

FACILITY AUDIT REPORT  
HAGERTY HALL, Bldg 037  
MARCH 1995

Prepared by:  
A.J.R. Van Buren  
Division of Resource Management  
Department of Physical Facilities  
The Ohio State University

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**EXECUTIVE SUMMARY AND PROJECT LIST FOR HAGERTY HALL**

Hagerty Hall was built in two phases. The first phase, constructed in 1924, included the north part of the building, most of the west side, the main auditorium and part of the current east side of the building. The second phase of the building was constructed in 1948. This project completed the west side, the south side and the east side of the building, creating an enclosed courtyard. Over the years, several areas have been renovated from time to time and various air conditioning systems have been added to the building. Today the building is cooled by two chiller units, 11 independent smaller units, and 133 window units. The roof on both sections of the building are the original roofs and have exceeded their life expectancy. The windows are the original single pane units and should be replaced by more energy efficient units. Maintenance personnel report continuous problems with the plumbing system. The heating hot water systems are serviceable but have exceeded their life expectancy. With the anticipated completion of the phase I of the new College of Business complex in the fall of 1998, the building will be vacated. At that time a complete renovation of the building is anticipated.

**PROPOSED MAINTENANCE PROJECTS:**

<b>A. Corrective Maintenance Projects:</b>	<b>Control #</b>
No individual maintenance projects are recommended for this category. The building has reached a point where complete renovation is recommended, including installation of a central and new heating and cooling systems. Current estimate for this complete renovation is \$ 13,500,000.	
<b>Sub Total</b>	<b>\$ 13,500,000</b>
<b>B. Building Improvement/Addition Projects:</b>	
<b>C. Projected (over the next 5 yrs) Projects:</b>	
<b>Sub Total</b>	<b>\$</b>
<b>Total cost for estimated projects =</b>	<b>\$ 13,500,000</b>

MARCH 95

GENERAL BUILDING INFORMATION

HAGERTY HALL #037

BUILDING ADDRESS: 1775 COLLEGE RD

GROSS SQ. FT.: 135,901

NET ASSIGNABLE SQ. FT.: 76,436

MECHANICAL/CUSTODIAL AREA SQ. FT.: 7,316

YEAR OF CONSTRUCTION: 1924

YEAR OF LAST RENOVATION: SOUTH HALF OF BUILDING WAS BUILT IN 1948. PORTIONS WERE REMODELED IN 1961, 1965, 1973 & 1981.

NUMBER OF STORIES/BASEMENT: 4 STORIES AND A BASEMENT

AIR CONDITIONING (Percentage): 90%

CURRENT USE: BUSINESS COLLEGE, CLASSROOMS, COMPUTER LABS AND OFFICES

TYPE OF CONSTRUCTION: REINFORCED CONCRETE FRAME WITH STONE AND BRICK VENEER

ESTIMATED REPLACEMENT COST: \$18,321,000 \*

WHEELCHAIR ACCESSIBILITY: THE NORTH MAIN ENTRANCE IS AT GRADE LEVEL AND IS EQUIPPED WITH AN ELECTRIC DOOR OPENER. THERE IS AN ELEVATOR CAPABLE OF ACCESSING ALL FLOORS.

OVERALL BUILDING CONDITION: MAJOR REHABILITATION REQUIRED \*\*

NUMBER OF EXIT STAIRWAYS: 4

\* Replacement Cost assigned June 1993 by The Office of Resource Planning and Institutional Analysis.

\*\* Office of Resource Planning and Institutional Analysis C-1 Report Condition Code.

**BUILDING SYSTEMS INFORMATION**

HAGERTY HALL #037

**HEATING:**

Source POWER PLANT

Type Heating System HOT WATER

Steam (Line size, valve location) N/A

Building Htg Water (line size, valve location) 6"& 8"S AND 6" & 8" RET.

**VENTILATION SYSTEM:**

VARIED - SPLIT SYSTEMS AND WINDOW AIR CONDITIONERS

**COOLING:**

Bldg % 90 Chillers TWO 40 TONS EACH, CARRIER UNITS

Window Units 133 Thru-the-wall 1 Direct exp. units 11

**HVAC CONTROL SYSTEM:**

NO CENTRAL CONTROL SYSTEM, SEVERAL SYSTEMS INDIVIDUALLY CONTROLLED

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

1. BUCKEYE (106/304) 1500 13,200 208/120 RM 5M

**PLUMBING:**

Water (size, valve location) 3", AT THE TUNNEL ON NORTH SIDE OF BUILDING

Gas (size, valve location) 1 1/4" AT THE TUNNEL

Domestic Hot Water (size, valve location) 80 GALLON TANK - RM 5M

Compressed Air (size, location) N/A

**SEWERS:**

Storm 0 Sanitary 0 Combination 1 @ 4", 2 @ 6" AND 1 @ 10"

**METERS:**

Gas (size, location) 1 1/4" AT THE TUNNEL

Water (size, location) N/A

Electric (size, location) N/A

**ALARM SYSTEMS:**

Fire Alarm YES Panel Location RM 5M

Fire Pump NO Pump Location N/A

Sprinklers NO Panel Location N/A

Other Alarms NONE

**ELEVATORS:**

Number 1 Type (passenger, freight) PASSENGER

Manufacturer OTIS Size 44" X 62"

**EMERGENCY GENERATOR:**

Size N/A Location N/A

**KEY BOX LOCATION:** SOUTH/WEST ENTRANCE

**ASBESTOS SURVEY (1986):** PIPE INSULATION OF HOT WATER LINES.

## HAGERTY HALL NARRATIVE

### HISTORY

The first phase of Hagerty Hall was constructed in 1924 and the second phase was built in 1948. The building now contains some of the College of Business administrative and faculty offices as well as classrooms. Several portions of the building have been renovated over the last 25 years. Most of the renovation was cosmetic and the original hot water heating systems are still largely intact. Facility use by room category is 65% office, 26% classroom and, 9% mechanical, custodial and toilet.

### PRIMARY SYSTEMS

The four-story building is supported by concrete footings under foundation walls at the exterior and load-bearing walls in the interior of the structure. The floors are composed of cast-in-place concrete. The structure of the building appears to be sound. The exterior walls are brick and limestone.

The part of the roof that is pitched consists of steel trusses, wood rafters, and a wood tongue and groove deck. The exterior perimeter of the roof on the original building is covered with copper that was installed in 1924. The rest of the original roof area as well as the 1948 addition is a built-up roof. The copper roof is at the end of its life expectancy and both the original built-up roof and the 1948 addition are well beyond their life expectancy.

The windows were not replaced in any of the renovations to the building. They are large combination and sliding units and are single glazed. Many are difficult to open and close giving rise to both energy and security concerns. They should be replaced during any major renovation. The steps at the front entrance are loose and should be resealed.

### SECONDARY SYSTEMS

The original interior partitions are brick. Over the years concrete block and wooden or metal stud walls with drywall have been added. The plaster in the stairways has cracked in several locations and the north/east stairway shows evidence of water penetration. The lower half of the stairway walls and the corridor walls have a ceramic tile cover and are in good condition.

Floor finishes consist of vinyl tile and some carpeting in departmental offices. The tile in the corridors are in good condition.

The ceilings are predominantly suspended acoustical tile with applied tile in the corridors. There are some stained tiles throughout the building.

### SERVICE SYSTEMS

The building has one elevator located in the south end of the east corridor. The elevator accesses all floors including the basement area. The elevator was installed during the 1948 addition. The elevator is unreliable and does not meet today's standards. There is a project identified to replace this unit.

Air conditioning consists of two chillers for portions of the building on all floors including the basement. The rest of the building is cooled by eleven DX units and one hundred and thirty three window units. There are two VAV air handlers that

provide circulation to the auditorium.

The building is heated by a hot water radiation system. Heating hot water is supplied by the University power plant. The majority of the system is original and is manually controlled. Heating and cooling levels are also controlled by opening and closing windows. Maintenance personnel commented that, while the system is old and control is poor, it is functioning adequately at this time. It has reached replacement age and should be replaced when the building is renovated.

The plumbing distribution system has been modified during limited remodeling projects but most of the system is original and is causing numerous maintenance problems such as low pressure and clogged drains. The most recent up-grades have been to accommodate handicap requirements. These up-grades included a limited number of fixtures.

#### ELECTRICITY

Electrical power is provided by a 13,200 volt primary feed to a 1500 KVA transformer located between Hagerty Hall and Mendenhall Laboratory. This voltage is stepped down to 208/120 secondary voltage. There are 4000 amps of power available to the building through this arrangement. Utility division records did not give a utilization reading but there was nothing to indicate a lack of adequate power.

#### SAFETY STANDARDS

The building is equipped with lighted exit signs, emergency lights in the corridors and stairways and portable fire extinguishers. There are twenty fire hoses located throughout the building. An annunciator is located in the basement mechanical room, 5M.

#### 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 of the hot water lines in the basement and in the core chases. The asbestos in the basement rooms 1,2,1M, and 5M was removed in 1991. Some asbestos remains throughout the building.

#### BUILDING PERIMETER

An asphalt driveway located on the south side of the building provides access to south/west entrance of Hagerty Hall although no loading dock exists at the building. The concrete sidewalks are in good condition on all sides of the building. A plaza is being constructed on the west side of Hagerty with new lighting and brick pavers. The handicap ramp at the main entrance has deteriorated at the railing posts. Also the steps at this entrance are loose and need to be resealed. There is no grass or ground cover on the south side of the building. There is a protrusion around the valve box in the east side walk along College Rd. 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. Reslope concrete at water valve located at east side of building in College Road sidewalk. Also, recaulk steps at north entrance.  
Workorder # 01-5063-014738-51
2. Reseed lawn on south side of building.  
Workorder # 01-5063-014739-52

March 95

**BUILDING EVALUATION SUMMARY**

**I. BUILDING INFORMATION**

FAC # 037 FACILITY NAME: HAGERTY HALL  
 DATE: 3/95 INSPECTOR: A.J.R. VAN BUREN  
 YEAR CONSTRUCTED: 1924 AND 1948  
 GROSS SQ FT: 135,901 NET SQ FT: 76,436  
 REPLACEMENT COST \$ 18,321,000 \*

**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	5.7	1,044,297	.77	804,109
Columns and Beams	15.9	2,913,039	.77	2,243,040
Exterior Walls	9.4	1,722,174	.85	1,463,848
Windows & Doors	4.7	861,087	.60	516,652
Roofing	3.1	567,951	.53	301,014
Partitions & Drs.	7.8	1,429,038	.67	957,455
Wall Finishes	3.0	549,630	.53	291,304
Floor Finishes	5.7	1,044,297	.71	741,451
Ceilings & Finish	8.1	1,484,001	.67	994,281
Conveying	1.9	348,099	.57	198,416
Plumbing	2.5	458,025	.64	293,136
Heating	9.9	1,813,779	.60	1,088,267
Cooling & Vent.	7.6	1,392,396	.59	821,514
Elec. Ser. & Dist	2.0	366,420	.75	274,815
Lighting & Power	12.1	2,216,841	.70	1,551,789
Safety Standards	.6	109,926	.70	76,948
TOTALS	100.00	18,321,000		12,618,039

**Overall Building Rating = 69%**

\* 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 # 037      DATE 3/95      INSPECTOR: AJR

**A. SYSTEM DESCRIPTION**

	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
<b>a. Footings:</b>			
Individual Footings & Piers _____	[ ]	[X]	[ ]
Continuous Footings <u>UNDER LOAD-BEARING STONE/BRICK WALLS</u>	[ ]	[X]	[ ]
Grade Beams _____	[X]	[ ]	[ ]
Piles _____	[X]	[ ]	[ ]
Caissons _____	[X]	[ ]	[ ]
 <b>b. Foundation Wall Materials:</b>			
Steel _____	[X]	[ ]	[ ]
Concrete Cast-in-place _____	[ ]	[X]	[ ]
Concrete Block _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]
 <b>c. Waterproofing and Underdrain:</b>			
Coating _____	[X]	[ ]	[ ]
Membrane _____	[X]	[ ]	[ ]
Board _____	[X]	[ ]	[ ]
Drain Tile _____	[X]	[ ]	[ ]
 <b>d. Slab on Grade (floor):</b>			
Plain _____	[X]	[ ]	[ ]
Reinforced _____	[ ]	[X]	[ ]
 <b>e. Special Substructures:</b>			
_____	[X]	[ ]	[ ]

**B. COMMENTS:**

NO STRUCTURAL PROBLEMS OR WATER INFILTRATION OBSERVED.

**C. COMPONENT RATING:**    (\$1,044,300)    (77 %) = \$ 804,100  
                                  Possible                    Condition                    Component  
                                  Value                    Value Multiplier            Value

**COLUMNS AND BEAMS**

FAC # 037      DATE 3/95      INSPECTOR: AJR

**A. SYSTEM DESCRIPTION**

**a. Columns and Beams:**

	N/A	Sat	Att
Concrete-in-place <u>REINFORCED COLUMNS AND BEAMS</u>	[ ]	[X]	[ ]
Precast Concrete _____	[X]	[ ]	[ ]
Steel <u>BEAMS IN 1948 ADDITION</u>	[ ]	[X]	[ ]
Steel Fireproofing _____	[X]	[ ]	[ ]
Wood _____	[X]	[ ]	[ ]
Other <u>LOAD BEARING PARTITION WALLS</u>	[ ]	[X]	[ ]

**b. Floors:**

Concrete Slab <u>THROUGHOUT</u>	[ ]	[X]	[ ]
Precast Slab _____	[X]	[ ]	[ ]
Metal Deck _____	[X]	[ ]	[ ]
Metal Deck w/concrete fill _____	[X]	[ ]	[ ]
Wood _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]

**c. Roof System:**

Flat <u>PREDOMINANTLY</u>	[ ]	[X]	[ ]
Pitched <u>EXTERIOR PERIMETER OF THE 1924 ROOF IS PITCHED</u>	[ ]	[X]	[ ]
Concrete <u>CONCRETE DECK IN FLAT SECTION</u>	[ ]	[X]	[ ]
Steel <u>TRUSSES</u>	[ ]	[X]	[ ]
Wood <u>DECKING UNDER THE PITCHED SECTIONS</u>	[ ]	[X]	[ ]
Other _____	[X]	[ ]	[ ]

**B. COMMENTS:**

THE STRUCTURE APPEARS SOUND.

**C. COMPONENT RATING:    (\$2,913,000)    ( 77 %) = \$2,243,000**

Possible	Condition	Component
Value	Value Multiplier	Value

**EXTERIOR WALLS**

FAC # 037      DATE 3/95      INSPECTOR: AJR

<b>a. Walls:</b>	N/A	Sat	Att
Concrete <u>EXPOSED FOUNDATION ONLY</u>	[ ]	[X]	[ ]
Masonry <u>BRICK AND STONE</u>	[ ]	[X]	[ ]
Metal Siding _____	[X]	[ ]	[ ]
Wood Siding _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]
<b>b. Finishes:</b>			
Stucco _____	[X]	[ ]	[ ]
Paint _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]

**B. COMMENTS:**

THE MASONRY IS GENERALLY IN GOOD CONDITION ALTHOUGH THERE ARE NO RECORDS OF THE WALLS HAVING BEEN CAULKED OR SEALED IN THE LAST TWENTY YEARS.

**C. COMPONENT RATING:**    (\$1,722,200)    ( 85 %) = \$1,463,800  
                                  Possible            Condition            Component  
                                  Value            Value Multiplier    Value



**ROOFING**

FAC # 037      DATE 3/95      INSPECTOR: AJR

**A. SYSTEM DESCRIPTION**

**a. Roof Covering:**

	N/A	Sat	Att
Built-up _____	[X]	[ ]	[ ]
Built-up w/gravel <u>20,967 SF INSTALLED IN 1924 &amp; 1948</u>	[ ]	[ ]	[X]
Asphalt Shingle _____	[X]	[ ]	[ ]
Copper <u>5,022 SF INSTALLED IN 1924</u>	[ ]	[ ]	[X]
Glass (Skylight) <u>THREE INSTALLED IN 1924</u>	[ ]	[ ]	[X]
Slate _____	[X]	[ ]	[ ]
Spanish Tile _____	[X]	[ ]	[ ]
Metal _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]

**c. Flashing:**

Base & Counter <u>COPPER AND FELT</u>	[ ]	[ ]	[X]
Cap <u>COPPER</u>	[ ]	[ ]	[X]
Through Wall _____	[X]	[ ]	[ ]
Valley & Ridge <u>COPPER</u>	[ ]	[ ]	[X]

**d. Gravel Stop & Edge Strips:**

Type _____	[X]	[ ]	[ ]
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**e. Drainage:**

Gutters w/ Exterior Downspouts <u>COPPER</u>	[ ]	[ ]	[X]
Scuppers w/ Exterior Downspouts _____	[X]	[ ]	[ ]
Drains w/ Interior Storm Drains <u>BUR AREA</u>	[ ]	[X]	[ ]

**f. Parapets:**

Concrete _____	[X]	[ ]	[ ]
Brick _____	[ ]	[X]	[ ]
Block _____	[X]	[ ]	[ ]
Precast <u>CONCRETE COPING</u>	[ ]	[X]	[ ]
Other _____	[X]	[ ]	[ ]

**g. Insulation:**

Type <u>RIGID FIBER BOARD</u>	[ ]	[ ]	[X]
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**B. COMMENTS**

THE ORIGINAL BUILDING HAD SKYLIGHTS IN THE WEST ROOF. THE DAYLIGHT IS ELIMINATED BY A SUSPENDED CEILING. BOTH ROOFS ARE WELL PAST THEIR LIFE EXPECTANCY.

**C. COMPONENT RATING:**    (\$567,900 )    ( 53 %) = \$301,000  
                                  Possible            Condition            Component  
                                  Value            Value Multiplier    Value

**PARTITIONS & DOORS**

FAC # 037      DATE 3/95      INSPECTOR: AJR

**A. SYSTEM DESCRIPTION**

	N/A	Sat	Att
<b>a. Partition Framing:</b>			
Concrete Block <u>SOME PARTITIONS IN THE BASEMENT</u>	[ ]	[X]	[ ]
Glazed Block _____	[X]	[ ]	[ ]
Wood Stud <u>IN ORIGINAL BUILDING</u>	[ ]	[X]	[ ]
Metal Stud <u>USED IN MOST RECENT REMODELING</u>	[ ]	[X]	[ ]
Structural Tile _____	[X]	[ ]	[ ]
Rated _____	[X]	[ ]	[ ]
Other <u>LOAD-BEARING BRICK WALLS THROUGHOUT THE STRUCTURE</u>	[ ]	[X]	[ ]
<b>b. Special partitions and Walls:</b>			
Toilet <u>METAL PARTITIONS</u>	[ ]	[X]	[ ]
Screen Walls _____	[X]	[ ]	[ ]
Gate _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]
<b>c. Wall Material:</b>			
Plaster <u>AGING - MANY CRACKS DEVELOPING IN STAIRWAYS</u>	[ ]	[ ]	[X]
Plaster Board <u>USED ON STUD WALLS</u>	[ ]	[X]	[ ]
Glass _____	[X]	[ ]	[ ]
Plywood _____	[X]	[ ]	[ ]
Paneling _____	[X]	[ ]	[ ]
Trim & Wainscot _____	[X]	[ ]	[ ]
Tile/Glazed _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]
<b>d. Interior Doors &amp; Frames:</b>			
Met Door/Met Frame <u>FIRE DOORS AT STAIRS AND EXITS</u>	[ ]	[X]	[ ]
Wood Door/Wood Frame _____	[X]	[ ]	[ ]
Wood Door/Metal Frame <u>THROUGHOUT</u>	[ ]	[X]	[ ]
Glazing <u>LIMITED</u>	[ ]	[X]	[ ]
Rollup _____	[X]	[ ]	[ ]
Sliding _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]
<b>e. Hardware:</b>			
Door Closers _____	[ ]	[X]	[ ]
Lock Sets _____	[ ]	[X]	[ ]
Kick/Push Plates _____	[ ]	[X]	[ ]
Thresholds _____	[ ]	[X]	[ ]
Panic Devices _____	[ ]	[X]	[ ]
Security & Detection _____	[X]	[ ]	[ ]
Automatic Openers <u>HANDICAPPED ENTRANCE</u>	[ ]	[X]	[ ]
Other _____	[X]	[ ]	[ ]

**B. COMMENTS:**

PARTITIONS ARE STRUCTURALLY SOUND. DOORS AND HARDWARE ARE WORN BUT STILL SERVICEABLE.

**C. COMPONENT RATING:**    (\$1,429,000)    ( 67 %) = \$957,500  
                                  Possible            Condition            Component  
                                  Value            Value Multiplier    Value

**WALL FINISHES**

FAC # 037      DATE 3/95      INSPECTOR: AJR

<b>A. SYSTEM DESCRIPTION</b>	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
a. Paint <u>STAIRWAY WALLS AND ENTRANCES REQUIRE ATTENTION</u>	[ ]	[ ]	[X]
b. Wall Coating _____	[X]	[ ]	[ ]
c. Wall Coverings _____	[X]	[ ]	[ ]
d. Paneling			
Prefinished _____	[X]	[ ]	[ ]
Plank _____	[X]	[ ]	[ ]
e. Cork _____	[X]	[ ]	[ ]
f. Wallpaper _____	[X]	[ ]	[ ]
g. Ceramic Tile <u>IN THE CORRIDORS</u>	[ ]	[X]	[ ]
h. Trim & Wainscot _____	[X]	[ ]	[ ]
i. Decoration _____	[X]	[ ]	[ ]
j. Glass _____	[X]	[ ]	[ ]
k. Other _____	[X]	[ ]	[ ]

**B. COMMENTS**

THE PLASTER IN THE STAIRWAYS HAS MISSING PIECES AND SOME IS IN DANGER OF FALLING DOWN.

**C. COMPONENT RATING:**    (\$549,600 )    ( 53 %) = \$291,300  
                                     Possible            Condition            Component  
                                     Value            Value Multiplier    Value

**FLOOR FINISHES**

FAC # 037      DATE 3/95      INSPECTOR: AJR

**A. SYSTEM DESCRIPTION**

	N/A	Sat	Att
<b>a. Carpet:</b>			
Rolled OFFICE SPACE _____	[ ]	[X]	[ ]
Tile _____	[X]	[ ]	[ ]
<b>b. Composition:</b>			
Epoxy _____	[X]	[ ]	[ ]
Synthetic _____	[X]	[ ]	[ ]
Other GRANITE AT THE MAIN ENTRANCE _____	[ ]	[X]	[ ]
<b>c. Concrete Topping:</b>			
Clear Sealant BASEMENT MECHANICAL ROOMS _____	[ ]	[X]	[ ]
Abrasive _____	[X]	[ ]	[ ]
Epoxy _____	[X]	[ ]	[ ]
Aggregate _____	[X]	[ ]	[ ]
<b>d. Resilient:</b>			
Vinyl Tile THROUGHOUT THE BUILDING _____	[ ]	[X]	[ ]
Linoleum _____	[X]	[ ]	[ ]
Vinyl _____	[X]	[ ]	[ ]
Rubber _____	[X]	[ ]	[ ]
Cork _____	[X]	[ ]	[ ]
<b>e. Ceramic Tile</b> _____	[X]	[ ]	[ ]
<b>f. Masonry</b> _____	[X]	[ ]	[ ]
<b>g. Terrazzo</b> _____	[X]	[ ]	[ ]
<b>h. Wood</b> _____	[X]	[ ]	[ ]
<b>i. Metal</b> _____	[X]	[ ]	[ ]

**B. COMMENTS**

THE FLOOR TILE THROUGHOUT THE BUILDING IS GENERALLY IN SERVICEABLE CONDITION.

**C. COMPONENT RATING:**    (\$1,044,300)    ( 71 % ) = \$741,500  
                                  Possible    Condition    Component  
                                  Value        Value Multiplier    Value



**CONVEYING**

FAC # 037      DATE 3/95      INSPECTOR: AJR

**A. SYSTEM DESCRIPTION**

**a. Elevators:**

	N/A	Sat	Att
Number <u>1</u>	[ ]	[X]	[ ]
Type <u>PASSENGER</u>	[ ]	[ ]	[X]
Speed <u>35 FPM</u>	[ ]	[X]	[ ]
Capacity (lbs) <u>1000</u>	[ ]	[X]	[ ]
Dimensions <u>44" X 62" THIS IS TOO SMALL</u>	[ ]	[ ]	[X]
Door Operation:			
Center _____	[X]	[ ]	[ ]
To Side _____	[ ]	[X]	[ ]

**b. Lifts and Hoists:**

Number <u>AT THE SOUTH/WEST ENTRANCE FOR TRASH REMOVAL</u>	[ ]	[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 1948 AND IS INADEQUATE FOR THE BUILDING. A \$200,000 PROJECT HAS BEEN IDENTIFIED TO INSTALL A NEW UNIT.

**C. COMPONENT RATING:**    (\$348,100 )    ( 57 % ) = \$198,400  
                                  Possible      Condition      Component  
                                  Value      Value Multiplier      Value

**MECHANICAL/PLUMBING**

FAC # 037      DATE 3/95      INSPECTOR: AJR

**A. SYSTEM DESCRIPTION**

<b>a. Services Available:</b>	N/A	Sat	Att
Cold Water <u>3" SUPPLY IN TUNNEL</u>	[ ]	[X]	[ ]
Hot Water <u>6" AND 8" SUPPLY AND 6" AND 8" RETURN AT TUNNEL</u>	[ ]	[X]	[ ]
Acid Waste _____	[X]	[ ]	[ ]
Oxygen _____	[X]	[ ]	[ ]
Natural Gas _____	[X]	[ ]	[ ]
Vacuum _____	[X]	[ ]	[ ]
Distilled Water _____	[X]	[ ]	[ ]
Compressed Air _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]
<b>b. Piping &amp; Fittings:</b>			
Cast Iron <u>VENTS ARE ORIGINAL BUT FUNCTIONAL</u>	[ ]	[X]	[ ]
Copper Tubing _____	[ ]	[X]	[ ]
Plastic _____	[X]	[ ]	[ ]
Steel <u>HEATING HOT WATER, RESTRICTED BY CORROSION</u>	[ ]	[ ]	[X]
Glass _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]
<b>c. Water Heaters:</b>			
Electric _____	[X]	[ ]	[ ]
Gas <u>HOT WATER HEATER IN RM 5M - 80 GALLONS</u>	[ ]	[X]	[ ]
Oil _____	[X]	[ ]	[ ]
Steam Converter _____	[X]	[ ]	[ ]
Other _____	[ ]	[ ]	[ ]
<b>d. Drainage:</b>			
Storm Drains _____	[X]	[ ]	[ ]
Sanitary Drainage _____	[X]	[ ]	[ ]
Combined Storm/San. <u>1 @ 4", 2 @ 6", 1 @ 10"</u>	[ ]	[X]	[ ]
Floor Drains <u>RESTROOMS &amp; THE BASEMENT</u>	[ ]	[X]	[ ]
<b>e. Fixtures:</b>			
Water Closets <u>27</u>	[ ]	[ ]	[X]
Urinals <u>13</u>	[ ]	[ ]	[X]
Lavatories <u>23</u>	[ ]	[ ]	[X]
Showers _____	[X]	[ ]	[ ]
Kitchen Sinks _____	[X]	[ ]	[ ]
Service Sinks <u>4</u>	[ ]	[X]	[ ]
Drinking Fountains _____	[X]	[ ]	[ ]
Electric Water Coolers _____	[ ]	[X]	[ ]
<b>f. Sprinkler Systems:</b>			
Wet _____	[X]	[ ]	[ ]
Dry _____	[X]	[ ]	[ ]
<b>g. Standpipe Systems:</b>			
Wet <u>FOR HOSES</u>	[ ]	[X]	[ ]
Dry _____	[X]	[ ]	[ ]
Valves _____	[X]	[ ]	[ ]
Hose Cabinets <u>20 HOSES</u>	[ ]	[X]	[ ]

**B. COMMENTS:**

MOST OF THE PLUMBING FIXTURES ARE ORIGINAL AND THE PLUMBING SYSTEM NEEDS TO BE UPGRADED.

**C. COMPONENT RATING:**    (\$458,000 )    ( 64 %) = \$293,100  
    Possible            Condition            Component  
    Value            Value Multiplier    Value

**MECHANICAL/HEATING**

FAC # 037      DATE 3/95      INSPECTOR: AJR

**A. SYSTEM DESCRIPTION**

<b>a. Heat Source:</b>	N/A	Sat	Att
Central Plant Steam _____	[X]	[ ]	[ ]
Central Plant Hot Water <u>6" AND 8" AT THE TUNNEL</u>	[ ]	[X]	[ ]
Boilers: Type _____	[X]	[ ]	[ ]
Size _____	[X]	[ ]	[ ]
Furnace: Type _____	[X]	[ ]	[ ]
Size _____	[X]	[ ]	[ ]
Heat Pump: Type _____	[X]	[ ]	[ ]
Size _____	[X]	[ ]	[ ]

<b>b. System Type:</b>	N/A	Sat	Att
Steam _____	[X]	[ ]	[ ]
Hot Water <u>ORIGINAL SYSTEM HAS PASSED REPLACEMENT AGE</u>	[ ]	[ ]	[X]
Air _____	[X]	[ ]	[ ]
Multizone _____	[X]	[ ]	[ ]
Dual Duct _____	[X]	[ ]	[ ]
Terminal Reheat _____	[X]	[ ]	[ ]
Variable Volume _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]

<b>c. Space Equipment:</b>	N/A	Sat	Att
Radiators _____	[ ]	[X]	[ ]
Convectors _____	[X]	[ ]	[ ]
2-Pipe Fan Coil _____	[ ]	[X]	[ ]
Unit Heaters _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]

<b>d. Control Type:</b>	N/A	Sat	Att
Pneu _____	[X]	[ ]	[ ]
Electric _____	[X]	[ ]	[ ]
DDC <u>CONTROL SOLUTIONS INC.</u>	[ ]	[X]	[ ]
Manual Valves _____	[ ]	[X]	[ ]

**B. COMMENTS:**

MAINTENANCE PERSONNEL COMMENTED THAT THE HEATING SYSTEM IS FUNCTIONING ADEQUATELY AT THIS TIME BUT IT IS PAST REPLACEMENT AGE AND WILL REQUIRE ATTENTION IN THE FUTURE.

**C. COMPONENT RATING:**    (\$1,813,800)    ( 60 %) = \$1,088,300  
                                  Possible      Condition      Component  
                                  Value          Value Multiplier      Value

**COOLING & VENTILATING**

FAC # 037      DATE 3/95      INSPECTOR: AJR

**A. SYSTEM DESCRIPTION**

	N/A	Sat	Att
<b>a. System:</b>			
Type <u>12 DX SYSTEMS AND 133 WINDOW AIR CONDITIONERS</u>	[ ]	[ ]	[X]
Capacity <u>TOTAL TONNAGE IS ESTIMATED TO BE 250 TONS</u>	[ ]	[ ]	[X]
<b>b. Chillers:</b>			
Centrifugal _____	[X]	[ ]	[ ]
Reciprocating <u>2 CHILLERS AT 40 TONS EACH</u>	[ ]	[X]	[ ]
Absorption _____	[X]	[ ]	[ ]
<b>c. Cooling Towers:</b>			
Type _____	[X]	[ ]	[ ]
Capacity _____	[X]	[ ]	[ ]
<b>d. Condensers:</b> <u>AIR-COOLED CONDENSERS WITH THE DX SYSTEMS</u>	[ ]	[X]	[ ]
<b>e. Space Equipment:</b>			
Direct Expansion -			
Window units <u>133 UNITS</u>	[ ]	[X]	[ ]
Thru-the-wall _____	[X]	[ ]	[ ]
Single zone _____	[ ]	[X]	[ ]
Single zone con. vol. _____	[ ]	[X]	[ ]
Other _____	[X]	[ ]	[ ]
Air/Water -			
2-pipe fan coil _____	[ ]	[X]	[ ]
Terminal reheat _____	[X]	[ ]	[ ]
Variable volume _____	[X]	[ ]	[ ]
Dual Duct _____	[X]	[ ]	[ ]
Multizone _____	[X]	[ ]	[ ]
<b>f. Special Systems:</b>			
Type _____	[X]	[ ]	[ ]
Capacity _____	[X]	[ ]	[ ]
<b>g. Control Systems:</b>			
Pneu _____	[ ]	[X]	[ ]
Electric _____	[ ]	[X]	[ ]
Electronic <u>DDC</u>	[ ]	[X]	[ ]
<b>h. Fans:</b>			
Exhaust <u>6 EXHAUST FANS LOCATED IN THE PENTHOUSE.</u>	[ ]	[X]	[ ]
Recirculating <u>10 SUPPLY FANS</u>	[ ]	[X]	[ ]

**B. COMMENTS:**

THE BUILDING COOLED BY TWO CHILLERS, 12 DX UNITS AND 133 WINDOW UNITS.

**C. COMPONENT RATING:**    (\$1,392,400)    (59 %) = \$821,500  
                                     Possible            Condition            Component  
                                     Value            Value Multiplier    Value

ELECTRICAL/SERVICE & DISTRIBUTION

FAC # 037      DATE 3/95      INSPECTOR: AJR

**A. SYSTEM DESCRIPTION**

**(a) Service:**

Substation BUCKEYE 106/304 TO TRANSFORMER WEST OF BLDG.  
Primary Voltage 13,200

Transformer:

Manufacture	Type	KVA	Secondary Voltages
<u>WESTINGHOUSE</u>	<u>SILICONE</u>	<u>1500</u>	<u>208/120</u>

**(b) Distribution System:**

Panelboard (type) CIRCUIT BREAKER  
Voltage 208/120  
Amperage 3700 AMPS  
Conduit GALVANIZED STEEL AND ALUMINUM  
Conductor COPPER  
Wire (type) VARIES  
Armored Cable LIMITED  
Other

**(c) Emergency System:**

General or (type & capacity) N/A

**B. COMMENTS:**

POWER IS PROVIDED FROM THE 1500 KVA LOCATED BETWEEN HAGERTY AND MENDENHALL. THE TRANSFORMER WAS INSTALLED DURING THE PCB REMOVAL PROGRAM IN THE LATE 1980S.

**C. COMPONENT RATING:**    (\$366,400 )    ( 75 %) = \$274,800

Possible	Condition	Component
Value	Value Multiplier	Value



**SAFETY STANDARDS**

FAC # 037      DATE 3/95      INSPECTOR: AJR

**A. SYSTEM DESCRIPTION**

	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
<b>(a) Exits:</b>			
Stair Construction:			
concrete _____	[X]	[ ]	[ ]
steel _____	[ ]	[X]	[ ]
wood _____	[X]	[ ]	[ ]
Number of exits    5	[ ]	[X]	[ ]
<b>(b) Fire Rating:</b>			
Construction Type:    I <u>X</u> II ___    III ___    IV ___    V ___    VI ___			
Building Height: <u>65</u> ft., <u>4</u> stories			
<b>(c) Extinguishing Systems:</b>			
Portable ABC TYPE THROUGHOUT THE BUILDING _____	[ ]	[X]	[ ]
Standpipe _____	[X]	[ ]	[ ]
Hose Cabinets <u>20</u> THROUGHOUT THE BUILDING _____	[ ]	[X]	[ ]
Sprinklers _____	[X]	[ ]	[ ]
Suppression _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]
<b>(d) Detection &amp; Alarm Systems:</b>			
Manual Alarm _____	[ ]	[X]	[ ]
Annunciator <u>LOCATED IN RM 5M</u> _____	[ ]	[X]	[ ]
Smoke Detectors _____	[X]	[ ]	[ ]
<b>(e) Lighting Systems:</b>			
Exit Signs <u>LIGHTED</u> _____	[ ]	[X]	[ ]
Exit Lighting <u>EXIT SIGNS</u> _____	[ ]	[X]	[ ]
Emergency Lighting <u>LOCATED IN HALLS &amp; STAIRWAYS</u> _____	[ ]	[X]	[ ]
Emergency Generator _____	[X]	[ ]	[ ]

**B. COMMENTS:**

SYSTEMS ARE ALL FUNCTIONAL AND WERE UPDATED IN THE 1970S RENOVATION.

**C. COMPONENT RATING:**    (\$109,900)    (70 %) = \$76,900  
                                     Possible                      Condition                      Component  
                                     Value                      Value Multiplier                      Value

**BUILDING PERIMETER EVALUATION**

FAC # 037      DATE 3/95      INSPECTOR: AJR

**A. SYSTEM DESCRIPTION**

	N/A	Sat	Att
1. Building Access:			
Driveway <u>LOCATED ON THE SOUTH SIDE OF THE BUILDING</u>	[ ]	[X]	[ ]
Loading Dock _____	[X]	[ ]	[ ]
Sidewalks			
Front <u>CONCRETE DETERIORATING AT HANDICAP RAMP</u>	[ ]	[ ]	[X]
Side <u>ON COLLEGE RD. WALK A TRIPPING HAZARD</u>	[ ]	[ ]	[X]
Rear _____	[ ]	[X]	[ ]
Steps			
Front <u>CRACKS NEED TO SEALED</u>	[ ]	[ ]	[X]
Side _____	[X]	[ ]	[ ]
Rear _____	[X]	[ ]	[ ]
Handicap Ramp <u>H/C ENTRANCE AT GRADE LEVEL NORTH SIDE</u>	[ ]	[ ]	[X]
2. Lawn and Landscaping:			
Lawn <u>SOUTH SIDE HAS NO GRASS OR GROUND COVER</u>	[ ]	[ ]	[X]
Shrubs <u>SOUTH AND NORTH SIDES OF THE BUILDING</u>	[ ]	[X]	[ ]
Trees <u>MATURE TREES ON THE SITE</u>	[ ]	[X]	[ ]
Undesirable Insect _____	[X]	[ ]	[ ]
Bedding Material <u>MISSING ON THE SOUTH SIDE</u>	[ ]	[ ]	[X]
Watering System _____	[X]	[ ]	[ ]
3. General Site Information:			
Signage <u>LOCATED ON THE NORTH SIDE OF THE BUILDING</u>	[ ]	[X]	[ ]
Address Identification <u>ON SIGN</u>	[ ]	[X]	[ ]
Security Lights <u>FLOOD LIGHTS AND FIXTURES AT DOORS</u>	[ ]	[X]	[ ]
Street Lights <u>ALONG ALL SIDES OF THE BUILDING</u>	[ ]	[X]	[ ]
Drainage <u>NO PROBLEMS OBSERVED</u>	[ ]	[X]	[ ]
Storm Drains _____	[ ]	[X]	[ ]

**B. COMMENTS:**

BECAUSE OF THE RENOVATION AT MENDENHALL, THE WEST SIDE OF HAGERTY HALL IS BEING DEVELOPED INTO A MALL WITH NEW LIGHTS, RETAINING WALLS AND PAVERS.

**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