

FACILITY AUDIT REPORT  
**ARPS HALL**  
#011

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GENERAL BUILDING INFORMATION

ARPS HALL #011

BUILDING ADDRESS: 1945 N. High Street

GROSS SQ. FT.: 135,680

NET ASSIGNABLE SQ. FT.: 74,064

MECHANICAL/CUSTODIAL AREA SQ. FT.: 12,344

YEAR OF CONSTRUCTION: 1925 & 1956

YEAR OF LAST RENOVATION: 1984

NUMBER OF STORIES/BASEMENT: Four (4) stories and a basement

AIR CONDITIONING (Percentage): 100%

CURRENT USE: College of Education and Department of Economics

TYPE OF CONSTRUCTION: Reinforced Concrete frame, masonry skin

ESTIMATED REPLACEMENT COST: \$17,503,000

BUILDING APPEARANCE: Brick & cut stone exterior, masonry cleaned, spacious corridors that were recently painted.

HANDICAPPED ACCESSIBILITY: Wheelchair access ramps are located at the rear of the building adjacent to the rear parking lot on the north side of the building. There is a ramp to the library and a ramp to the first floor.

OVERALL BUILDING CONDITION: Satisfactory

NUMBER OF EXIT STAIRWAYS: Four (4)

\* Replacement Cost assigned September 1991 by The Office of Campus Planning and Space Utilization.

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

BUILDING SYSTEMS INFORMATION

ARPS HALL #011

**HEATING:**

Source POWER PLANT HOT WATER  
Type Heating System HOT WATER  
Steam (Line size, valve location) NONE  
Building Htg Water (line size, valve location) 8" HWS, 8" HWR, CRAWL SPACE

**VENTILATION SYSTEM:**

FIVE MULTI-ZONE SYSTEMS, TWO SINGLE ZONE DX SYSTEMS, ONE VAV SYSTEM

**COOLING:**

1-125 TON CARRIER ELECTRIC CENTRIFUGAL  
Bldg % 100 Chillers 1-150 TON TRANE ELECTRIC CENTRIFUGAL  
Window Units 57 UNITS Thru-the-wall NONE Direct exp. units 2-15 TONS

**HVAC CONTROL SYSTEM:**

HONEYWELL PNEUMATIC SYSTEM AND POWERS DDC FOR AIR DAMPERS & AIR HANDLERS

**ELECTRIC:** Source Size(KVA) Primary/Secondary Switchgear & Main Disc. (Rm)  
1. CIRCUITS PGN5/PGS5 750 13,200/ 208Y/120 WESTINGHOUSE RM 47M

**PLUMBING:**

Water (size, valve location) 4" VALVE NORTH CRAWL SPACE  
Gas (size, valve location) 2" VALVE NORTH CRAWL SPACE  
Domestic Hot Water (size, valve location) 2 1/2" DHWS, 1" DHWR, CRAWL SPACE  
Compressed Air (size, location) LOCAL AIR COMPRESSOR

**SEWERS:** Storm NONE Sanitary NONE Combination 2@4", 1@5", 4@6", 2@8"

**METERS:**

Gas (size, location) NONE  
Water (size, location) NONE  
Electric (size, location) LOCATED ON SWITCHBOARD, RM 47M & CHILLER RM 51M

**ALARM SYSTEMS:**

Fire Alarm YES Panel Location RM #27M  
Fire Pump NONE Pump Location NONE  
Sprinklers NONE Panel Location NONE  
Other Alarms

**ELEVATORS:**

Number ONE Type (passenger, freight) PASSENGER  
Manufacturer OTIS Size 3,500 LBS. (80D X 61W)

**EMERGENCY GENERATOR:** Size NONE Location

**KEY BOX LOCATION:** SOUTHEAST ENTRANCE DOOR NEXT TO RM 163.

**ASBESTOS SURVEY (1986):**

PEI ASSOCIATES ASSESSMENT PROGRAM IDENTIFIED ASBESTOS CONTAINING MATERIALS IN THE PIPE INSULATION USED THROUGH-OUT ARPS HALL.

## ARPS HALL NARRATIVE

### GENERAL

This Building Audit was conducted by Physical Facilities for the purpose of evaluating the present condition of those aspects of the building for which Physical Facilities has a budgetary responsibility. This audit describes the current physical condition of those aspects of the facility and identifies existing corrective maintenance repairs and building component system replacement requirements. It is assumed that the program needs of the tenant departments are being met by the facility. Audit goals and methodology are described in greater detail in the "Building Audit Methodology" section of this report.

### HISTORY

Arps Hall consists of the original building constructed in 1925 and the two additions built in 1956. It was originally referred to as the "Education Building". In 1965 the original 1925 building had a new electrical distribution system installed. In 1985 a \$2.2 million renovation was completed. This renovation included a new HVAC system for the majority of the building, new windows, and decorating of several classrooms, office areas, and laboratories. The Economics Department currently occupies the east wing on the 3rd and 4th floors. The remaining parts of the building are occupied by the College of Education. Facility use is approximately 9% laboratory, 15% mechanical/custodial, 45% office and related use, 18% library and 13% classroom.

In 1989 the 1973 chiller was rebuilt and the cooling tower repaired. A new built-up roof was installed on the 1956 addition in 1991. An exterior masonry project is being completed on the original 1925 building repairing the mortar joints, cleaning, and sealing the brick veneer. This building condition audit is primarily concerned with evaluating the building repairs that have not been completed by the several projects funded in the last 6 years.

### PRIMARY SYSTEMS

The 1925 section of the building is a cast-in-place reinforced concrete structure veneered with a brick and cut stone exterior. The foundation consists of poured concrete footers and walls. The floor of the basement is poured concrete. The slab does not appear to have moved. The structure of the 1925 section appears to be in good condition. Overall alignment appeared to be good and no structural deflection was observed.

The 1956 section has reinforced concrete footings and piers with steel beams and columns. The floor system has metal decking with lightweight concrete. There are no signs of any structural movement of the building.

The exterior closure of the 1925 building is currently being renovated. The exterior brick and cut stone of the 1956 additions are dirty and could use a good cleaning, the mortar joints and caulking are in fair condition. The masonry renovation project currently in process will include the 1956 addition.

The windows in the original building were replaced in 1985 with aluminum frame double glazed windows. These windows are in a like new condition. The windows in the 1956 additions are the original aluminum frame single glazed that are difficult to operate. We are proposing a project to replace these windows with the same type of windows that were installed in the 1925 building.

The 1925 roof structure is steel trusses supporting wood decking, covered with a copper roof. The 1956 roof structure is lightweight concrete with metal decking and built-up-roofing. The BUR roofing for the 1956 buildings was replaced in 1991/92. The copper roof cover on the 1925 building is the original copper that has been repaired several times. The workmen doing the masonry repairs use the copper gutter areas for access to their work platforms. This is causing additional wear and tear to the gutters that will need to be checked when the masonry work is completed. Replacement of the copper roof should not be required for several years.

## SECONDARY SYSTEMS

The interior partitions are primarily painted plastered walls. There are several areas where the plaster has come loose because of water leaks. The classrooms, offices, corridors, and restrooms were painted in 1986. There continues to be a problem in the corridors near the classrooms from the students marking the lower half of the walls with their shoes when they lean against walls. A more durable finish than paint would help alleviate this problem.

The light fixtures and registers require cleaning. The fluorescent lighting fixtures vary in age and condition. Suspended ceilings have been installed in several of the classrooms and offices. The condition of these ceilings varies from room to room, but a few of them are dirty and should be cleaned. The flooring is primarily vinyl tile that has been maintained and is in fair condition. Several of the office areas have been carpeted.

## SERVICE SYSTEMS

The plumbing system does not appear to have been renovated since it was originally installed. Most of the restroom fixtures are the original fixtures. The exhaust ventilation in the restrooms is not adequate and increased airflow would be beneficial. The original building hot water heating system was improved during the 1985 renovation when new convectors were installed.

The HVAC system was installed in 1985 that serves the original 1925 building. The HVAC system for the 1956 additions was installed in 1973. There are two chillers located in the building that supply chilled water for the air handler systems. These chillers are not looped together to the same chilled water system so both chillers have to be operating to air condition the building. We are proposing a project to cross-connect these chillers so that only one chiller would have to be operated during moderate temperature weather.

There are also 57 window air conditioning units in the building that provide air conditioning for the offices in the east wing. There are two DX systems that supply air conditioning to rooms 356 and 458. The elevator was installed in 1956 and has functioned adequately. Physical Facilities has a proposed project to modernize and upgrade the elevator. The occupants have commented that they do not use the elevator on weekends for fear of being trapped in the cab if there was a breakdown.

## ELECTRICITY

The building transformer has a primary voltage of 13,200 and secondary voltages of 208Y/120. Electrical service was upgraded when the new transformers were installed during the PCB project. During the 1985 renovation several new

breaker panels were installed to provide additional electric circuits to each floor. Interviews with maintenance personnel indicate that the building has not had any recent problems with electric distribution.

#### SAFETY STANDARDS

The building is equipped with a manual fire alarm system. There are fire hose cabinets on each floor. An exterior fire escape is located on the north side of the building. The fire escape is currently being rust treated and painted. Handicapped access is provided by two ramps at the rear of the building from the courtyard parking area. The elevator is located at the end of the corridor in the southeast corner of the building. There are wheelchair accessible controls and an emergency telephone located in the elevator.

#### 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 most pipe insulation located throughout the building. Asbestos containing materials have been removed from rooms 27M, 218, 229, and the cooling tower located on the roof.

#### BUILDING PERIMETER

The construction traffic, material storage, and construction equipment for the masonry restoration project have damaged some of the plantings, driveways, and sidewalks. It is assumed that the contractors will restore these areas when construction is completed.

The parking lot in the rear has been patched a few times. The loading dock bumper has been damaged and needs to be replaced. The entrance porches to the 1956 additions have flagstone that is coming loose and is scheduled to be repaired as part of the masonry renovation project. The trees and shrubs around Arps Hall are very mature and have been maintained. The exterior appearance of Arps Hall will be very attractive when the construction is completed and the equipment removed.

#### CONCLUSION

Arps Hall has been the recipient of several million dollars of renovation and repair work in the last 7 years. The building components that have not been repaired or replaced are the elevator, restroom fixtures, copper roof, windows in the 1956 addition, and the restroom exhaust ventilation. While these building components are functioning satisfactorily, it will be necessary to replace them in the next 5 to 8 years. The cross connecting of the two chillers in the building could reduce the overall seasonal operating time for the small chiller by approximately 1,000 hours per year. This would reflect in a savings of electric operating costs of about \$2,000 per year.

PROPOSED MAINTENANCE PROJECTS

ARPS HALL #011

**A. Corrective Maintenance Projects:**

- 1. Modernize and upgrade elevator installed in 1956 (R&R Project #1529).....\$ 64,000 \*
  - 2. Exterior painting to include vents, pipes, lintels, canopies, railings, and foundation (R&R Project #0096)..... 5,000 \*
  - 3. Cross-connect the two centrifugal chillers with a chilled water loop..... 15,000
  - 4. Install additional fluorescent light fixtures in the library study carrel area..... 6,000
- Sub-Total     \$90,000

**B. Building Improvement/Addition Projects:**

- 1. Replace windows in 1956 building with double-pane insulated type (86 windows)..... 78,000

**C. Projected (over the next 10 yrs) Component Replacement Projects:**

- 1. Replace copper roof on the original 1925 building (15,700 SF)..... 314,800

**Total cost for all estimated projects = \$ 482,000**

\* These projects are currently on our departmental R&R project list as proposed projects.

**MAINTENANCE PROJECTS**  
(Less than \$5,000)

**ARPS HALL** **#011**

1. Paint classroom walls in rooms 385, 386, 383, and 388.
2. Increase CFM of exhaust fans in restrooms to improve ventilation.
3. Paint corridor walls in classroom area to eliminate heal marks.
4. Replace entrance mat & floor of stairwell to library (northwest).
5. Clean supply & return air registers throughout building.
6. Paint walls on the 2nd floor of the education library.
7. Paint stairwell entrance doors throughout the building.
8. Repair damaged terrazzo in stairwells of 1925 building.

**BUILDING EVALUATION SUMMARY**

**I. BUILDING INFORMATION**

FAC # 011 FACILITY NAME: ARPS HALL  
 DATE: 9-1-92 INSPECTOR: RDL  
 YEAR CONSTRUCTED: 1925, ADDITION 1958, REMODELED 1984  
 GROSS SQ FT: 135,680 NET SQ FT: 74,064  
 REPLACEMENT COST \$ 17,503,000 X 90% = \$ 15,752,700

**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	4.93	776,608	.85	660,117
Columns and Beams	11.76	1,852,518	.85	1,574,640
Exterior Walls	7.89	1,242,888	.70	870,022
Windows & Doors	3.86	608,054	.71	431,718
Roofing	3.52	554,495	.83	460,231
Partitions & Drs.	8.25	1,299,598	.76	987,694
Wall Finishes	2.51	395,393	.66	260,959
Floor Finishes	4.70	740,377	.72	533,071
Ceilings & Finish	6.80	1,071,184	.80	856,947
Conveying	1.05	165,403	.34	56,237
Plumbing	7.86	1,238,162	.62	767,660
Heating	8.30	1,307,474	.71	928,307
Cooling & Vent.	9.53	1,501,232	.80	1,200,986
Elec. Ser. & Dist	1.64	258,344	.91	235,093
Lighting & Power	11.06	1,742,249	.86	1,498,334
Safety Standards	6.34	998,721	.70	699,105
TOTALS	100.00	15,752,700	.76	12,021,121

**III. BUILDING RATING SUMMARY**

Overall Building Rating = 76.0 %

\* 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 # 011 DATE: 8-28-92 INSPECTOR: RDL

**A. SYSTEM DESCRIPTION**

	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
<b>a. Footings:</b>			
Individual Footings & Piers _____	[X]	[ ]	[ ]
Continuous Footings <u>CONCRETE USED FOR BLDG. &amp; ADDITIONS</u>	[ ]	[X]	[ ]
Grade Beams _____	[X]	[ ]	[ ]
Piles _____	[X]	[ ]	[ ]
Caissons _____	[X]	[ ]	[ ]
<b>b. Foundation Wall Materials:</b>			
Steel _____	[X]	[ ]	[ ]
Concrete Cast-in-place <u>USED FOR 1925 BLDG. &amp; 1956 ADDITION</u>	[ ]	[X]	[ ]
Concrete Block _____	[X]	[ ]	[ ]
Other <u>LIMESTONE PANELS USED FOR LOWER EXTERIOR ELEVATION</u>	[ ]	[ ]	[X]
<b>c. Waterproofing and Underdrain:</b>			
Coating _____	[X]	[ ]	[ ]
Membrane _____	[X]	[ ]	[ ]
Board _____	[X]	[ ]	[ ]
Drain Tile _____	[X]	[ ]	[ ]
<b>d. Slab on Grade (floor):</b>			
Plain <u>BASEMENT FLOOR, TERRAZZO USED IN SOME AREAS</u>	[ ]	[X]	[ ]
Reinforced _____	[X]	[ ]	[ ]
<b>e. Special Substructures:</b>			
_____	[X]	[ ]	[ ]

**B. COMMENTS:**

1. DID NOT OBSERVE ANY MOVEMENT OR SHIFTING OF THE FOUNDATION WALLS OR FLOOR.
2. SOUTH ELEVATION OF 1925 BUILDING HAS DEVELOPED CRACKS IN THE LIMESTONE EXTERIOR FOUNDATION AT THE BASEMENT WINDOW LINTELS. THESE CRACKS APPEAR TO HAVE DEVELOPED SEVERAL YEARS AGO.

**C. COMPONENT RATING:**    ( \$776,608 ) x ( 0.85 ) = \$660,117

Possible	Condition	Component
Value	Value Multiplier	Value

**COLUMNS AND BEAMS**

FAC # 011 DATE: 8-24-92 INSPECTOR: RDL

**A. SYSTEM DESCRIPTION**

**a. Columns and Beams:**

	N/A	Sat	Att
Concrete-in-place <u>COLUMNS &amp; BEAMS OF THE 1925 BLDG.</u>	[ ]	[X]	[ ]
Precast Concrete _____	[X]	[ ]	[ ]
Steel <u>1956 ADDITION HAS STEEL I-BEAM AND DECK STRUCTURE</u>	[ ]	[X]	[ ]
Steel Fireproofing <u>STEEL DECKING HAS BEEN SPRAYED</u>	[ ]	[X]	[ ]
Wood _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]

**b. Floors:**

Concrete Slab <u>4 INCH CONCRETE FLOOR</u>	[ ]	[X]	[ ]
Precast Slab _____	[X]	[ ]	[ ]
Metal Deck _____	[X]	[ ]	[ ]
Metal Deck w/concrete fill <u>1956 ADDITION</u>	[ ]	[X]	[ ]
Wood _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]

**c. Roof System:**

Flat _____	[X]	[ ]	[ ]
Pitched <u>1925 BLDG., STEEL TRUSSES WITH WOOD DECK</u>	[ ]	[X]	[ ]
Concrete _____	[X]	[ ]	[ ]
Steel <u>DECK USED FOR FLAT ROOFS OF 1956 ADDITION</u>	[ ]	[X]	[ ]
Wood _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]

**B. COMMENTS:**

**C. COMPONENT RATING:**     $( \underline{\$1,852,518} ) \times ( \underline{0.85} ) = \underline{\$1,574,640}$

Possible Value	X	Condition Value Multiplier	=	Component Value
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**EXTERIOR WINDOWS & DOORS**

FAC # 011    DATE: 8-24-92    INSPECTOR: RDL

**A. SYSTEM DESCRIPTION**

	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
<b>a. Windows type &amp; number:</b>			
Wood _____	[X]	[ ]	[ ]
Steel _____	[X]	[ ]	[ ]
Alum <u>DOUBLE HUNG ALUMINUM FRAME WINDOWS</u>	[ ]	[X]	[ ]
Other _____	[X]	[ ]	[ ]
 <b>b. Window glazing</b>			
Single pane <u>1956 ADDITIONS HAVE SINGLE PANE GLASS</u>	[ ]	[ ]	[X]
Double pane <u>1925 BLDG. HAD NEW WINDOWS INSTALLED IN 1985</u>	[ ]	[X]	[ ]
Other _____	[X]	[ ]	[ ]
 <b>c. Doors type &amp; number:</b>			
Wood _____	[X]	[ ]	[ ]
Steel <u>LOADING DOCK AND THE FIRE EXITS HAVE METAL DOORS</u>	[ ]	[X]	[ ]
Alum <u>FRAMES WITH FULL GLASS AT PEDESTRIAN ENTRANCES</u>	[ ]	[X]	[ ]
Other _____	[X]	[ ]	[ ]
 <b>d. Shading Devices:</b>			
Types <u>VENETIAN BLINDS USED AT WINDOWS.</u>	[ ]	[X]	[ ]

**B. COMMENTS:**

1. SINGLE GLAZED DOUBLE HUNG WINDOWS IN 1956 ADDITION ARE DIFFICULT TO OPERATE.

**C. COMPONENT RATING:**     $( \underline{\$608,054} ) \times ( \underline{0.71} ) = \underline{\$431,718}$

Possible	Condition	Component
Value	Value Multiplier	Value



**PARTITIONS & DOORS**

FAC # 011 DATE: 8-26-92 INSPECTOR: RDL

**A. SYSTEM DESCRIPTION**

<b>a. Partition Framing:</b>	N/A	Sat	Att
Concrete Block <u>ORIGINAL 1925 BLDG. WITH PLASTER APPLIED</u>	[ ]	[X]	[ ]
Glazed Block _____	[X]	[ ]	[ ]
Wood Stud _____	[X]	[ ]	[ ]
Metal Stud <u>USED WITH DRYWALL &amp; PLASTER FOR REMODELING</u>	[ ]	[X]	[ ]
Structural Tile _____	[X]	[ ]	[ ]
Rated <u>CORRIDOR IS RATED FOR 1 1/2 HOUR FIRE.</u>	[ ]	[X]	[ ]
Other _____	[X]	[ ]	[ ]

**b. Special partitions and Walls:**

Toilet <u>MARBLE FOR 1925 SECTION AND METAL FOR ALL OTHERS</u>	[ ]	[X]	[ ]
Screen Walls _____	[X]	[ ]	[ ]
Gate _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]

**c. Wall Material:**

Plaster <u>USED IN THE ORIGINAL CONSTRUCTION OF ALL PHASES</u>	[ ]	[ ]	[X]
Plaster Board <u>USED FOR REMODELING &amp; SUB-DIVIDING SPACE</u>	[ ]	[X]	[ ]
Glass _____	[X]	[ ]	[ ]
Plywood _____	[X]	[ ]	[ ]
Paneling _____	[X]	[ ]	[ ]
Trim & Wainscot _____	[X]	[ ]	[ ]
Tile/Glazed _____	[X]	[ ]	[ ]

**d. Interior Doors & Frames:**

Met Door/Met Frame <u>USED FOR MECHANICAL ROOMS</u>	[ ]	[X]	[ ]
Wood Door/Wood Frame _____	[X]	[ ]	[ ]
Wood Door/Metal Frame <u>USED FOR CLASSROOMS &amp; OFFICES</u>	[ ]	[X]	[ ]
Glazing _____	[X]	[ ]	[ ]
Roll Up _____	[X]	[ ]	[ ]
Sliding _____	[X]	[ ]	[ ]

**e. Hardware:**

Door Closers <u>MIXTURE OF OLD &amp; NEW ON STAIRWELL DOORS</u>	[ ]	[X]	[ ]
Lock Sets <u>MIXTURE OF DIFFERENT AGES &amp; STYLES</u>	[ ]	[X]	[ ]
Kick/Push Plates <u>A FEW DOORS HAVE</u>	[ ]	[X]	[ ]
Thresholds _____	[X]	[ ]	[ ]
Panic Devices <u>EXIT DOORS TO STAIRWELLS &amp; FIRE EXITS</u>	[ ]	[X]	[ ]
Security & Detection _____	[X]	[ ]	[ ]
Automatic Openers _____	[X]	[ ]	[ ]

**B. COMMENTS:**

1. SOUTHWEST STAIRWELL PLASTER HAS BEEN DAMAGED BY WATER LEAKING. SOME PATCH WORK HAS BEEN STARTED, BUT SEVERAL MORE AREAS NEED REPAIRED.

**C. COMPONENT RATING:** ( \$1,299,598 ) X ( 0.76 ) = \$987,694  
                                     Possible                                    Condition                                    Component  
   Value                                    Value Multiplier                                    Value



**FLOOR FINISHES**

FAC # 011 DATE: 8-26-92 INSPECTOR: RDL

**A. SYSTEM DESCRIPTION**

	N/A	Sat	Att
<b>a. Carpet:</b>			
Rolled RMS. 269, 273, 410, 410B, 410G	[ ]	[X]	[ ]
Tile	[X]	[ ]	[ ]
<b>b. Composition:</b>			
Epoxy	[X]	[ ]	[ ]
Synthetic	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]
<b>c. Concrete Topping:</b>			
Clear Sealant <u>BASEMENT STORAGE &amp; MECHANICAL ROOMS</u>	[ ]	[X]	[ ]
Abrasive	[X]	[ ]	[ ]
Epoxy	[X]	[ ]	[ ]
Aggregate	[X]	[ ]	[ ]
<b>d. Resilient:</b>			
Vinyl Tile <u>USED FOR MAJORITY OF BLDG., CORRIDORS, OFFICES</u>	[ ]	[X]	[ ]
Linoleum	[X]	[ ]	[ ]
Vinyl	[X]	[ ]	[ ]
Rubber	[X]	[ ]	[ ]
Cork	[X]	[ ]	[ ]
<b>e. Ceramic Tile</b>	[X]	[ ]	[ ]
<b>f. Masonry</b>	[X]	[ ]	[ ]
<b>g. Terrazzo</b> <u>LOCATED IN ENTRYWAY &amp; STAIRWELLS OF 1925 BLDG.</u>	[ ]	[ ]	[X]
<b>h. Wood</b>	[X]	[ ]	[ ]
<b>i. Metal</b>	[X]	[ ]	[ ]

**B. COMMENTS**

1. STAIRWELL TERRAZZO HAS SOME CRACKS AND SURFACE DAMAGE THAT SHOULD BE REPAIRED.
2. NW STAIRWELL ENTRANCE FROM THE OUTSIDE HAS HAD TILE OR MAT REMOVED AND HAS BEEN LEFT UNFINISHED.

**C. COMPONENT RATING:**     $( \underline{\$751,404} ) \times ( \underline{0.72} ) = \underline{\$533,071}$

Possible	Condition	Component
Value	Value Multiplier	Value



**CONVEYING**

FAC # 011 DATE: 8-24-92 INSPECTOR: RDL

**A. SYSTEM DESCRIPTION**

**a. Elevators:**

	N/A	Sat	Att
Number <u>ONE (1)</u>	[ ]	[X]	[ ]
Type <u>OTIS (7 STOPS)</u>	[ ]	[X]	[ ]
Speed <u>200 FPM</u>	[ ]	[X]	[ ]
Capacity (lbs) <u>3500 LBS.</u>	[ ]	[X]	[ ]
Dimensions <u>80"D X 61"W</u>	[ ]	[X]	[ ]
Door Operation:			
Center _____	[X]	[ ]	[ ]
To Side <u>SIDE OPENING BOTH FRONT &amp; REAR</u>	[ ]	[X]	[ ]

**b. Lifts and Hoists:**

Number <u>ONE (DUMP WAITER)</u>	[ ]	[X]	[ ]
Type <u>OTIS, 300 LBS., 50 FPM, 3 STOPS</u>	[ ]	[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:**

1. ELEVATOR HAS FUNCTIONED ADEQUATELY, BUT SHOULD BE UPDATED TO IMPROVE CONTROLS AND PROVIDE FIRE FIGHTERS PACKAGE.

**C. COMPONENT RATING:**    ( \$165,403 ) X ( 0.34 ) = \$56,237

Possible	Condition	Component
Value	Value Multiplier	Value

**MECHANICAL/PLUMBING**

FAC # 011 DATE: 8-26-92 INSPECTOR: RDL

**A. SYSTEM DESCRIPTION**

<b>a. Services Available:</b>	N/A	Sat	Att
Cold Water <u>4" SUPPLY LINE</u>	[ ]	[X]	[ ]
Hot Water <u>2 1/2" DOMESTIC HOT WATER SUPPLY</u>	[ ]	[X]	[ ]
Acid Waste _____	[X]	[ ]	[ ]
Oxygen _____	[X]	[ ]	[ ]
Natural Gas <u>2" NATURAL GAS SUPPLY</u>	[ ]	[X]	[ ]
Vacuum SYSTEM INSTALLED BUT NOT USED (HOUSEKEEPING)	[ ]	[ ]	[X]
Distilled Water _____	[X]	[ ]	[ ]
Compressed Air <u>LOCAL AIR COMPRESSOR RM 051M &amp; 1 1/4" LINE</u>	[ ]	[X]	[ ]
Other _____	[X]	[ ]	[ ]
<b>b. Piping &amp; Fittings:</b>			
Cast Iron <u>USED FOR WASTE WATER &amp; DRAINS</u>	[ ]	[X]	[ ]
Copper Tubing <u>USED FOR SMALLER WATER &amp; PNEUMATIC LINES</u>	[ ]	[X]	[ ]
Plastic _____	[X]	[ ]	[ ]
Steel <u>LARGER WATER SUPPLY LINES</u>	[ ]	[X]	[ ]
Glass _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]
<b>c. Water Heaters:</b>			
Electric _____	[X]	[ ]	[ ]
Gas _____	[X]	[ ]	[ ]
Oil _____	[X]	[ ]	[ ]
Steam Converter _____	[X]	[ ]	[ ]
Other <u>DOMESTIC HOT WATER SUPPLIED FROM POWER PLANT</u>	[ ]	[X]	[ ]
<b>d. Drainage:</b>			
Storm Drains <u>LOCATED IN CENTER OF THE FLAT ROOF AREAS</u>	[ ]	[X]	[ ]
Sanitary Drainage _____	[X]	[ ]	[ ]
Combined Storm/San. <u>ALL WASTE LINES ARE COMBINATION</u>	[ ]	[X]	[ ]
Floor Drains _____	[X]	[ ]	[ ]
<b>e. Fixtures:</b>			
Water Closets <u>38 FIXTURES IN 11 DIFFERENT LOCATIONS</u>	[ ]	[ ]	[X]
Urinals <u>9 FIXTURES IN 5 DIFFERENT LOCATIONS</u>	[ ]	[ ]	[X]
Lavatories <u>23 FIXTURES IN 9 DIFFERENT LOCATIONS</u>	[ ]	[ ]	[X]
Showers _____	[X]	[ ]	[ ]
Kitchen Sinks _____	[X]	[ ]	[ ]
Service Sinks <u>9 FIXTURES IN 9 DIFFERENT LOCATIONS</u>	[ ]	[X]	[ ]
Drinking Fountains <u>LOCATED IN CORRIDORS OF EACH FLOOR</u>	[ ]	[X]	[ ]
Electric Water Coolers _____	[X]	[ ]	[ ]
<b>f. Sprinkler Systems:</b>			
Wet <u>NONE</u>	[X]	[ ]	[ ]
Dry <u>NONE</u>	[X]	[ ]	[ ]
Water Storage/Supply _____	[X]	[ ]	[ ]
<b>g. Standpipe Systems:</b>			
Wet _____	[X]	[ ]	[ ]
Dry _____	[X]	[ ]	[ ]
Valves _____	[X]	[ ]	[ ]
Hose Cabinets <u>LOCATED IN CORRIDORS</u>	[ ]	[X]	[ ]

**B. COMMENTS:**

1. PLUMBING FIXTURES ARE OUTDATED, STAINED, SOME HARDWARE DIFFICULT TO OPERATE. DECORATION OF RESTROOMS WOULD BE AN IMPROVEMENT.

**C. COMPONENT RATING:**     $\frac{(\$1,238,162)}{\text{Possible Value}} \times \left( \frac{0.62}{\text{Condition Value Multiplier}} \right) = \frac{\$767,660}{\text{Component Value}}$





**ELECTRICAL/SERVICE & DISTRIBUTION**

FAC # 011 DATE: 8-31-92 INSPECTOR: RDL

**A. SYSTEM DESCRIPTION**

**(a) Service:**

Substation CIRCUITS PGN5/PGS5  
Primary Voltage 13,200 VOLTS  
Transformer:  
    Manufacture      Type      KVA      Secondary Voltages  
    WESTINGHOUSE   DRY      750      208Y/120V

**(b) Distribution System:**

Panelboard (type) CIRCUIT BREAKERS  
Voltage 208Y/120V  
Amperage 2000 AMP MAIN WITH FOUR 800 AMP CIRCUITS  
Conduit ALUMINUM & STEEL  
Conductor COPPER  
Wire (type) VARIES  
Armored Cable NO  
Other N/A

**(c) Emergency System:**

General or (type & capacity) BATTERY POWER EXIT LIGHTS

**B. COMMENTS:**

1. TRANSFORMER & SWITCHBOARDS ARE LOCATED IN RM 47M.

**C. COMPONENT RATING:**    ( \$258,344 ) x ( 0.91 ) = \$235,093  
                                    Possible                      Condition                      Component  
                                    Value                      Value Multiplier              Value



**SAFETY STANDARDS**

FAC # 011 DATE: 8-26-92 INSPECTOR: RDL

**A. SYSTEM DESCRIPTION**

**(a) Exits:**

Stair Construction:	N/A	Sat	Att
concrete <u>FRAME &amp; TREADS IN 1925 BLDG. (SE)</u>	[ ]	[X]	[ ]
steel <u>FRAMES IN 1956 ADDITIONS (NW, NE, &amp; E)</u>	[ ]	[X]	[ ]
wood _____	[X]	[ ]	[ ]
Number of exits <u>4 STAIRWELL &amp; 2 EMERGENCY EXITS</u>			

**(b) Fire Rating:**

Construction Type: I X II \_\_\_ III \_\_\_ IV \_\_\_ V \_\_\_ VI \_\_\_  
 Building Height: 70 FEET, FOUR STORIES PLUS AN ATTIC

**(c) Extinguishing Systems:**

Portable _____	[X]	[ ]	[ ]
Standpipe _____	[X]	[ ]	[ ]
Hose Cabinets <u>LOCATED IN EACH CORRIDOR</u>	[ ]	[X]	[ ]
Sprinklers _____	[X]	[ ]	[ ]
Suppression _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]

**(d) Detection & Alarm Systems:**

Manual Alarm <u>PULL STATIONS AT STAIRWELL ENTRANCES</u>	[ ]	[X]	[ ]
Annunciator _____	[X]	[ ]	[ ]
Smoke Detectors _____	[X]	[ ]	[ ]

**(e) Lighting Systems:**

Exit Signs <u>LOCATED IN CORRIDORS AT STAIRWELLS</u>	[ ]	[X]	[ ]
Exit Lighting <u>BATTERY BACK-UP POWER</u>	[ ]	[X]	[ ]
Emergency Lighting _____	[X]	[ ]	[ ]
Emergency Generator <u>NONE</u>	[X]	[ ]	[ ]

**B. COMMENTS:**

ASBESTOS HAS BEEN IDENTIFIED IN THE PIPE INSULATION FOR ARPS. SECTIONS HAVE BEEN REMOVED AS NEEDED. APPROXIMATELY 1250 LF HAS BEEN REMOVED TO DATE.

**C. COMPONENT RATING:** ( \$998,721 ) x ( 0.70 ) = \$699,105  
                             Possible                            Condition                            Component  
   Value                            Value Multiplier                            Value

**BUILDING PERIMETER EVALUATION**

FAC # 011 DATE: 8-31-92 INSPECTOR: RDL

**A. SYSTEM DESCRIPTION**

	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
1. Structural Access:			
Driveway <u>OFF HIGH ST. ENTRANCE TO ARPS PARKING GARAGE</u>	[ ]	[ ]	[X]
Loading Dock <u>REAR PARKING LOT IN MIDDLE OF BLDG.</u>	[ ]	[ ]	[X]
Sidewalks			
Front <u>HIGH ST. &amp; WEXNER PLAZA ENTRANCES</u>	[ ]	[X]	[ ]
Side <u>PARKING GARAGE (NORTH) SIDE</u>	[ ]	[X]	[ ]
Rear <u>COLLEGE AVENUE (WEST) ENTRANCE</u>	[ ]	[X]	[ ]
Steps			
Front <u>HIGH STREET ENTRANCE IS FLAG STONE</u>	[ ]	[ ]	[X]
Side <u>WEXNER PLAZA ENTRANCE IS BEING REPLACED</u>	[ ]	[ ]	[X]
Rear _____	[X]	[ ]	[ ]
Handicap Ramp <u>OFF REAR PARKING LOT TO LIBRARY &amp; 1ST FLOOR</u>	[ ]	[X]	[ ]
2. Lawn and Landscaping:			
Lawn <u>SOME DAMAGE FROM MASONRY REPAIR WORK</u>	[ ]	[ ]	[X]
Shrubs <u>SOME OVER GROWTH AND DAMAGE FROM MASONRY REPAIRS</u>	[ ]	[X]	[ ]
Trees <u>SEVERAL LARGE TREES</u>	[ ]	[X]	[ ]
Undesirable Insect <u>NONE OBSERVED</u>	[ ]	[X]	[ ]
Bedding Material <u>RECENTLY REPLACED WITH MULCH</u>	[ ]	[X]	[ ]
Watering System _____	[X]	[ ]	[ ]
3. General Site Information:			
Signage <u>LOCATED ON HIGH STREET</u>	[ ]	[X]	[ ]
Address Identification <u>LOCATED ON SIGN</u>	[ ]	[X]	[ ]
Security Lights <u>LOCATED IN REAR OF BUILDING AND AT GARAGE</u>	[ ]	[X]	[ ]
Street Lights <u>HIGH STREET AND WEXNER PLAZA</u>	[ ]	[X]	[ ]
Drainage _____	[X]	[ ]	[ ]
Storm Drains _____	[X]	[ ]	[ ]

**B. COMMENTS:**

1. DRIVEWAY HAS A FEW PATCH AREAS & ROUGH SPOTS. DRIVE WILL NEED RESURFACED IN THE NEAR FUTURE.
2. LOADING DOCK BUMPER IS DAMAGED AND NEEDS TO BE REPLACED.
3. FLAG STONE AT THE EAST & WEST ENTRANCE IS BREAKING AND NEEDS TO BE REPAIRED.

**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. 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, engineer's 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 and redecorating, wholesale replacement of building and system components. Ongoing maintenance, replacement and renovation projects are not included.

(b) Includes exterior building walls and attached items.

(c) Includes the entrance steps up 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 DUCK 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**

Building Floor Plans  
C-1 Building Space Assignments