

Johns Hopkins University
School of Medicine
Facilities Management



“Greening & Sustainability Initiatives”

Jack Grinnalds, Sr. Director

Rich Sebour, Director

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Campus Map



GPS Coordinates

<ul style="list-style-type: none"> Main Entrance Wolfe Street 39-17-50.3850 Latitude 076-35-35.8790 Longitude Outpatient Center 601 North Caroline Street 39-29-69.19 Latitude 076-59-74.81 Longitude Broadway Research Building 733 North Broadway 39-30-99.80 Latitude 076-59-48.52 Longitude 	<ul style="list-style-type: none"> Weinberg Building 401 North Broadway 39-29-53.86 Latitude 076-59-39.40 Longitude Bloomberg School of Public Health 615 North Wolfe Street 39-29-76.57 Latitude 076-59-07.77 Longitude
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Maintenance & Operations

- Sustainability Projects
- Sustainability Efforts
- LEED Efforts
- Research Buildings
 - Grey Water System
 - Heat Recovery Wheels
 - Green Roofs
- Transportation

Custodial Services

- Greening
- Recycling Policy
- Recycling Efforts
- Staging of Recyclables
- Waste Stream

Chemical Waste – Radiation Waste Reduction

Student Involvement

Future Projects

Sustainability Projects

PROJECT #	BUILDING	DESCRIPTION
0101-0029	Biophysics	Upgrade/Replace Exhaust Fan System
0701-0063	Reed Hall/West	Replace Water Heater
1001-0144	Ross/Traylor/Turner	Provide Backflow Preventers on DO Water Service
0701-0163	2024 Building	Lighting Retrofit
0701-0165	2024 Building	Energy Management System Upgrade
0707-0081	2024 Building	LEED Office Fit-Out for Facilities Management Administrative Offices
0102-0038	Welch Library/Bsmt	Install 22 - 2x4 Fluorescent Fixtures
1102-0117	JHAAC Lobby & Atrium	Replace Track Lighting
0103-0013	PCTB	Replace 13KVA Transformer
0704-0044	BRB Cooling Tower	Energy Conservation Methods
1004-0045	Ross Cooling Tower	Energy Conservation Methods
1005-0078	Ross Incinerator	Emissions Controls Upgrade
1104-0173	JHAAC	Reflective Roof Surface
1107-0038	JHAAC	Cooling Tower Upgrades
0104-0188	WBSB	Window Replacement
0102-0107	WBSB	Mechanical System Retrofit
	WBSB	Exterior Supply Duct Riser Replacement
0104-0184	Welch Library	Air-Handling & Control Upgrades
0104-0187	WBSB Basement	Repalce Electrical Switchgear & Bus Bar
0204-0219	Traylor Exterior/North Side	Replace Lighting Fixtures
0203-0017	Traylor	Mechanical System Retrofit
0704-0220	Church Home POB	HVAC Upgrades
0105-0064	WBSB East & West Lecture Halls	Upgrade HVAC for Humidication
1105-0079	JHAAC	Convert Constant Volume Airflow to Variable Airflow
0705-0086	BB-CRB Penthouse	Install Charcoal Filters in AHUs
0705-0087	BB-CRB	Convert to VAV Terminal Unit Control
0707-0095	BB-CRB	Heat Wheel Variable Air Volume Purge Controls
1005-0125	Ross	Exterior Building Sealant Replacement
0105-0132	PCTB Mountcastle Auditorium	Upgrade HVAC System and Controls
1106-0067	JHAAC 1-5 Floors	Install Motion Sensors
1106-0068	JHAAC Basement	Convert Oil Burner to Dual Gas & Oil
0106-0103	SOM Campus	Review Emergency Lighting Efficiency
0706-0104	CRBII	Review Emergency Lighting Efficiency & Quantity

Maintenance & Operations

Sustainability Efforts 01/01/07 – 02/28/08

- Lighting Retrofit Projects
- C02 Sensors/Economizer
- Paint Recycling 520 gallons
- Refrigerant Capture 1205 lbs.
- Scrap Metal Recycling 282 lbs.
- Cooking Oil Recycling 270 gallons
- Pallet Recycling 1,600 lbs.

LEED Efforts (Leadership in Energy and Environmental Design)

- Initial Survey Complete
- Ratings for:
 - LEED – (EB) Existing Buildings
 - Ross Research Building
 - Bunting-Blaustein Cancer Research Building
 - Broadway Research Building
 - Koch Cancer Research Building
 - LEED – (CI) Commercial Interiors:
 - 2024 Facilities Management Offices

Research Buildings

Broadway Research Building Grey Water System

- Collection
- Treatment / Storage
- Distribution

Research Buildings/Grey Water System Collection



Research Buildings/Grey Water System

Usage



Research Buildings/Grey Water System

Consumption Data

Avg. Monthly Grey Water Usage	104,480 gal.
Avg. Monthly City Water Usage	325,500 gal.
% Grey Water of Total Grey Water System	24%
Cumulative Water Savings since 1/05	1,985,117 gal.

Research Buildings/Grey Water System

Financial Data

Avg. Monthly Grey Water Savings \$ 418

Avg. Monthly Bay Restoration Fee Savings \$ 35

Total Avg. Monthly Savings \$ 453

Future Potential Savings

325,500 gal. / month or \$1,411 / month

Research Buildings/ Heat Recovery Wheels



Heat Wheel Recovery System is a mechanical wheel that removes the heat from the exhaust air and pre-heats the incoming air for the building.

By using the heat wheel, we save 50% on utilities and wear and tear on equipment.

Green Roof

Broadway Research Vivarium Roof



Transportation

The School of Medicine fleet of eight vehicles includes two hybrids:

2006 Ford Escape	28 MPG
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2008 Toyota Prius	40 MPG
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Greener transportation will be phased in.

Institutional consideration is under review to provide priority parking for hybrid vehicles and alternate fuel sources for our shuttle bus system.

Custodial Services

Custodial Greening

PRODUCTS	BRB	ROSS	BS LOT	CRB	CRB II	COMMENTS
TRASH BAGS						
large black 43x47	YES	YES	YES	YES	YES	90% recycled material
medium black 33x40	YES	YES	YES	YES	YES	90% recycled material
small clear 23x33	YES	YES	YES	YES	YES	90% recycled material
TOILET TISSUE						
GP coreless	YES	YES	YES	YES	YES	meets EPA standard of 20%
JRT Jr. 7805	YES	YES	YES	YES	YES	45% recycled material
rollmaster 027	NO	NO	NO	NO	NO	fazing out/replacing with coreless
PAPER TOWELS						
multi fold 180	YES	YES	YES	YES	YES	40% recycled material
enmotion	YES	YES	YES	YES	YES	40% recycled material
roll towel 104	YES	YES	YES	YES	YES	40% recycled material
roll towel 980	YES	YES	YES	YES	YES	40% recycled material
CHEMICALS						
dispensing system	YES	YES	YES	YES	YES	
neutral all purpose	YES	YES	YES	YES	YES	green certified
glass cleaner	YES	YES	YES	YES	YES	green certified
floor cleaner	YES	YES	YES	YES	YES	green certified
stainless cleaner	YES	NO	NO	YES	YES	soy base product
spray & dissolve	NO	NO	NO	NO	NO	removes hard water stains (detail work only)
excell shampoo	YES	NO	NO	YES	YES	used in extractor that recycles water/chemical
tannin stain remover						
foam soap	NO	YES	NO	NO	NO	
germicide (bathrooms)						no standards as of now that I know of
FLOOR FINISH	NO	NO	NO	NO	NO	zinc free, expensive, use twice as much product & labor, we strip floors every 3 yrs
FLOOR STRIPPER	NO	NO	NO	NO	NO	need to use with zinc free floor finish
WET MOPS						
16 oz	YES	NO	NO	YES	YES	Micro fiber mops/laundry weekly
20 oz	YES	NO	NO	YES	YES	Micro fiber mops/laundry weekly
DUST MOPS						
18 inch	YES	NO	NO	YES	YES	Micro fiber mops/laundry weekly
36 inch	YES	NO	NO	YES	YES	Micro fiber mops/laundry weekly
RAGS	YES	YES	YES	YES	YES	Micro fiber rags/laundry weekly
VACUUM CLEANERS	YES	YES	NO	YES	YES	certified green vacuums
PRODUCTS						
FLOOR MACHINES						
175 scrubber						no requirement, use with wet floor
burnisher/dust control	YES	NO	NO	YES	YES	BRB, CRB I & II has passive vacuum system on machines
auto scrubber battery	YES	YES	YES	YES	YES	Use less water to clean floor
battery burnisher	YES	YES	YES	YES	YES	vacuum system for air quality
carpet extractors	YES	YES	YES	YES	YES	we use only extracting equipment, large equipment recycles water & chemical
rombus carpet shampooer	YES	NO	NO	YES	YES	uses a small amount of water (mist carpet)
stripping machines battery						has gel batteries
steam cleaners	YES	YES	YES	YES	YES	
AIR FRESHENERS						
						sprays mist into air



JOHNS HOPKINS
MEDICINE

POLICY TITLE: Johns Hopkins University, School of Medicine Recycling Policy

DATE OF ISSUANCE: This original policy was revised and issued to campus on 11/2004

ACCOUNTABLE DEPARTMENTS/UNITS: Questions on policy content should be directed to Richard Sebour Director, Facilities Management Support Services, 5-0880 or rsebour@jhmi.edu

ABSTRACT: Describes the University's Recycling Program and waste reduction efforts.

RELATED INFORMATION:

<http://www.hopkinsmedicine.org/facilitiesmanagement>

Recycling Policy for John Hopkins University, School Of Medicine

This is to announce the adoption of the following Recycling Policy for the University.

Johns Hopkins University, School of Medicine is committed to recycling the materials it uses and to minimizing waste. It is the responsibility of every member of the campus community to support these efforts that will protect our environment by conserving resources and preserving rapidly diminishing landfill space. The implementation of a campus-wide recycling program is the first step toward developing a comprehensive environmental policy for Johns Hopkins.

Facilities Management is responsible for the implementation of the recycling program. The Director of Support Services is responsible for the management of the recycling program and coordination of waste reduction efforts on campus.

The entire School of Medicine is expected to actively participate in the Recycling Program and waste reduction efforts. This involves three distinct activities.

1. Recycling of paper (mixed), cardboard, beverage cans (aluminum, glass and plastic) and plastic pipette cases.
2. Source Reduction: This includes but is not limited to making double-sided copies, increased use of electronic mail instead of memos, reuse/resale of surplus furniture, toner cartridge reuse, cellular phone recycling, computer/monitor recycling, battery recycling, etc.
3. Purchasing products made from recycled materials. The long-term success of recycling programs in this country depends on the creation of markets for recycled materials. All departments should purchase recycled products wherever economically feasible.

Recycling programs already functioning on campus are encouraged to continue and expand provided that they do not hinder the campus-wide recycling program.

Recycling Efforts 01/01/07 – 02/28/08

- Pipette Holders 20,740 lbs.
- Computers & Media 67,340 lbs.
- Mixed Paper 214,920 lbs.
- Cans, Bottles & Plastics 4,640 lbs.
- No fluorescent bulbs during the 1st quarter.

Anticipate large increase due to several lighting retrofit projects.

Staging of Recyclables

Bunting Blaustein & Koch Cancer Building Loading Dock

Cans, Bottles & Plastics



Computers & Media



Paper Compactor



Toter Disposal



Waste Stream

School of Medicine Waste Stream				Johns Hopkins University School of Medicine	
				Fiscal Years 2005-2008	
				May 22, 2008	
Figures listed are in pounds of material					
	Recyclables	Medical Waste/Incinerator	Municipal Waste	Total Weight	
AAC	246,400	541,200	609,160	1,396,760	
BRB Loading Dock	290,400	2,208,448	3,235,200	5,734,048	
CRB I	30,000	362,663	1,227,020	1,619,683	
CRB II	206,080	527,120	150,360	883,560	
Reed Hall	70,400	0	800,800	871,200	
SON	220,880	1,000	488,400	710,280	
Church Home	0	17,097	422,400	439,497	
2024	77,440	8,800	145,200	231,440	
2041	22,880	88,000	37,840	148,720	
Total for Period	1,164,480	3,754,328	7,116,380	12,035,188	

- 2006 9% of Waste Stream Recycled
- 2007 17% of Waste Stream Recycled
- 2008 21% Projected

Chemical Waste

1st Quarter - 2008 Chemical Waste Generated (lbs)					
			SOM	AAC	Total
Off-Site			1,522	0	1,522
Destruction					
Off-Site			4,825	800	5,625
Recycling					
On-Site Waste			0	0	0
Minimization					
Total Waste			6,347	800	7,147
Generated					

Radiation Waste Reduction

Student Involvement – Hopkins LIFE

(Leadership Initiative for the Environment)

- Committee Established - 2006
- Team Effort
- Recycling Tour
- Monthly Meetings
- Open Houses
- Earth Day
 - 2007 – 500 Attendees
 - 2008 – 750 Attendees – 6,200 lbs Recycled

Current and Future Activities

- Student Involvement – Hopkins LIFE
(Leadership Initiative for the Environment)
- Presidential Committee on Sustainability
- Task Force for Climate Change
- Institutional Communication
- Low Flow Urinals
- PC Collection & Disposal
- Sustainability Workshop – June 3, 2008
Faculty and Administrative Involvement

Questions