

FACILITY AUDIT REPORT
HASKETT HALL, Bldg 027
JUNE 24, 1993

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EXECUTIVE SUMMARY AND PROJECT LIST FOR HASKETT HALL

Haskett Hall is a 68-year-old four-story building composed primarily of offices and laboratories. It was partially renovated in 1976 but the plumbing and heating systems were not replaced and portions of the original electrical wiring systems are still in service. The building has reached an age and condition where complete renovation and replacement of the existing mechanical systems is warranted. Air conditioning in the building is supplied by numerous, small department-owned systems. Any major renovation projects planned should include a centralized air conditioning system. The electrical system appears to have adequate capacity for current needs but should be modernized and distribution should be increased.

The structure and exterior are in good condition. The windows were replaced in 1986 and, while functioning adequately, require some minor maintenance. The exterior masonry was recently cleaned, sealed, and spot tuck-pointed. The roof cover is at the end of its life expectancy. The decking below it is wood and is particularly susceptible to structural damage from leaks. The roof should be replaced in the near future. The elevator cab is too small and should be replaced.

PROPOSED MAINTENANCE PROJECTS:

A. Corrective Maintenance Projects:		Control #
1. Replace domestic plumbing system....	\$ 67,570	2084
2. Replace hot water heating system....	155,400	2085
3. Renovate restroom finishes.....	14,200	2086
4. Renovate stairway finishes and add fluorescent lights.....	23,500	2087
5. Replace built-up roofing.....	80,000	2020
Sub Total	\$340,670	
B. Building Improvement/Addition Project:		
1. Replace and improve building electrical distribution system.....	\$144,900	2088
2. Replace elevator cab and modernize controls.....	50,000	2083
3. Modernize exit and emergency lighting	42,400	
4. Remove concrete hatch and install lighter weight heavy-duty metal hatch in floor of rm 220.....	5,000	2090
Sub Total	\$242,300	
C. Projected (over the next 5 yrs) Component Replacement Projects:		
NO PROJECTS IDENTIFIED THIS CYCLE		

Total cost for estimated projects = \$582,970

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GENERAL BUILDING INFORMATION

HASKETT HALL #027

BUILDING ADDRESS: 156 W. 19TH AVE

GROSS SQ. FT.: 46,599

NET ASSIGNABLE SQ. FT.: 35,029

MECHANICAL/CUSTODIAL AREA SQ. FT.: 1910

YEAR OF CONSTRUCTION: 1925

YEAR OF LAST RENOVATION: PARTIAL RENOVATION IN 1976

NUMBER OF STORIES/BASEMENT: 4 STORIES, NO BASEMENT

AIR CONDITIONING (Percentage): 25%

CURRENT USE: OFFICES, LABORATORIES AND EXHIBITION SPACE - MEDIA ARTS CENTER

TYPE OF CONSTRUCTION: STEEL FRAME AND MASONRY SKIN

ESTIMATED REPLACEMENT COST: \$5,909,000 *

WHEELCHAIR ACCESSIBILITY: BUILDING ENTRANCES ARE AT GRADE-LEVEL, DOORS ARE NOT EQUIPPED WITH AUTOMATIC OPENERS. THERE IS ONE ELEVATOR IN THE BUILDING.

OVERALL BUILDING CONDITION: SATISFACTORY**

NUMBER OF EXIT STAIRWAYS: 2

* Replacement Cost assigned November, 1991 by The Office of Campus Planning and Space Utilization.

** Current Office of Campus Planning and Space Utilization C-1 Report Condition Code.

BUILDING SYSTEMS INFORMATION

HASKETT HALL #027

HEATING:

Source UNIVERSITY POWER PLANT

Type Heating System FORCED HOT WATER

Steam (Line size, valve location) 2" SUPPLY, 2" CONDENSATE RETURN, RM 101M

Building Htg Water (line size, valve location) 6" SUPPLY & RETURN, RM 101M

VENTILATION SYSTEM:

6 DX, 2 LIQUID CHILLED SYSTEMS, THRU-WALLS UNITS & WINDOW AIR CONDITIONERS

COOLING:

Bldg % 25% Chillers

Window Units 32 Thru-the-wall 14 Direct exp. units 6

HVAC CONTROL SYSTEM:

NO CENTRALIZED CONTROL SYSTEM, EACH SYSTEM HAS INDIVIDUAL CONTROLS

ELECTRIC: Source Size(KVA) Primary/Secondary Switchgear & Main Disc. (Rm)

1.SECONDARY FEED FROM JOHNSTON LAB - 208/120, DISCONNECT LOCATED IN 101M

PLUMBING:

Water (size, valve location) 2" & 2-1/2", RM 101M

Gas (size, valve location) 4", RM 101M

Domestic Hot Water (size, valve location) 1-1/4", RM 101M

Compressed Air (size, location) N/A

SEWERS: Storm _____ Sanitary _____ Combination 1 @ 8"

METERS:

Gas (size, location) N/A

Water (size, location) N/A

Electric (location) RM 101M

ALARM SYSTEMS:

Fire Alarm YES Panel Location INSIDE SOUTH ENTRANCE

Fire Pump NO Pump Location N/A

Sprinklers NONE Panel Location N/A

Other Alarms SECURITY ALARM SYSTEM IN MEDIA CENTER STORE

ELEVATORS:

Number 1 Type (passenger, freight) PASSENGER

Manufacturer OTIS Size 45" X 74"

EMERGENCY GENERATOR: Size N/A Location N/A

KEY BOX LOCATION: INSIDE EAST ENTRANCE TO BUILDING

ASBESTOS SURVEY (1986): PREFORMED BLOCK AND LAYERED PAPER PIPE INSULATION THROUGHOUT THE BUILDING. HEAT EXCHANGER INSULATION IN RM 217.

HASKETT HALL NARRATIVE

HISTORY

Haskett Hall was completed in 1925. It was originally built to house the engineering experiment station. It contained classrooms and laboratories, including a large 3-story room with a partially removable floor on the north side of the building. It was partially remodeled in 1976. The building now houses Media Arts (photographic film) laboratories and faculty offices, the Silver Screen Gallery and a Media Arts Store. Facility use by room category is 68% laboratory, 20% office, 5% mechanical, custodial and toilet, and 9% miscellaneous uses including exhibition, seminar and student activities.

PRIMARY SYSTEMS

Haskett Hall is a four-story building with a structure composed of steel I-beam columns supporting reinforced concrete floors. The exterior walls are brick and limestone. The roof consists of steel trusses and a wood tongue and groove deck. The roof is covered with built-up asphaltic felt and gravel. The structure of the building appears to be sound and no problems were noted. The roofing is over 25 years old and maintenance personnel reported that it is beginning to leak. We noted evidence of roof leaks on the fourth floor and in room 220, which extends up 3 floors to the roof. There are a large number of air conditioning units and exhaust fans on the roof which suggests foot traffic across the roof. The roof should be replaced in the near future before structural damage occurs to the wooden deck it is covering.

The exterior brick and limestone has been cleaned, sealed and spot tuck-pointed recently. The original windows were replaced with projected thermal break windows throughout in 1987. The newer windows operate well in most cases, although the occupants reported some problems with the latches. We observed several windows on the south face with broken seals requiring replacement. The exterior doors are in good condition. Building occupants reported a security problem with the north door. That door has a removable center jamb, which they reported has been jimmed on several occasions to gain entry to the building. The door should be replaced with a double door with an overlapping flange at the center jamb.

SECONDARY SYSTEMS

The original interior partitions are plastered structural tile or concrete. Over the years, concrete block and wooden or metal stud walls with drywall have been added. The interior doors and hardware were replaced during the 1976 renovation. Wall surfaces require new paint in most hallways and the stairways.

Floor finishes consist primarily of vinyl tile that is generally in serviceable condition. The floors in the two original restrooms are in poor condition and require replacement. The terrazzo in the restrooms and stairways is very worn and cracked. Carpeting can be found in departmental areas. We have proposed a project to recover the treads and landings, paint the stairway walls and install fluorescent lighting.

Ceilings consist of suspended acoustical 2 X 4 tiles, painted concrete or the exposed underside of the roof. The suspended ceilings vary in age throughout the building. The grids in the hallways are generally yellow with age and would benefit from cleaning.

SERVICE SYSTEMS

The building has one elevator that was replaced in 1972. The elevator is in good condition but does not possess firefighter service. Maintenance personnel reported that the elevator does meet not ADA size requirements. They also reported that the shaft will accommodate a large cab.

The building is served by a number of HVAC systems, thru-wall units and window air conditioners. There are several smaller department-owned direct expansion systems in various locations throughout the building. Building occupants reported that the air conditioning systems in the building were the largest source of problems. They commented that two of the small dx systems have not worked for several years and that they limited the use of a chiller adjacent to room 220 because of the moisture problems in the studio. The air conditioning systems appear to be department owned systems. Several new packaged units with gas-fired reheats were recently installed to provide make-up air for three laboratories. The building should be provided with a central air conditioning system if it is renovated to provide efficient and easily maintained air conditioning throughout.

Building heat is supplied by a heating hot water radiation system. Most of the system is original and while functioning adequately is poorly controlled. Many of the valves on the radiators are stuck open. The system has exceeded its life expectancy and requires replacement. The new packaged units will also supply heated make-up air to the laboratories.

The plumbing distribution system is original as are most fixtures in the two original restrooms and has reached the end of its useful life. The restrooms require new fixtures and the remaining supply system should be replaced along with the complete renovation of the original restroom finishes on the second and third floors.

ELECTRICITY

Electrical power is provided to Haskett Hall, Boyd Lab, and two floors in Johnston Lab by a 1000 KVA transformer located at Johnston Lab. Haskett Hall is supplied with 208/120 volt secondary current. There are approximately 1200 amps available.

Most of the building appears to have been rewired and additional circuits were provided in the 1976 renovation. Older wiring is still found in one of the restrooms and the north stairway. Fluorescent lights have been installed in most areas. Incandescent lighting can still be found in the stairways. The north stairway is particularly dark. Fluorescent lighting should be installed in the stairways. Some of the original fuse boxes are in service and should be replaced with modern circuit breaker boxes. Occupants did not report any problems with circuit breakers tripping. They did comment that there were not enough convenience outlets in the building. There was room for expansion in most electrical panels.

SAFETY STANDARDS

The building is equipped with lighted exit signs, portable fire extinguishers, and a standpipe system with firehose cabinets. An annunciator is located in the east lobby. There is only one emergency light in the north stairway. Emergency lights should be installed in both stairways along with new emergency-powered exit lights. The building elevator does not meet ADA size standards. Entrances are at ground level. There are no automatic door openers.

ASBESTOS

The Ohio Board of Regents Facilities Asbestos Inspection and Risk Assessment Program's report: Inventory of Friable Asbestos-Containing Materials in Buildings of the Ohio State University (Main and Branch Campuses) and Recommendations for Corrective Action by PEI Associates, September 1986, identifies asbestos containing materials in pipe insulation throughout the building. There were no records of asbestos abatement in the building.

BUILDING PERIMETER

The driveway/parking lot on the south side of the building requires patching and sealing. The sidewalks and curbs are in serviceable condition. There are mature trees on the north and east sides of the building. The lawn on the east side of the building has large bare spots. The security lights on the building exterior are all working and building entrances and approaches are well lit and unobscured.

MAINTENANCE PROJECTS (LESS THAN \$5000)

1. Repair window panes with broken seals. Inspect and replace broken window handles as needed.
(Work Order # 01-5064-069123-71)
2. Replace north entrance doors.
(Work Order # 01-5064-069125-71)
3. Paint underside of entrance canopy at south entrance.
(Work Order # 01-5064-069126-71)
4. Paint hallway walls, second, third and fourth floors.
(Work Order # 01-5064-069127-71)
5. Replace fused panel in room 218T.
(Work Order # 01-5064-069129-71)
6. Clean hallway ceiling grids on 2nd floor.
(Work Order # 01-5063-005160-46)
7. Paint south entrance soffit and install lenses at recessed lights.
(Work Order # 01-5064-069130-71/01-5064-069131-71)
8. Clean trash from hallway radiator enclosures.
(Work Order # 01-5063-005161-46)
9. Seed east lawn bare spots.
(Work Order # 01-5063-005162-52)
10. Fill depressions in south parking lot and resurface.
(Work Order # 01-5063-005163-51)
11. Install automatic door opener for wheelchair accessibility.
(Work Order # 01-5064-069135-71)

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BUILDING EVALUATION SUMMARY

I. BUILDING INFORMATION

FAC # 027 FACILITY NAME: HASKETT HALL
 DATE: 5/26/93 INSPECTOR: JAMES P. HERTENSTEIN
 YEAR CONSTRUCTED: 1925
 GROSS SQ FT: 46,599 NET SQ FT: 35,029
 REPLACEMENT COST \$ 5,909,000 *

II. COMPONENT RATING

COMPONENT	BUILDING COMPONENT PERCENTAGE OF TOTAL COST **	BUILDING COMPONENT REPLACEMENT COST	CONDITION VALUE MULTIPLIER FOR BLDG. COMPONENT	BUILDING COMPONENT CURRENT VALUE
Foundation	4.3	254,087	.78	198,188
Columns and Beams	15.5	915,895	.78	714,398
Exterior Walls	9.2	543,628	.77	418,594
Windows & Doors	4.5	265,905	.94	249,951
Roofing	3.0	177,270	.59	104,589
Partitions & Drs.	7.6	449,084	.72	323,340
Wall Finishes	2.9	171,361	.71	121,666
Floor Finishes	5.6	330,904	.71	234,942
Ceilings & Finish	7.9	466,811	.74	345,440
Conveying	1.8	106,362	.69	73,390
Plumbing	9.1	537,719	.57	306,500
Heating	9.7	573,173	.63	361,099
Cooling & Vent.	5.4	319,086	.78	248,887
Elec. Ser. & Dist	1.1	64,999	.90	58,499
Lighting & Power	11.8	697,262	.73	509,001
Safety Standards	.6	35,454	.74	26,236
TOTALS	100.00	5,909,000		4,294,720

III. BUILDING RATING SUMMARY

Overall Building Rating = 72.7

* Replacement Cost assigned September 1991 by The Office of Campus Planning and Space Utilization without the furnishings and fixed equipment allocation.

** Percent allocation of each building component is calculated from The Means Standard Construction Cost data for College Classroom Buildings.

FOUNDATIONS

FAC # 027 DATE 5/26/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

a. Footings:	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
Individual Footings & Piers <u>PIERS UNDER STEEL COLUMNS</u>	[]	[X]	[]
Continuous Footings <u>AT EXTERIOR AND MAJOR INTERIOR WALLS</u>	[]	[X]	[]
Grade Beams _____	[X]	[]	[]
Piles _____	[X]	[]	[]
Caissons _____	[X]	[]	[]
b. Foundation Wall Materials:			
Steel _____	[X]	[]	[]
Concrete Cast-in-place _____	[]	[X]	[]
Concrete Block _____	[X]	[]	[]
Other _____	[X]	[]	[]
c. Waterproofing and Underdrain:			
Coating _____	[X]	[]	[]
Membrane _____	[X]	[]	[]
Board _____	[X]	[]	[]
Drain Tile _____	[X]	[]	[]
d. Slab on Grade (floor):			
Plain _____	[X]	[]	[]
Reinforced <u>6" SLAB</u> _____	[]	[X]	[]
e. Special Substructures:			
_____	[X]	[]	[]

B. COMMENTS:

THE BUILDING DOES NOT HAVE A BASEMENT. NO FOUNDATION PROBLEMS WERE OBSERVED.

C. COMPONENT RATING: (\$254,100) X (78 %) = \$198,200
 Possible Condition Component
 Value Value Multiplier Value

COLUMNS AND BEAMS

FAC # 027 DATE 5/26/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

a. Columns and Beams:

	N/A	Sat	Att
Concrete-in-place _____	[X]	[]	[]
Precast Concrete _____	[X]	[]	[]
Steel I-BEAM COLUMNS AND BEAMS THROUGHOUT _____	[]	[X]	[]
Steel Fireproofing BEAMS ARE ENCASED IN CONCRETE _____	[]	[X]	[]
Wood _____	[X]	[]	[]
Other _____	[]	[]	[]

b. Floors:

Concrete Slab _____	[]	[X]	[]
Precast Slab _____	[X]	[]	[]
Metal Deck _____	[X]	[]	[]
Metal Deck w/concrete fill _____	[X]	[]	[]
Wood _____	[X]	[]	[]
Other _____	[X]	[]	[]

c. Roof System:

Flat LOW SLOPE _____	[]	[X]	[]
Pitched _____	[X]	[]	[]
Concrete _____	[X]	[]	[]
Steel TRUSSES _____	[]	[X]	[]
Wood 1-5/8" TONGUE AND GROOVE DECKING _____	[]	[X]	[]
Other _____	[X]	[]	[]

B. COMMENTS:

NO DEFLECTION OR FAULTS OBSERVED. STRUCTURE APPEARS SOUND.

C. COMPONENT RATING: (\$915,900) X (78 %) = \$714,400

Possible	Condition	Component
Value	Value Multiplier	Value

EXTERIOR WALLS

FAC # 027 DATE 5/26/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

a. Walls:

	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
Concrete <u>LIMITED AMOUNT OF EXPOSED FOUNDATION WALL</u>	[]	[X]	[]
Masonry <u>BRICK AND LIMESTONE</u>	[]	[X]	[]
Metal Siding _____	[X]	[]	[]
Wood Siding _____	[X]	[]	[]
Other _____	[X]	[]	[]

b. Finishes:

Stucco _____	[X]	[]	[]
Paint _____	[X]	[]	[]
Other _____	[X]	[]	[]

B. COMMENTS:

THE BUILDING EXTERIOR HAS BEEN RECENTLY CLEANED AND SEALED. THE CAULKING HAS BEEN REPLACED THROUGHOUT THE EXTERIOR. THE WEST SIDE OF THE EXTERIOR MASONRY WAS MASKED AND GROUTED. THE EXTERIOR IS IN GOOD CONDITION.

C. COMPONENT RATING: (\$543,600) x (77 %) = \$418,600
 Possible Condition Component
 Value Value Multiplier Value

EXTERIOR WINDOWS & DOORS

FAC # 027 DATE 5/26/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

a. Windows type & number:	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
Wood _____	[X]	[]	[]
Steel _____	[X]	[]	[]
Alum <u>136 COMBINATION FIXED AND PROJECTED SASH UNITS</u>	[]	[X]	[]
Other <u>36 FIXED UNITS WITH INSULATED METAL PANELS</u>	[]	[X]	[]
b. Window glazing:			
Single pane _____	[X]	[]	[]
Double pane _____	[]	[]	[X]
Other _____	[X]	[]	[]
c. Doors type & number:			
Wood <u>ONE SINGLE DOOR ON EAST SIDE (SEALED SHUT)</u>	[X]	[]	[]
Steel _____	[X]	[]	[]
Alum <u>1 DOUBLE AND 2 SINGLE UNITS</u>	[]	[]	[X]
Other _____	[X]	[]	[]
d. Shading Devices:			
Types <u>VENETIAN BLINDS, SHADES</u>	[]	[X]	[]

B. COMMENTS:

WINDOWS WERE REPLACED CA. 1986 AND ARE IN GOOD CONDITION. OPERABLE DOORS ARE FUNCTIONING WELL. THE SEALS ON SEVERAL WINDOWS ON THE SOUTH SIDE OF THE BUILDING HAVE FAILED. THE HANDLES HAVE ALSO BROKEN OFF OF SOME OF THE WINDOWS AND SHOULD BE REPLACED. OCCUPANTS REPORTED THAT THE NORTH DOOR HAS BEEN BROKEN INTO SEVERAL TIMES.

C. COMPONENT RATING: (\$ 265,900) X (94 %) = \$ 249,900

Possible	Condition	Component
Value	Value Multiplier	Value

ROOFING

FAC # 027 DATE 5/26/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

	N/A	Sat	Att
a. Roof Covering:			
Built-up _____	[X]	[]	[]
Built-up w/gravel <u>13,000 SF, INSTALLED - 1968</u>	[]	[]	[X]
Asphalt Shingle _____	[X]	[]	[]
Copper _____	[X]	[]	[]
Glass (Skylight) _____	[X]	[]	[]
Slate _____	[X]	[]	[]
Spanish Tile _____	[X]	[]	[]
Metal _____	[X]	[]	[]
Other _____	[X]	[]	[]
 c. Flashing:			
Base & Counter <u>ASPHALT BUILT-UP AND COPPER</u>	[]	[X]	[]
Cap <u>LIMESTONE AT PARAPET</u>	[]	[X]	[]
Through Wall _____	[X]	[]	[]
Valley & Ridge _____	[X]	[]	[]
 d. Gravel Stop & Edge Strips:			
Type <u>COPPER</u>	[]	[X]	[]
 e. Drainage:			
Gutters w/ Exterior Downspouts _____	[X]	[]	[]
Scuppers w/ Exterior Downspouts _____	[X]	[]	[]
Drains w/ Interior Storm Drains _____	[]	[X]	[]
 f. Parapets:			
Concrete _____	[X]	[]	[]
Brick <u>GOOD CONDITION</u>	[]	[X]	[]
Block _____	[X]	[]	[]
Precast _____	[X]	[]	[]
Other _____	[X]	[]	[]
 g. Insulation:			
Type _____	[X]	[]	[]

B. COMMENTS

THE ROOF IS 25 YEARS OLD AND MAINTENANCE PERSONNEL REPORTED THAT THE NUMBER OF LEAKS HAS BEEN INCREASING RECENTLY. THERE ARE A LARGE NUMBER OF AIR CONDITIONING UNITS WHICH IMPLIES HIGH FOOT TRAFFIC. THERE ARE WATER STAINS ON THE WALLS IN RM 220 AND SOME OF THE WOODEN DECKING IS ROTTING. THE PHYSICAL FACILITIES DEPARTMENT HAS PROPOSED A PROJECT TO REPLACE THE ROOF.

C. COMPONENT RATING: (\$177,300) X (59 %) = \$104,600
 Possible Condition Component
 Value Value Multiplier Value

PARTITIONS & DOORS

FAC # 027 DATE 5/26/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

	N/A	Sat	Att
a. Partition Framing:			
Concrete Block <u>ADDED DURING REMODELING PROJECTS</u>	[]	[X]	[]
Glazed Block _____	[X]	[]	[]
Wood Stud <u>LIMITED USE - ADDED IN EARLY REMODELING</u>	[]	[X]	[]
Metal Stud <u>1976 RENOVATION PROJECT</u>	[]	[X]	[]
Structural Tile <u>ORIGINAL NON-LOAD BEARING PARTITIONS</u>	[]	[X]	[]
Rated _____	[X]	[]	[]
Other <u>BRICK AND CAST-IN-PLACE CONCRETE</u>	[]	[X]	[]
b. Special partitions and Walls:			
Toilet <u>METAL PARTITIONS</u>	[]	[]	[X]
Screen Walls _____	[X]	[]	[]
Gate _____	[X]	[]	[]
Other _____	[X]	[]	[]
c. Wall Material:			
Plaster <u>STRUCTURAL TILE AND INTERIOR MASONRY SURFACES</u>	[]	[X]	[]
Plaster Board <u>USED WITH WOOD AND METAL STUDS</u>	[]	[X]	[]
Glass <u>LIMITED USE</u>	[]	[X]	[]
Plywood _____	[X]	[]	[]
Paneling _____	[X]	[]	[]
Trim & Wainscot _____	[X]	[]	[]
Tile/Glazed _____	[X]	[]	[]
Other _____	[X]	[]	[]
d. Interior Doors & Frames:			
Met Door/Met Frame _____	[]	[X]	[]
Wood Door/Wood Frame _____	[X]	[]	[]
Wood Door/Metal Frame _____	[]	[X]	[]
Glazing _____	[]	[X]	[]
Rollup _____	[X]	[]	[]
Sliding _____	[X]	[]	[]
Other <u>CONCRETE HATCH IN FLOOR OF RM 220</u>	[]	[]	[X]
e. Hardware:			
Door Closers _____	[]	[X]	[]
Lock Sets _____	[]	[X]	[]
Kick/Push Plates _____	[]	[X]	[]
Thresholds _____	[]	[X]	[]
Panic Devices _____	[]	[X]	[]
Security & Detection <u>MEDIA ARTS STORE</u>	[]	[X]	[]
Automatic Openers _____	[X]	[]	[]
Other _____	[X]	[]	[]

B. COMMENTS:

OCCUPANTS REPORTED THAT THE CONCRETE FLOOR HATCH IN ROOM 220 ABOVE THE NORTH ENTRANCE TO THE BUILDING IS VERY HEAVY AND WILL NOT SEAT PROPERLY. IT SHOULD BE REPLACED WITH A LIGHTER WEIGHT, HINGED METAL HATCH. MOST OF THE DOORS WERE REPLACED DURING THE PARTIAL RENOVATION IN 1976.

C. COMPONENT RATING: (\$ 449,100) x (72 %) = \$ 323,300

Possible	Condition	Component
Value	Value Multiplier	Value

WALL FINISHES

FAC # 027 DATE 5/26/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
a. Paint _____	[]	[]	[X]
b. Wall Coating _____	[X]	[]	[]
c. Wall Coverings _____	[X]	[]	[]
d. Paneling			
Prefinished	[X]	[]	[]
Plank	[X]	[]	[]
e. Cork PANELS IN 4TH FLOOR HALL NEED NEW PAINT _____	[]	[]	[X]
f. Wallpaper _____	[X]	[]	[]
g. Ceramic Tile _____	[X]	[]	[]
h. Trim & Wainscot _____	[X]	[]	[]
i. Decoration _____	[X]	[]	[]
j. Glass _____	[]	[X]	[]
k. Other _____	[X]	[]	[]

B. COMMENTS

HALLWAYS AND MOST OF THE STAIRWAY WALLS WOULD BENEFIT FROM A NEW COAT OF PAINT.

C. COMPONENT RATING: (\$171,400) X (71 %) = \$121,700
 Possible Condition Component
 Value Value Multiplier Value

FLOOR FINISHES

FAC # 027 DATE 5/26/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

	N/A	Sat	Att
a. Carpet:			
Rolled <u>INSTALLED IN SOME DEPARTMENT OFFICE AREAS</u>	[]	[X]	[]
Tile _____	[X]	[]	[]
b. Composition:			
Epoxy _____	[X]	[]	[]
Synthetic _____	[X]	[]	[]
Other _____	[X]	[]	[]
c. Concrete Topping:			
Clear Sealant _____	[X]	[]	[]
Abrasive _____	[X]	[]	[]
Epoxy _____	[X]	[]	[]
Aggregate _____	[X]	[]	[]
d. Resilient:			
Vinyl Tile <u>MOSTLY INSTALLED SINCE ORIGINAL CONSTRUCTION</u>	[]	[X]	[]
Linoleum <u>ORIGINAL SURFACE IN SOME RESTROOMS & STAIRS</u>	[]	[]	[X]
Vinyl _____	[X]	[]	[]
Rubber _____	[X]	[]	[]
Cork _____	[X]	[]	[]
e. Ceramic Tile _____	[X]	[]	[]
f. Masonry _____	[X]	[]	[]
g. Terrazzo <u>CRACKED AND WORN AT STAIRS AND IN RESTROOMS</u>	[]	[]	[X]
h. Wood _____	[X]	[]	[]
i. Metal _____	[X]	[]	[]

B. COMMENTS

VINYL FLOOR TILES ARE GENERALLY IN GOOD CONDITION IF MISMATCHED IN SOME AREAS. ORIGINAL FLOOR COVERINGS CAN BE FOUND IN THE STAIRWAYS AND THE TWO ORIGINAL RESTROOMS AND ARE IN POOR CONDITION.

C. COMPONENT RATING: (\$330,900) X (71 %) = \$234,900
 Possible Condition Component
 Value Value Multiplier Value

CEILING AND FINISHES

FAC # 027 DATE 5/26/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

a. System Type:	N/A	Sat	Att
Exposed <u>PAINTED UNDERSIDE OF CONCRETE FLOORS THROUGHOUT</u>	[]	[X]	[]
Applied to Structure _____	[X]	[]	[]
Suspended <u>INSTALLED IN RENOVATED AREAS AND HALLWAYS</u>	[]	[]	[X]

b. Materials:

Drywall _____	[X]	[]	[]
Plaster <u>WITH METAL LATHE</u>	[]	[]	[X]
Mineral Fiber Board _____	[]	[X]	[]
Metal Pan _____	[X]	[]	[]
Luminous Panels _____	[X]	[]	[]
Other <u>EXPOSED, PAINTED CONCRETE</u>	[]	[X]	[]

c. Finishes:

Paint _____	[]	[X]	[]
Fabric _____	[X]	[]	[]
Prefinished _____	[]	[X]	[]
Other _____	[X]	[]	[]

d. Openings & Inserts:

Air Distribution _____	[]	[X]	[]
Lighting Fixtures _____	[]	[X]	[]
Access Panels _____	[X]	[]	[]
Skylights _____	[X]	[]	[]
Fire Protection _____	[X]	[]	[]
Other _____	[X]	[]	[]

B. COMMENTS:

SUSPENDED CEILING GRIDS ARE YELLOW WITH AGE IN UPPER HALLWAYS. PANELS IN SUSPENDED CEILING IN SECOND FLOOR HALLWAY APPEAR TO HAVE BEEN PAINTED AT ONE TIME. THERE IS A STAINED PANEL BY RM 203. THE CEILING BELOW RM 218T IS DAMAGED BY A PLUMBING LEAK.

C. COMPONENT RATING: (\$466,800) X (74 %) = \$345,400
 Possible Condition Component
 Value Value Multiplier Value

CONVEYING

FAC # 027 DATE 5/26/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

a. Elevators:

	N/A	Sat	Att
Number <u>ONE</u>	[]	[X]	[]
Type <u>PASSENGER, HYDRAULIC</u>	[]	[X]	[]
Speed <u>125 FPM</u>	[]	[X]	[]
Capacity (lbs) <u>2,000</u>	[]	[X]	[]
Dimensions <u>45" X 74" (TOO SMALL)</u>	[]	[]	[X]
Door Operation:			
Center	[X]	[]	[]
To Side	[]	[X]	[]
Handicapped-accessible controls _____	[]	[X]	[]

b. Lifts and Hoists:

Number _____	[X]	[]	[]
Type _____	[X]	[]	[]

c. Moving Stairs and Walks:

Number _____	[X]	[]	[]
Type _____	[X]	[]	[]

d. Conveyors:

Number _____	[X]	[]	[]
Type _____	[X]	[]	[]

e. Pneumatic Tubes:

Number _____	[X]	[]	[]
Type _____	[X]	[]	[]

B. COMMENTS:

THE ELEVATOR WAS INSTALLED IN 1973. THE CAB IS NOT LARGE ENOUGH TO MEET ADA STANDARDS AND IS NOT EQUIPPED WITH FIREFIGHTER'S SERVICE. MAINTENANCE PERSONNEL REPORT THAT THERE IS ENOUGH ROOM IN THE SHAFT TO INSTALL A CAB THAT WILL MEET ADA ELEVATOR CAB SIZE REQUIREMENTS.

C. COMPONENT RATING: (\$ 106,300) x (69 %) = \$ 73,390
 Possible Condition Component
 Value Value Multiplier Value

MECHANICAL/PLUMBING

FAC # 027 DATE 5/26/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

a. Services Available:	N/A	Sat	Att
Cold Water <u>2" AND 2-1/2" SUPPLY LINES IN RM 101M</u>	[]	[X]	[]
Hot Water <u>1-1/4" SUPPLY FROM POWER PLANT, 1" RETURN (101M)</u>	[]	[X]	[]
Acid Waste _____	[X]	[]	[]
Oxygen _____	[X]	[]	[]
Natural Gas <u>4" LINE LOCATED IN RM 101M</u>	[]	[X]	[]
Vacuum _____	[X]	[]	[]
Distilled Water _____	[X]	[]	[]
Compressed Air _____	[X]	[]	[]
Other _____	[X]	[]	[]
b. Piping & Fittings:			
Cast Iron <u>WASTE LINES ARE LEAKING</u>	[]	[]	[X]
Copper Tubing <u>SUPPLY LINES (SOME ARE CLOGGING UP)</u>	[]	[]	[X]
Plastic _____	[X]	[]	[]
Steel <u>WATER AND GAS LINES</u>	[]	[X]	[]
Glass _____	[X]	[]	[]
Other _____	[X]	[]	[]
c. Water Heaters:			
Electric _____	[X]	[]	[]
Gas _____	[X]	[]	[]
Oil _____	[X]	[]	[]
Steam Converter <u>LOCATED IN 217M</u>	[]	[X]	[]
Other <u>HOT WATER FROM THE UNIVERSITY POWER PLANT</u>	[]	[X]	[]
d. Drainage:			
Storm Drains _____	[X]	[]	[]
Sanitary Drainage _____	[X]	[]	[]
Combined Storm/San. _____	[]	[X]	[]
Floor Drains _____	[X]	[]	[]
e. Fixtures:			
Water Closets <u>7</u>	[]	[]	[X]
Urinals _____	[X]	[]	[]
Lavatories <u>7</u>	[]	[]	[X]
Showers _____	[X]	[]	[]
Kitchen Sinks _____	[X]	[]	[]
Service Sinks _____	[X]	[]	[]
Drinking Fountains _____	[X]	[]	[]
Electric Water Coolers _____	[X]	[]	[]
f. Sprinkler Systems:			
Wet _____	[X]	[]	[]
Dry _____	[X]	[]	[]
g. Standpipe Systems:			
Wet _____	[]	[X]	[]
Dry _____	[X]	[]	[]
Valves _____	[X]	[]	[]
Hose Cabinets _____	[]	[X]	[]

B. COMMENTS:

THE RESTROOM FIXTURES ON THE SECOND AND THIRD FLOOR ARE ORIGINAL AND REQUIRE REPLACEMENT. THE PLUMBING SYSTEM IS MOSTLY ORIGINAL AND IS PLUGGING UP AND LEAKY. THE BUILDING REQUIRES A NEW SYSTEM.

C. COMPONENT RATING: (\$537,700) X (57 %) = \$ 306,500

Possible	Condition	Component
Value	Value Multiplier	Value

MECHANICAL/HEATING

FAC # 027 DATE 5/26/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

a. Heat Source:	N/A	Sat	Att
Central Plant Steam <u>SUPPLIES A STEAM CONVERTER IN 101M</u>	[]	[X]	[]
Central Plant Hot Water <u>6" SUPPLY & RETURN LINES</u>	[]	[X]	[]
Boilers: Type _____	[X]	[]	[]
Size _____	[X]	[]	[]
Furnace: Type _____	[X]	[]	[]
Size _____	[X]	[]	[]
Heat Pump: Type _____	[X]	[]	[]
Size _____	[X]	[]	[]

b. System Type:			
Steam _____	[X]	[]	[]
Hot Water _____	[]	[]	[X]
Air _____	[X]	[]	[]
Multizone _____	[X]	[]	[]
Dual Duct _____	[X]	[]	[]
Terminal Reheat _____	[X]	[]	[]
Variable Volume _____	[X]	[]	[]
Other <u>GAS-FIRED HEAT IN PACKAGED A/C UNITS</u>	[]	[X]	[]

c. Space Equipment:			
Radiators _____	[]	[X]	[]
Convectors <u>FIN TUBE</u>	[]	[X]	[]
2-Pipe Fan Coil _____	[X]	[]	[]
Unit Heaters <u>AT ENTRANCES</u>	[]	[X]	[]
Other <u>ELECTRIC HEAT IN SINGER UNITS</u>	[]	[X]	[]

d. Control Type:			
Pneu _____	[X]	[]	[]
Electric <u>PACKAGE HVAC UNITS FOR LAB MAKE-UP AIR</u>	[]	[X]	[]
DDC _____	[X]	[]	[]
Manual Valves _____	[]	[]	[X]

B. COMMENTS:

A LARGE PORTION OF THE HEATING HOT WATER SYSTEM IS ORIGINAL. CONTROL WAS REPORTED TO BE POOR BY THE BUILDING OCCUPANTS. MANY OF RADIATOR VALVES DO NOT OPERATE AND OCCUPANTS REPORT THAT ROOM TEMPERATURE IS COMMONLY CONTROLLED IN THE WINTER BY OPENING AND CLOSING WINDOWS.

C. COMPONENT RATING: (\$573,200) X (63 %) = \$361,100
 Possible Condition Component
 Value Value Multiplier Value

COOLING & VENTILATING

FAC # 027 DATE 5/26/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

	N/A	Sat	Att
a. System:			
Type <u>NO CENTRAL SYSTEM - VARIOUS DEPT.- OWNED SYSTEMS</u>	[X]	[]	[]
Capacity <u>TOTAL TONNAGE IN THE BUILDING IS APPROX: 44 TONS</u>	[X]	[]	[]
b. Chillers:			
Centrifugal _____	[X]	[]	[]
Reciprocating <u>DEPARTMENTAL (20 T) COOLS 223 AREA</u>	[]	[]	[X]
Absorption _____	[X]	[]	[]
c. Cooling Towers:			
Type _____	[X]	[]	[]
Capacity _____	[X]	[]	[]
d. Condensers: <u>AIR - COOLED DEPARTMENTAL UNIT ON ROOF</u>	[]	[X]	[]
e. Space Equipment:			
Direct Expansion -			
Window units <u>32 UNITS</u>	[]	[X]	[]
Thru-the-wall <u>14 SINGER UNITS</u>	[]	[X]	[]
Single zone <u>SEVERAL DEPT. SYSTEMS REPORTED PROBLEMS</u>	[]	[]	[X]
Single zone con. vol. _____	[]	[X]	[]
Other <u>PACKAGED DX UNITS WITH GAS-FIRED REHEATS</u>	[]	[X]	[]
Air/Water -			
2-pipe fan coil _____	[X]	[]	[]
Unit ventilators _____	[X]	[]	[]
Terminal reheat _____	[X]	[]	[]
Variable volume _____	[X]	[]	[]
Dual Duct _____	[X]	[]	[]
Multizone _____	[X]	[]	[]
f. Special Systems:			
Type <u>5 PACKAGE UNITS WITH GAS-FIRED REHEATS</u>	[]	[X]	[]
Capacity <u>44 TONS</u>	[]	[X]	[]
g. Control Systems:			
Pneu _____	[X]	[]	[]
Electric <u>INDIVIDUAL CONTROLS FOR EACH SYSTEM</u>	[]	[X]	[]
Electronic _____	[X]	[]	[]
h. Fans:			
Exhaust <u>MECHANICAL ROOMS AND PHOTOGRAPHY LABS</u>	[]	[X]	[]
Recirculating <u>WINDOW A/C AND THRU-WALL UNITS ONLY</u>	[]	[X]	[]

B. COMMENTS:

ALL OF THE SYSTEMS IN THIS BUILDING APPEAR TO BE DEPARTMENTAL-OWNED. OCCUPANTS REPORTED THAT A/C PROBLEMS ARE THEIR GREATEST CONCERN. A NEW HEATED AND COOLED MAKE-UP AIR SYSTEM WAS RECENTLY INSTALLED FOR THE PHOTOGRAPHY LABS. THERE ARE OVER 8 INDIVIDUAL HVAC SYSTEMS IN THIS BUILDING NOT INCLUDING THE THRU-WALL AND WINDOW AIR CONDITIONERS. THE BUILDING SHOULD BE CENTRALLY AIR-CONDITIONED IF IT IS EVER RENOVATED.

C. COMPONENT RATING: (\$319,100) x (78 %) = \$ 248,900
 Possible Condition Component
 Value Value Multiplier Value

ELECTRICAL/SERVICE & DISTRIBUTION

FAC # 027 DATE 5/26/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

(a) Service:

Substation BUCKEYE FEEDER (PGN5/PGS5) TO JOHNSTON LAB
Primary Voltage SECONDARY FEED FROM JOHNSTON LAB TRANSFORMER

Transformer (LOCATED AT JOHNSTON LAB):

Manufacture	Type	KVA	Secondary Voltages
<u>SQUARE-D</u>	<u>SILICONE</u>	<u>1000</u>	<u>(208/120)</u>

(b) Distribution System:

Panelboard (type) CIRCUIT BREAKER, ORIGINAL FUSE BOXES
Voltage 208/120
Amperage 1200 AMPS
Conduit ALUMINUM
Conductor COPPER
Wire (type) VARIES
Armored Cable LIMITED USE
Other

(c) Emergency System:

General or (type & capacity) NONE

B. COMMENTS:

THERE IS NO TRANSFORMER IN HASKETT HALL. HASKETT, BOYD LAB, THE AVIATION BUILDING, AND JOHNSTON LAB ARE ALL FED FROM A 1000 KVA TRANSFORMER LOCATED OUTSIDE JOHNSTON LAB IN THE COURT YARD AREA.

C. COMPONENT RATING: (\$65,000) x (90 %) = \$58,500

Possible	Condition	Component
Value	Value Multiplier	Value

SAFETY STANDARDS

FAC # 027 DATE 5/26/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
(a) Exits:			
Stair Construction:			
concrete _____	[X]	[]	[]
steel <u>STEEL PAN WITH CONCRETE FILL</u>	[]	[X]	[]
wood _____	[X]	[]	[]
Number of exits <u>3</u>	[]	[X]	[]
(b) Fire Rating:			
Construction Type: I _____ II <u>X</u> III _____ IV _____ V _____ VI _____			
Building Height: <u>53</u> ft., <u>4</u> stories			
(c) Extinguishing Systems:			
Portable <u>CO2 AND ABC</u>	[]	[X]	[]
Standpipe <u>SUPPLY HOSE CABINETS</u>	[]	[X]	[]
Hose Cabinets <u>ONE PER FLOOR</u>	[]	[X]	[]
Sprinklers _____	[X]	[]	[]
Suppression _____	[X]	[]	[]
Other _____	[X]	[]	[]
(d) Detection & Alarm Systems:			
Manual Alarm _____	[]	[X]	[]
Annunciator <u>AUTOCALL - LOCATED IN SOUTH ENTRANCE</u>	[]	[X]	[]
Smoke Detectors <u>LOCATED IN DUCT WORK TO LABS</u>	[]	[X]	[]
(e) Lighting Systems:			
Exit Signs <u>LIGHTED EXIT SIGNS</u>	[]	[X]	[]
Exit Lighting <u>EXIT SIGNS</u>	[]	[X]	[]
Emergency Lighting <u>ONE BATTERY UNIT NORTH STAIRS</u>	[]	[]	[X]
Emergency Generator _____	[X]	[]	[]

B. COMMENTS:

BUILDING DOES NOT HAVE ENOUGH EMERGENCY LIGHTING IN ITS STAIRWAYS.

C. COMPONENT RATING: (\$35,450) x (74 %) = \$26,240
 Possible Condition Component
 Value Value Multiplier Value

BUILDING PERIMETER EVALUATION

FAC # 027 DATE 5/26/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

	N/A	Sat	Att
1. Building Access:			
Driveway <u>NORTH & SOUTH ENTRANCES</u>	[]	[]	[X]
Loading Dock _____	[X]	[]	[]
Sidewalks			
Front _____	[X]	[]	[]
Side <u>EAST SIDE OF BUILDING, PLAZA ON WEST SIDE</u>	[]	[X]	[]
Rear <u>NORTH SIDE OF BUILDING ALONG WOODRUFF AVE.</u>	[]	[X]	[]
Steps			
Front _____	[X]	[]	[]
Side _____	[X]	[]	[]
Rear _____	[X]	[]	[]
Handicap Ramp <u>ENTRANCES ARE ALL AT GRADE LEVEL</u>	[X]	[]	[]
2. Lawn and Landscaping:			
Lawn <u>NORTH AND EAST SIDES, BARE SPOTS ON EAST</u>	[]	[]	[X]
Shrubs _____	[]	[X]	[]
Trees <u>MATURE TREES ON NORTH, EAST AND SOUTH SIDES</u>	[]	[X]	[]
Undesirable Insect _____	[X]	[]	[]
Bedding Material _____	[X]	[]	[]
Watering System _____	[X]	[]	[]
3. General Site Information:			
Signage <u>NORTH SIDE OF THE BUILDING ON WOODRUFF AVE.</u>	[]	[X]	[]
Address Identification <u>ON SIGN ON WOODRUFF</u>	[]	[X]	[]
Security Lights <u>HID LIGHTS ON BUILDING EXTERIOR</u>	[]	[X]	[]
Street Lights <u>ALONG WOODRUFF AVE</u>	[]	[X]	[]
Drainage _____	[]	[X]	[]
Storm Drains _____	[]	[X]	[]

B. COMMENTS:

EXTERIOR SECURITY LIGHTS ARE ALL WORKING. BUILDING ENTRANCES ARE WELL LIT AND UNOBSTRUCTED.

**The Ohio State University
Department of Physical Facilities**

BUILDING AUDIT METHODOLOGY

1. BUILDING AUDIT PROGRAM OBJECTIVE

To provide a building-by-building inventory, including maintenance deficiencies that currently exist, for the OSU buildings that the Department of Physical Facilities has budgetary responsibility for. These audits will be used to establish corrective maintenance projects and budget cost estimates.

2. BUILDING AUDIT APPROACH

A five-step procedure is used to meet the program objectives:

1. Collect Historical and Inventory Data on each building.
2. Interview Building Occupants.
3. Perform a Building Inspection.
4. Complete Building Evaluation Forms.
5. Issue Written Report.

3. DATA ORGANIZATION

The data collected is stored by hard copy with field notes in a building file established for each building. The report data is being stored in a database program that allows retrieval of specific data as it is needed. The "Building Evaluation" forms contain ratings for the condition of each building component and a description of any deficiencies for those components. The "Building Information" sheets provide data on the utilities to the buildings and the type of systems in each building.

4. COST ESTIMATES

Costs are for budgeting purposes only and are based on The Means Standard Construction Cost data, auditor experience, industry sources and OSU project cost data. Costs are reported current to the year of the audit. The building component values assigned in the "Building Evaluation" forms are not cost estimates. These values are calculated from the replacement cost provided by The Office of Campus Planning and Space Utilization for each OSU building.

5. LIMITATIONS

(1) All inspections are visual and do not include physical tests, instrumentation or metering measurements, sampling, or monitoring.

(2) Only random typical offices or laboratories are entered. Typical spaces are deemed to be representative of average conditions throughout each building.

(3) The scope of the analysis does not include complete OSHA, energy, or physical impaired access study. Buildings and components are inspected for condition and general safety requirements rather than specialized code conformance.

(4) It is assumed that the buildings inspected were approved by the State of Ohio Division of Factory and Building Inspection at the time of construction.

The recommendations listed in the reports are not an attempt to bring these existing buildings up to present day code standards. Rather, the intent is to eliminate obvious problems and to upgrade the buildings in a reasonable manner in regard to occupant safety.

(5) Cost estimates are in current year dollars and include contractor mark-ups, construction administration costs, and architectural/engineering costs where applicable. Escalation factors must be applied for future work. Combining of projects should serve to decrease costs. These estimates are strictly for purposes of budgeting, and final pricing will be required when the specific scope of work for the project is defined.

(6) The building inspections are defined to include the following:

- (a) Includes general repainting, redecorating and wholesale replacement of building and system components. Ongoing maintenance, replacement and renovation projects are included.
- (b) Includes exterior building walls and attached items.
- (c) Includes the entrance steps at all entries. Ramps outside the buildings are included. Plantings around the building exterior are included.
- (d) Movable furniture is not included.
- (e) Fixed equipment inside the buildings that is installed and maintained by a specific academic department or using agency is not included.
- (f) Utility lines supplying the buildings are not included.
- (g) The program needs of the using department are assumed to be satisfied. No consideration has been given to anticipate any changes in current occupant space needs.

ABBREVIATIONS

ATT.....	ATTENTION
BLDG.....	BUILDING
BUR.....	BUILT UP ROOF
COND.....	CONDENSATE WATER
DD.....	DUAL DUCT AIR HANDLING SYSTEM
DDHV.....	DUAL DUCT HIGH VELOCITY
DHWR.....	DOMESTIC HOT WATER RETURN
DHWS.....	DOMESTIC HOT WATER SUPPLY
DX.....	DIRECT EXPANSION AIR CONDITIONER
FPM.....	FEET PER MINUTE
HID.....	HIGH INTENSITY DISCHARGE LIGHT
HPS.....	HIGH PRESSURE STEAM (125 PSI)
HVAC.....	HEATING, VENTILATING AND AIR CONDITIONING SYSTEM
KV.....	KILOVOLTS
KVA.....	KILOVOLTS AMPS
KW.....	KILOWATTS
LC.....	LIQUID COOLED
LPS.....	LOW PRESSURE STEAM (15 PSI)
MPS.....	MEDIUM PRESSURE STEAM (50 PSI)
MZ.....	MULTIZONE AIR HANDLING SYSTEM
N/A.....	NOT APPLICABLE
PSI.....	POUNDS PER SQUARE INCH
RM.....	ROOM
SAT.....	SATISFACTORY
SR.....	STEAM RETURN LINE
SS.....	STEAM SUPPLY LINE
TR.....	TERMINAL REHEAT AIR HANDLING SYSTEM
V.....	VOLTS
VAV.....	VARIABLE AIR VOLUME SYSTEM

APPENDIX
Reduced Scale Building Floor Plans
C-1 Building Space Assignments