

FACILITY AUDIT REPORT

DULLES HALL, Bldg 337

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Prepared by:  
The Ohio State University  
Department of Physical Facilities  
Division of Resource Management

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GENERAL BUILDING INFORMATION

DULLES HALL #337

BUILDING ADDRESS: 230 W. 17TH AVE

GROSS SQ. FT.: 40,948

NET ASSIGNABLE SQ. FT.: 20,674

MECHANICAL/CUSTODIAL AREA SQ. FT.: 6,638

YEAR OF CONSTRUCTION: 1974

YEAR OF LAST RENOVATION: N/A

NUMBER OF STORIES/BASEMENT: 3 STORIES AND BASEMENT

AIR CONDITIONING (Percentage): 80%

CURRENT USE: 69% OFFICE, 24% MECH/CUST/TOILET, 7% CLASSROOM

TYPE OF CONSTRUCTION: STEEL FRAME WITH MASONRY EXTERIOR

ESTIMATED REPLACEMENT COST: \$4,944,000

BUILDING APPEARANCE: BUILDING FINISHES AND STRUCTURE APPEAR TO BE IN GOOD  
CONDITION THROUGHOUT.

HANDICAPPED ACCESSIBILITY: WEST DOOR ON THE SOUTH SIDE OF BUILDING. ALL OF  
BUILDING IS ACCESSIBLE FROM ELEVATORS

OVERALL BUILDING CONDITION: SATISFACTORY

NUMBER OF EXIT STAIRWAYS: 2

**BUILDING SYSTEMS INFORMATION**

DULLES HALL #337

**HEATING:**

Source POWER PLANT

Type Heating System HOT WATER

Steam (Line size, valve location) NONE

Building Htg Water (line size, valve location) 5", RM 015M

**VENTILATION SYSTEM:**

4 MULTIZONE SYSTEMS

**COOLING:**

Bldg % 80 Chillers 2 ELECTRIC CENTRIFUGAL AT 209 AND 212 TONS

Window Units 0 Thru-the-wall 0 Direct exp. units 0

**HVAC CONTROL SYSTEM:** HONEYWELL - PNEUMATIC SYSTEM

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

BUCKEYE 1000 13,200/(277/480) RM 015M

**PLUMBING:**

Water (size, valve location) 3" RM 003

Gas (size, valve location) NONE

Domestic Hot Water (size, valve location) 2-1/2" RM 015M

Compressed Air (size, location) NONE

**SEWERS:** Storm COMBINED Sanitary COMBINED Combined 1 @ 10, 1 @ 8"

**METERS:**

Gas (location) NONE

Water (location) RM 03M

Electric (location) RM 015M

**ALARM SYSTEMS:**

Fire Alarm YES Panel Location RM 015M

Fire Pump NO Pump Location N/A

Sprinklers RM 150 Panel Location NONE

Other Alarms

**ELEVATORS:**

Number 2 Type (passenger, freight) PASSENGER - ELECTRIC

Manufacturer OTIS Size 3,000 LBS CAPACITY

**EMERGENCY GENERATOR:** Size NONE Location N/A

**KEY BOX LOCATION:** INSIDE SOUTH ENTRANCE TO THE LEFT

**ASBESTOS SURVEY (1986):** NO ASBESTOS INSULATION IDENTIFIED IN THE PEI REPORT

## DULLES 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 has been assumed that the program needs of the tenant departments are being met by the facility. This audit does not intend to assess the condition of those aspects of this facility that are the budgetary responsibility of tenant departments.

Audit goals and methodology are described in greater detail in the "Building Audit Methodology" section of this report.

### HISTORY

Construction of Dulles Hall was completed in December 1974. The building was constructed to function as an office building for the University Hall complex. It currently houses a number of College of Humanities administrative and faculty offices including the Department of History, the Centers for International Studies, Women's Studies, Comparative Studies, and Medieval and Renaissance Studies. Facility use is 69% Office, 24% Mechanical/Custodial/ Toilet, and 7% Classroom from the classroom pool.

### PRIMARY SYSTEMS

The building is composed of a structural steel frame resting upon a cast-in-place concrete foundation. Exterior walls are constructed of concrete block with a brick exterior veneer. It has three stories and a basement. Floors are concrete cast on a metal deck supported by steel I-beams. The roof consists of lightweight insulating concrete that is supported by a steel deck and I-beams. The roof is covered with asphalt built-up roofing and gravel.

Roof coverings are beginning to age. The 1991 Roofing Analysis Report prepared by the Physical Facilities Programmed Maintenance Shop listed a total of 18 roof leaks over an 11-year period. A large section of roof immediately to the west of the penthouse has been patched and is not covered with gravel, as well as, several other smaller patches observed during our inspection. The third floor ceiling exhibits a number of water stained tiles. Maintenance personnel interviewed stated that they have had problems with leaks in this building but believe that these problems have been corrected recently. There are no ridges and only one small blister. The roof does not appear to require replacement at this time.

The exterior brick is in good condition. The exterior brick veneer was constructed with both expansion joints and weep holes. We did not observe any exterior cracks or structural misalignment. There are two public entries to the building. The exterior doors and windows are composed of aluminum frames and single pane glazing. The windows are the casement-type. They appear to be in serviceable condition. We observed some wear on the doors at the two public entrances resulting from the doors rubbing.

## SECONDARY SYSTEMS

Interior partitions consist of block or metal stud and drywalled walls. The walls are in good condition throughout most of the building. The south building entryway area and one of the stairways should be repainted but the rest of the wall finishes are in fair condition. Most of the basement walls and the stairway walls are constructed of concrete block. The stairway walls exhibit some minor cracking but no structural problems are indicated in this case.

Corridor floors are covered with vinyl tile and are in good condition.

Ceilings are predominantly suspended mineral fiber 2' x 4' panels with a vinyl finish. The south lobby and east entry area have heavily-textured, 2' x 2' ceiling tiles. The 2' x 4' tiles in the basement have a number of gouges and dirty smudges. Ceilings throughout the rest of the building are in good condition with the exception of a few stained tiles on the third floor.

## SERVICE SYSTEMS

The building has two passenger elevators with handicapped-accessible controls. The interior finishes are beginning to age but the elevators do not require rehabilitation.

Air conditioning and ventilation is provided by a multizone dual-duct system. Chilled water for cooling is provided by a centrifugal chiller in the basement that services both Dulles and University Halls. Air conditioning appears to be functioning adequately. There is an additional centrifugal chiller in the basement that was installed as a back-up for the prime chiller. There are two cooling towers located to the west of the building. One tower was operating in conjunction with the operating chiller. The chiller and cooling tower both appeared to be running smoothly when inspected. The EMA work order system yielded only minor problems over the 6-month period that we surveyed. Building occupants stated that heating and cooling is often slow to respond to marked weather changes. They also commented that temperatures vary within the building from zone to zone. Maintenance personnel reported that the pneumatic control system is slow to respond to weather changes and that the building is scheduled for conversion to direct digital control. They asserted that this will alleviate some of these problems.

Building heating is primarily accomplished with multizone system. Additional heat is supplied by unit heaters in the entryways and stairwells. Occupants and maintenance personnel did not identify any problems with the system at this point.

Occupants and maintenance personnel interviewed agreed that the domestic hot water system is adequate and there were no major complaints about the plumbing. Plumbing fixtures are in good condition throughout the building.

## ELECTRICITY

The building transformer has a primary voltage of 13,200, secondary voltage of 480/277 and a 1000 KVA capacity. Peak demand on July 16, 1991 was calculated to be 30% of available electrical capacity. The main and branch panels have spare capacity available.

Fluorescent lighting is used throughout the building except the two entry areas. Both of these areas are lighted with incandescent can-type lights that are recessed in the ceilings. There were no signs of overloaded circuits. Lighting and

electrical power availability appear to be adequate.

#### SAFETY STANDARDS

The building is equipped with a manual fire alarm system and smoke detectors in the HVAC ducts. There are sprinklers in the trash room. Fire suppression equipment consists solely of portable fire extinguishers throughout the rest of the building. There are lighted exit signs throughout and emergency lights in the stairways and some hallways. Both public entries to the building are at ground level and the south door is equipped with an electric opener for the handicapped. The rest of the building is handicapped accessible via the two elevators adjacent to the handicapped accessible entry. We observed a number of broken chairs in the basement hallway. The Programmed Maintenance Shop was requested to determine disposition of the furniture.

#### 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, did not identify any asbestos as a result of testing in the building.

#### BUILDING PERIMETER

Dulles Hall is located at the intersection of West 17th Ave and Bohannon Ave. There are a number of mature trees and shrubs on the building site. One of the larger trees, located to the north-east of the building was losing its leaves in mid-July when the site was surveyed and appears to have some sort of insect infestation. There are several patches of dead or dormant grass and some wilted bushes probably succumbing to the extremely dry late spring and summer conditions of this year. Sidewalks and street lights are in good condition. There is a loading dock serviced by a driveway on the north side of the building. The driveway and loading dock is in acceptable condition. The building equipment room is accessed by a set of stairs leading down to a well on the rear of the building. There was an accumulation of leaves that should be cleaned out.

#### CONCLUSION

Dulles Hall is still a fairly new building and is in generally good condition. Deficiencies at this point in time are limited to a deteriorating roof and soiled ceilings in two high use areas. While the roof has had a number of leaks over the years, there do not appear to be enough problems to warrant replacement at this point in time.

PROPOSED MAINTENANCE PROJECTS

FOSTER RHEA DULLES HALL #337

(R&R OR CAPITAL FUNDED)

A. Corrective Maintenance Projects:

NO PROJECTS IDENTIFIED AT THIS TIME

B. Building Improvement/Addition Project:

NO PROJECTS IDENTIFIED AT THIS TIME

C. Projected (over the next 5 yrs) Component Replacement Projects:

NO PROJECTS IDENTIFIED AT THIS TIME

D. Maintenance Projects (LESS THAN \$5000)

1. Repair/adjust entry doors on south and east sides of building.
2. Clean ceiling tile in basement.
3. Clean carpet in room 027 (pool classroom).
4. Clean air diffusers throughout building.
5. Refinish restroom doors.
6. Install telephones in two elevators.
7. Caulk cracks and paint east stairway.
8. Paint south lobby area walls.

**BUILDING EVALUATION SUMMARY**

**I. BUILDING INFORMATION**

FAC # 337 FACILITY NAME: FOSTER RHEA DULLES HALL  
 YEAR CONSTRUCTED: 1974  
 GROSS SQ FT: 40,948 NET SQ FT: 20,675  
 REPLACEMENT COST \$ 4,202,500

**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	4.6	193,315	.95	183,649
Columns and Beams	13.4	563,135	.95	534,978
Exterior Walls	9.6	403,440	.93	375,199
Windows & Doors	2.6	109,265	.91	99,431
Roofing	2.1	88,253	.74	65,307
Partitions & Drs.	8.0	336,200	.91	305,942
Wall Finishes	3.0	126,075	.84	105,903
Floor Finishes	8.6	361,415	.84	303,589
Ceilings & Finish	8.4	353,010	.71	250,637
Conveying	4.2	176,505	.82	144,734
Plumbing	2.5	105,063	.84	88,253
Heating	included in Cooling and Ventilation			
Cooling & Vent.	18.7	785,868	.85	667,988
Elec. Ser. & Dist	1.5	63,038	.97	61,147
Lighting & Power	12.1	508,503	.78	396,632
Safety Standards	0.7	29,418	.80	23,534
TOTALS	100.0	4,202,500	0.86	3,606,923

**III. BUILDING RATING SUMMARY**

**Overall Building Rating = 86%**

\* Replacement Cost assigned January 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.





**EXTERIOR WALLS**

FAC # 337      DATE 7/8/91      INSPECTOR: JPH

**A. SYSTEM DESCRIPTION**

<b>a. Walls:</b>	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
Concrete _____	[X]	[ ]	[ ]
Masonry <u>BRICK VENEER ON CONCRETE BLOCK</u>	[ ]	[X]	[ ]
Metal Siding <u>ALUMINUM SKIN ON EXTERIOR OF PARAPET</u>	[ ]	[X]	[ ]
Wood Siding _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]
<b>b. Finishes:</b>			
Stucco _____	[X]	[ ]	[ ]
Paint _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]

**B. COMMENTS:**

GOOD CONDITION.

**C. COMPONENT RATING:**     $\frac{(\$403,400)}{\text{Possible Value}} \times \left( \frac{93\%}{\text{Condition Value Multiplier}} \right) = \underline{\$375,200}$      $\frac{\text{Component Value}}$

**EXTERIOR WINDOWS & DOORS**

FAC # 337      DATE 7/8/91      INSPECTOR: JPH

**A. SYSTEM DESCRIPTION**

<b>a. Windows type &amp; number:</b>	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
Wood _____	[X]	[ ]	[ ]
Steel _____	[X]	[ ]	[ ]
Alum <u>81 CASEMENT TYPE</u>	[ ]	[X]	[ ]
Other _____	[X]	[ ]	[ ]
 <b>b. Window glazing:</b>			
Single pane _____	[ ]	[X]	[ ]
Double pane _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]
 <b>c. Doors type &amp; number:</b>			
Wood _____	[X]	[ ]	[ ]
Steel <u>1 SET OF DOUBLE AND 2 SINGLE DOORS</u>	[ ]	[X]	[ ]
Alum <u>2 SETS OF DOUBLE DOORS WITH GLAZING</u>	[ ]	[X]	[ ]
Other _____	[X]	[ ]	[ ]
 <b>d. Shading Devices:</b>			
Types <u>ARCHITECTURAL - PROJECTED WINDOW WELLS</u>	[ ]	[X]	[ ]

**B. COMMENTS:**

RUBBING ENTRY DOORS AT EAST AND SOUTH ENTRYWAYS.

**C. COMPONENT RATING:**     $\frac{(\$109,300)}{\text{Possible Value}} \times \left( \frac{91\%}{\text{Condition Value Multiplier}} \right) = \frac{\$99,400}{\text{Component Value}}$





**WALL FINISHES**

FAC # 337      DATE 7/8/91      INSPECTOR: JPH

<b>A. SYSTEM DESCRIPTION</b>	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
a. Paint <u>THROUGHOUT</u>	[ ]	[ ]	[X]
b. Wall Coating _____	[X]	[ ]	[ ]
c. Wall Coverings <u>ELEVATOR AREAS</u>	[ ]	[X]	[ ]
d. Paneling			
Prefinished	[X]	[ ]	[ ]
Plank	[X]	[ ]	[ ]
e. Cork _____	[X]	[ ]	[ ]
f. Wallpaper _____	[X]	[ ]	[ ]
g. Ceramic Tile _____	[X]	[ ]	[ ]
h. Trim & Wainscot _____	[X]	[ ]	[ ]
i. Decoration _____	[X]	[ ]	[ ]
j. Glass _____	[X]	[ ]	[ ]
k. Other _____	[X]	[ ]	[ ]

**B. COMMENTS**

FINISHES ARE IN GOOD CONDITION. WALLS IN SOUTH ENTRY LOBBY AND EAST STAIRWELL WOULD BENEFIT FROM PAINTING.

**C. COMPONENT RATING:**     $\frac{(\$126,100)}{\text{Possible Value}} \times \left( \frac{84\%}{\text{Condition Value Multiplier}} \right) = \frac{\$105,900}{\text{Component Value}}$

**FLOOR FINISHES**

FAC # 337      DATE 7/8/91      INSPECTOR: JPH

**A. SYSTEM DESCRIPTION**

	N/A	Sat	Att
<b>a. Carpet:</b>			
Rolled <u>POOL CLASSROOMS - STAINED CARPET (RM 027)</u>	[ ]	[ ]	[X]
Tile _____	[X]	[ ]	[ ]
<b>b. Composition:</b>			
Epoxy _____	[X]	[ ]	[ ]
Synthetic _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]
<b>c. Concrete Topping:</b>			
Clear Sealant <u>MECHANICAL ROOM IN BASEMENT (RM 015M)</u>	[ ]	[X]	[ ]
Abrasive _____	[X]	[ ]	[ ]
Epoxy _____	[X]	[ ]	[ ]
Aggregate _____	[X]	[ ]	[ ]
<b>d. Resilient:</b>			
Vinyl Tile <u>PREDOMINANT</u>	[ ]	[X]	[ ]
Linoleum _____	[X]	[ ]	[ ]
Vinyl _____	[X]	[ ]	[ ]
Rubber _____	[X]	[ ]	[ ]
Cork _____	[X]	[ ]	[ ]
<b>e. Ceramic Tile</b> <u>RESTROOMS</u>	[ ]	[X]	[ ]
<b>f. Masonry</b> _____	[X]	[ ]	[ ]
<b>g. Terrazzo</b> _____	[X]	[ ]	[ ]
<b>h. Wood</b> _____	[X]	[ ]	[ ]
<b>i. Metal</b> _____	[X]	[ ]	[ ]

**B. COMMENTS**

VINYL TILE FLOORS ARE IN GOOD CONDITION. STAINS ON CARPET IN POOL CLASSROOM IN BASEMENT. CARPET SHOULD BE CLEANED.

**C. COMPONENT RATING:**     $\frac{(\$361,400)}{\text{Possible Value}} \times \left( \frac{84\%}{\text{Condition Value Multiplier}} \right) = \frac{\$303,600}{\text{Component Value}}$



**CONVEYING**

FAC # 337      DATE 7/8/91      INSPECTOR: JPH

**A. SYSTEM DESCRIPTION**

**a. Elevators:**

	N/A	Sat	Att
Number <u>TWO (2)</u>	[X]	[ ]	[ ]
Type <u>OTIS, PASSENGER, ELECTRIC</u>	[X]	[ ]	[ ]
Speed <u>300 FPM</u>	[ ]	[X]	[ ]
Capacity (lbs) <u>3000</u>	[ ]	[X]	[ ]
Dimensions <u>5'4" X 6'8"</u>	[ ]	[X]	[ ]
Door Operation:			
Center <u>YES</u>	[X]	[ ]	[ ]
To Side <u>NO</u>	[X]	[ ]	[ ]

**b. Lifts and Hoists:**

Number <u>NONE</u>	[X]	[ ]	[ ]
Type _____	[X]	[ ]	[ ]

**c. Moving Stairs and Walks:**

Number <u>NONE</u>	[X]	[ ]	[ ]
Type _____	[X]	[ ]	[ ]

**d. Conveyors:**

Number <u>NONE</u>	[X]	[ ]	[ ]
Type _____	[X]	[ ]	[ ]

**e. Pneumatic Tubes:**

Number <u>NONE</u>	[X]	[ ]	[ ]
Type _____	[X]	[ ]	[ ]

**B. COMMENTS:**

NO TELEPHONES IN ELEVATORS.

**C. COMPONENT RATING:**     $\frac{(\$176,500)}{\text{Possible Value}} \times \left( \frac{82\%}{\text{Condition Value Multiplier}} \right) = \frac{\$144,700}{\text{Component Value}}$



**MECHANICAL/HEATING**

FAC # 337      DATE 7/8/91      INSPECTOR: JPH

**A. SYSTEM DESCRIPTION**

<b>a. Heat Source:</b>	N/A	Sat	Att
Central Plant Steam _____	[X]	[ ]	[ ]
Central Plant Hot Water <u>5" SUPPLY LINE - RM 015M</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>MULTIZONE HEATING COILS &amp; CABINET-TYPE HEATERS</u>	[ ]	[X]	[ ]
Air <u>HEATING SUPPLIED BY MULTIZONE HVAC SYSTEM</u>	[ ]	[X]	[ ]
Electric _____	[X]	[ ]	[ ]
Solar _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]

<b>c. Space Equipment:</b>	N/A	Sat	Att
Radiators _____	[X]	[ ]	[ ]
Convectors _____	[X]	[ ]	[ ]
Finned Tube _____	[X]	[ ]	[ ]
Baseboard _____	[X]	[ ]	[ ]
2-Pipe Fan Coil _____	[X]	[ ]	[ ]
Unit Heaters <u>STAIRWAYS AND ENTRYWAYS</u>	[ ]	[X]	[ ]
Multizone <u>PREDOMINANT</u>	[ ]	[X]	[ ]
Double Duct _____	[X]	[ ]	[ ]
Terminal Reheat _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]

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

**B. COMMENTS:**  
NO PROBLEMS OBSERVED OR REPORTED.

**C. COMPONENT RATING:**     $(\$ * \underline{\hspace{2cm}}) \times (\underline{\hspace{2cm}} * \% ) = \$ *$   
                                   Possible                    Condition            Component  
                                   Value                    Value Multiplier    Value

\* INCLUDED IN COOLING AND VENTILATION

**COOLING & VENTILATING**

FAC # 337                  DATE 7/8/91                  INSPECTOR: JPH

**A. SYSTEM DESCRIPTION**

	N/A	Sat	Att
<b>a. System:</b>			
Type <u>MULTIZONE</u>	[ ]	[X]	[ ]
Capacity <u>212 TONS WITH 209 TONS BACK-UP AVAILABLE</u>	[ ]	[X]	[ ]
<b>b. Chillers:</b>			
Centrifugal <u>2 ELECTRIC, TRANE INSTALLED - 1974</u>	[ ]	[X]	[ ]
Reciprocating _____	[X]	[ ]	[ ]
Absorption _____	[X]	[ ]	[ ]
<b>c. Cooling Towers:</b>			
Type <u>2 MARLEY COOLING TOWERS MODELS 8606</u>	[ ]	[X]	[ ]
Capacity <u>220 TONS EACH</u>	[ ]	[X]	[ ]
<b>d. Condensers:</b>	[X]	[ ]	[ ]
<b>e. Space Equipment:</b>			
Direct Expansion -			
Window units _____	[X]	[ ]	[ ]
Thru-the-wall _____	[X]	[ ]	[ ]
Single zone _____	[X]	[ ]	[ ]
Single zone con. vol. _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]
Air/Water -			
2-pipe fan coil _____	[X]	[ ]	[ ]
Unit ventilators _____	[X]	[ ]	[ ]
Terminal reheat _____	[X]	[ ]	[ ]
Multizone <u>4 ZONES (1 PER FLOOR)</u>	[ ]	[X]	[ ]
Dual Duct _____	[X]	[ ]	[ ]
<b>f. Special Systems:</b>			
Type _____	[X]	[ ]	[ ]
Capacity _____	[X]	[ ]	[ ]
<b>g. Control Systems:</b>			
Pneu _____	[ ]	[X]	[ ]
Electric <u>JC-80 SYSTEM</u>	[ ]	[X]	[ ]
Electronic _____	[X]	[ ]	[ ]
<b>h. Fans:</b>			
Exhaust <u>8 EXHAUST FANS</u>	[ ]	[X]	[ ]
Recirculating _____	[ ]	[X]	[ ]

**B. COMMENTS:**

CHILLERS HAVE BOTH BEEN REBUILT. SYSTEM IS SLOW TO RESPOND TO OUTSIDE TEMPERATURE CHANGES. UTILITIES REPORTS THIS IS SYMPTOMATIC OF PNEUMATIC CONTROL SYSTEMS. THEY COMMENTED THAT DULLES WILL BE CONVERTED TO DDC WITHIN THE NEXT 2 YEARS AND THE PROBLEM WILL BE ALLEVIATED.

**C. COMPONENT RATING:**    (\$785,900 ) X ( 85 % ) = \$668,000

Possible	Condition	Component
Value	Value Multiplier	Value

**ELECTRICAL/SERVICE & DISTRIBUTION**

FAC # 337      DATE 7/8/91      INSPECTOR: JPH

**A. SYSTEM DESCRIPTION**

**(a) Service:**

Substation BUCKEYE  
Primary Voltage 13,200 VOLTS  
Transformer:  
    Manufacture      Type      KVA      Secondary Voltages  
    NIAGARA      DRY      1000      480/277

**(b) Distribution System:**

Panelboard (type) CIRCUIT BREAKER  
Voltage 480/277 AND 120 VOLT  
Amperage PANELS VARY FROM 1200A @ 480V TO 225A @ 120V  
Conduit ALUMINUM AND STEEL  
Conductor COPPER  
Wire (type) VARIES  
Armored Cable NO  
Other N/A

**(c) Emergency System:**

General or (type & capacity) NONE

**B. COMMENTS:**

CAPACITY IS MORE THAN ADEQUATE AS SUPPLIED.

**C. COMPONENT RATING:**     $\frac{(\$63,000)}{\text{Possible Value}} \times \left( \frac{97\%}{\text{Condition Value Multiplier}} \right) = \frac{\$61,400}{\text{Component Value}}$





**BUILDING PERIMETER EVALUATION**

FAC # 337      DATE 7/8/91      INSPECTOR: JPH

**A. SYSTEM DESCRIPTION**

	N/A	Sat	Att
1. Building Access:			
Driveway <u>NORTH SIDE OF BUILDING</u>	[ ]	[X]	[ ]
Loading Dock <u>NORTH SIDE OF BUILDING</u>	[ ]	[X]	[ ]
Sidewalks			
Front <u>SOUTH - CONCRETE</u>	[ ]	[X]	[ ]
Side <u>EAST SIDE OF BUILDING</u>	[ ]	[X]	[ ]
Rear _____	[X]	[ ]	[ ]
Steps			
Front <u>ENTRIES ARE AT GRADE LEVEL</u>	[X]	[ ]	[ ]
Side _____	[X]	[ ]	[ ]
Rear _____	[X]	[ ]	[ ]
Handicap Ramp _____	[X]	[ ]	[ ]
2. Lawn and Landscaping:			
Lawn _____	[ ]	[X]	[ ]
Shrubs _____	[ ]	[X]	[ ]
Trees <u>SEE BELOW</u>	[ ]	[ ]	[X]
Undesirable Insect <u>LARGE TREE TO NORTH EAST OF BLDG</u>	[ ]	[ ]	[X]
Bedding Material _____	[ ]	[X]	[ ]
Watering System _____	[X]	[ ]	[ ]
3. General Site Information:			
Signage _____	[ ]	[X]	[ ]
Address Identification _____	[ ]	[X]	[ ]
Security Lights _____	[ ]	[X]	[ ]
Street Lights _____	[ ]	[X]	[ ]
Drainage _____	[ ]	[X]	[ ]
Storm Drains _____	[ ]	[X]	[ ]

**B. COMMENTS:**

LEAVES IN ENTRANCE TO BASEMENT MECHANICAL ROOM. TREE APPEARS TO BE DYING AT NORTHEAST CORNER OF BUILDING.

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 172 OSU buildings that the Department of Physical Facilities bears budgetary responsibility for. These audits will be used to establish repair and renovation projects, budget cost estimates for these projects, and overall levels of required maintenance funding.

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. This building replacement cost is allocated to each building component to provide an estimated value for each component. Project cost estimates will exceed the building component values in most situations because of tear-out, handling and site limitations that occur in building component replacement projects.

5. DATA USAGE

**Repair and Renovation Projects:** provided to assist in the budgeting process for the Department of Physical Facilities.

**Building Evaluation:** provided to give a numerical rating for each building on campus quantifying its percentage of deficiency.

6. 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 not included.
- (b) Includes exterior building walls and attached items.
- (c) Includes the first step up at all entries. Ramps outside the buildings are included; the steps and walks up to the ramps are not included.
- (d) Blinds, drapes, light bulbs, and movable furniture are 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

BLDG.....	BUILDING
BUR.....	BUILT UP ROOF
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
HVAC.....	HEATING, VENTILATING AND AIR CONDITIONING SYSTEM
KV.....	KILOVOLTS
KVA.....	KILOVOLTS AMPS
KW.....	KILOWATTS
LC.....	LIQUID COOLED
MZ.....	MULTIZONE AIR HANDLING SYSTEM
N/A.....	NOT APPLICABLE
PSI.....	POUNDS PER SQUARE INCH
RM.....	ROOM
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