

**FACILITY AUDIT REPORT**

**CUNZ HALL**

**#293**

**AUGUST 1996**

**Prepared by:** Jack O'Dea Jr.  
The Ohio State University  
Department of Physical Facilities  
Division of Resource Management

**CUNZ HALL**  
**Table of Contents**

EXECUTIVE SUMMARY ..... 3

GENERAL BUILDING INFORMATION ..... 4

BUILDING SYSTEMS INFORMATION ..... 5

NARRATIVE ..... 6

NEW BUILDING EVALUATION SUMMARY ..... 14

    FOUNDATIONS ..... 15

    COLUMNS & BEAMS ..... 16

    EXTERIOR WALLS ..... 17

    EXTERIOR WINDOWS & DOORS ..... 18

    ROOFING ..... 19

    PARTITIONS & DOORS ..... 20

    WALL FINISHES ..... 21

    FLOOR FINISHES ..... 22

    CEILINGS & FINISHES ..... 23

    CONVEYING ..... 24

    MECHANICAL/PLUMBING DOMESTIC ..... 25

    MECHANICAL/HEATING ..... 26

    COOLING & VENTILATING ..... 27

    ELECTRICAL/SERVICE & DISTRIBUTION ..... 28

    ELECTRICAL/LIGHTING & POWER ..... 29

    SAFETY STANDARDS ..... 30

    BUILDING PERIMETER EVALUATION ..... 31

BUILDING AUDIT METHODOLOGY ..... 32

ABBREVIATIONS ..... 34

APPENDIX ..... 35

    Reduced Scale Building Floor Plans ..... 35

    C-1 Building Space Assignments ..... 35

## EXECUTIVE SUMMARY FOR CUNZ HALL

Cunz Hall was constructed in 1968. No additions have been made to the original building in its 28-year life. It was originally built to house the language departments and is still used for that purpose. The only major work completed in the building was an energy conservation program in 1978/79, and in 1991 when the cooling tower was replaced and a new R-11 chiller was installed. Some of the fixed windows were revised in 1978 to add a swing-out casement panel to provide outside rooms with fresh air.

All major maintenance on this building has been deferred over the last 28 years; consequently, several building components and equipment have exceeded their expected life. The roof needs to be replaced within the next two to five years and the caulking between the precast panels needs to be replaced as soon as possible to prevent damage to structural fasteners. The exterior building walls need to be cleaned and the concrete sealed. HVAC equipment such as the air handling units, hot water steam converters and miscellaneous exhaust fans need to be replaced in the next five to ten years. The elevator needs to be upgraded to meet current code requirements.

### PROPOSED MAINTENANCE PROJECTS

#### CUNZ HALL #293

##### A. Corrective Maintenance Projects:

		Control No
1. Clean the 1st floor exterior concrete walls, epoxy seal all cracks and weather seal the walls.	\$ 24,000	3115
2. Re-seal joints between precast parapet on 4th floor and remove the wall anchor patches and repatch.	\$ 7,500	3116
3. Replace all of the caulking seals in precast panel joints and clean and treat exterior concrete panels with a weather sealant.	\$ 72,000	1253*
4. Clean all light fixtures, registers and ceiling tile.	\$ 10,000	3117
5. Replace the BUR roof covering.	\$146,500	1600*
	<b>Sub Total</b>	<b>\$260,000</b>

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

1. Replace Carpet in office areas.	\$ 40,000	3118
2. Replace windows with insulated glass.	\$186,900	1701*
3. Insulate exterior walls to an R-7 Rating.	\$155,400	1702*
4. Upgrade the Elevator to meet code requirements.	\$ 75,000	1959
5. Install a 3" Backflow preventer in the domestic water line.	\$ 7,500	
	<b>Sub Total</b>	<b>\$464,800</b>

##### C. Building Component Replacements expected within the next 5 to 10 years:

1. Modify the R-11 chiller with R-123 refrigerant.	\$ 50,000	3119
2. Paint the penthouse metal siding and doors.	\$ 10,300	3120
3. Replace the Air Handling Units and the Exhaust Fans.	\$178,600	3121
4. Replace the steam PRV Station, Condensate Water Return and the Hot Water Converter and Pumps.	\$ 73,000	3122
	<b>Sub Total</b>	<b>\$311,900</b>

##### Total Cost for all Projects

**\$1,036,700**

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

\*\* These projects are currently on our departmental project list as proposed projects and have had the costs increased to reflect today's prices.

GENERAL BUILDING INFORMATION

CUNZ HALL #293

BUILDING ADDRESS: 1841 MILLIKIN ROAD

GROSS SQ. FT.: 66,260

NET ASSIGNABLE SQ. FT.: 33,501

MECHANICAL/CUSTODIAL AREA SQ. FT.: 9,117

YEAR OF CONSTRUCTION: 1968

YEAR OF LAST RENOVATION: N/A

NUMBER OF STORIES/BASEMENT: 4 STORIES PLUS A PENTHOUSE, NO BASEMENT.

AIR CONDITIONING (Percentage): 95%

CURRENT USE: LANGUAGE DEPARTMENTS (OFFICES AND CLASSROOMS).

TYPE OF CONSTRUCTION: REINFORCED CONCRETE WITH PRE-CAST PANELS.

ESTIMATED REPLACEMENT COST: \$ 9,342,000 \*

REPLACEMENT COST PER GROSS SQUARE FEET: \$140.99

WHEELCHAIR ACCESSIBILITY: YES, THROUGH THE SOUTH DOOR WHICH IS ACROSS FROM THE ELEVATOR THAT PROVIDES ACCESS TO THE OTHER FLOORS. THE ACCESSIBLE RESTROOMS ARE ON THE 2ND FLOOR NEXT TO THE ELEVATOR.

OVERALL BUILDING CONDITION: SATISFACTORY \*\*

NUMBER OF EXIT STAIRWAYS: TWO

NUMBER OF EXITS: TWO

AREA SHOP RESPONSIBILITY: SOUTH

\* Replacement Cost assigned September 1995 by The Office of University Resource Planning & Institutional Analysis.

\*\* The Office of University Resource Planning & Institutional Analysis C-1 Report Condition Code.

**BUILDING SYSTEMS INFORMATION**

**CUNZ HALL #293**

**HEATING:**

Source POWER PLANT HIGH PRESSURE STEAM

Type Heating System HOT WATER

Main Steam Feed (Line size, valve location) 4" IN ROOM 107M

Building Htg. Water (line size, valve location) 6" IN ROOM 500M

**VENTILATION SYSTEM:** POWER EXHAUST AND OUTSIDE AIR TO AHU'S

**COOLING:**

BLDG % 95 Chillers YORK R-11, 1992, ABSORPTION UNIT 1968, RM 500M

Window Units \_\_\_\_\_ Thru-the-wall \_\_\_\_\_ Direct exp. units LEIBERT UNIT 143

**HVAC CONTROL SYSTEM:** PNEUMATIC, ELECTRIC AND DDC

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

1. CIRCUIT 106/304 1000 208/120 IN ROOM 500M ROOM 500M

**PLUMBING SERVICES:**

Water (size, valve location) 6" IN ROOM 135M

Gas (size, valve location) N/A

Domestic Hot Water (size, valve location) 1-1/2" IN ROOM 500M

Compressed Air (size, location) 3/4" IN ROOM 500M

**SEWERS:** Storm 10" TO THE SOUTH Sanitary 6" TO THE WEST Combined Storm/San.

**METERS:**

Gas (size, location) N/A

Water (size, location) 4" IN ROOM 135M

Electric (size, location) IN ROOM 500M

**ALARM SYSTEMS:**

Fire Alarm, Main Panel Room 500M, Remote Panel Location Room

Fire Pump @ \_\_\_\_\_ GPM,  Riser 6", Pump Location, Room

Sprinkler, Valve Location Room 135M,  100%,  Partial,  Limited

Horns/Strobes,  Bells in  Halls,  Rooms

Other Alarms REMOTE ALARMED #34, FA-1

**ELEVATORS:**

Number ONE Type (passenger, freight) PASSENGER

Manufacturer OTIS Size 53D x 77W

**EMERGENCY GENERATOR:** Size N/A Location \_\_\_\_\_

**ASBESTOS SURVEY (1986):** LOCATED ON STEAM LINES AND CONVERTER IN RM 500M & 107M

## CUNZ HALL NARRATIVE

### HISTORY

Cunz Hall was constructed in 1968. No additions have been made to the original building in its 28-year life. It was originally built to house the language departments and is still used for that purpose. The only major work completed in the building was in 1978/79 for an energy management program when the controls on the HVAC system were modified. Some of the fixed windows were replaced with a swing-out casement window to provide the outside rooms with some fresh air at that time. In 1991 the cooling tower was replaced and a new 250 Ton R-11 chiller was installed. Cunz Hall was originally designed to be seven stories in height, but was only built as a 4-story building. An additional 30,000 square feet of building area could be added to Cunz Hall if the need existed.

In an interview with the building coordinator an occupant since 1972, it was learned that the temperature in the building has been much better since the new chiller was installed in 1992. Other comments are addressed in the report and occupants are satisfied with the building although overcrowding is beginning to become evident.

A review of the work orders indicated that there are a normal number of emergency and maintenance calls to the building. However, more than normal routine maintenance problems are beginning to show up in plumbing, condensate piping, lighting, temperature control and door hardware problems.

The building is functioning as originally designed and has held up relatively well over its 28 years of service. There are general maintenance projects, which need to be completed within the next two years to repair normal wear items. Little has been done in the way of major cleaning or redecorating in some offices. The ceiling fixtures and grid are yellow from accumulated dirt, some ceiling tiles require cleaning or replacement, diffusers and grills need to be cleaned and the carpets in several offices need to be cleaned and/or replaced. These items when completed will protect and enhance the building performance and create a satisfying visual environment for students, faculty, staff and visitors.

Occupancy of the building reported by The Office of University Resource Planning & Institutional Analysis in the C-1 Building Space Assignment Report dated June 30, 1996 shows a Net Assignable Area of 44,329 SF and is broken down as follows; Faculty and Staff offices 52.7%, Custodial/toilet/Mechanical 17.9%, General Administration 12.1%, Classrooms 11.7%, Unfinished 2.5% and General research 1.4%. Common areas such as lobbies, halls, and stairs account for the balance of 21,931 SF. or 33.1% of total 66,250 Gross SF.

### PRIMARY SYSTEMS

This structure consists of reinforced concrete footers on piles, concrete perimeter and core walls, columns and beams and floors to form the basic skeletal components of this four story building. Reinforced concrete walls, columns, beams and one way joist and waffle slab floors form the basic structure up to the second floor level. The upper three floors consist of open reinforced concrete columns and beams with one way joist slab type floors to the flat roof deck. The penthouse was built atop the roof and consists of steel perimeter wall panels with steel columns and beams that support the penthouse steel flat roof.

The cast in place concrete floors, walls, columns and beams appear to be in good condition, there are no major signs of settlement or movement in these areas. However, some minor settlement cracks in block walls and fineline cracking in the concrete perimeter walls were noted, which need to be attended to. The equipment room floors appear to be in good condition, however, some cracking has occurred due to settlement and shrinkage in the floor. The cracks need to be patched with an epoxy sealant and sealed over with an epoxy paint.

The first floor exterior closure consists of poured-in-place concrete that has some vertical cracks (less than 1/8 inch in width) that should be repaired. The 2nd through 4th floors have pre-cast concrete panels and single glazed windows. The panels are joined with mechanical fasteners and caulked at joints to prevent moisture penetration. While there are no signs of any deterioration of these panels at this time, water stains were observed on vertical sections and from weep tubes indicating water infiltration behind the panels and possibly into the building and/or fastener systems. These panels need to be cleaned and sealed and have all of the joints caulked as soon as possible to prevent possible damage to the system.

The roofing is the original roof that has been patched many times in different places. No leaks were currently observed, however, interviews indicated ongoing problems with roof leaks. The drywall above the steam station has deteriorated due to roof and/or condensation problems in the roof above. There are some tunnel blisters, alligator cracking, blistering and worn felt over several areas of the roof, especially on the 5th floor penthouse roof area. Both the penthouse and lower roofs need to be replaced within the next 2 to 5 years.

The parapet on the 4th floor roof is a pre-cast concrete panel above the exterior walls. There has been deterioration in the caulking between panels and at the bolting attachment cover patch. Water entering these areas could cause failure of the connectors between adjacent precast panels. All cover patches and open joints in the parapet need to be replaced at this time.

#### **INTERIOR SYSTEMS**

The interior perimeter walls are in good to fair condition, however some water staining was noted on walls not recently painted. These stains appear to be caused by two different sources. Condensate forms inside on the exterior walls during the winter because of the lack of any wall insulation and the building being humidified. Some moisture comes through the concrete panels at compromised caulking joints during rain storms. There is currently a proposed project to re-seal the pre-cast panel joints and to water seal the concrete panels. It is recommended that some consideration be given to a project to insulate the building walls between the heaters and opaque glass panels and to install insulated glass windows.

The partitions, doors, walls, floors, and ceilings have held up well over 28 years of use and are still in good functional condition. The interior walls are concrete block, steel Demountable partition walls or drywall with metal studs. The first floor has concrete or concrete block walls. The 2nd through 4th floors are primarily metal partitions with baked enamel paint that has been recently painted. Some areas need to be cleaned or have touch-up painting. The restroom walls and floors are ceramic tile. A small section of tile was missing over the urinal flush valve in restroom 407t and the chase wall access panel was bent out of place. These need to be repaired.

The office doors are primarily wood with steel frames. Steel fire doors are located at floor exits on 2 to 4 and to the north and south wings on the first floor since the stairwell is open. The east second floor fire door and the west door on the east side leading to the north corridor need to be adjusted because they hang open. The center hinge on the fire door at room 237M needs to be reinstalled. All of the fire door hardware needs to be checked and adjusted as necessary since many handles and linkages are loose.

The ceiling, light fixtures and registers are in good condition but need to be cleaned along with the ceiling tile and grid system. This would help brighten up the interior.

The hall and classroom floors are primarily vinyl tile that has been well maintained. Most of the office areas have carpet that is stained, dirty, and worn and in some areas create a tripping hazard. Some areas have had the carpet replaced, however, original carpet should be replaced at this time.

The equipment room epoxy floor system has several cracks which may be leaking to the floor below as evident of water staining at cracks in the concrete on the fourth floor ceiling or stained ceiling tiles. These floors need to be repaired as noted.

#### **SERVICE SYSTEMS**

The major service systems, domestic water, sanitary waste and storm drainage system all appear to be functioning according to their intended purpose. The plumbing system did not appear to have any problems, however, it is recommended that the underground sanitary and storm drainage system be cleaned out at this time. The rest rooms are stacked above each other off the south hallway. All of the fixtures appeared to be functioning properly, however, a few lavatory faucets were leaking and need new washers. All of the plumbing fixtures are in good condition and no replacements are needed. The floor vacuum outlets in the hall at room 137M, at the north door and at room 203M are damaged and extend above the floor creating a tripping hazard. The cleanouts need to be replaced level to the floor. The domestic hot water is supplied from a steam converter that is original equipment and located in mechanical room 500M. The hot water recirculating pump was being replaced at this time. There is no backflow preventer at the domestic water takeoff in room 137M and one should be installed to meet present code requirements.

The single elevator operated properly and the maintenance record did not indicate any particular problems. The floor in the elevator has cracked tiles and a section of the hand railing is missing and needs to be replaced at this time. The building was built so that two more elevators could be added if they were needed. At this time a renovation project to upgrade the elevator and controls has been requested.

The hot water heating system is also original equipment. Hot water is heated with low pressure steam in a converter and pumped to convectors located on the outside walls, unit heaters and to the two hot decks on the dual duct air handling units. The exterior walls are constructed of concrete waffle type precast panels with single glazed windows and no interior insulation. All of the exterior walls have an R-value of approximately 3.0 or less which provides very little wall insulation and creates condensation problems in the winter. The comfort level of the exterior rooms would be improved if additional insulation or insulated wall panels were added to the exterior walls.

The steam pressure reducing station, the condensate return system and the hot water converter system are nearing the end of their expected lives and need to be replaced within the next five years. Some of the low pressure steam and condensate lines have corroded and will continue to need to be repaired. The pumps to the desuperheater appear to be oversized, at the next repair or replacement cycle a smaller pump needs to be installed.

AC-1 & 2(DDCAV) supplies air to the dual duct boxes located throughout the building. The energy conservation program in 1978/1979 modified the fan systems to 85% of the original volumes and the terminal boxes to a semi-variable air volume control. The room terminal boxes were constant volume whether in heating or full cooling. Interior DDCAV box hot ducts were completely blanked-off. Perimeter DDCAV box hot ducts were installed with fixed orifices. The cold ducts are original and return air is through ceiling plenums. Temperature control is achieved by modulating the cold air damper and air volumes are determined by following the fan performance curves. Individual rooms were not surveyed for air volumes for full heating and cooling modes. This modification to a DDVAV system appears to have created a few problems in several rooms in the building. Some air distribution problems were indicated by some occupants, indicating possible balance or control problems with the dual duct control boxes. This needs to be investigated further. The original dual duct air distribution heating and cooling units, return air fans and exhaust fans are nearing the end of their expected life and will need to be replaced in the next five years.

The cooling and ventilation system appeared to be operating properly, especially with the installation of the new chiller and cooling tower. The York chiller and the Marley cooling tower appear to be functioning correctly, however, the chiller will have to have a refrigerant upgrade to R-123 within the next five years. The absorption chiller is used as a back-up system.

Cunz Hall has had a partial digital control system upgrade, and is monitored by the University Utilities Department.

Exhaust fans located throughout the building remove air from restrooms, equipment closets, kitchens, meeting rooms and equipment rooms.

## **ELECTRICAL**

The 1000 KVA transformer is located in room 500M and the switchgear is located in room 128M. The building transformer is 13,800 Volts primary to 208/120 Volt secondary with a 1000 KVA capacity. The building is supplied with electrical power from the Buckeye Substation circuits number 106/304. Fused switches from the transformer feed the motor control center panels (MCC) in room 500M, lighting panels and power distribution panels are located throughout the building and are distributed from rooms 103M and 137M on each floor. The MCC panels contain fused switches that distribute power to mechanical equipment in or near the room. Panel sizes vary throughout the building depending on the load. At about 15 watts per square foot the building appears to have an adequate power supply.

While the building appears to have adequate electrical service, the offices and language labs could use more circuits. Extension cords and multiple wall plugs are used to operate coffee pots, microwaves, and electronic office equipment.

The building has 40W fluorescent light fixtures throughout while using 120 volt recessed can lighting for accent lighting in some areas. The fluorescent lighting

fixtures has been reduced from 4 bulbs to 2 bulbs in some rooms. These fixtures are working properly, but need to be cleaned. All areas should have the newer 32 watt electronic ballast and bulbs installed as the 40 watt units expire. The stairways have had the incandescent lights removed and fluorescent two bulb fixtures installed within the last four years.

#### **SAFETY STANDARDS**

The building safety systems consist of a standpipe located in the east and west stairwells for fire department use and a hose cabinet in the hall for local use. Hoses in cabinets are scheduled to be removed. Manual pull stations at exits provide local fire annunciation from the panel in RM 500M.

Emergency battery power sources supply power to lighted exit signs and emergency lights in the hallways and stairwells.

Automatic door openers have been installed at the south entrance.

Several rooms are secured using local keying to limit access.

The elevator provides access to all floors of the building.

With this building being a concrete structure, these safety systems met the fire codes when it was constructed.

There are two stairwells on the east and west sides of the building with steel stairs and concrete fill. A ceramic tile tread is broken at the west stair on the first floor and needs to be replaced.

#### **BUILDING PERIMETER**

The sidewalk on the south side of the building on the ramp has settled and needs to be releveled. This sidewalk also has several sections with spalling corners and spalling between the sidewalk and ramp wall and needs to be repaired. The sidewalk on the east, west and north side of the building is in good condition. The sidewalks have several sections that have heaved at control joints, a few cracks through panels and sealant that has shrunk or separated in most all expansion joints. All these joints need to be repaired. Some hand rails at steps and wood posts with chains need to be plumbed and secured.

The asphalt parking area on the south side has some cracks in the surface. The asphalt at the dock area on the south side has settled next to the drain and needs to be repaired to reduce ponding.

The lawn area on the west and north side has bare spots in the grass and next to the east sidewalk west side where water is not draining properly.

There is no mulch around the shrubbery.

Entrances to the building are well lighted and area and flood lighting appears to be distributed properly.

The building signs are in good condition. However, the building name attached to the building on the east side has been removed and needs to be replaced.

## **ASBESTOS**

The Ohio Board of Regents Facilities Asbestos Inspection and Risk Assessment Program's report: Inventory of Friable Asbestos Containing Material in Buildings of the Ohio State University (Main and Branch Campuses) and the Recommendations for Corrective Action by PEI Associates, Sept. 1986, identifies asbestos containing materials on steam and condensate piping, on the converter and on absorption chiller.

**Minor Maintenance Projects (LESS THAN \$5000) EXTERIOR**

1. Spray the bushes around the building to control the fungus on the leaves.  
Workorder #01-5063-021167-55
  2. Install topsoil between the building and the sidewalk and grade to the walk.  
Install 6 mil plastic between the wall and the bushes to shed water off the wall toward the walk. Install mulch between the building and the walk.  
Workorder #01-5063-021167-55
  3. Plumb all of the wood posts with chains and grout in place. Re-grout all loose handrails on steps and ramps.  
Workorder #01-5063-021167-55
  4. Use epoxy grout to seal broken concrete corners on the ramp and to seal cracks in the concrete. Re-level concrete slab on the top of the ramp and remove loose concrete on ramp wall and regrout.  
Workorder #01-5063-021210-51
  5. Caulk the joint between the stucco entrance ceilings and the concrete wall in the vestibules and outside to prevent infiltration air from entering the building.  
Workorder #01-5063-021210-51
  6. Change the filters in the vestibule heating units.  
Workorder #01-5064-222613-67\*
  7. Clean the vestibule doors, repair damaged weather-stripping and replace corroded kick plates.  
Workorder #01-5063-021204-47
  8. Repair the gravel stop/soffit trim on the penthouse roof.  
Workorder #01-5064-239237-73
  9. Replace the building lettering on the east wall or plug the holes.  
Workorder #01-5063-021210-51
  - 10 Grass needs to be planted in the bare areas on the northeast corner of the building.  
Workorder #01-5063-021167-55
  - 11 Remove a ten foot square section of asphalt in front of the storm drain at the dock and resurface.  
Workorder #01-5063-021210-51
  - 12 Caulk the parapet joints and the fastener pockets as required.  
Workorder #01-5064-239237-73
- 
1. Install weather-stripping on the south doors.
  2. Repaint the penthouse steel siding and doors.
  3. Epoxy caulk the cracks in the block walls around the cooling tower and in the concrete penthouse floors.
  4. The caulked joints in the sidewalk around the building need to be recaulked.
  5. Install window washing tie offs to the penthouse steel.  
Control #3123

**Minor Maintenance Projects (LESS THAN \$5000) INTERIOR**

1. Replace the flooring and the missing handrail in the elevator.  
Workorder #01-5064-239230-74
  2. Install ventilation in the floor of room 136B to remove moisture from under the wood floor.  
Workorder #01-5064-239251-67
  3. Vacuum clean the diffusers and return grills and clean all light fixtures.  
Workorder #01-5061-002128-20
  4. Clean the ceiling metal runners in the halls  
Workorder #01-5064-239251-67
  5. Replace missing or damaged insulation in the mechanical room 500M.  
Workorder #01-5064-239251-67
  6. Increase exhaust CFM in the east and west mechanical rooms, several rooms with electronic equipment are hot, verify proper make-up air to the rooms.  
Workorder #01-5064-239251-67
  7. Remove the floor vacuum cover in the floor at room 135M and the north door and reinstall flush, repair the cleanout at room 302M.  
Workorder #01-5064-239251-67
  8. Patch hole in the restroom wall above the urinal flush valve in room 427t and repair the sprung access panel in the same wall.  
Workorder #01-5064-239251-67
  9. Repair the base moldings in the east and west stairwells.  
Workorder #01-5061-002128-20
  - 10 Caulk around the garage door frame, clean the walls and ceiling and paint room 120.  
Workorder #01-5061-002128-20
  - 11 Install the center hinge on the fire door at room 237M and adjust the fire doors at rooms 203M and 180 which stick open, check all doors and door hardware for proper operation.  
Workorder #01-5064-238857-72
  - 12 Repair the cracks in the walls and paint rooms 116, 132 and 120.  
Workorder #01-5061-002128-20
  - 13 Clean underground sanitary and storm drain piping to the exterior manhole.  
Workorder #01-5061-002128-20
- 
1. Install supply air to room 128M, the room is operating at a negative pressure.  
Control #3124

**NEW BUILDING EVALUATION SUMMARY**

**I. BUILDING INFORMATION**

FAC # 293 \_\_\_\_\_ FACILITY NAME: CUNZ HALL  
 DATE: 08/30/96 INSPECTOR: JAO  
 YEAR CONSTRUCTED: 1968  
 GROSS SQ FT: 66,260 NET SQ FT: 33,501  
 REPLACEMENT COST \$ 9,342,000 \*

**II. COMPONENT RATING**

COMPONENT	BUILDING COMPONENT PERCENTAGE OF TOTAL COST **	BUILDING COMPONENT REPLACEMENT COST	CONDITION VALUE MULTIPLIER BUILDING COMPONENT	BUILDING COMPONENT CURRENT VALUE
Foundation	7.91	739,082	0.90	668,522
Columns and Beams	8.35	780,142	0.90	705,662
Exterior Walls	7.91	739,082	0.74	546,975
Ext. Windows & Doors	4.40	410,601	0.68	279,232
Roofing & Flashing	4.22	394,177	0.42	166,440
Partitions & Doors	7.47	698,022	0.87	608,114
Wall Finishes	2.55	238,149	0.70	166,718
Floor Finishes	6.59	615,902	0.68	418,848
Ceilings & Finishes	6.91	645,465	0.56	358,612
Conveying	1.76	164,241	0.68	111,693
Plumbing	7.91	739,082	0.71	527,255
Heating	8.44	788,354	0.71	562,405
Cooling and Vent.	9.67	903,323	0.56	501,874
Elect. Serv. & Dist.	1.67	156,028	0.75	116,511
Lighting and Power	9.67	903,323	0.75	674,535
Safety Standards	4.57	427,025	0.75	318,871
TOTALS	100.00	9,342,000	0.72	6,732,266

**III. BUILDING RATING SUMMARY**

Overall Building Rating = 72%

\* Replacement Cost assigned September 1995 by The Office of University Resource Planning & Institutional Analysis 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 # 293

DATE 08/30/96

INSPECTOR: JAO

**A. SYSTEM DESCRIPTION**

	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
<b>a. Footings:</b>			
Interior Footings/Piers _____	[ ]	[X]	[ ]
Interior Footings/Bearing Walls _____	[X]	[ ]	[ ]
Perimeter Footings _____	[X]	[ ]	[ ]
Grade Beams _____	[X]	[ ]	[ ]
Piles _____	[X]	[ ]	[ ]
Caissons _____	[X]	[ ]	[ ]
<b>b. Foundation Wall Materials:</b>			
Concrete Cast-in-place _____	[ ]	[ ]	[X]
Concrete Block _____	[X]	[ ]	[ ]
Stone _____	[X]	[ ]	[ ]
Brick _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]
<b>c. Waterproofing and Underdrain:</b>			
Coating _____	[X]	[ ]	[ ]
Membrane _____	[ ]	[X]	[ ]
Board _____	[X]	[ ]	[ ]
Drain Tile _____	[X]	[ ]	[ ]
<b>d. Slab on Grade:</b>			
Plain _____	[X]	[ ]	[ ]
Reinforced _____	[X]	[ ]	[ ]
<b>e. Ground/Basement Floor Slab:</b>			
Plain _____	[X]	[ ]	[ ]
Reinforced _____	[ ]	[X]	[ ]
<b>f. Special Substructures:</b> _____	[X]	[ ]	[ ]

**B. COMMENTS:**

1 SOME SETTLEMENT CRACKS WERE NOTED IN THE CONCRETE WALL AROUND THE PERIMETER OF THE BUILDING.

**C. COMPONENT RATING:**    (\$ 739,082 )    ( 90% ) = \$ 668,522  
                                  Possible            Condition            Component  
                                  Value            Value Multiplier    Value

**COLUMNS AND BEAMS**

FAC # 293

DATE 08/30/96

INSPECTOR: JAO

**A. SYSTEM DESCRIPTION**

**a. Columns and Beams:**

	N/A	Sat	Att
Reinforced Concrete <u>TO THE ROOF LEVEL</u>	[ ]	[X]	[ ]
Precast Concrete <u>INTEGRATED WITH EXTERIOR WALLS</u>	[ ]	[X]	[ ]
Steel <u>PENTHOUSE</u>	[ ]	[X]	[ ]
Fireproofing <u>THREE LAYERS OF DRYWALL</u>	[ ]	[X]	[ ]
Wood _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]

**b. Floor Joists:**

Concrete _____	[ ]	[X]	[ ]
Steel Trusses _____	[X]	[ ]	[ ]
Wood in room <u>136B</u>	[ ]	[ ]	[X]
Other _____	[X]	[ ]	[ ]

**d. Floor Decks:**

Concrete Slab _____	[ ]	[X]	[ ]
Precast Slab _____	[X]	[ ]	[ ]
Metal Deck w/concrete fill _____	[X]	[ ]	[ ]
Wood in room <u>136B</u>	[ ]	[ ]	[X]
Other _____	[X]	[ ]	[ ]

**e. Roof Joists:**

Concrete _____	[ ]	[X]	[ ]
Steel Trusses _____	[X]	[ ]	[ ]
Wood _____	[X]	[ ]	[ ]

**f. Pitched Roof System:**

Pitch [ ] <u>3/12</u> , [ ] <u>6/12</u> , [ ] <u>10/12</u>	[X]	[ ]	[ ]
Dormers _____	[X]	[ ]	[ ]
Steel Rafters _____	[X]	[ ]	[ ]
Wood Rafters _____	[X]	[ ]	[ ]
Fireproofing _____	[X]	[ ]	[ ]
Underlayment _____	[X]	[ ]	[ ]
Insulation _____	[X]	[ ]	[ ]
Ventilation _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]

**g. Flat Roof System:**

Slope <u>LESS THAN 1/4"</u>	[ ]	[X]	[ ]
Concrete Deck <u>LOWER ROOF</u>	[ ]	[X]	[ ]
Precast Slab _____	[X]	[ ]	[ ]
Metal Deck w/concrete fill _____	[X]	[ ]	[ ]
Metal Deck <u>w/INSULATION PENTHOUSE ROOF</u>	[ ]	[X]	[ ]
Wood Deck _____	[X]	[ ]	[ ]
Insulation <u>4" PENTHOUSE, 4" MAIN ROOF</u>	[ ]	[X]	[ ]
Other _____	[X]	[ ]	[ ]

**B. COMMENTS:**

1 VENTILATION GRILLS NEED TO BE INSTALLED IN THE FLOOR OF ROOM 136B TO REMOVE MOISTURE FROM BENEATH THE FLOOR.

**C. COMPONENT RATING:** (\$ 780,142) ( 90%) = \$ 705,662  
                                     Possible                      Condition                      Component  
                                     Value                      Value Multiplier                      Value

**EXTERIOR WALLS**

FAC # 293

DATE 08/30/96

INSPECTOR: JAO

**A. SYSTEM DESCRIPTION**

**a. Walls:**

	N/A	Sat	Att
Concrete <input checked="" type="checkbox"/> CIP <input type="checkbox"/> PRECAST FIRST FLOOR	[ ]	[ ]	[X]
Concrete Block IN COOLING TOWER AREA OF PENTHOUSE	[ ]	[ ]	[X]
Brick <input type="checkbox"/> Masonry <input type="checkbox"/> Veneer	[X]	[ ]	[ ]
Slab Veneer	[X]	[ ]	[ ]
Window/Curtainwall	[X]	[ ]	[ ]
Metal Siding PENTHOUSE	[ ]	[ ]	[X]
Other PRECAST PANELS SECOND THROUGH FOURTH	[ ]	[ ]	[X]

**b. Wall Lintels Over Openings:**

Concrete <input checked="" type="checkbox"/> PRECAST <input type="checkbox"/> CIP SECOND THROUGH FOURTH FLOOR	[ ]	[ ]	[X]
Limestone	[X]	[ ]	[ ]
Brick Masonry	[X]	[ ]	[ ]
Steel	[X]	[ ]	[ ]
Wood	[X]	[ ]	[ ]
Other PRECAST PANELS	[ ]	[X]	[ ]

**c. Wall Trim:**

Limestone	[X]	[ ]	[ ]
Brick	[X]	[ ]	[ ]
Marble	[X]	[ ]	[ ]
Wood	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]

**d. Finishes:**

Plain	[ ]	[X]	[ ]
Stucco ON THE ENTRANCE CEILINGS	[ ]	[X]	[ ]
Paint	[X]	[ ]	[ ]
Parging	[X]	[ ]	[ ]
Exposed Aggregate ON PRECAST PANELS	[ ]	[X]	[ ]
Drivit	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]

**e. Exterior Wall Backing System:**

Concrete	[ ]	[ ]	[ ]
Concrete Block	[ ]	[ ]	[ ]
Brick Masonry	[ ]	[ ]	[ ]
Steel Girts	[ ]	[ ]	[ ]
Metal Studs	[ ]	[ ]	[ ]
Wood Studs	[ ]	[ ]	[ ]

**B. COMMENTS**

1 CRACKS ON THE CONCRETE EXTERIOR WALLS NEED TO BE EPOXY FILLED, THE WALLS CLEANED AND WATERPROOFED.

2 WATER IS LEAKING THROUGH THE PRECAST PANEL SEALS AND PENETRATING BEHIND THE WALL. THE PANELS ARE ALSO STAINED FROM WATER LEAKING OUT AT LOWER ELEVATIONS. THE SEALS NEED TO BE REPLACED AND THE PANELS PRESSURE WASHED & WEATHER SEALED.

3 REPAIR THE CONCRETE BLOCK IN THE PENTHOUSE WITH MORTAR.

4 PAINT THE PENTHOUSE METAL PANEL WALLS AND DOORS.

**C. COMPONENT RATING:** (\$ 739,082) ( 74%) = \$ 546,975  
                                     Possible            Condition            Component  
                                     Value            Value Multiplier    Value

**EXTERIOR WINDOWS & DOORS**

FAC # 293

DATE 08/30/96

INSPECTOR: JAO

**A. SYSTEM DESCRIPTION**

<b>a. Window materials:</b>	N/A	Sat	Att
Wood	[X]	[ ]	[ ]
Steel	[X]	[ ]	[ ]
Alum FRAMING	[ ]	[X]	[ ]
PVC	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]
<b>b. Windows type &amp; number:</b>			
Double Hung	[X]	[ ]	[ ]
Awning	[X]	[ ]	[ ]
Casement	[X]	[ ]	[ ]
Pivoted IN EVERY THIRD WINDOW 200	[ ]	[X]	[ ]
Sliding	[X]	[ ]	[ ]
Fixed IN EVERY OTHER WINDOW 400	[ ]	[X]	[ ]
Other OPAQUE PANELS 600	[ ]	[X]	[ ]
<b>c. Window glazing:</b>			
Single pane ON ALL WINDOWS	[ ]	[X]	[ ]
Double pane	[X]	[ ]	[ ]
<b>d. Window Wall and/or Store Front:</b>			
Store Front	[X]	[ ]	[ ]
Vestibule AT THREE ENTRANCES	[ ]	[X]	[ ]
Single pane IN VESTIBULE	[ ]	[X]	[ ]
Double pane	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]
<b>e. Door Materials:</b>			
Wood	[X]	[ ]	[ ]
Steel ON THE SOUTH EXIT DOOR	[ ]	[X]	[ ]
Alum ON THE DOUBLE VESTIBULE DOORS	[ ]	[ ]	[X]
<b>f. Doors type &amp; number:</b>			
Vestibule Double ON THE NORTH ENTRANCE	[ ]	[X]	[ ]
Double	[X]	[ ]	[ ]
Exit SOUTH DOOR	[ ]	[X]	[ ]
Stair Exit TO TWO OF THE VESTIBULE DOORS EAST AND WEST	[ ]	[X]	[ ]
Garage SOUTH DOOR	[ ]	[X]	[ ]
Special	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]
<b>g. Hardware:</b>			
Automatic opener ON SOUTH DOOR	[ ]	[X]	[ ]
Push Bar Openers/Closures ON ALL VESTIBULE DOORS	[ ]	[X]	[ ]
Key Cards	[X]	[ ]	[ ]

**B. COMMENTS:**

- 1 THE WALLS AND WINDOWS PROVIDE A MINIMUM AMOUNT OF INSULATION, THUS CREATING CONDENSATION PROBLEMS ON THE INTERIOR WALLS. TO IMPROVE OCCUPANT COMFORT, REDUCE ENERGY CONSUMPTION AND INFILTRATION INSULATION SHOULD BE ADDED TO THE EXTERIOR WALLS.
- 2 THE VESTIBULE DOORS NEED TO BE CLEANED, KICK PLATES REPLACED OR DOORS ADJUSTED WHERE NECESSARY AND WEATHERSTRIPPING REPAIRED OR REPLACED.
- 3 INSTALL WEATHERSTRIPPING ON THE SOUTH DOOR AND PAINT THE DOOR.

**C. COMPONENT RATING:** (\$ 410,601 ) ( 68% ) = \$ 279,232  
    Possible      Condition      Component  
    Value      Value Multiplier      Value

**ROOFING**

FAC # 293

DATE 08/30/96

INSPECTOR: JAO

**A. SYSTEM DESCRIPTION**

**a. Roof Covering:**

		N/A	Sat	Att
Built-up [ ]asphalt [ ]Coal Tar [ ]Modified	SF	[X]	[ ]	[ ]
Built-up w/gravel [ ]asphalt [X]Coal Tar	14400 SF	[ ]	[ ]	[X]
Asphalt Roll <u>ALONG THE EAST AND NORTH EDGE (PATCHING)</u>	SF	[ ]	[X]	[ ]
Asphalt Shingle	SF	[X]	[ ]	[ ]
Copper	SF	[X]	[ ]	[ ]
EPDM	SF	[X]	[ ]	[ ]
Other	SF	[X]	[ ]	[ ]

**b. Flashing:**

Materials: [ ]Cu [X]Galv [ ]Al [ ]EPDM [X]SS [ ]PVC		[ ]	[X]	[ ]
Base & Counter <u>BUR ROOF ON TWO SIDES</u>	320 LF	[ ]	[X]	[ ]
Cap	LF	[X]	[ ]	[ ]
Reglet	480 LF	[ ]	[X]	[ ]
Valley & Ridge	LF	[X]	[ ]	[ ]

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

Type [ ]SS [X]Galv [ ]Al [ ]Cu [ ]PVC <u>PENTHOUSE</u>	320 LF	[ ]	[ ]	[X]
--	--------	-----	-----	-----

**d. Drainage:**

Gutters w/ Exterior Downspouts	LF	[X]	[ ]	[ ]
Scuppers w/o Exterior Downspouts	EA	[ ]	[X]	[ ]
Drains w/ Interior Storm Drains	8 EA	[ ]	[X]	[ ]
Emergency Overflow	8 EA	[ ]	[X]	[ ]

**e. Parapets:**

Concrete <u>PRECAST INTEGRAL WITH PANELS</u>	480 LF	[ ]	[ ]	[X]
Brick	LF	[X]	[ ]	[ ]
Precast	LF	[X]	[ ]	[ ]
Other	LF	[X]	[ ]	[ ]

**f. Parapet Caps:**

Metal [ ]SS [ ]Galv [ ]Al [ ]Cu [ ]PVC	LF	[X]	[ ]	[ ]
Tile	LF	[X]	[ ]	[ ]
Limestone	LF	[X]	[ ]	[ ]
Precast <u>WITH WALL PANELS</u>	480 LF	[ ]	[ ]	[X]
Other	LF	[X]	[ ]	[ ]

**h. Roof accessories:**

Lightning Protection		[X]	[ ]	[ ]
Roof Curbs		[X]	[ ]	[ ]
Equipment Frames		[X]	[ ]	[ ]
Pitch Pockets <u>ON COOLING TOWER SUPPORTS</u>		[ ]	[X]	[ ]
Other		[X]	[ ]	[ ]

**B. COMMENTS**

- 1 THE PARAPET JOINTS NEED TO BE RESEALED AND THE FASTENER POCKETS NEED TO BE RESEALED.
- 2 THE ROOF NEEDS TO BE REPLACED WITHIN THE NEXT FIVE YEARS.
- 3 MANY AREAS OF THE ROOF ARE BLISTERED, PATCHED, ALLIGATORRED AND HAVE RAISED AREAS.

**C. COMPONENT RATING:** (\$ 394,177 ) ( 42% ) = \$ 166,440  
 Possible Condition Component  
 Value Value Multiplier Value

**PARTITIONS & DOORS**

FAC # 293

DATE 08/30/96

INSPECTOR: JAO

**A. SYSTEM DESCRIPTION**

<b>a. Partition Framing:</b>	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
Concrete Block _____	[ ]	[X]	[ ]
Clay Tile Block _____	[X]	[ ]	[ ]
Glazed Block _____	[X]	[ ]	[ ]
Masonry _____	[X]	[ ]	[ ]
Wood Stud _____	[X]	[ ]	[ ]
Metal Stud _____	[ ]	[X]	[ ]
Other _____	[X]	[ ]	[ ]
<b>b. Special partitions and Walls:</b>			
Demountable STEEL PARTITIONS _____	[ ]	[X]	[ ]
Toilet _____	[ ]	[X]	[ ]
Screen Walls _____	[X]	[ ]	[ ]
Glass _____	[X]	[ ]	[ ]
Gate _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]
<b>c. Wall Material:</b>			
Plaster _____	[X]	[ ]	[ ]
Drywall _____	[ ]	[X]	[ ]
Glass _____	[X]	[ ]	[ ]
Wood Paneling _____	[X]	[ ]	[ ]
Composite Paneling _____	[X]	[ ]	[ ]
Steel Panels DEMOUNTABLE PARTITIONS _____	[ ]	[X]	[ ]
Tile/Glazed _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]
<b>d. Interior Doors &amp; Frames:</b>			
Met Door/Met Frame _____	[X]	[ ]	[ ]
Wood Door/Wood Frame _____	[X]	[ ]	[ ]
Wood Door/Metal Frame _____	[ ]	[X]	[ ]
Glazing IN SOME DOORS _____	[ ]	[X]	[ ]
Roll-up _____	[X]	[ ]	[ ]
Sliding _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]
<b>e. Hardware:</b>			
Door [X]Knobs [ ]Levers _____	[ ]	[X]	[ ]
Door Closures _____	[ ]	[X]	[ ]
Kick/Push Plates _____	[ ]	[X]	[ ]
Security & Detection _____	[X]	[ ]	[ ]
Automatic Openers _____	[X]	[ ]	[ ]
Fire Door Magnets _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]

**B. COMMENTS**

1 WALLS ARE GENERALLY IN GOOD CONDITION AND ONLY NEED BE REPAIRED OR PAINTED WHERE ATTACHMENTS HAVE BEEN REMOVED OR LOCALIZED WALL DAMAGE HAS OCCURRED.

**C. COMPONENT RATING:** (\$ 698,022 ) ( 87% ) = \$ 608,114  
                                     Possible           Condition           Component  
                                     Value            Value Multiplier    Value

**WALL FINISHES**

FAC # 293

DATE 08/30/96

INSPECTOR: JAO

**A. SYSTEM DESCRIPTION**

**a. Wall Finishes:**

	<u>N/A</u>	<u>Sat</u>	<u>Att</u>
Paint _____	[ ]	[X]	[ ]
Vinyl Wall Coverings _____	[X]	[ ]	[ ]
Paneling Prefinished _____	[X]	[ ]	[ ]
Cork _____	[X]	[ ]	[ ]
Wallpaper _____	[X]	[ ]	[ ]
Ceramic Tile <u>IN THE RESTROOMS</u> _____	[ ]	[X]	[ ]
Marble _____	[X]	[ ]	[ ]
Stone _____	[X]	[ ]	[ ]
Trim & Wainscot _____	[X]	[ ]	[ ]
Decoration _____	[X]	[ ]	[ ]
Glass _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]

**B. COMMENTS**

1 WALLS ARE GENERALLY IN GOOD CONDITION AND ONLY NEED BE REPAIRED OR PAINTED WHERE ATTACHMENTS HAVE BEEN REMOVED OR LOCALIZED WALL DAMAGE HAS OCCURRED.

**C. COMPONENT RATING:**    (\$ 238,149 )    ( 70% ) = \$ 166,718  
                                  Possible            Condition            Component  
                                  Value            Value Multiplier    Value

**FLOOR FINISHES**

**A. SYSTEM DESCRIPTION**

	N/A	Sat	Att
<b>a. Carpet:</b>			
Rolled <u>IN SOME OFFICES</u>	SF [ ]	[X]	[ ]
Tile _____	SF [X]	[ ]	[ ]
<b>b. Concrete Topping:</b>			
Clear Sealant _____	SF [X]	[ ]	[ ]
Antislip _____	SF [X]	[ ]	[ ]
Epoxy <u>ON THE EQUIPMENT ROOM FLOORS</u>	SF [ ]	[ ]	[X]
<b>d. Resilient:</b>			
Vinyl Composition Tile _____	SF [ ]	[X]	[ ]
Vinyl/Plastic Tile _____	SF [ ]	[X]	[ ]
Asphalt Tile _____	SF [ ]	[X]	[ ]
Linoleum Tile _____	SF [X]	[ ]	[ ]
Vinyl Roll _____	SF [X]	[ ]	[ ]
Rubber _____	SF [X]	[ ]	[ ]
<b>e. Ceramic Tile</b> <input checked="" type="checkbox"/> Mosaic <input type="checkbox"/> Quarry <input type="checkbox"/> Pavers _____	[ ]	[X]	[ ]
<b>f. Masonry</b> <input type="checkbox"/> Marble <input type="checkbox"/> Granite <input type="checkbox"/> Slate <input type="checkbox"/> Brick _____	[X]	[ ]	[ ]
<b>g. Terrazzo</b> <input type="checkbox"/> Marble <input type="checkbox"/> Granite _____	[X]	[ ]	[ ]
<b>h. Wood</b> <input type="checkbox"/> Tiles <input type="checkbox"/> T&G Hardwood <input type="checkbox"/> Planking _____	[X]	[ ]	[ ]
<b>i. Pedestal</b> <input type="checkbox"/> Vinyl Tiles <input type="checkbox"/> Grills <input type="checkbox"/> Supply Air <input type="checkbox"/> Vent. <input checked="" type="checkbox"/>	[X]	[ ]	[ ]
<b>j. Base Molding:</b>			
Vinyl _____	[ ]	[X]	[ ]
Wood _____	[X]	[ ]	[ ]
Terrazzo _____	[X]	[ ]	[ ]
Ceramic Tile _____	[ ]	[X]	[ ]
Masonry _____	[X]	[ ]	[ ]

**B. COMMENTS**

1 THERE ARE CRACKS IN THE EQUIPMENT ROOM FLOORS WHICH COULD LEAK. THESE NEED TO BE CAULKED WITH AN EPOXY SEALANT.

2 THE FLOOR TILES IN THE ELEVATOR NEED TO BE REPLACED.

**C. COMPONENT RATING:**    (\$ 615,902 )    ( 68% ) = \$ 418,848  
                                  Possible            Condition            Component  
                                  Value            Value Multiplier    Value

**CEILINGS AND FINISHES**

FAC # 293

DATE 08/30/96

INSPECTOR: JAO

**A. SYSTEM DESCRIPTION**

**a. System Type:**

	N/A	Sat	Att
Exposed _____	[ ]	[X]	[ ]
Applied to Structure _____	[X]	[ ]	[ ]
Suspended Stud _____	[X]	[ ]	[ ]
Suspended Steel Grid <u>TO SUPPORT DRYWALL/STUCCO CEILINGS</u>	[ ]	[X]	[ ]
Suspended Aluminum Grid <u>SUPPORTING LAYIN CEILINGS</u>	[ ]	[X]	[ ]
Suspended Sealed Grid _____	[X]	[ ]	[ ]
Suspended Concealed Spline _____	[X]	[ ]	[ ]

**b. Materials:**

Drywall <u>IN RESTROOMS AND FOR STUCCO FINISH AT ENTRANCES</u>	[ ]	[X]	[ ]
Plaster _____	[X]	[ ]	[ ]
Mineral Fiber Board _____	[ ]	[X]	[ ]
Fiberglas Board _____	[X]	[ ]	[ ]
Cementous Fiber Board _____	[X]	[ ]	[ ]
Metal Tile _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]

**c. Finishes:**

Paint _____	[ ]	[X]	[ ]
Prefinished <input checked="" type="checkbox"/> Paint <input type="checkbox"/> vinyl <input type="checkbox"/> Fabric	[ ]	[X]	[ ]
Other <u>STUCCO AT ENTRANCES</u>	[ ]	[ ]	[X]

**d. Openings & Inserts:**

Air Distribution _____	[ ]	[X]	[ ]
Lighting Fixtures <u>SUSPENDED AND LAYIN</u>	[ ]	[X]	[ ]
Access Panels <u>FOR EQUIPMENT ACCESS</u>	[ ]	[X]	[ ]
Sprinklers _____	[X]	[ ]	[ ]
Smoke Detectors _____	[X]	[ ]	[ ]
Speakers _____	[X]	[ ]	[ ]
Skylights _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]

**B. COMMENTS**

1 THE OPENING BETWEEN THE STUCCO AND THE WALL NEEDS TO BE CAULKED TO HELP PREVENT INFILTRATION FROM THE OUTSIDE.

**C. COMPONENT RATING:** (\$ 645,465 ) ( 56% ) = \$ 358,612  
                                     Possible                      Condition                      Component  
                                     Value                      Value Multiplier                      Value

**CONVEYING**

FAC # 293

DATE 08/30/96

INSPECTOR: JAO

**A. SYSTEM DESCRIPTION**

**a. Elevators:**

	N/A	Sat	Att
Number <u>ONE OTIS</u>	[ ]	[ ]	[X]
Type <u>PASSENGER</u>	[ ]	[X]	[ ]
Speed <u>200 FPM</u>	[ ]	[X]	[ ]
Capacity (lbs) <u>2500</u>	[ ]	[X]	[ ]
Dimensions <u>53Dx77W</u>	[ ]	[X]	[ ]
Door Operation:			
Center _____	[ ]	[X]	[ ]
To Side _____	[X]	[ ]	[ ]

**b. Lifts and Hoists:**

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

**c. Moving Stairs and Walks:**

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

**d. Conveyors:**

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

**B. COMMENTS:**

- 1 THIS BUILDING WAS ORIGINALLY DESIGNED FOR THREE ELEVATORS.
- 2 THE FLOOR IN THE ELEVATOR NEEDS TO BE REPLACED WITH NEW FLOORING
- 3 THE MISSING RAILING ON THE EAST SIDE NEEDS TO BE REPLACED.

**C. COMPONENT RATING:**    (\$ 164,241 )    ( 68% ) = \$ 111,693  
                                  Possible            Condition            Component  
                                  Value            Value Multiplier    Value

**MECHANICAL/PLUMBING DOMESTIC**

FAC # 293

DATE 08/30/96

INSPECTOR: JAO

**A. SYSTEM DESCRIPTION**

**a. Services Available:**

	N/A	Sat	Att
Cold Water <u>6"</u>	[ ]	[X]	[ ]
Backflow Valve <u>NONE</u>	[ ]	[ ]	[X]
Hot Water <u>1-1/2" IN ROOM 500M</u>	[ ]	[X]	[ ]
Natural Gas _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]

**b. Piping & Fittings:**

Cast Iron <u>ON WASTE AND VENT</u>	[ ]	[X]	[ ]
Ductile Iron <u>ON INCOMING WATER PIPING TO THE METER</u>	[ ]	[X]	[ ]
Copper Pipe <u>ON DOMESTIC WATER PIPING</u>	[ ]	[X]	[ ]
Copper Tubing <u>ON CONTROL AIR PIPING</u>	[ ]	[X]	[ ]
Steel <u>ON CHILLED WATER AND STANDPIPES</u>	[ ]	[X]	[ ]
Galv. Steel <u>ON 2" AND LARGER WATER PIPING</u>	[ ]	[X]	[ ]
Other _____	[X]	[ ]	[ ]

**c. Water Heaters:**

Gas _____	[X]	[ ]	[ ]
Steam Converter/Tank <u>IN ROOM 500M</u>	[ ]	[X]	[ ]
Steam Instantaneous _____	[X]	[ ]	[ ]
Central Hot Water _____	[X]	[ ]	[ ]

**d. Drainage:**

Storm Drains <u>AROUND THE BUILDING PERIMETER AND ROOF</u>	[ ]	[X]	[ ]
Sanitary Drainage <u>THROUGHOUT THE BUILDING</u>	[ ]	[X]	[ ]
Floor Drains <u>IN EQUIPMENT ROOMS AND RESTROOMS</u>	[ ]	[X]	[ ]

**e. Fixtures: Number**

Water Closets <u>28</u>	[ ]	[X]	[ ]
Urinals <u>16</u>	[ ]	[X]	[ ]
Lavatory Sinks <u>4</u>	[ ]	[X]	[ ]
Kitchen Sinks <u>2</u>	[ ]	[X]	[ ]
Service Sinks <u>4</u>	[ ]	[X]	[ ]
Showers _____	[X]	[ ]	[ ]
Electric Water Coolers <u>8</u>	[ ]	[X]	[ ]

**f. Sprinkler Systems:**

Wet <u>ONE HEAD IN THE TRASH ROOM</u>	[ ]	[X]	[ ]
Dry _____	[X]	[ ]	[ ]
Carbon Dioxide _____	[X]	[ ]	[ ]
Halon _____	[X]	[ ]	[ ]

**g. Standpipe Systems:**

[X]Wet [ ]Dry <u>IN THE EAST AND WEST STAIRWELL</u>	[ ]	[X]	[ ]
Fire Hose Valves <u>[X]2.5" [X]1.25" OF STANDPIPES</u>	[ ]	[X]	[ ]
Hose Cabinets, Hoses <u>[X]Installed [ ]Removed</u>	[ ]	[ ]	[X]

**B. COMMENTS**

1 THE LATERAL SANITARY AND STORM DRAIN LINES ON THE GROUND FLOOR SHOULD BE PRESSURE CLEANED TO PREVENT POSSIBLE BLOCKAGES.

2 SOME FAUCETS ARE LEAKING AND NEED WASHERS REPLACED OR FAUCETS REPLACED.

**C. COMPONENT RATING:** (\$ 739,082 ) ( 71% ) = \$ 527,255  
 Possible Condition Component  
 Value Value Multiplier Value

**MECHANICAL/HEATING**

FAC # 293

DATE 08/30/96

INSPECTOR: JAO

**A. SYSTEM DESCRIPTION**

	N/A	Sat	Att
<b>a. Heat Source:</b>			
Central Plant Steam _____	[ ]	[X]	[ ]
Central Plant Hot Water _____	[X]	[ ]	[ ]
Boilers: Type _____	[X]	[ ]	[ ]
Size _____	[X]	[ ]	[ ]
Furnace/s: Type _____	[X]	[ ]	[ ]
Size _____	[X]	[ ]	[ ]
Heat Pump/s: Type _____	[X]	[ ]	[ ]
Size _____	[X]	[ ]	[ ]
<b>b. System Type:</b>			
Steam _____	[X]	[ ]	[ ]
Hot Water _____	[ ]	[X]	[ ]
Warm Air _____	[ ]	[X]	[ ]
<b>c. Air Handling Units:</b>			
Multizone [ ]Preheat [ ]Heating [ ]Reheat _____	[X]	[ ]	[ ]
Dual Duct [ ]Preheat [X]Heating [ ]Reheat _____	[ ]	[X]	[ ]
Make-up Air [ ]Preheat [ ]Heating [ ]Reheat _____	[X]	[ ]	[ ]
Variable Volume Air [ ]Preheat [ ]Heating [ ]Reheat _____	[ ]	[ ]	[X]
Constant Volume Air [ ]Preheat [ ]Heating [ ]Reheat _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]
<b>d. Air Filters:</b>			
35% Prefilter[ ]Multi [X]DDAHU [ ]MUAHU [ ]VAVAHU [ ]CAV _____	[ ]	[X]	[ ]
85% Bagfilter[ ]Multi [X]DDAHU [ ]MUAHU [ ]VAVAHU [ ]CAV _____	[ ]	[X]	[ ]
Postfilter[ ]Multi [ ]DDAHU [ ]MUAHU [ ]VAVAHU [ ]CAV _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]
<b>e. Space Equipment:</b>			
Radiators _____	[X]	[ ]	[ ]
Convectors _____	[ ]	[X]	[ ]
Unit Heaters _____	[ ]	[X]	[ ]
Reheat Coils _____	[X]	[ ]	[ ]
VAV Boxes <u>MODIFIED DUAL DUCT TO SEMI-VAV</u> _____	[ ]	[X]	[ ]
CAV Boxes _____	[X]	[ ]	[ ]
2-Pipe Fan Coil _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]
<b>f. Control Type:</b>			
[X]Pneu [X]Electric [ ]DDC [X]DDC Upgrade _____	[ ]	[X]	[ ]

**B. COMMENTS:**

- 1 THE STEAM AND CONDENSATE LINES ARE 28 YEARS OLD AND NEED TO HAVE SECTIONS REPAIRED OR REPLACED.
- 2 THE DESUPERHEATER PUMP APPEARS TO BE OVERSIZED, WHEN THIS UNIT IS REPAIRED A SMALLER PUMP SHOULD BE INSTALLED.
- 3 THE DUAL DUCT SYSTEM WAS MODIFIED IN 1978 TO A SIMI VAV-SYSTEM.

**C. COMPONENT RATING:**    (\$ 788,354 )    ( 71% ) = \$ 562,405  
                                  Possible            Condition            Component  
                                  Value            Value Multiplier    Value

**COOLING & VENTILATING**

FAC # 293

DATE 08/30/96

INSPECTOR: JAO

**A. SYSTEM DESCRIPTION**

<b>a. System/Capacity:</b>	N/A	Sat	Att
Water APPROXIMATELY 250 TONS	[ ]	[X]	[ ]
DX	[X]	[ ]	[ ]
<b>b. Chillers Capacity/Year/Refrigerant/Manufacturer:</b>			
Centrifugal 225 TONS/ 1992/ R-11 /YORK	[ ]	[ ]	[X]
Reciprocating TONS/ 19 / R- /	[X]	[ ]	[ ]
Absorption 225 TONS/ 1969/ R- /(BACKUP)	[ ]	[X]	[ ]
Screw TONS/ 19 / R- /	[X]	[ ]	[ ]
<b>c. Condenser Side:</b>			
Type/Capacity [X]WATER [ ]DX 225 TONS/1992/MARLEY	[ ]	[X]	[ ]
<b>d. Air Handling Units:</b>			
Multizone [ ]CW [ ]DX [ ]HUMD	[X]	[ ]	[ ]
Dual Duct [X]CW [ ]DX [X]HUMD	[ ]	[ ]	[X]
Make-up Air [ ]CW [ ]DX [ ]HUMD	[X]	[ ]	[ ]
Variable Volume [ ]CW [ ]DX [ ]HUMD	[X]	[ ]	[ ]
Constant Volume [ ]CW [ ]DX [ ]HUMD	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]
<b>e. Additional Air Filters:</b>			
Postfilter [ ]Multi [ ]DDAHU [ ]MUAHU [ ]VAVAHU [ ]CAV	[X]	[ ]	[ ]
Other [ ]HEPA [ ]BAG [ ]CARTRIDGE [ ]CHARCOAL	[X]	[ ]	[ ]
<b>f. Direct Expansion: Number</b>			
Window units	[X]	[ ]	[ ]
Thru-the-wall	[X]	[ ]	[ ]
Single zone	[X]	[ ]	[ ]
Other LIEBERT UNIT 1	[ ]	[X]	[ ]
<b>g. Distribution Boxes:</b>			
VAV [ ]FC [ ]REHEAT	[X]	[ ]	[ ]
CAV [ ]FC [ ]REHEAT	[X]	[ ]	[ ]
DUAL DUCT [ ]FC [ ]REHEAT MODIFIED DUAL DUCT TO SEMI-VAV	[ ]	[X]	[ ]
<b>h. Special Systems:</b>			
Type	[X]	[ ]	[ ]
Capacity	[X]	[ ]	[ ]
<b>i. Control Systems:</b>			
[X]Pneu [X]Electric [ ]DDC [X]DDC Upgrade	[ ]	[X]	[ ]
<b>j. Fans:</b>			
Exhaust EQUIPMENT, RESTROOMS, CONFERENCE AND KITCHEN AREA	[ ]	[X]	[ ]
Recirculating RETURN AIR FANS TO RELIEF DAMPERS	[ ]	[X]	[ ]

**B. COMMENTS**

- 1 THE COOLING TOWER WAS REPLACED AND A NEW CHILLER WAS INSTALLED IN 1992. HOWEVER THE CHILLER IS AN R-11 REFRIGERANT WHICH HAS BEEN PHASED OUT, THEREFORE THE CHILLER WILL HAVE TO BE RETROFITTED FOR A R-123 REFRIGERANT
- 2 THE ABSORPTION CHILLER IS USED AS A BACK-UP UNIT, HOWEVER, SOME REPAIRS ARE REQUIRED.
- 3 THE AIR HANDLING UNITS ARE 28 YEARS OLD AND WILL NEED TO BE REPLACED IN THE NEXT FIVE TO TEN YEARS. AT THIS TIME SOME REPAIRS ON VARIOUS PIECES OF EQUIPMENT WILL BE REQUIRED.
- 4 THE RETURN AIR IS THROUGH THE CEILING PLENUM.

**C. COMPONENT RATING:** (\$ 903,323 ) ( 56% ) = \$ 501,874  
 Possible Condition Component  
 Value Value Multiplier Value

ELECTRICAL/SERVICE & DISTRIBUTION

FAC # 293

DATE 08/30/96

INSPECTOR: JAO

A. SYSTEM DESCRIPTION

a. Service:

Substation:  Buckeye,  McCracken Power Plant

Primary Voltage:  13,200 Volts,  Volts

Switch Gear Circuit No.: 106/304

Transformer:

Manufacturer	Type	KVA	Secondary/Voltages	Room
<u>GENERAL ELECTRIC</u>	<u>AIR</u>	<u>1000</u>	<u>208/120</u>	<u>128M</u>

b. Distribution System:

- Motor Control Center (MCC) Room 500M Room  
 Panelboard  Fused,  Circuit Breakers  
 Voltage  480/3,  277/3,  208/3,  240/1  
 Amperage  1200A,  800A,  600A,  400A,  200A
- Lighting Room 500M Room 103M  
 Panelboard  Fused,  Circuit Breakers  
 Voltage  480/3,  277/3,  208/3,  240/1  
 Amperage  800A,  400A,  250A,  200A,  150A,  100A
- Building Power Room 500M Room 127M  
 Panelboard  Fused,  Circuit Breakers  
 Voltage  480/3,  277/3,  208/3,  240/1  
 Amperage  800A,  400A,  250A,  200A,  150A,  100A
- Isolated Ground Power Room \_\_\_\_\_ Room  
 Panelboard  Fused,  Circuit Breakers  
 Voltage  480/3,  277/3,  208/3,  240/1  
 Amperage  400A,  250A,  200A,  150A,  100A

c. Conduit and wire:

Conduit  Steel,  Aluminum,  PVC,  Flexible  
 Conductor  Copper,  Aluminum,  MIT  
 Wire:  PVC Cover,  Romex,  Armored Cable(BX)

d. Emergency System:

Battery backup Room 103 & 137M  
 Emergency Panel Room  
 UPS Room

e. Emergency Generator:

Size NONE KVA, Location, Room #

B. COMMENTS:

NONE

C. COMPONENT RATING: (\$ 156,028 ) ( 75% ) = \$ 116,511  
                                     Possible           Condition           Component  
                                     Value            Value Multiplier    Value

**ELECTRICAL/LIGHTING & POWER**

FAC # 293

DATE 08/30/96

INSPECTOR: JAO

**A. SYSTEM DESCRIPTION**

**a. Lighting (lamp type):**

	N/A	Sat	Att
Fluor 40 watt _____	[ ]	[X]	[ ]
Fluor 32 watt _____	[X]	[ ]	[ ]
Fluor Can _____	[X]	[ ]	[ ]
Incandescent <u>25 - 200 WATTS</u> _____	[ ]	[X]	[ ]
HID [X]Mercury [X]HPS [ ]Metal Halide _____	[ ]	[X]	[ ]
Low Voltage (12V) _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]

**b. Lighting Levels**

Halls _____	[ ]	[X]	[ ]
Rooms _____	[ ]	[X]	[ ]
Mechanical Rooms _____	[ ]	[X]	[ ]

**c. Fixture Condition**

Fixtures _____	[ ]	[X]	[ ]
Bulbs _____	[ ]	[X]	[ ]
Fixture Lens _____	[ ]	[X]	[ ]

**d. Receptacles & Switches:**

Wall Outlet 20A _____	[ ]	[X]	[ ]
GFIC Breakers _____	[X]	[ ]	[ ]
Switches _____	[ ]	[X]	[ ]
Cover Plates _____	[ ]	[X]	[ ]

**c. Special:**

Lightning Protection _____	[X]	[ ]	[ ]
Communication [X]Clock [ ]Public Address [X]Bells _____	[ ]	[X]	[ ]
Alarm [X]Fire [ ]Security _____	[ ]	[X]	[ ]
Telecommunication [X]Phones [X]Data [X]Cable TV _____	[ ]	[X]	[ ]
Data Systems _____	[ ]	[X]	[ ]
Fiber Optics _____	[X]	[ ]	[ ]

**B. COMMENTS**

- 1 FLUORESCENT FIXTURES NEED TO BE CLEANED AND RETUBED.
- 2 OFFICES NEED MORE ELECTRIC OUTLETS AND CIRCUITS FOR EQUIPMENT.

**C. COMPONENT RATING: (\$ 903,323 ) ( 75% ) = \$ 674,535**  
                                     Possible                      Condition                      Component  
                                     Value                      Value Multiplier                      Value

**SAFETY STANDARDS**

FAC # 293

DATE 08/30/96

INSPECTOR: JAO

**A. SYSTEM DESCRIPTION**

N/A    Sat    Att

**a. Exits:**

Stair Construction:

concrete _____	[ ]	[X]	[ ]
steel _____	[X]	[ ]	[ ]
wood _____	[X]	[ ]	[ ]
Number of Exit Stairs <u>TWO</u>	[ ]	[X]	[ ]
Number of Other Exits <u>TWO</u>	[ ]	[X]	[ ]

**b. Fire Rating:**

Construction Type: I X    II\_\_\_    III\_\_\_    IV\_\_\_    V\_\_\_    VI\_\_\_  
 Building Height: 50 ft., 5 stories

**c. Extinguishing Systems:**

Portable _____	[ ]	[X]	[ ]
Standpipe _____	[ ]	[X]	[ ]
Hose Cabinets _____	[ ]	[X]	[ ]
Hoses _____	[ ]	[X]	[ ]
Sprinklers _____	[ ]	[X]	[ ]
Gas Suppression _____	[X]	[ ]	[ ]
Other _____	[X]	[ ]	[ ]

**d. Detection & Alarm Systems:**

Pull Stations _____	[ ]	[X]	[ ]
Bells _____	[ ]	[X]	[ ]
Horns _____	[X]	[ ]	[ ]
Strobes _____	[X]	[ ]	[ ]
Annunciator Panel _____	[ ]	[X]	[ ]
Smoke Detectors _____	[ ]	[X]	[ ]
Halls _____	[X]	[ ]	[ ]
Elevators _____	[ ]	[X]	[ ]
Rooms _____	[X]	[ ]	[ ]
Equip Rooms _____	[ ]	[X]	[ ]
Ducts _____	[ ]	[X]	[ ]

**e. Lighting Systems:**

Exit Signs _____	[ ]	[X]	[ ]
Exit Lighting [ ] BATTERY [ ] EMC _____	[ ]	[X]	[ ]
Emergency Lighting [ ] BATTERY [ ] EMC _____	[ ]	[X]	[ ]
Emergency Generator _____	[X]	[ ]	[ ]

**f. Lightning Protection \_\_\_\_\_**

[X]    [ ]    [ ]

**B. COMMENTS:**

- 1 REPLACE THE TILE NOSING ON THE THIRD RISER ON THE WEST STAIR CASE.
- 2 INSTALL WINDOW WASHING TIE OFFS TO THE PENTHOUSE STEEL.

**C. COMPONENT RATING:**    (\$ 427,025 )    ( 75% ) = \$ 318,871  
                                  Possible            Condition            Component  
                                  Value            Value Multiplier    Value

BUILDING PERIMETER EVALUATION

FAC # 293

DATE 08/30/96

INSPECTOR: JAO

A. SYSTEM DESCRIPTION

a. Building Access:

	N/A	Sat	Att
Driveway _____	[ ]	[ ]	[X]
Loading Dock _____	[ ]	[X]	[ ]
Sidewalks			
Front _____	[ ]	[ ]	[X]
Side _____	[ ]	[ ]	[X]
Rear _____	[ ]	[ ]	[X]
Steps			
Front _____	[ ]	[X]	[ ]
Side _____	[ ]	[X]	[ ]
Rear _____	[ ]	[X]	[ ]
Ramp _____	[ ]	[X]	[ ]

b. Lawn and Landscaping:

Lawn _____	[ ]	[X]	[ ]
Shrubs _____	[ ]	[X]	[ ]
Trees _____	[ ]	[X]	[ ]
Undesirable Insect _____	[ ]	[ ]	[X]
Bedding Material _____	[ ]	[ ]	[X]
Watering System _____	[ ]	[X]	[ ]

c. General Site Information:

Signage _____	[ ]	[ ]	[X]
Address Identification _____	[ ]	[X]	[ ]
Security Lights _____	[ ]	[X]	[ ]
Street Lights _____	[X]	[ ]	[ ]
Drainage _____	[ ]	[X]	[ ]
Storm Drains _____	[ ]	[X]	[ ]

B. COMMENTS:

- 1 REMOVE AND REPLACE ASPHALT IN FRONT OF THE STORM DRAIN ON THE SOUTH SIDE.
- 2 RECAULK THE JOINTS BETWEEN THE SIDEWALKS ON ALL SIDES OF THE BUILDING.
- 3 SPRAY THE BUSHES FOR INSECT/MOLD CONTROL AND INSTALL BEDDING MATERIAL.
- 4 REINSTALL THE SIGNAGE ON THE EAST SIDE OF THE 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 is budgetary responsible. 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 and redecorating, wholesale replacement of building and system components. on going 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

A/C.....	AIR CONDITIONING
AHU.....	AIR HANDLING UNIT
ATT.....	ATTENTION
BLDG.....	BUILDING
BUR.....	BUILT UP ROOF
COND.....	CONDENSATE WATER
CAV.....	CONSTANT AIR VOLUME
CIP.....	CAST IN PLACE
CW.....	CHILLED WATER
DDAH.....	DUAL DUCT AIR HANDLING UNIT
DDHV.....	DUAL DUCT HIGH VELOCITY
DHWH.....	DOMESTIC HOT WATER HEATER
DHWR.....	DOMESTIC HOT WATER RETURN
DHWS.....	DOMESTIC HOT WATER SUPPLY
DHWT.....	DOMESTIC HOT WATER TANK
DX.....	DIRECT EXPANSION AIR CONDITIONER
EWC.....	ELECTRIC WATER COOLER
EMC.....	EMERGENCY
FPM.....	FEET PER MINUTE
GPM.....	GALLONS PER MINUTE
HID.....	HIGH INTENSITY DISCHARGE LIGHT
HPS.....	HIGH PRESSURE STEAM (125 PSI)
HUMD.....	HUMIDITY/HUMIDIFIER
HVAC.....	HEATING, VENTILATING AND AIR CONDITIONING
KV.....	KILOVOLTS
KVA.....	KILOVOLTS AMPS
KW.....	KILOWATTS
LC.....	LIQUID COOLED
LF.....	LINEAL FEET
LPS.....	LOW PRESSURE STEAM (15 PSI)
MPS.....	MEDIUM PRESSURE STEAM (50 PSI)
MUAHU.....	MAKE-UP AIR HANDLING UNIT
MZCV.....	MULTIZONE CONSTANT VOLUME AIR HANDLING
N/A.....	NOT APPLICABLE
PSI.....	POUNDS PER SQUARE INCH
RM.....	ROOM
RTU.....	ROOF TOP UNIT (HEATING OR A/C)
SAT.....	SATISFACTORY
SF.....	SQUARE FEET
S/P.....	STAND PIPE
SR.....	STEAM RETURN LINE
SS.....	STEAM SUPPLY LINE
SY.....	SQUARE YARDS
T&G.....	TOUNG AND GROVE
TR.....	TERMINAL REHEAT
V.....	VOLTS
VAV.....	VARIABLE AIR VOLUME

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