43,423	\$77,277	78,731	3,418,736	43,423	\$68,473	76,116	3,305,185	0	-\$8,804	-11%	-2,615	-113,551	-3%
8110 West Ann Arbor Health Center	Medical Office	6,131	\$16,549	84,391	517,401	6,131	\$15,753	83,377	511,184	0	-\$796	-5%	-1,014	-6,217	-1%
8111 Howell Pediatrics	Medical Office	2,840	\$6,651	75,739	215,099	2,840	\$6,032	75,939	215,667	0	-\$619	-9%	200	568	
8112 Occupational Medicine Bldg	Medical Office	9,020	\$34,083	166,253	1,499,602	9,020	\$29,194	136,117	1,227,775	0	-\$4,889	-14%	-30,136	-271,827	-18%
8116 Ann Arbor Ice Cube	N/A	8,672	\$4,559	67,053	581,484	8,672	\$4,573	65,621	569,065	0	\$14	0%	-1,432	-12,418	-2%
8121 Saline Health Center	Medical Office	7,133	\$22,944	138,016	984,468	7,133	\$21,467	139,552	995,424	0	-\$1,477	-6%	1,536	10,956	1%
8126 KMS Fusion Bldg	Office	125,908	\$278,296	87,867	11,063,158	125,908	\$240,107	80,689	10,159,391	0	-\$38,189	-14%	-7,178	-903,768	-8%
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Figure 5.3: FY2015 vs. FY2014 UMHHC Building Utility Summary

				FY14 FY15									FY Con	nparison		
ID	Name	E-Star Bldg Type	SQFT	Cost	BTU/SF	kBTU	SQFT	Cost	BTU/SF	kBTU	SQFT	Cost	Cost %	BTU/SF	kBTU	kBTU %
8130 Brian	wood 10	Medical Office	17,435	\$78,203	203,425	3,546,715	17,435	\$74,634	211,073	3,680,058	0	-\$3,569	-5%	7,648	133,343	4%
8137 Michi	igan House	Office	101,758	\$178,608	53,812	5,475,801	74,710	\$171,057	70,884	5,295,744	-27,048	-\$7,551	-4%	17,072	-180,058	-3%
8142 Brian	wood 9	Medical Office	5,287	\$37,819	269,195	1,423,234	5,287	\$32,939	278,376	1,471,774	0	-\$4,880	-13%	9,181	48,540	3%
8149 Dexte	er Family Practice	Medical Office	8,020	\$15,197	73,292	587,802	8,020	\$14,192	70,188	562,908	0	-\$1,005	-7%	-3,104	-24,894	-4%
8155 Livon	nia Health Center	Medical Office	11,130	\$25,723	75,940	845,212	11,130	\$22,895	83,765	932,304	0	-\$2,828	-11%	7,825	87,092	10%
8160 Kello	gg Eye Center - W Bloom	Medical Office	1,246	\$245	1,314	1,637	0	\$0	0	0	-1,246	-\$245	-100%	-1,314	-1,637	-100%
8161 Kello	gg Eye Center - Brighton	Medical Office	6,647	\$11,736	69,963	465,044	6,696	\$10,590	66,684	446,516	49	-\$1,146	-10%	-3,279	-18,528	-4%
8162 Trave	erwood	Office	9,964	\$15,047	45,362	451,987	10,027	\$14,401	53,693	538,380	63	-\$646	-4%	8,331	86,393	19%
9598 UMH	Sign 1050 Maiden Lane	N/A	0	\$37	0	0	0	\$0	0	0	0	-\$37	-100%	0	0	#DIV/0!
9599 UMH	Sign 1525 Fuller St	N/A	0	\$410	0	0	0	\$427	0	0	0	\$17	4%	0	0	#DIV/0!
9601 Hosp	ital Chilled Water Loop	N/A	0	\$149,549	0	0	0	\$158,521	0	0	0	\$8,972	6%	0	0	#DIV/0!
5173T C&W	Trailer	N/A	0	\$11,886	0	0	0	\$10,089	0	0	0	-\$1,797	-15%	0	0	#DIV/0!

Totals: 6,572,173 \$26,591,316 183,391 1,205,275,411 6,449,479 \$25,216,094 185,255 1,194,797,340 -122,694 -\$1,375,222 -5.2% 1,864 -10,478,071 -0.99