

UNDERGRADUATE LIBRARY

1402 WEST GREGORY DRIVE URBANA , ILLINOIS 61801

SYSTEM CONDITION INDEX	1	JILDING SYSTEM REPLACEMENT COST 7,242,900	BUILDING GROSS SQUARE FEET 95,906		NUMBER OF BUILDING STORIES	ORIGINAL YEAR OF CONSTRUCTION 1969
PRIMARY BUILDING USE		CLASSROOMS / LIBRARY BUILDING SURVEY DATE				2/7/2013
BUILDING SURVEY TEAM		CCJM: Josh Pola	CJM: Josh Polasky (M), Stanley Panek (E)			



TRADE	E X P E C POOR (\$) (1-5 YEARS)	FAIR (\$) (5-10 YEARS)	GOOD (\$) (10-20 YEARS)	E LIFE EXCELLENT (\$) (20+ YEARS)	TOTAL (\$)	\$/GSF	PERCENT OF BUILDING TOTAL (%)
MECHANICAL	1,549,000		1,185,300		2,734,300	28.51	37.8
PLUMBING	355,700	472,500			828,100	8.63	11.4
FIRE PROTECTION	187,400		5,100		192,500	2.01	2.7
ELECTRICAL	1,715,500	250,100	35,600	585,200	2,586,400	26.97	35.7
COMMUNICATIONS	96,200		805,300		901,500	9.40	12.4
TOTAL % OF TOTAL	3,903,700 53.9	722,600 10.0	2,031,400 28.0	585,200 8.1	7,242,900	75.52	

MECHANICAL DISCIPLINI	E REPL	A C E M E N	T COST	S U M M	A R Y
SYSTEM/COMPONENT	POOR	CTED REMAIN FAIR	GOOD	EXCELLENT	TOTAL
CHILLED WATER SYSTEM	(1-5 YEARS)	(5-10 YEARS)	(10-20 YEARS)	(20+ YEARS)	
Cooling System	153,700				153,70
Steam and Condensate System Steam and Condensate System			465,700		465,70
SUPPLY AIR SYSTEM Air Handling System	1,378,900				1,378,90
TOILET EXHAUST SYSTEM Toilet Exhaust Fan #1 and #2	16,400				16,40
HVAC CONTROLS SYSTEM HVAC Controls			719,600		719,60
MECHANICAL TOTAL	1,549,000		1,185,300		2,734,30
% OF TOTAL	56.7		43.3		

C O O L	ING SYSTEM ASSESSMENT DATA
Item ID	299838
Description	Building was connected to campus chilled water loop in 2009. Piping and coils are original from 1969.
Overall Condition	Poor
Date Installed	1/1/1969
Remaining Useful Life	Exceeded Nominal Useful Life: 30 Years
Equipment Tag	-
Manufacturer	
Model Number	-
Serial Number	
Size/Capacity	
HP/kW	
Voltage	
Material	
Recommendation	
Replacement Cost	\$153,700



Chilled water connection to AHU unit



Chilled water piping

STEAM	AND CONDENSATE SYSTEM ASSESSMENT DATA
3 I E A IVI	AND CONDENSATE STSTEM ASSESSWENT DATA
Item ID	299854
Description	Campus steam is reduced to 8 psi at pressure reducing station. From pressure reducing station steam is distributed to heating coils located within air handling unit heat exchanger for domestic water, cabinet heaters and unit heaters. There are (4) four duplex condensate pumps.
Overall Condition	Good
Date Installed	1/1/1995
Remaining Useful Life	12 Years Nominal Useful Life: 30 Years
Equipment Tag	CP-1,2,3,4
Manufacturer	
Model Number	
Serial Number	-
Size/Capacity	50 Gal and 10 Gal
HP/kW	3 and 1/3
Voltage	480 and 120V
Material	Black steel piping
Recommendation	
Replacement Cost	\$465,700

STEAM AND CONDENSATE SYSTEM SURVEY PHOTOGRAPHS



Condensate pump



Condensate pump CP-2



Condensate pump CP-2 motor-3HP



Replaced(new) condensate pump

A I R H	IANDLING SYSTEM ASSESSMENT DATA
Item ID	299835
Description	(4) multi-zone AHUs with VFDs serve entire building and contain both cooling and heating coils. The AHUs are approximately 33,000 CFM each. AHU-4 and AHU-5 serve East and North entry lobby and are 3100 and 5600 CFM respectively.
Overall Condition	Poor
Date Installed	1/1/1969
Remaining Useful Life	Exceeded Nominal Useful Life: 30 Years
Equipment Tag	AHU-1 through AHU-6
Manufacturer	American Air Filter
Model Number	
Serial Number	
Size/Capacity	
HP/kW	
Voltage	
Material	
Recommendation	Install filters on returns near café. Install vestibule at tunnel between Undergraduate and Main Libraries to prevent air-flow related pressure issues.
Replacement Cost	\$1,378,900
Comments	There is a strong air current flowing through the tunnel from the Main Library toward the Undergraduate Library which interferes with pressure in both buildings. Foot traffic through the tunnel is heavy and doors are constantly propped open. Coffee grounds from café area migrate into return ducts.

AIR HANDLING SYSTEM SURVEY PHOTOGRAPHS



Typical supply fan



Another typical supply fan

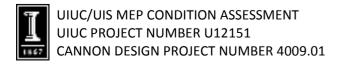


Typical VFD



Typical return fan

Item ID	299858					
Description	Utility type fans	serving toilet rooms.				
Overall Condition	Poor					
Date Installed	1/1/1969					
Remaining Useful Life	Exceeded	Nominal Useful Life: 30 Years				
Equipment Tag	EF-8 and E-9					
Manufacturer	Peerless					
Model Number	-					
Serial Number	-					
Size/Capacity	1250 CFM					
HP/kW	1/2					
Voltage	277					
Material	-					
Recommendation	-					
Replacement Cost	\$16,400					



H V A C	CONTROLS ASSESSMENT DATA
Item ID	299848
Description	Siemens DDC controls were installed in 2010 during project retrocommissioning. Existing thermostats were recalibrated. CO2 sensors were installed to control outside air quantities in common spaces. Occupancy schedule was implemented to control speed of fans related to building activities.
Overall Condition	Good
Date Installed	1/1/2010
Remaining Useful Life	15 Years Nominal Useful Life: 18 Years
Equipment Tag	
Manufacturer	Siemens
Model Number	
Serial Number	
Size/Capacity	-
HP/kW	-
Voltage	
Material	-
Recommendation	-
Replacement Cost	\$719,600

IVAC CONTROLS SURVEY PHOTOGRAPHS



Standard thermostat



Compressor system



Compressor system angle #2



Building automation control panel

P L U M B I N G DISCIPLINE REPLACEMENT C O S TS U M M A R Y EXPECTED REMAINING SERVICE LIFE **POOR FAIR** GOOD **EXCELLENT** SYSTEM/COMPONENT **TOTAL** (1-5 YEARS) (5-10 YEARS) (10-20 YEARS) (20+ YEARS) **DOMESTIC COLD WATER SYSTEM** 75,400 **Domestic Cold Water Piping** 75,400 **PUMPS Sewage Ejector Pumps** 32,700 32,700 **DOMESTIC HOT WATER SYSTEM Domestic Hot Water System** 114,900 114,900 **PLUMBING FIXTURES SYSTEM Plumbing Fixtures** 177,400 177,400 STORM DRAINAGE SYSTEM Storm Drainage System 322,900 322,900 **SUB-SOIL DRAINAGE SYSTEM** Sub-Soil Drainage 104,700 104,700 **PLUMBING TOTAL** 355,700 472,500 828,100 % OF TOTAL 42.9 57.1

D O M E S	TIC COLD WATER PIPING ASSESSMENT DATA
Item ID	299839
Description	6" pipe enters building serving domestic water and fire protection. 3" pipe and goes through meter and is routed to water heater and plumbing fixtures.
Overall Condition	Fair
Date Installed	1/1/1969
Remaining Useful Life	10 Years Nominal Useful Life: 50 Years
Equipment Tag	
Manufacturer	
Model Number	-
Serial Number	-
Size/Capacity	-
HP/kW	-
Voltage	-
Material	Galvanized steel pipe
Recommendation	
Replacement Cost	\$75,400
Comments	Approximately 65 fixtures served.

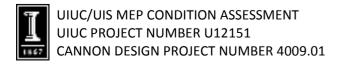
DOMESTIC COLD WATER PIPING SURVEY PHOTOGRAPHS



Domestic cold water piping and water meter



Water piping to water closets



D O M E S	TIC HOT WATER SYSTEM ASSESSMENT DATA
Item ID	299840
Overall Condition	Fair
Date Installed	1/1/1969
Remaining Useful Life	10 Years Nominal Useful Life: 50 Years
Manufacturer	
Model Number	-
Serial Number	
Size/Capacity	-
HP/kW	
Voltage	-
Material	
Recommendation	Verify size of circulating pump.
Replacement Cost	\$114,900
Comments	Hot water to West side of building is frequently unavailable; staff suspects circulation pump is undersized.

DOMESTIC HOT WATER SYSTEM SURVEY PHOTOGRAPHS



Steam to hot water heat exchanger and hot water circulating pump

P L U M	BING FIXTURES ASSESSMENT DATA
Item ID	299852
Description	Water closets, bathroom sinks, janitor sinks, and urinals throughout building. Approx. 64 fixtures.
Overall Condition	Fair
Date Installed	1/1/1969
Remaining Useful Life	5 Years Nominal Useful Life: 50 Years
Equipment Tag	
Manufacturer	-
Model Number	
Serial Number	-
Size/Capacity	
HP/kW	
Voltage	
Material	
Recommendation	
Replacement Cost	\$177,400

PLUMBING FIXTURES SURVEY PHOTOGRAPHS







Men's bathroom fixtures



Typical bathroom sinks

S T O R N	M DRAINAGE SYSTEM ASSESSMENT DATA 299855
	Large duplex sump pump located in basement mechanical room #100. Two 7.5 HP motors.
Overall Condition	Poor
Date Installed	1/1/1969
Remaining Useful Life	5 Years Nominal Useful Life: 50 Years
Equipment Tag	-
Manufacturer	
Model Number	-
Serial Number	
Size/Capacity	
HP/kW	7.5
Voltage	480
Material	Cast iron drainpipes and drains.
Recommendation	
Replacement Cost	\$322,900
Comments	Remaining useful life applicable for sump pump only. Piping has longer life. Oversized sump pump was installed in lowered area of basement mechanical room with the expectation that a below-ground building would have flooding issues, this has turned out to not be the case.

STORM DRAINAGE SYSTEM SURVEY P<u>HOTOGRAPHS</u>







Sump pump

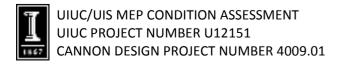
Sump pump Pic #2



Area drain

Sump pump Pic #3

S U B -	SOIL DRAINAGE ASSESSMENT DATA
Item ID	299856
Description	Drainage for this building is reported as good. Duplex sump pump is located in basement mechanical room #100 – two (2) 7.5 HP motors.
Overall Condition	Fair
Date Installed	1/1/1969
Remaining Useful Life	10 Years Nominal Useful Life: 50 Years
Equipment Tag	-
Manufacturer	
Model Number	-
Serial Number	
Size/Capacity	7.5 HP
HP/kW	
Voltage	-
Material	Cast iron pipes
Recommendation	-
Replacement Cost	\$104,700
Comments	Staff reports deep puddles and water shedding problems on some areas of plaza above building, but no leaks or seepage problems.



FIRE PROTECTION DISCIPLINE REPLACEMENT COST SUMMARY EXPECTED REMAINING SERVICE LIFE **POOR FAIR** GOOD **EXCELLENT** SYSTEM/COMPONENT **TOTAL** (1-5 YEARS) (5-10 YEARS) (10-20 YEARS) (20+ YEARS) FIRE ALARM SYSTEM Fire Alarm System 187,400 187,400 5,100 5,100 Fire Suppression System 187,400 5,100 192,500 **FIRE PROTECTION TOTAL** % OF TOTAL 97.3 2.7

F I R E	ALARM SYSTEM ASSESSMENT DATA
Item ID	299845
Description	Original fire alarm system was replaced in 1996 with an addressable type fire alarm system. New devices include horns, heat detectors, pull stations, smoke detectors, and strobes. The panel is located in the upper lobby.
Overall Condition	Poor
Date Installed	1/1/1996
Remaining Useful Life	3 Years Nominal Useful Life: 20 Years
Equipment Tag	Nor applicable
Manufacturer	Pyrotronics/Siemens
Model Number	MXL
Serial Number	Not Applicable
Size/Capacity	Not Applicable
HP/kW	Not Applicable
Voltage	12 V
Material	Not Applicable
Recommendation	Migration to XLS system
Replacement Cost	\$187,400
Critical Issues	Smoke detectors are outdated and should be replaced or refurbished.

IRE ALARM SYSTEM SURVEY PHOTOGRAPHS



Fire alarm panel



Horn and strobe



Typical pull station



Smoke detector

Item ID	299846
Description	Fire suppression system consists of standpipes and sprinklers throughout entire building. Fire protection water separates from domestic water in basement mechanical room and has backflow preventer. Sprinkler system tags indicate pressure and zone coverage area.
Overall Condition	Good
Date Installed	1/1/2009
Remaining Useful Life	16 Years Nominal Useful Life: 20 Years
Equipment Tag	
Manufacturer	
Model Number	
Serial Number	
Size/Capacity	3" Black steel piping to standpipes
HP/kW	
Voltage	
Material	Black steel
Recommendation	Replace doors from cafe to recess air exhaust pit.
Replacement Cost	\$5,100
Critical Issues	The sprinkler heads near café doors (going out to recess air exhaust pit) are at risk for freezing. Doors don't close properly and leak air.

FIRE SUPPRESSION SYSTEM SURVEY PHOTOGRAPHS



Fire protection piping



Fire protection zone with piping



Sprinkler head near café door



REPLACEMENT ELECTRICAL DISCIPLINE C O S TSUMMARY EXPECTED REMAINING SERVICE LIFE **POOR FAIR** GOOD **EXCELLENT** SYSTEM/COMPONENT **TOTAL** (1-5 YEARS) (5-10 YEARS) (10-20 YEARS) (20+ YEARS) **SUBSTATION** Main Substation 8,100 8,100 **LOW VOLTAGE SYSTEM** Low Voltage Distribution 548,200 548,200 **EMERGENCY POWER SYSTEM Emergency Power System** 906,800 906,800 **GENERATOR Emergency Generator** 45,400 45,400 INTERIOR LIGHTING Interior lighting System 569,500 569,500 **EMERGENCY LIGHTING SYSTEM Emergency lighting System** 35,600 35,600 **EXIT LIGHTING SYSTEM** Exit lighting 15,700 15,700 **LIGHTING CONTROL SYSTEM Lighting Control System** 207,000 207,000 **EXTERIOR LIGHTING SYSTEM EXTERIOR LIGHTING** 250,100 250,100 **ELECTRICAL TOTAL** 1,715,500 250,100 35,600 585,200 2,586,400 % OF TOTAL 9.7 1.4 22.6 66.3

M A I N	SUBSTATION ASSESSMENT DATA
Item ID	299857
Description	4160/277/480 V Substation with 500 KVA HAVI–DUTY Transformer, (6) 600 A air draw out breakers, Kirk interlock switches, 25,000 A short circuit, Metering Section and KWH Meter # 30-855-427.
Overall Condition	Poor
Date Installed	1/1/1969
Remaining Useful Life	Exceeded Nominal Useful Life: 40 Years
Equipment Tag	No tag
Manufacturer	ITE
Model Number	Not Available
Serial Number	Custom Unit
Size/Capacity	600/85 A switch/fuse
HP/kW	Not Applicable
Voltage	4160V
Material	Copper bus
Recommendation	Maintain and test of breakers per manufacturer recommendation.
Replacement Cost	\$8,100

MAIN SUBSTATION SURVEY PHOTOGRAPHS



Main substation



Substation transformer



Med voltage switch



Metering section

L O W V	OLTAGE DISTRIBUTION ASSESSMENT DATA
Item ID	299851
Description	Load side of the substation consists of breakers serving 277/480 V distribution panelboards . 150 KVA transformer serves 120/208 Volt load. In 1989 an additional 225 KVA transformer and panelboards were installed to provide power to new receptacles located in reading area.
Overall Condition	Poor
Date Installed	1969 and 1989
Remaining Useful Life	Exceeded for 1969 equipment. 15 Years left for 1989 equipment. Nominal Useful Life: 40 Years
Equipment Tag	Not Applicable
Manufacturer	Kinney
Model Number	AJ,PRL1A,45
Serial Number	Not Applicable
Size/Capacity	Varies
HP/kW	Not Applicable
Voltage	120/208 V and 277/480 V
Material	Cooper Bus
Recommendation	
Replacement Cost	\$548,200
Comments	Condition poor due to age of equipment.

L O W V O L T A G E DISTRIBUTION SURVEY P H O T O G R A P H S



Distribution panelboard



120/208 V panelboard



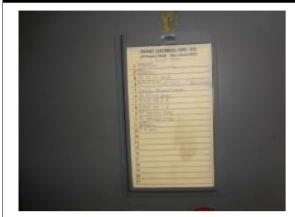
Original paneboards



Transformer and distribution panelboard (1989)

Item ID	299842
Description	100 KW Generator serves as emergency power source during utility power loss. Distribution consists of 200 A transfer switches, two distribution panelboards, a transformer, and two lighting panelboards. Emergency lights, fire alarm, sump pumps, sewer pumps and elevators are connected to emergency power.
Overall Condition	Poor
Date Installed	1/1/1969
Remaining Useful Life	Exceeded Nominal Useful Life: 25 Years
Equipment Tag	Not Applicable
Manufacturer	Not Applicable
Model Number	Not Applicable
Serial Number	Not Applicable
Size/Capacity	200A
HP/kW	Not Applicable
Voltage	277/480V
Material	Not Applicable
Recommendation	
Replacement Cost	\$906,800

EMERGENCY POWER SYSTEM SURVEY PHOTOGRAPHS







Emergency generator



Emergency panelboard

E M E R	GENCY GENERATOR ASSESSMENT DATA
Item ID	299847
Description	Diesel generator and day tank (50 Gal) - located in Rm #144.
Overall Condition	Poor
Date Installed	1/1/1971
Remaining Useful Life	Exceeded Nominal Useful Life: 25 Years
Equipment Tag	Not Applicable
Manufacturer	Onan
Model Number	115DFC-4xR8/26971
Serial Number	9709890970
Size/Capacity	100 KW
HP/kW	300
Voltage	277/480 V
Material	Not Applicable
Recommendation	Replacement or reconditioning.
Replacement Cost	\$45,400
Comments	Poor condition is due to age only.

EMERGENCY GENERATOR SURVEY PHOTOGRAPHS



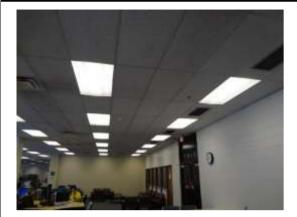




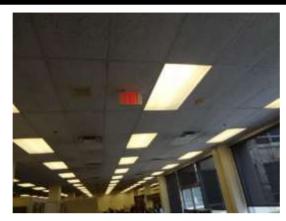
Generator and day Tank

INTER	IOR LIGHTING SYSTEM ASSESSMENT DATA
Item ID	299849
Description	Majority of fixtures are original 2x4 fluorescent lay-in type with acrylic prismatic diffuser. Lamp/ballast replacement was completed in 2010.
Overall Condition	Excellent
Date Installed	4/9/2010
Remaining Useful Life	22 Years Nominal Useful Life: 25 Years
Equipment Tag	Not Applicable
Manufacturer	Not Applicable
Model Number	No applicable
Serial Number	Not Applicable
Size/Capacity	Not Applicable
HP/kW	Not Applicable
Voltage	277 V
Material	Not Applicable
Recommendation	Replace with indirect type lighting at the end fixture life.
Replacement Cost	\$569,500

INTERIOR LIGHTING SYSTEM SURVEY PHOTOGRAPHS



Reading area lighting



Library lighting



Lobby lighting



Mech room lighting

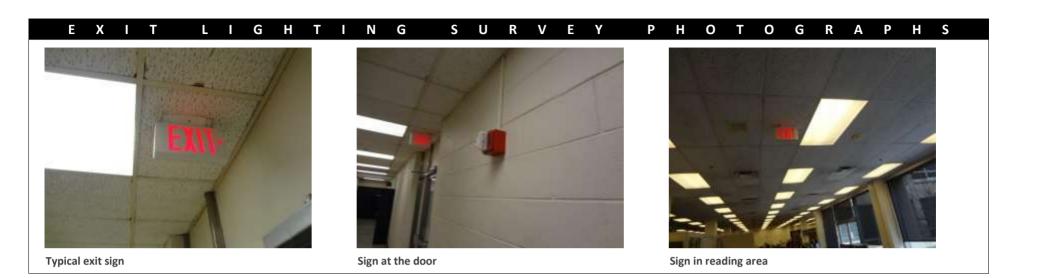
Description Emergency lighting consists of selected fixtures connected to emergency lighting panelboards. Approx. 10% of light fixtures are connected to emergency system. Generator provides power to emergency lighting during loss of utility power. Overall Condition Good Date Installed 1/1/2010 Remaining Useful Life 20 Years Nominal Useful Life: 25 Years Equipment Tag Not Applicable Manufacturer Not Applicable Model Number Not Applicable Serial Number Not Applicable Size/Capacity Not Applicable HP/kW Not Applicable Voltage 120V and 277 V Material Not applicable Recommendation - Replacement Cost \$35,600		ENCY LIGHTING SYSTEM ASSESSMENT DATA
Generator provides power to emergency lighting during loss of utility power. Overall Condition Date Installed 1/1/2010 Remaining Useful Life 20 Years Nominal Useful Life: 25 Years Equipment Tag Mot Applicable Model Number Not Applicable Serial Number Not Applicable Size/Capacity Not Applicable HP/kw Not Applicable 120V and 277 V Material Not applicable Recommendation	item id	299841
Date Installed 1/1/2010 Remaining Useful Life 20 Years Nominal Useful Life: 25 Years Equipment Tag Not Applicable Manufacturer Not Applicable Model Number Not Applicable Serial Number Not Applicable Size/Capacity Not Applicable HP/kW Not Applicable Voltage 120V and 277 V Material Recommendation -	Description	
Remaining Useful Life Equipment Tag Not Applicable Manufacturer Mot Applicable Not Applicable Serial Number Size/Capacity Not Applicable HP/kW Not Applicable 120V and 277 V Material Recommendation	Overall Condition	Good
Equipment Tag Not Applicable Manufacturer Not Applicable Model Number Not Applicable Serial Number Not Applicable Size/Capacity Not Applicable HP/kW Not Applicable 120V and 277 V Material Not applicable Recommendation -	Date Installed	1/1/2010
Manufacturer Not Applicable Model Number Not Applicable Serial Number Not Applicable Size/Capacity Not Applicable HP/kW Not Applicable Voltage 120V and 277 V Material Not applicable Recommendation -	Remaining Useful Life	20 Years Nominal Useful Life: 25 Years
Model Number Not Applicable Serial Number Not Applicable Size/Capacity Not Applicable HP/kW Not Applicable Voltage 120V and 277 V Material Not applicable Recommendation -	Equipment Tag	Not Applicable
Serial Number Not Applicable Size/Capacity Not Applicable HP/kW Not Applicable Voltage 120V and 277 V Material Not applicable Recommendation -	Manufacturer	Not Applicable
Size/Capacity Not Applicable HP/kW Not Applicable Voltage 120V and 277 V Material Not applicable Recommendation -	Model Number	Not Applicable
HP/kW Not Applicable Voltage 120V and 277 V Material Not applicable Recommendation -	Serial Number	Not Applicable
Voltage 120V and 277 V Material Not applicable Recommendation -	Size/Capacity	Not Applicable
Material Not applicable Recommendation -	HP/kW	Not Applicable
Recommendation -	Voltage	120V and 277 V
	Material	Not applicable
Replacement Cost \$35,600	Recommendation	
	Replacement Cost	\$35,600

EMERGENCY LIGHTING SYSTEM SURVEY PHOTOGRAPHS



Approx. 10% of general lighting is connected to Emergency circuit

E X I T	LIGHTING ASSESSMENT DATA
Item ID	299843
Description	n LED Exit Sign
Overall Condition	Excellent
Date Installed	1/1/2009
Remaining Useful Life	20 Years Nominal Useful Life: 25 Years
Equipment Tag	g Not Applicable
Manufacturer	Not Available
Model Number	Not Applicable
Serial Number	Not Applicable
Size/Capacity	/ Standard
HP/kW	/ Not Applicable
Voltage	e 277 V
Material	Not Applicable
Recommendation	ı -
Replacement Cost	\$15,700



LIGHT	ING CONTROL SYSTEM ASSESSMENT DATA
Item ID	299850
Description	Two switches per floor control library area lighting. Control contactors are located within lighting panels. Exterior lighting is controlled by photocell and timers.
Overall Condition	Poor
Date Installed	1/1/1969
Remaining Useful Life	Exceeded Nominal Useful Life: 20 Years
Equipment Tag	Not Applicable
Manufacturer	ASCO
Model Number	Not Applicable
Serial Number	Not Applicable
Size/Capacity	100 A
HP/kW	Not Applicable
Voltage	277 V
Material	Not applicable
Recommendation	-
Replacement Cost	\$207,000
Comments	Condition poor due to age of equipment.

LIGHTING CONTROL SYSTEM SURVEY PHOTOGRAPHS



Switches for reading areas and circulation area 81



Lighting panelboard with contactor

E X T E	R I O R L I G H T I N G A S S E S S M E N T D A T A
Item ID	299844
Description	Exterior lighting was upgraded in 1993 to include 8 light pole fixtures in each Pavilion Entry and 20 wall type fixtures casted in planters walls.
Overall Condition	Fair
Date Installed	1/1/1993
Remaining Useful Life	5 Years Nominal Useful Life: 25 Years
Equipment Tag	Not Applicable
Manufacturer	Not Applicable
Model Number	Not Applicable
Serial Number	Not Applicable
Size/Capacity	Not Applicable
HP/kW	Not Applicable
Voltage	277V and 120 V
Material	Not Applicable
Recommendation	-
Replacement Cost	\$250,100

XTERIOR LIGHTING SURVEY PHOTOGRAPHS







Ornamental poles



Canopy lighting



Planter wall light

COMMUNICATIONS DISCIPLINE REPLACEMENT COST SUMMARY EXPECTED REMAINING SERVICE LIFE **POOR FAIR** GOOD **EXCELLENT** SYSTEM/COMPONENT **TOTAL** (1-5 YEARS) (5-10 YEARS) (10-20 YEARS) (20+ YEARS) **DATA SYSTEM** Communication Infrastructure System 654,600 654,600 **CCTV SYSTEM** Security access Control System 150,700 150,700 **PAGING SYSTEM** Intercom /paging 96,200 96,200 **COMMUNICATIONS TOTAL** 96,200 805,300 901,500 % OF TOTAL 10.7 89.3

COMMUNICATION INFRASTRUCTURE SYSTEM ASSESSMENT D A T A

Item ID 301809

The building is fed with 12 strands of single mode fiber, multimode fiber and 200 copper pairs with each pair grounded and individually protected by a fuse/surge arrestor. Fiber and copper originate from Node #4. The building IDF is located in room 261E on the second level. Fiber distributes radially from the building IDF to hub rooms (telecommunication rooms) to within 100 meters of end-use equipment and lands at rack mounted fiber switches within the hub room.

Two hub rooms in the building were surveyed (the report lists three rooms, although only two were reviewed) - hub B in room 261E is located on the second level and feeds the west side of the building, hub C in room 253 is located on the second level and feeds the east side of the building. Each hub room is equipped with free standing racks (three racks in hub B and two racks in hub C) and wire management. The hub rooms have sprinkler protection. The hub rooms have dedicated free standing portable cooling systems with remote condensing units (Movin Cool Office Pro 24).

Outlet standards typically have 1"C stubbed to cable management (did not view above the ceiling). Standard outlet consists of two network cables and two data jacks. Station cable consists of Cat 6 and Cat 6e (Mohawk Advancenet). The building is typically equipped with WIFI throughout (coverage not noted).

Overall Condition

Good

Date Installed UIUC network upgrade complete (date range 2006 to 2012)

Remaining Useful Life 20 Years

Nominal Useful Life: 20 Years

Replacement Cost \$654,600

COMMUNICATION INFRASTRUCTURE SYSTEM SURVEY PHOTOGRAPHS



Building 99 Hub Room



Building 99 Data Rack Receptacles



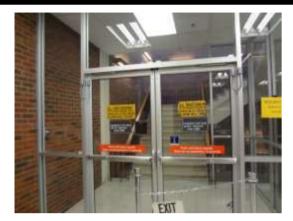
Building 99 Hub Room Cooling System



Building 99 IDF

S E C U R I	TY ACCESS CONTROL SYSTEM ASSESSMENT DATA
Item ID	299836
Description	Not Available
Overall Condition	Good
Date Installed	1/1/2008
Remaining Useful Life	Not Available Nominal Useful Life: 20 Years
Equipment Tag	Security
Manufacturer	Not Available
Model Number	Not Available
Serial Number	Not available
Size/Capacity	Not Available
HP/kW	Not Available
Voltage	Not Applicable
Material	Not Available
Recommendation	
Replacement Cost	\$150,700

SECURITY ACCESS CONTROL SYSTEM SURVEY PHOTOGRAPHS



Door security system

I N T E	R C O M / P A G I N G A S S E S S M E N T D A T A
Item ID	299837
Description	Paging System
Overall Condition	Poor
Date Installed	1/1/1970
Remaining Useful Life	Exceeded Nominal Useful Life: 20 Years
Equipment Tag	Not Applicable
Manufacturer	Realistic
Model Number	Not Applicable
Serial Number	Not Applicable
Size/Capacity	Not Applicable
HP/kW	Not Applicable
Voltage	Not Applicable
Material	Not Applicable
Recommendation	Poor rating is due to age of equipment, the system is functional.
Replacement Cost	\$96,200
Comments	Room with sound equipment was not accessible

NTERCOM / PAGING SURVEY PHOTOGRAPHS





Paging Microphone

Typical speaker in Library Area

LEGACY ASSET DESCRIPTION: UNDERGRADUATE LIBRARY

The Undergraduate Library is a three level structure, with the two primarily occupied levels below grade. The third level, at grade, is primarily access and exit discharge. The building consists of mechanical and electrical rooms, building service storage, study rooms, administrative offices, library stack areas, a mercantile area, and conference rooms. The Life Safety Code classifies the building as Mixed Occupancy (part business and part assembly). Assembly occupancy is located on the upper level (Room 250 and 254) and the lower level (Room 150).

The Undergraduate Library has a manual and automatic fire alarm system. Manual pull stations are located at all exits in all levels and throughout Room 250 and 150. Automatic fire detection is located in the plaza level, upper level (Room 250, 251B, and 254), and lower level (Room 150). Occupant notification is by visual alarms and is located throughout all areas in all levels of the building. The fire alarm control panel for the building, located on the west plaza level vestibule, is a Cerebus Pyrotronics Model MXL.

A diesel fuel Onan emergency generator (located in Room 144) supplies emergency power to the lighting system.

The Undergraduate Library is a non-sprinklered building with a Class I standpipe system located in the upper and lower level. The two fire department connections are located on the northwest and southeast side of the building approximately 100 feet from the plaza vestibules.

OCCUPANT LOAD/EXITING

Plaza Level (LED): 35 occupants; 2 exits required (8 exits provided); 7" exit door width required (528" provided); door and corridor widths are sufficient for occupants served.

Upper Level: 537 occupants; three exits required (4 exits provided); the exit width including stairs/doors provides capacity for 793 occupants. Door and stair widths are sufficient for occupants served.

Second Floor: 432 occupants; two exits required (6 exits provided); the exit width including stairs/doors provides capacity for 1092 occupants. Door and stair widths are sufficient for occupants served.



Item ID	REQUIREMENT NUMBER	INSPECTION DATE	IDENTIFIED ISSUE	LEGACY VALUE	PERCENT COMPLETE	POOR	FAIR	CODE	ТОТА
SENERAL LEG	GACY ITEMS ITEN	ЛS							
304718	REQ-52093	10/8/2002	ADA: Lacking Detectable Warning Strips	15,700	0.0		15,700		15,70
304717	REQ-54614	10/8/2002	Doors: Replace Non ADA Compliant Hardware	123,500	0.0		123,500		123,50
304725	REQ-61276	10/8/2002	ADA Signage: Existing Signs are Not Braille Type	33,800	0.0		33,800		33,80
304714	REQ-42290	11/13/2006	Windows: Aged-Recondition	215,700	0.0	215,700			215,70
304713	REQ-42294	11/13/2006	Exterior Wall: Re-point & Repair Brick	116,500	0.0	116,500			116,50
304712	REQ-51787	11/13/2006	Exterior Doors: Aged	11,700	0.0	11,700			11,70
304716	REQ-52334	11/13/2006	Roof: Copestone Repair	21,100	0.0	21,100			21,10
304726	REQ-61313	12/1/2006	Storm Drain: Building Drainage Poor	956,300	0.0		956,300		956,3
304719	REQ-56592	3/11/2005	Means of Egress: Lower Level Stair Discharge	1,100	0.0	1,100			1,1
304721	REQ-61299	11/15/2006	Conveying: Dumbwaiter Aged and Worn	68,100	0.0	68,100			68,1
304720	REQ-42241	11/13/2006	Flooring- Repair Terrazo Floor 1	14,700	0.0	14,700			14,7
304715	REQ-42293	11/13/2006	Roof - Leak	89,600	0.0	89,600			89,6
			GENERAL LEGACY ITEMS TOTALS	1,667,900	0.0	538,500	1,129,400		1,667,9
IEP LEGACY	ITEMS ITEMS								
304724	REQ-51785	10/8/2002	ADA: Non-Compliant Payphones	14,200	0.0		14,200		14,2
304722	REQ-54369	10/8/2002	ADA: Restrooms ADA Non-Compliant	69,700	0.0		69,700		69,7
304723	REQ-52200	1/16/2007	Storm Drainage: Leaks to Interior	746,100	0.0	746,100			746,1
			MEP LEGACY ITEMS TOTALS	829,900	0.0	746,100	83,900		829,9
			TOTALS	2,497,800	0.0	1,284,600	1,213,300		2,497,8
			% OF LEGACY VALUE			51.4	48.6		100

E G A C Y ASSESSMENT D A T A : Date Inspected 10/8/2002 Description There are a number of payphones in the building. None of the installations are ADA compliant and there are no TTY units as required per ADAAG 4.1.3. Requirement Category Accessibility Requirement Name ADA: Non-Compliant Payphones (Legacy) Condition Fair Percent Complete 0.0 Recommendation Install ADA compliant payphones. One each in central location in general circulation area per floor (2) with signage indicating location of ADA payphones A difficulty factor of 20% has been applied to represent typical costs associated with working in older buildings or confined areas, such as higher staging costs, additional demolition, addition physical and equipment resources and may not account for project specific items such as timing requirements, hidden conditions, and the organizing of multiple deficiencies corrections where issues other than costs are the prime considerations. Estimated Cost 14,161.00 Estimated Remaining Cost: 14,161.00 C Y ASSESSM E N T D A T A: G Date Inspected 10/8/2002 Description Stairs and hazardous vehicular areas are required to have a detectable warning surface per ADAAG 4.29.4 and 4.29.5 Requirement Category Accessibility Requirement Name ADA: Lacking Detectable Warning Strips (Legacy) Condition Fair Percent Complete 0.0 Recommendation ADAAG 4.29.4 & 5 require a detectable warning strip at stairs and vehicular entrance areas. At stair landings install adhesive detectable strips. At sidewalks, saw cut reliefs per ADAAG 4.29.2. A difficulty factor of 20% has been applied to represent typical costs associated with working in older buildings or confined areas, such as higher staging costs, additional demolition, addition physical and equipment resources and may not account for project specific items such as timing requirements, hidden conditions, and the organizing of multiple deficiencies corrections where issues other than costs are the prime considerations. Estimated Cost 15,705.00 Estimated Remaining Cost: 15,705.00

Date Inspected 10/	0/8/2002
are	DAAG 4.1.3 (11) requires that if toilet facilities are provided then each common use toilet shall be wheelchair handicapped accessible. The common restrooms e not all handicapped accessible per UFAS, ADAAG, and State of Illinois Accessibility requirements. They must be in compliance with ADA Section 4 and 9 - 9.1.1. and Illinois Accessibility Codes.
Requirement Category Acc	ccessibility
Requirement Name ADA	DA: Restrooms ADA Non-Compliant (Legacy)
Condition Fair	ir
Percent Complete 0.0	0

Recommendation Existing fixtures in restrooms should be replaced with UFAS, ADAAG compliant sinks, blade faucets, toilets, grab bars etc. In addition, remaining fixtures, in some cases made partially handicapped accessible, are either too old or should be replaced with water saving devices. Architectural and mechanical work is includes repositioning of water closets and/or wall partitions to accommodate handicap accessibility.

> Mens Room 84: water closet centerline, grab bars, urinal height, sink and faucet, pipe insulation, mirror height, accessible reach, door width, petition removal and reset, new accessories;

Mens Room 103 HP: urinal height, pipe insulation;

Mens Room 159: water closet, urinal height, sink and faucet, pipe insulation, mirror height, accessible reach, door width, petition removal and reset, new accessories,

Mens Room 203: water closet, urinal height, sink and faucet, pipe insulation, mirror height, accessible reach, door width, petition removal and reset, new accessories.

Mens Room 253: water closet, urinal height, sink and faucet, pipe insulation, mirror height, accessible reach, door width, petition removal and reset, new accessories,

Mens Room 303: water closet centerline, urinal height, sink and faucet, pipe insulation, mirror height, accessible reach, door width, petition removal and replacement (rusting), new accessories,

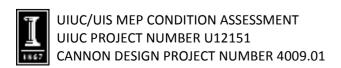
Mens Room 353: water closet, urinal height, sink and faucet, pipe insulation, mirror height, accessible reach, door width, petition removal and reset, new accessories.

Mens Room 435: water closet, grab bars, sink and faucet, pipe insulation, mirror height, accessible reach, door width, petition removal and reset, new accessories,

Ladies Room 80A; water closet centerline, grab bars, sink and faucet, pipe insulation, mirror height, accessible reach, door width, petition removal and reset, new accessories,

Ladies Room 129; water closet centerline, grab bars, sink and faucet, pipe insulation, mirror height, accessib

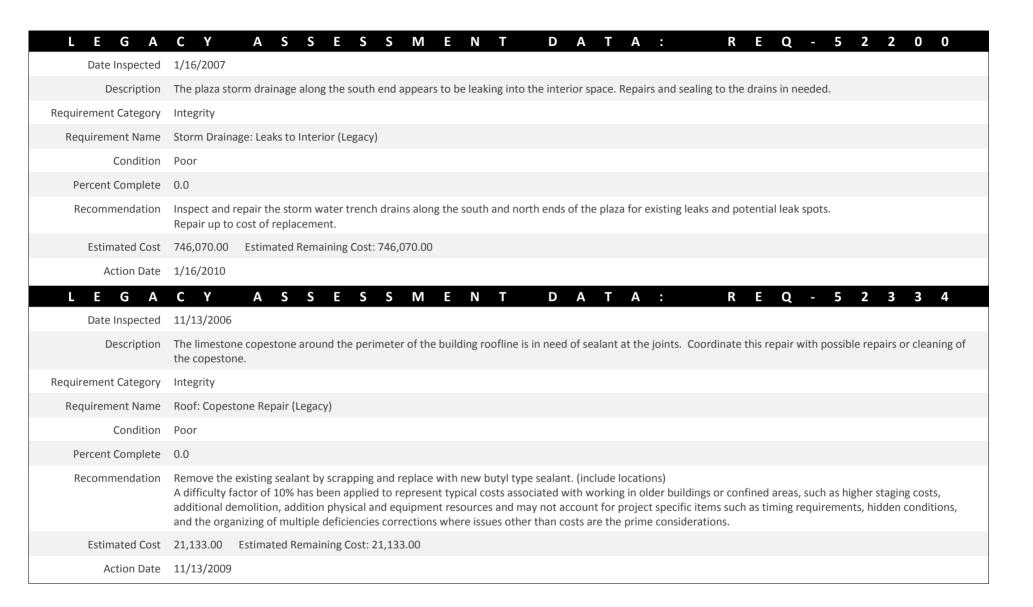
Estimated Cost 69,699.00 Estimated Remaining Cost: 69,699.00



E G A C Y ASSESSMENT DATA: Date Inspected 10/8/2002 Description Interior doors generally have knob style hardware which should be replaced with lever type hardware in accordance with ADA Section 4.26. Requirement Category Accessibility Requirement Name Doors: Replace Non ADA Compliant Hardware (Legacy) Condition Fair Percent Complete 0.0 Recommendation Replace hardware on Accessible Doors in compliance with ADAAG Section 4.13.9 Door Hardware. A difficulty factor of 20% has been applied to represent typical costs associated with working in older buildings or confined areas, such as higher staging costs, additional demolition, addition physical and equipment resources and may not account for project specific items such as timing requirements, hidden conditions, and the organizing of multiple deficiencies corrections where issues other than costs are the prime considerations. Estimated Cost 123,546.00 Estimated Remaining Cost: 123,546.00 A C Y A S S E S S M E N T D A T A: G Date Inspected 10/8/2002 Description The signs, which designate permanent rooms and spaces, do not comply with requirements for raised or brailled characters, mounting locations or heights. See BOCA section 1007.5.4 under room identification and ADAAG section 16-4.1.2(7). Requirement Category Accessibility Requirement Name ADA Signage: Existing Signs are Not Braille Type (Legacy) Condition Fair Percent Complete 0.0 Recommendation Add or replace room signs to comply with BOCA and ADAAG regulations. Each sign is approximately \$75.00 x the number of rooms. Note: Type of sign selected for budgetary purposes only. A difficulty factor of 20% has been applied to represent typical costs associated with working in older buildings or confined areas, such as higher staging costs, additional demolition, addition physical and equipment resources and may not account for project specific items such as timing requirements, hidden conditions, and the organizing of multiple deficiencies corrections where issues other than costs are the prime considerations. Estimated Cost 33,836.00 Estimated Remaining Cost: 33,836.00

L E G A	CY ASSESSMENT DATA: REQ-42290
Date Inspected	11/13/2006
Description	The windows are operable aluminum framed with single glazed, non-insulating glass. These units are in poor condition due to age, deteriorated sealant and glazing compound, some water infiltration, and peeling paint. Many of the windows leak air and water and exhibit frame deterioration. The building is considered architecturally significant and replacement of the windows is not a viable option. Therefore the windows should be scraped, reglazed as necessary and repainted.
Requirement Category	Integrity
Requirement Name	Windows: Aged-Recondition (Legacy)
Condition	Poor
Percent Complete	0.0
Recommendation	This building is considered historically significant. The existing metal framed windows can not be replaced and must be reconditioned. Frames should be blasted, primed, and painted. Glass should be replaced in the existing sashwith modern glass to look like the original. Allowance for damaged trim and sashes. A difficulty factor of 10% has been applied to represent typical costs associated with working in older buildings or confined areas, such as higher staging costs, additional demolition, addition physical and equipment resources and may not account for project specific items such as timing requirements, hidden conditions, and the organizing of multiple deficiencies corrections where issues other than costs are the prime considerations.
Estimated Cost	215,678.00 Estimated Remaining Cost: 215,678.00
Action Date	11/13/2009

E G A C Y ASSESSMENT DATA: Date Inspected 11/13/2006 Description Within the courtyards several of the mortar joints in the exterior masonry walls have aged to a point where they appear porous and ineffective in repelling moisture. Upon field inspection much of the tuck-pointing appears to be deteriorating and a section of wall at the northeast corner appears to have been damaged by an impact. This has left the wall in an unsafe condition and needs to be corrected. These joints have exceeded their designed life expectancy and the mortar should be replaced and sealed. Requirement Category Integrity Requirement Name Exterior Wall: Re-point & Repair Brick (Legacy) Condition Poor Percent Complete 0.0 Recommendation Clean, repair and tuckpoint all exterior walls. Coordinate with window replacement to avoid masking all windows. A difficulty factor of 10% has been applied to represent typical costs associated with working in older buildings or confined areas, such as higher staging costs, additional demolition, addition physical and equipment resources and may not account for project specific items such as timing requirements, hidden conditions, and the organizing of multiple deficiencies corrections where issues other than costs are the prime considerations. Estimated Cost 116,535.00 Estimated Remaining Cost: 116,535.00 Action Date 11/13/2007 G Α C Y E S S M E N DATA: Date Inspected 11/13/2006 Description The exterior door shows signs of extreme wear and tear. An excessive amount of maintenance has been required to keep the doors in operation. These units have exceeded their design life expectancy and should be replaced. All are missing emergency egress hardware and ADA compliance. See correction for locations. Requirement Category Integrity Requirement Name Exterior Doors: Aged (Legacy) Condition Poor Percent Complete 0.0 Recommendation Replace exterior doors along the northwest and south west courtyards. Replace all doors, hardware, and weather-stripping with insulated hollow metal doors and new metal frames. Estimated Cost 11,687.00 Estimated Remaining Cost: 11,687.00 Action Date 11/13/2007



L E G A	CY ASSESSMENT DATA: REQ-61313
Date Inspected	12/1/2006
Description	Foundation leaks and basement / ground floor damage has been observed and reported to be caused by localized flooding due to inadequate storm water drainage around the building. In addition this flooding around the building during storms has created hazardous conditions for students and staff members on the walkways. At the request of the facilities planning office the action provided is an approximation for the piping and surge reservoir required for the quick collection and controlled release of storm water to the City Storm system. A comprehensive Civil Engineering design and review is required to provide an actual resolution to the storm drainage issues.
Requirement Category	Integrity
Requirement Name	Storm Drain: Building Drainage Poor (Legacy)
Condition	Fair
Percent Complete	0.0
Recommendation	Improve the storm drainage system for the building and its connection to the primary storm drainage system around the Champaign / Urbana campus main quad. Consideration should be made to insure proper drainage of the building roof and immediate surrounding site (25 feet) and the water flow that is expected during the 24 hour rainfall in a 100 year storm. This estimate is for budgetary purposes only and not intended for contract review. example: Building SF = 111,000 with 3 stories = 37,000 SF foot print, plus immediate site 25 ft around the 750 foot perimeter = 19,000 SF for total drainage 56,000 SF with Rain fall of approximately 6.5 inches per 24 hour 100 year storm = 30,000 cubic feet or 230,000 gallons per day. (7.48gal/ft3) Estimated excavation for piping is 100 ft from bldg and 250 feet from street storm main.
Estimated Cost	956,308.00 Estimated Remaining Cost: 956,308.00

L E G A	CY ASSESSMENT DATA: REQ-56592
Date Inspected	3/11/2005
Description	There exists stairs, Stair 4 and 1 located on the lower level, that do not discharge to the level of exit discharge but to the upper level. This is not compliant with NFPA 101 Section 7.1.3.2.2.
Requirement Category	Life Safety
Requirement Name	Means of Egress: Lower Level Stair Discharge (Legacy)
Condition	Poor
Percent Complete	0.0
Recommendation	Install "NO EXIT" signs on doors for aforementioned stairs. Lower level has adequate number of required exits without this capacity.
	Adjustment factor of 3.0 used to account for additional costs typically associated with retrofit work, working with existing construction, limited-access conditions, and/or small size jobs (less than \$1,000).
Estimated Cost	1,114.00 Estimated Remaining Cost: 1,114.00
Action Date	3/11/2006
L E G A	CY ASSESSMENT DATA: REQ-61299
Date Inspected	11/15/2006
Description	The dumbwaiter used for book movement is aged and worn. At the time of the VFA reassessment it appeared to be out of service. Repair or replacement should be scheduled.
Requirement Category	Obsolescence
Requirement Name	Conveying: Dumbwaiter Aged and Worn (Legacy)
Condition	Poor
Percent Complete	0.0
Recommendation	Repair up to the cost of replacement. If no longer needed the unit should be removed as abandoned equipment.
Estimated Cost	68,092.00 Estimated Remaining Cost: 68,092.00
Action Date	11/15/2009

