

FACILITY AUDIT REPORT

ENARSON HALL

#085

JUNE 30, 1997

ENARSON HALL

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

**ENARSON HALL
Table of Contents**

EXECUTIVE SUMMARY FOR ENARSON HALL	3
GENERAL BUILDING INFORMATION	4
BUILDING SYSTEMS INFORMATION	5
ENARSON HALL NARRATIVE	7
BUILDING EVALUATION SUMMARY	15
FOUNDATIONS	16
COLUMNS AND BEAMS	17
EXTERIOR WALLS	19
EXTERIOR WINDOWS AND DOORS	21
ROOFING	23
PARTITIONS AND DOORS	25
WALL FINISHES	27
FLOOR FINISHES	28
CEILINGS AND FINISHES	29
CONVEYING	30
MECHANICAL/PLUMBING DOMESTIC	31
MECHANICAL/HEATING	33
COOLING/VENTILATING	34
ELECTRICAL SERVICE AND DISTRIBUTION	36
ELECTRICAL LIGHTING AND POWER	37
SAFETY STANDARDS	38
BUILDING PERIMETER EVALUATION	40
BUILDING AUDIT METHODOLOGY1	42
ABBREVIATIONS	44
APPENDIX	45

EXECUTIVE SUMMARY FOR ENARSON HALL

Enarson Hall was constructed in 1909 and occupied in 1910 with a gross area of 32,378 SF. The 3-story building with basement was originally built as a student union and cafeteria. Up through 1954 several additions were added to the west side of the original building. In 1917 a lower level building addition of 1,718 SF was added on the north side original projection and occupied in 1917 to add additional dining space. In 1937 a building addition of 3,283 SF was added above the lower level dining area on the north side and occupied in 1938 to extend the lounge. The roof over the original building was replaced in 1983. In 1987 all of the additions to the west were removed and a final building addition of 7,574 SF was added and occupied in 1988 to house offices. The original building, now on the historical register, was partially remodeled at that time. The building is now used for student services, general administration and classrooms. There are general maintenance projects that need to be completed within the next five to ten years to repair normal wear items.

PROPOSED MAINTENANCE PROJECTS

ENARSON HALL #085

A. Corrective Maintenance Projects:	Control No
1. <i>Cut out mortar around west masonry chimney near the roof line and remortar. Remortar cracks in brick walls around the building.</i>	\$ 12,000 3423
2. <i>Repair and caulk the steps at the front entrance.</i>	\$ 8,000 3424
3. <i>Remove and replace app. 3,675 SF of subfloor and tile in the corridors, entrances and east stairwell.</i>	\$ 43,000 3425
4. <i>Replace 17,910 SF of carpet.</i>	\$ 36,000 3426
Sub Total	\$ 99,000
B. Building Improvement/Addition Projects:	
1. <i>Refinish the oak trim, paneling and stairs.</i>	\$ 35,000 3427
2. <i>Install a blowout steam relief vent in room 020D and a plywood enclosure with steel doors.</i>	\$ 12,000 3428
Sub Total	\$ 47,000
C. Building Component Replacements expected within the next 5-10 years:	
1. <i>Replace the Halon fire suppression system with a CFC free gas.</i>	\$ 30,000 3430
Sub Total	\$ 30,000
Total Cost for all Projects.....	\$ 176,000

RENOVATION PROJECTS IN PROGRESS OR RECENTLY COMPLETED

ENARSON HALL #085

Projects:	Control No.
<i>Install a new trash enclosure.</i>	\$ 30,000 5064-00254

GENERAL BUILDING INFORMATION

ENARSON HALL #085

BUILDING ADDRESS: *154 West Twelfth Avenue*

GROSS SQ. FT.: *44,953*

NET ASSIGNABLE SQ. FT.: *39,125*

MECHANICAL/CUSTODIAL AREA SQ. FT.: *5,516*

YEAR OF CONSTRUCTION: *1910, 1918, 1938, and 1988*

YEAR OF LAST RENOVATION: *1988*

NUMBER OF STORIES/BASEMENT: *Three Stories plus Full Basement*

AIR CONDITIONING (Percentage): *94%*

CURRENT USE: *Student Services and Offices*

TYPE OF CONSTRUCTION: *Reinforced Concrete and Masonry with Masonry Skin*

ESTIMATED REPLACEMENT COST: *\$ 6,458,000 **

COST PER GROSS SQUARE FEET: *\$143.61*

WHEELCHAIR ACCESSIBILITY: *From the south side of the building up the ramp to the south door of the 1988 building.*

OVERALL BUILDING CONDITION: *Satisfactory ***

NUMBER OF EXIT STAIRWAYS: *Two (2)*

NUMBER OF EXITS: *Four (4)*

AREA SHOP RESPONSIBILITY: *Southeast*

** Replacement Cost assigned June 1996 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

ENARSON HALL #085

HEATING:

Source - *McCracken Power Plant, HP Steam*

Type Heating System – *Hot Water*

Main Steam Feed (Line size, valve location) - *3" in room 026M*

Building Htg. Water (line size, valve location) – *4" in room 026M*

VENTILATION SYSTEM: *Air Handling Unit with powered exhaust*

COOLING:

BLDG. 93%, Chillers: *Reciprocating 121 Ton Bohn, 1987, R-22*

Window Units: *none* Thru-the-wall: *none*, Direct expansion units: *none*

HVAC CONTROL SYSTEM: *Pneumatic and Landis & Staefa DDC upgrade*

ELECTRIC:

Source	Size (KVA)	Primary/Secondary	Switchgear & Main Disc. (Rm.)
<i>106/304</i>	<i>500</i>	<i>13,200 / 208/120</i>	<i>WEST-AIR 026M</i>

PLUMBING SERVICES:

Water (size, valve location) - *3" to room 026M and 6" to room 025M*

Gas (size, valve location) - *none*

Domestic Hot Water (size, valve location) - *1.25" DHWS, .75" DHWR room 026M*

Compressed Air (size, location) - *.5" in room 026M and 025M*

SEWERS:

Storm - *2@4, 10@6"*, Sanitary -, Combined Storm/San- *1@6", 1@6"*

METERS:

Gas (size, location) -

Water (size, location) – *3" water in room 026M*

Electric (size, location) – *500KVA in room 028M*

ALARM SYSTEMS:

Fire Alarm, Main Panel Room *028M*, Remote Panel Location Room

Fire Pump @ GPM, Riser, Pump Location Room

Sprinkler, Valve Location Room *025M*, 100%, Partial, Limited

Horns/Strobes, Bells in Halls, Rooms

Other Alarms - *REMOTE ALARMED*

ELEVATORS:

Number *One*, Type (passenger, freight) *Passenger/Freight*

Manufacturer- *Dover*, Size- *2,100#, 55x61*

EMERGENCY GENERATOR:

Size- *none*, Location- *none*

ASBESTOS SURVEY (1986): *Pipe insulation was removed from the building in 1987. A small section that needs to be removed was noted in room 400M.*

ENARSON HALL NARRATIVE

HISTORY

Enarson Hall was constructed in 1909 and occupied in 1910 with a gross area of 32,378 SF. The three-story building with basement was originally built as a student union and cafeteria. In 1915 the first building addition was added on the southwest side to house a storage and ice room. In 1917 a second building addition of 1,718 SF was added on the north side and occupied in 1917 to add additional dining space. In 1918 a third building addition was added on the west side to house a temporary kitchen. In 1921 a fourth building addition was added on the west side to replace the 1918 kitchen space. In 1937 a fifth building addition of 3,283 SF was added on the north side above the basement dining area and occupied in 1938 to extend the lounge. Two more additions were added to the west in 1940 and 1954. The roof over the original building was replaced in 1984. In 1987 all of the additions to the west were removed and a final building addition of 7,574 SF was added and occupied in 1988 to house offices. The original building, now on the historical register, was partially remodeled. The building is now used for student services, general administration and classrooms.

The building is functioning as designed, at this time, and has held up well over the 87 years since built. There are general maintenance projects that need to be completed within the next five years to repair normal wear items. These items when completed will protect and enhance the building performance and create a satisfying visual environment for students, faculty, staff and visitors.

There are some pool classrooms, but the building use is primarily offices.

A review of the work orders indicated that there are a normal number of emergency and maintenance calls to the building.

In an interview with the building coordinator, it was learned that the occupants are basically satisfied with the overall condition and performance of the building systems.

Occupancy of the building, reported by the Office of University Resource Planning & Institutional Analysis in the C-1 Building Space Assignment Report dated June 1996 for a Net Assignable Area of 39,125 SF, is as follows; Student Services 51.1, Administrative and Staff offices 16.6%, Classroom 6.4%, Common Areas 14.7% Mechanical 6.7% and Custodial/Toilet 4.5%.

PRIMARY SYSTEMS

The structural components of the 1910 building consist of reinforced concrete perimeter footers, brick walls and a masonry skin and interior concrete footings with loadbearing masonry walls and brick or iron columns that support wood beams and the wood joist floors and roof. Brick, iron columns and wood floor joists and beams in the original building were wrapped with drywall for fireproofing during the 1988 renovation. The

structural components of the 1988 building consist of reinforced concrete perimeter footers and walls and interior concrete footings with columns or loadbearing walls that support the plane concrete first floor and steel beams and wood rafter roof system. These form the basic skeletal components of this three-story building with basement.

There are no major signs of settlement or movement in the building foundation or structural columns and supports. Some minor or local settlement cracks were noted in concrete walls on the west side, brick corners and at the northwest window of the 1910 building. Some of the concrete wall/sills of the 1938 addition are spalling from excessive moisture due to low grades and need to be patched and repaired.

Brick was installed on the loadbearing masonry walls to form the exterior walls of the 1910 building. A brick veneer was installed on loadbearing concrete block or reinforced concrete walls to form the exterior walls of the 1988 building. Limestone inserts and trim around the perimeter, the windows and at the parapet complete the architectural elements that accent both buildings.

The exterior brick of both buildings is in good condition. Some cracking and mortar deterioration at the west chimney and various areas of the building need to be tuckpointed where the contractor did not follow the drawings. The limestone inserts, trim and parapet caps needs to be cleaned and sealed to prevent spalling.

Openings in the brick for entrance doors and windows are accented with cut limestone or brick that form wall headers, sills and jambs. Other openings in the various wall elevations include louvered air intakes and exhaust louvers. The exhaust louvers on the west side in the chimney need to be caulked.

The thermopane windows are an aluminum double hung, casement, awning or fixed type. Some original single pane leaded glass windows are located at the east and south entrances of the 1910 building. An aluminum window was installed in wood trim on the north bay window. The wood trim needs to be painted. Aluminum panels were installed in the window frames on the west side of the new addition.

The main east and south entry doors are aluminum that were installed in the wood frames and are in good condition. Other entry doors are aluminum with side lights or steel doors to equipment rooms.

The original sloped roof consists of inverted wood bow beams with steel supports or steel trusses with wood purlins that support the wood rafters, T&G deck and slate shingles. The flat roof of the 1938 addition is a wood deck with insulation board, and an EPDM roof. The sloped roof of the 1988 addition consists of steel beams that support the wood rafters, plywood sheeting and a copper standing seam roof. The flat roof of the 1988 addition is a metal deck with insulation board, and an EPDM roof with gravel. The slate roofs and BUR roof of the original building were replaced in 1984 with new slate

and EPDM roofing. The roofs will need some minor repairs in the near future to repair or replace missing, loose or out of place slates.

The limestone parapet cap and cornice around the perimeter is covered with a copper cap. The original copper mansard roof on the 1938 building is corrugated copper and counter flashed to the EPDM roof and is in fair condition. The parapet on the 1988 building is brick and Drivite on the roof side with a limestone cap and copper counterflashing to the roof and is in good condition. The counterflashing around the perimeter and on the low sloped roof is in good to fair condition but needs to be recaulked at several open joints. The roof drainage system consists of a limestone cornice at the roof level and a wood box gutter lined with copper on the roof side with a parapet wall between, a copper collection box, scupper and copper downspouts to the perimeter drains. Some of the roof drains on the north side the building are run on the interior behind walls and are leaking according to maintenance records. The roof drain above room 200 is leaking and needs to be repaired.

INTERIOR SYSTEMS

The loadbearing brick skeleton of the 1910 building is enclosed with brick and a plaster finish to form interior walls, rooms and stairwells. Walls in the original building have plaster on brick or wood studs with wood oak trim, wainscot trim, chair rails and cornice trim around the rooms and entrance. Other walls are plaster on brick or wood studs. Some remodeled areas in the original building are separated with metal studs and drywall. The skeleton of the 1988 building is enclosed with loadbearing concrete block or metal studs and drywall to form interior walls and rooms. The partitions and walls are all in good to fair condition depending on the area.

The majority of the doors in this building are wood doors in wood frames while remodeled and new areas have wood doors in metal frames that are in good condition. Steel doors in steel frames are used at mechanical rooms and at fire doors. The metal fire doors in this building are in good to fair condition. Some door and/or door hardware problems are showing up in maintenance calls. Some of the fire doors do not close properly due to misaligned doors or hardware. Lock mechanisms and door adjustments are beginning to fail and will require continued maintenance.

The floors in the 1910 building had asbestos asphalt tiles, terrazzo or carpet in offices, conference and advisor rooms. During the 1987 remodel the asphalt flooring was removed or covered with 5/8" plywood underlayment installed on the tongue and groove flooring. The plywood subflooring has become loose and is cracking the vinyl floor tiles at the joints in the plywood. The hall flooring needs to be removed and reinstalled properly. The carpet floor fabric has stretched in all areas and presents a tripping hazard. The carpeting in the building needs to be replaced. The equipment rooms have exposed concrete floors that have been sealed. The floors throughout the building are in good to fair condition and have been fairly well maintained. The east

stairs are wood and are in good condition. The west stairwell was replaced in 1988 with a steel and concrete stair that wraps around the new elevator.

The ceilings in the building consist of suspended 2x4 mineral fiber tiles, drywall, tin, plaster or are exposed. The ceilings in the east stairwell of the 1910 building consist of attached tin metal panels with wood trim. These panels are in fair condition and only need minor repairs. The ceilings in new and remodeled areas of this building consist of a suspended aluminum 2x4 grid system with mineral fiber tiles. Some ceilings in new first floor are arched drywall attached to the roof joists while the ceilings on the third floor consist of a plaster barreled ceiling attached to the steel truss wood purlins above. The original plaster ceilings are in good to fair condition. Some ceiling tiles need to be replaced where roof, duct and/or sprinkler pipe leaks have occurred. Some light fixtures, registers, grills and diffusers need to be cleaned.

The partitions, doors, walls, and ceilings vary in their condition rating depending on the location in the building and what remodeling has been completed. The partitions, doors, hardware, walls, floors, and ceilings have held-up relatively well after 87 years of service.

SERVICE SYSTEMS

The major service systems, domestic cold and hot water, compressed air, sanitary waste and storm drainage all appeared to be in good condition and functioning at this time. The plumbing drainage system did not appear to have any problems. There was adequate water pressure at the faucets and fixtures on all of the floors. An instantaneous domestic hot water heater with a return pump produces the Domestic Hot Water. The piping for the domestic hot and cold water systems did not appear to have any problems at this time. The restroom fixtures were functioning properly although maintenance records indicated premature failures of the flush valves.

The passenger/freight elevator at the SW corner meets ADA requirements. The elevator was operating and maintenance records did not indicate any problems.

A 3" steam line feeding the building is tapped into the High Pressure Steam loop located in front of the building. Building heating water is pumped through a Low Pressure Steam (LPS) to hot water heat exchanger located in mechanical room 026M. The desuperheater in room 026M did not appear to be operating properly.

Hot water is pumped from the hot water heat exchanger to the building heating systems. The hot water heating system supplies convectors and radiators located on the outside walls under windows, fan coil units at entrances and unit heaters. The heating system appears to be operating properly. The hot water heating system was replaced in the original building in 1988 when the building was remodeled.

The cooling system consists of a 121 Ton Bohn chiller using four reciprocating R-22 compressors installed in 1987 and is cooled by a Bohn DX condenser. A chilled water pump supplies chilled water to the VAV air handling unit located in mechanical room 026M. The VAV air handling unit supplies cool air to VAV boxes. The VAV boxes control the room temperature in the various rooms and zones throughout the building

Controls for the heating and cooling system are pneumatic and electric. A DDC upgrade to replace specific control modules to provide central communication has been installed.

Exhaust fans located throughout the building remove air from restrooms, common areas, conference rooms and mechanical rooms.

ELECTRIC

One 500 KVA 208/120 volt transformer at the northwest exterior wall supplies the electrical service to Enarson Hall. Switchgear located in RM 028M feeds the lighting and power distribution panels throughout the building. A MCC panel in room 028M distributes power to mechanical equipment in room 026M. Panel sizes vary throughout the building depending on the load. At about 11.1 watts per square foot the building appears to just have an adequate power supply.

The building has 40 watt fluorescent light fixtures throughout most of the building. Some areas have had the newer 32 Watt electronic ballast and tube fixtures installed during room renovation projects. Some stairwells and halls are lighted with incandescent fixtures. The incandescent bulbs need to be replaced with fluorescent bulbs. A program to replace the 40 watt fluorescent fixtures with 32 watt fluorescent fixtures would save energy. There are an adequate number of convenience and computer lab outlets throughout the building.

SAFETY STANDARDS

Enarson Hall is equipped with a manual fire alarm system consisting of pull stations at stairwells and exits that provide local fire annunciation from the panel to all floors. Emergency lighting is provided by battery packs located at the fixture located throughout the building. Lights are installed in the corridors, rooms and in stairwells. There are lighted exit signs with backup battery packs at each exit.

The building safety systems consist of a standpipe with a local hose station located adjacent to the stairwells. There are no hoses in the cabinets. An outlet for fire department use is located at each station. The building is also protected with a wet and dry sprinkler system located in room 025M. Dry sprinklers protect the attic areas and third floor piping located in unheated areas. A Halon suppression system is located in the electrical room 028M.

Automatic door openers are installed at the south entrance for wheelchair access.

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, identified asbestos containing materials in the building. All asbestos piping and asbestos containing materials including floor tiles were supposed to have been removed during any the 1988 renovation. A one foot section of apparent asbestos pipe insulation in room 400M needs to be removed. It is unclear if asbestos floor tiles were removed or covered up during the renovation.

PERIMETER

About 95 percent of the sidewalks around the building are in good condition. Some sidewalks on the west side have small sections of spalling blacktop, several patches, and cut off pipe in the sidewalk. The pipe needs to be removed and the blacktop replaced with concrete walks.

Some concrete and hand railing repairs are required on the ramp, steps and porch where the pour rock was not leveled with the concrete. Water collects in the pocket, rusts the railing and cracks the concrete when it freezes. The handrail to the east door of the building and the ramp needs to be repaired and painted.

Nonslip treads on the steps next to the main ramp at the south entrance need to be reattached and releveled in several places.

The lawn area on the north and south side has bare spots in the grass. There is no mulch around the shrubbery. All of the shrubbery and trees need to be trimmed and shrubbery installed. There are drainage problems at the south, northeast, north and northwest side around the 1917 extension. The south side needs to be regraded from the building to the sidewalk. A drain needs to be installed on the northeast corner and the area regraded to the new drain. The two area drains on the northwest side around the condenser need to be lowered and the area around regraded. Low spots in the lawn need to be releveled. All of the storm drains around the building should be cleaned.

Entrances to the building are well lighted and area, flood, sidewalk and street lighting appear to be distributed properly. The building signs are in good condition.

**Minor Maintenance Projects (Less Than \$5000) EXTERIOR
ENARSON HALL #085 OCTOBER 30, 1997**

- 1 Repair the loading dock step treads.
Workorder #5064-283434-61
 - 2 Trim the trees and shrubs around the whole building.
Workorder #5063-025710-55
 - 3 Patch the roof leaks and replace missing, loose or out of place slate shingles over the north side of the building.
Workorder #01-5064-270804-73
 - 4 Repair handrail inserts and level the anchor material in the concrete. Paint the hand rail on the south ramp and to the west doors.
Workorder #5064-283434-61
 - 5 Clean the drains in the areawells clean the pipe to the manhole.
Workorder #5064-283435-68
 - 6 The aluminum counterflashing over the dock entrance needs to be repaired and recaulked.
Workorder #5064-283438-73
 - 7 The copper on the 1938 mansard roof needs to be repaired and sealed.
Workorder #5064-283442-73
 - 8 Repair the copper mansard roof, flashings and lead wall covering on the north section.
Workorder #5064-283442-73
 - 9 Paint and caulk the bay window.
Workorder #5064-283450-68
-
- 1 Tuckpoint openings in the brick at the northwest and east corner on the north section, the northeast and southeast corner, the front steps and loading dock of the main building.
 - 2 Patch the spalling concrete on the north section and seal with an epoxy sealant.
 - 3 Lower the two drains on the northwest side and install a new drain on the northeast side of the building and regrade.
 - 4 Install weather-strips at all entrance doors (7).
Control #3431

**Maintenance Projects (Less Than \$5000) INTERIOR
ENARSON HALL #085 OCTOBER 30, 1997**

1. Replace insulation removed from piping for repairs and leaking valve in equipment room 26M.
Workorder #5064-293573-68
 2. Repair the plaster in the east stairwell x240s and paint.
Workorder #5064-293574-68
 3. The louver to room 026M needs to be cleaned. The louvers to 420M need to be cleaned and caulked at the brick opening and the exhausts on the south need to be cleaned.
Workorder #5064-293581-68
 4. Patch the drywall and repaint in the south basement women's restroom wall.
Workorder #5064-293604-68
 5. Patch the drywall and repaint the south basement wall in the southeast corner of room 15.
Workorder #5064-293604-68
 6. Repair the plaster wall on the north wall and paint
Workorder #5064-293604-68
 7. Some fire doors do not close properly and need to be repaired.
Workorder #5064-293608-72
 8. Replace the drywall and ceramic tile in the women's restroom 19t.
Workorder #5064-293604-68
 9. Remove the asbestos insulation in room 400M (app. 1 foot).
Workorder #5065-036056-84
 10. Replace water damaged ceiling tiles.
Workorder #5064-293615-68
 11. Repair the opening next to the exhaust fan in room 26M.
Workorder #5064-293645-73
 12. Install compact fluorescent lights in the stairwell fixtures.
Workorder #5064-293646-68
-
- 1 Install backflow preventors on the domestic water feed in room 026M.
 - 2 An exhaust fan needs to be installed in room 020M to remove excess heat from the room.
Control #3432

BUILDING EVALUATION SUMMARY

a. BUILDING INFORMATION

Fac # 085, Facility Name: ENARSON HALL Date: 10/30/97, Inspector: JAO

Year Constructed: 1910, Gross Sq. Ft 44,953, Net Sq. Ft 39,125

Replacement Cost \$ 6,458,000 *

II. COMPONENT RATING

COMPONENT	BUILDING COMPONENT PERCENTAGE OF TOTAL COST **	BUILDING COMPONENT REPLACEMENT COST	BUILDING COMPONENT CONDITION VALUE MULTIPLIER	BUILDING COMPONENT CURRENT VALUE
Foundation	4.89	315,796	81	254,871
Columns and Beams	13.69	883,777	81	713,638
Exterior Walls	8.00	516,672	69	358,682
Ext. Windows & Doors	4.05	261,549	90	235,568
Roofing & Flashing	4.98	321,608	82	263,580
Partitions & Doors	7.55	487,579	90	439,107
Wall Finishes	3.11	200,844	77	154,021
Floor Finishes	6.67	430,749	77	330,051
Ceilings & Finishes	6.99	451,414	79	355,915
Conveying	2.49	160,804	90	144,647
Plumbing	4.00	258,320	90	232,469
Heating	8.53	550,867	90	495,933
Cooling and Vent.	9.79	632,238	86	541,174
Elect. Serv. & Dist.	1.69	109,140	90	98,153
Lighting and Power	11.36	733,629	80	586,857
Safety Standards	2.22	143,368	90	129,149
TOTALS	100.00	6,458,000	83	5,333,815

a. BUILDING RATING SUMMARY

Overall Building Rating = **83%**

α. Replacement Cost assigned June 1996 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 # 085

DATE 10/30/97

INSPECTOR: JAO

COMPONENT RATING: \$ 315,668 x 81% = \$ 254,871

Possible Value	x	Condition Value Multiplier	=	Component Value
-------------------	---	-------------------------------	---	--------------------

SYSTEM DESCRIPTION

Sat Att

α. Footings:

- [X] [] Interior Footings/Piers..... *with concrete or iron columns*
- [X] [] Interior Footings/Bearing Walls.....*both buildings*
- [X] [] Perimeter Footings
- [] [] Grade Beams
- [] [] Piles
- [] [] Caissons

b. Foundation Wall Materials:

- [X] [] Concrete Cast-in-place
- [] [] Concrete Block.....
- [] [] Stone
- [X] [] Brick..... *in 1910 building*
- [] [] Other.....

c. Waterproofing and Underdrain:

- [X] [] Coating..... *in 1988 building*
- [] [] Membrane
- [] [] Board.....
- [X] [] Drain Tile *in window wells and front of 1910 building and around 1988 section*

d. Slab on Grade:

- [] [] Plain
- [] [] Reinforced.....

e. Ground/Basement Floor Slab:

- [X] [] Plain
- [X] [] Reinforced.....

f. Special Substructures:

- [] []

COMMENTS:

Noted some cracking and spalling in sections of concrete of the 1918 addition and in a wall of the 1910 addition replaced in 1988. Spalling appears to be a result of water in the adjacent area not being drained properly.

COLUMNS AND BEAMS

FAC # 085

DATE 10/30/97

INSPECTOR: JAO

<p>COMPONENT RATING: \$ <u>883,871</u> x <u>81%</u> = \$ <u>713,638</u></p> <p style="text-align: center;"> <small>Possible Condition Component</small> <small>Value Value Multiplier Value</small> </p>
--

SYSTEM DESCRIPTION

Sat Att

α. Columns and Beams:

- [] Reinforced Concrete..... *columns in 1988 addition*
- [] Precast Concrete
- [] Steel.....*some iron columns in 1910 building*
- [] Fireproofing.....*drywall on wood joists and beams*
- [] Wood.....*beams in the 1910 building*
- [] Other.....*brick columns*

b. Floor Joists:

- [] Concrete.....
- [] Steel Trusses.....
- [] Wood*in the 1910 & 1938 building*
- [] Other.....

d. Floor Decks:

- [] Concrete Slab..... *plane on loadbearing walls or columns*
- [] Precast Slab
- [] Metal Deck w/concrete fill .*on west end of 1910 building*
- [] Wood *T&G and plywood in the 1910 building*

e. Roof Joists:

- [] Concrete.....
- [] Steel Trusses.....*in the 1910 building*
- [] Wood*in the 1910 & 1938 and 1988 building*

f. Pitched Roof System:

- [] Pitch []3/12, []6/12, []10/12, 15/12.... *in both areas*
- [] Dormers*in the 1910 building*
- [] Steel Rafters. *in the 1910 building over barrel vault area*
- [] Wood Rafters..... *in both buildings*
- [] Fireproofing..... *drywall on rafters*
- [] Underlayment *1" T&G and 5/8" plywood*
- [] Insulation
- [] Ventilation *natural*
- [] Other.....

g. Flat Roof System:

- [] Slope.....0.25” per foot
- [] Concrete Deck..... in the 1988 section
- [] Precast Slab
- [] Metal Deck w/concrete fill..... in the 1988 building
- [] Metal Deck w/insulation
- [] Wood Deckat ridge of 1910 and 1938 addition
- [] Insulation..... 1.5” high density in the 1988 building
- [] Other.....

COMMENTS:

The plywood subflooring was not attached properly to the T&G wood floor of the 1910 building and is causing the floor tiles to crack at the joints of the plywood. The plywood needs to be removed and reinstalled properly and new vinyl tile installed.

EXTERIOR WALLS

FAC # 085

DATE 10/30/97

INSPECTOR: JAO

COMPONENT RATING: \$ <u>516,548</u> x <u>69%</u> = \$ <u>358,682</u> <div style="display: flex; justify-content: space-around; font-size: small;"> Possible Value Condition Value Multiplier Component Value </div>
--

SYSTEM DESCRIPTION

Sat Att

α. Walls:

- Concrete []CIP []PRECAST
- Concrete Block
- Brick [X]MASONRY [X]VENEER*loadbearing*
- Slab Veneer
- Window/Curtainwall
- Metal Siding*lead and copper on the 1938 addition*
- Other*drivit on roof side of 1988 end walls*

b. Wall Lintels Over Openings:

- Concrete []PRECAST []CIP
- Limestone
- Brick Masonry
- Steel
- Wood*on the bay window*
- Other

c. Wall Trim:

- Limestone
- Brick
- Marble.....
- Wood
- Other

d. Finishes:

- Plain.....
- Stucco*entrance soffits*
- Paint.....*on some window and door trim*
- Parging.....
- Exposed Aggregate
- Drivit
- Other

e. Exterior Wall Backing System:

- Concrete.....*in the 1988 and 1917 addition*
- Concrete Block*in the 1988 addition*
- Brick Masonry*in the 1910 building*
- Clay Tiles.....

- [] [] Metal Studs.....
- [] [] Wood Studs

COMMENTS:

The concrete walls of the 1917 addition at the window sills are spalling and need to be patched and sealed.

Cracks and open joints in the brick and limestone need to be tuckpointed caulked or sealed to prevent water penetration. The west chimney needs to be tuckpointed four feet below the rake line.

The lead and copper wall panels on the 1938 addition need to be repaired.

EXTERIOR WINDOWS AND DOORS

FAC # 085

DATE 10/30/97

INSPECTOR: JAO

COMPONENT RATING: \$ 261,718 x 90% = \$ 235,568
Possible Condition Component
Value Value Multiplier Value

SYSTEM DESCRIPTION

Sat Att

α. Window materials:

- Wood *trim on bay window*
- Steel
- Alum..... *new and replacement windows*
- PVC
- Other

b. Windows type & number:

- Double Hung 22
- Awning 72
- Casement 28
- Pivoted.....
- Sliding
- Fixed..... 100
- Other *6 leaded glass fixed panes at the door entrances*

c. Window glazing:

- Single pane *leaded glass at doors*
- Double pane..... *on all windows*
- Other..... *3 fixed metal panels at the west doors*

d. Window Wall and/or Store Front:

- Store Front.....
- Vestibule..... *aluminum with wood frame and trim*
- Single pane *leaded glass at doors*
- Double pane.....
- Other

e. Door Materials:

- Wood
- Steel *to mechanical rooms*
- Alum..... *on all entrance doors*

f. Doors type & number:

- Vestibule Double *east door and south door*
- Double *at main southwest entrance*
- Exit *four*
- Stair Exit..... *two*
- Garage.....

- Special
- g. Hardware:**
- Automatic opener *at south ramp door*
- Push Bar Openers wt Closures
- Key Cards

COMMENTS:

The wood trim on the bay window needs to be painted and caulked.

ROOFING

FAC # 085

DATE 10/30/97

INSPECTOR: JAO

COMPONENT RATING: \$ 321,408 x 82% = \$ 263,580
Possible Condition Component
Value Value Multiplier Value

SYSTEM DESCRIPTION

Sat Att

α. Roof Covering:

- Built-up asphalt Coal Tar Modified
- Built-up w/gravel asphalt Coal Tar.....
- Asphalt Roll.....
- Asphalt Shingle
- Copper *1988 & 1938 building 6,608 SF*
- EPDM..... *1988 & 1938 building 2,975 SF*
- EPDM w/gravel..... *1988 building 320 SF*
- Other..... *Slate shingles on 1910 building 8,819 SF*

b. Flashing:

- Materials: Cu Galv Al EPDM SS PVC
- Base & Counter*866 LF*
- Cap.....*1,500 LF*
- Reglet.....*in walls 1082 LF*
- Valley & Ridge.....

c. Gravel Stop & Edge Strips:

- Type SS Galv Al Cu PVC

d. Drainage:

- Gutters w/ Exterior Downspouts *copper 200 LF*
- Scuppers w/o Exterior Downspouts*450 LF*
- Drains w/ Interior Storm Drains *on north side*
- Emergency Overflow.....*over the edge*

e. Parapets:

- Concrete.....
- Brick/Limestone*977 LF*
- Precast
- Other.....*copper coping 55 LF*

f. Parapet Caps:

- Metal SS Galv Al Cu PVC*655 LF*
- Tile
- Limestone*limestone with copper caps 322 LF*
- Precast
- Other

h. Roof accessories:

- [] [] Lightning Protection
- [] [] Roof Curbs
- [] [] Equipment Frames.....
- [] [] Pitch Pockets
- [] [] Other

COMMENTS:

The slate roofs need to be repaired where slates are missing, loose or cracked.

The drains on the roof need to be cleaned.

The copper on the 1938 mansard roof needs to be repaired and sealed.

The aluminum counterflashing over the dock entrance needs to be repaired and recaulked.

PARTITIONS AND DOORS

FAC # 085

DATE 10/30/97

INSPECTOR: JAO

COMPONENT RATING: \$ <u>478,851</u> x <u>90%</u> = \$ <u>439,107</u> <div style="display: flex; justify-content: space-around; font-size: small;"> Possible Value Condition Value Multiplier Component Value </div>
--

SYSTEM DESCRIPTION

Sat Att

a. Partition Framing:

- [] Concrete Block *....in 1988 addition and west end of 1910*
- [] Clay Tile Block.....
- [] Glazed Block
- [] Masonry *..... loadbearing in 1910 building*
- [] Wood Stud *.....in 1910 building*
- [] Metal Stud *.....in 1988 addition and remodel of 1910*
- [] Other *.....brick in 1910 and 1988 building*

b. Special partitions and Walls:

- [] Demountable.....
- [] Toilet
- [] Screen Walls.....
- [] Glass
- [] Gate.....
- [] Other.....

c. Wall Material:

- [] Plaster *.....in 1910 and 1938 building*
- [] Drywall *.....in 1988 building*
- [] Glass *.....interior side of vestibules*
- [] Wood Paneling *.....in 1910 and 1938 building*
- [] Composite Paneling *.....in 1988 addition*
- [] Steel Panels.....
- [] Tile/Glazed
- [] Other.....

d. Interior Doors & Frames:

- [] Met Door/Met Frame *..... in both buildings*
- [] Wood Door/Wood Frame *.....in 1910 and 1938 building*
- [] Wood Door/Metal Frame *.....in 1988 building*
- [] Glazing
- [] Roll-up.....
- [] Sliding
- [] Other *..... fire doors with glass lights*

e. Hardware:

- [] Door Knobs Levers

- Door Closures.....
- Kick/Push Plates.....
- Security & Detection.....
- Automatic Openers.....
- Fire Door Magnets.....
- Other.....

COMMENTS :

Aluminum doors have been mounted in oak wood frames at the entrances.

The fire doors have been installed next to the east and west stairwells. Some doors do not close properly and need to be repaired.

Repair the wall in room 19t.

WALL FINISHES

FAC # 085

DATE 10/30/97

INSPECTOR: JAO

COMPONENT RATING: \$ 200,880 x 77% = \$ 154,021
Possible Condition Component
Value Value Multiplier Value

SYSTEM DESCRIPTION

Sat Att

a. Wall Finishes:

- [] Paint
- [] Vinyl Wall Coverings
- [] Paneling Prefinished *wood and acoustical panels*
- [] Cork
- [] Wallpaper.....
- [] Ceramic Tile *in bathrooms*
- [] Marble.....
- [] Stone
- [] Trim & Wainscot *in oak*
- [] Decoration.... *oak trim and inlays throughout the building*
- [] Glass.....
- [] Other *brick at handicap entrance*

COMMENTS:

Finishes are generally in good condition on all floors. The oak trim around entrances fireplaces, ceilings, stair rails and wainscot trim is in fair condition. Cleaning and refinishing the trim would add character to the building.

FLOOR FINISHES

FAC # 085

DATE 10/30/97

INSPECTOR: JAO

COMPONENT RATING: \$ 430,457 x 77% = \$ 330,051
Possible Condition Component
Value Value Multiplier Value

SYSTEM DESCRIPTION

Sat Att

- a. Carpet:**
- Rolled*in most offices and open spaces*
- Tile.....
- b. Concrete Topping:**
- Clear Sealant..... *in mechanical rooms and west stair*
- Antislip
- Epoxy.....
- c. Resilient:**
- Vinyl Composition Tile.....
- Vinyl/Plastic Tile.....
- Asphalt Tile *under underlayment*
- Linoleum Tile
- Vinyl Roll
- Rubber
- d. Ceramic Tile** Mosaic Quarry Pavers
- f. Masonry** Marble Granite Slate Brick.....
- g. Terrazzo** Marble Granite
- h. Wood** Tiles T&G Hardwood Planking
- i. Pedestal** Vinyl Tiles Grills Supply Air Vent....
- j. Base Molding:**
- Vinyl.....
- Wood
- Terrazzo.....
- Ceramic Tile *in restrooms*
- Masonry.....
- Other *marble at terrazzo flooring*

COMMENTS:

Carpet installed in 1988 throughout the building has stretched and failed prematurely and needs to be replaced.

Vinyl tiles are cracked at subflooring joints and need to be replaced.

CEILINGS AND FINISHES

FAC # 085

DATE 10/30/97

INSPECTOR: JAO

COMPONENT RATING: \$ 451,119 x 79% = \$ 355,915

Possible Value	x	Condition Value Multiplier	=	Component Value
-------------------	---	-------------------------------	---	--------------------

SYSTEM DESCRIPTION

Sat Att

a. System Type:

- Exposed *in equipment rooms*
- Applied to Structure *plaster*
- Suspended Stud *supporting plaster and drywall*
- Suspended Steel Grid
- Suspended Aluminum Grid
- Suspended Sealed Grid.....
- Suspended Concealed Spline.....

b. Materials:

- Drywall *in restrooms and 1988 addition*
- Plaster *on some ceilings and barrel vault 3rd floor*
- Mineral Fiber Board *2x4 in renovated areas*
- Fiberglas Board.....
- Cementitious Fiber Board.....
- Metal Pan Tile
- Other *tin panels over east stairs*

c. Finishes:

- Paint.....
- Prefinished Paint vinyl Fabric
- Other.....

d. Openings & Inserts:

- Air Distribution
- Lighting Fixtures
- Access Panels
- Sprinklers.....
- Smoke Detectors.....
- Speakers.....
- Skylights
- Other

COMMENTS

The tin panel ceiling in the east stairwell is in fair condition.

CONVEYING

FAC # 085

DATE 10/30/97

INSPECTOR: JAO

COMPONENT RATING: \$ <u>160,704</u> x <u>90%</u> = \$ <u>144,647</u> <small>Possible Condition Component Value Value Multiplier Value</small>

SYSTEM DESCRIPTION

Sat Att

a. Elevators:

- [] [X] Number *One Dover*
- [X] [] Type *Passenger/Freight*
- [X] [] Speed *100 FPM*
- [X] [] Capacity (lbs.) *2100 Lbs.*
- [X] [] Dimensions *55"x66"*
- [X] [] Door Operation [X]Side []Center:.....
- [X] [] Accessible Codes.....
- [X] [] Fire Codes.....

b. Lifts and Hoists:

- [X] [] Number *one*
- [X] [] Type *Matot 300# dumbwaiter*

c. Moving Stairs and Walks:

- [] [] Number.....
- [] [] Type.....

d. Conveyors:

- [] [] Number.....
- [] [] Type.....

COMMENTS:

None

MECHANICAL/PLUMBING DOMESTIC

FAC # 085

DATE 10/30/97

INSPECTOR: JAO

COMPONENT RATING: \$ 258,274 x 90% = \$ 232,469
Possible Condition Component
Value Value Multiplier Value

SYSTEM DESCRIPTION

Sat Att

a. Services Available:

- [] Cold Water3"
- [] Backflow Valve
- [] Hot Water *1.25" in room 026M*
- [] [] Natural Gas
- [] Compressed Air.....*for equipment and sprinklers*
- [] Other.....*6" fire line to room 025M*

b. Piping & Fittings:

- [] Cast Iron
- [] Ductile Iron
- [] Copper Pipe
- [] Copper Tubing.....
- [] Steel
- [] [] Galv. Steel
- [] [] Other.....

c. Water Heaters:

- [] [] Gas.....
- [] [] Steam Converter/Tank.....
- [] Steam Instantaneous *1.25" DHWS*
- [] [] Central Hot Water.....

d. Drainage:

- [] Storm Drains.....
- [] Sanitary Drainage
- [] Floor Drains

e. Fixtures: Number

- [] Water Closets *18*
- [] Urinals *7*
- [] Lavatory Sinks *14*
- [] Kitchen Sinks *2*
- [] Service Sinks *4*
- [] [] Showers
- [] Electric Water Coolers *4*

f. Sprinkler Systems:

- Wet *in all areas*
- Dry..... *in attic areas*
- Carbon Dioxide
- Halon *in room 028M*

g. Standpipe Systems:

- [Wet [Dry]
- Fire Hose Valves [2.5" [1.25"
- Hose Cabinets, Hoses [Installed [Removed]

COMMENTS:

A back flow valve needs to be installed in the domestic water line.

Repair sprinkler piping leaks in the wet sprinkler piping system.

MECHANICAL/HEATING

FAC # 085

DATE 10/30/97

INSPECTOR: JAO

COMPONENT RATING: \$ <u>550,985</u> x <u>90%</u> = \$ <u>495,933</u> <div style="display: flex; justify-content: space-around; font-size: small;"> Possible Value Condition Value Multiplier Component Value </div>
--

SYSTEM DESCRIPTION

Sat Att

a. Heat Source:

- Central Plant Steam3" HPS
- Central Plant Hot Water

b. System Type:

- Steam
- Hot Water3500# per Hr hot water converter
- Warm Air.....

c. Air Handling Units:

- Multizone Preheat Heating Reheat.....
- Dual Duct Preheat Heating Reheat.....
- Make-up Air Preheat Heating Reheat.....
- Variable Volume Air Preheat Heating Reheat
- Constant Volume Air Preheat Heating Reheat....
- Other

d. Air Filters:

- Prefilter Multi DDAHU MUAHU VAVAHU CAV
- Bagfilter Multi DDAHU MUAHU VAVAHU CAV
- Other

e. Space Equipment:

- Radiators.....
- Convectors.....
- Unit Heaters.....
- Reheat Coils
- DD Boxes
- VAV Boxes
- 2-Pipe Fan Coil.....at entrances
- Other

f. Control Type:

- Pneu Electric DDC DDC Upgrade.....

COMMENTS:

The tube bundle was just replaced in the heat exchanger. The old bundle had carbon scoring at the steam inlet indicating a superheated condition.

COOLING/VENTILATING

FAC # 085

DATE 10/30/97

INSPECTOR: JAO

COMPONENT RATING: \$ 632,485 x 86% = \$ 541,174
Possible Condition Component
 Value Value Multiplier Value

SYSTEM DESCRIPTION

Sat Att

- a. System/Capacity:**
- [] Water *121 Tons*
- [] DX
- b. Chillers Capacity/Year/Refrigerant/Manufacturer:**
- [] Centrifugal
- [] Reciprocating..... *4-30 Ton/1987/R-22/Bohn compressors*
- [] Absorption
- c. Condenser Side:**
- [] Type/Capacity []CW [X]DX *121 ton*
- d. Air Handling Units:**
- [] Multizone []CW []DX []HUMD
- [] Dual Duct []CW []DX []HUMD
- [] Make-up Air []CW []DX []HUMD
- [X] Variable Volume [X]CW []DX []HUMD
- [] Constant Volume []CW []DX []HUMD
- e. Additional Air Filters:**
- [] Postfilter []Multi []DDAHU []MUAHU []VAVAHU []CAV
- [] Other []HEPA []BAG []CARTRIDGE []CHARCOAL
- f. Direct Expansion: Number**
- [] Window units
- [] Thru-the-wall.....
- [] Single zone
- g. Distribution Boxes:**
- [] VAV []FC []REHEAT
- [] CAV []FC []REHEAT.....
- [] DUAL DUCT []FC []REHEAT
- h. Special Systems:**
- [] Type.....
- [] Capacity.....
- i. Control Systems:**
- [] [X]Pneu [X]Electric []DDC [X]DDC Upgrade.....
- j. Fans:**
- [X] Exhaust equipment *4 exhaust fans*
- [X] Recirculating..... *return air fan*

COMMENTS:

An exhaust fan needs to be installed in room 020M to remove excess heat from the room.

The louver to room 026M needs to be cleaned and the louvers to 420M and the exhausts on the south need to be cleaned and caulked at the brick opening.

ELECTRICAL SERVICE AND DISTRIBUTION

FAC # 085

DATE 10/30/97

INSPECTOR: JAO

COMPONENT RATING: \$ <u>109,049</u> x <u>90%</u> = \$ <u>98,153</u> Possible Condition Component Value Value Multiplier Value
--

SYSTEM DESCRIPTION

a. Service:

Substation: Buckeye, McCracken Power Plant

Primary Voltage: 13,200 Volts, Volts

Switch Gear Circuit No.: 106/304

Transformer:

Manufacture	Type	KVA	Secondary/Voltages	Room
WEST	MINERAL	500	208/120	northwest corner in vault

b. Distribution System:

1. Motor Control Center (MCC) Room 028M

Panelboard Fused, Circuit Breakers

Voltage 480/3, 277/3, 208/3, 240/1

Amperage 1200A, 800A, 600A, 400A, 200A

2. Lighting Room 028M

Panelboard Fused, Circuit Breakers

Voltage 480/3, 277/3, 208/3, 240/1

Amperage 800A, 400A, 250A, 200A, 150A, 100A

3. Building Power Room 028M

Panelboard Fused, Circuit Breakers

Voltage 480/3, 277/3, 208/3, 240/1

Amperage 800A, 400A, 250A, 200A, 150A, 100A

4. Isolated Ground Power 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

Emergency Panel Room

UPS Room

e. Emergency Generator:

Size ____ KVA, Location, Room #

COMMENTS: *None*

ELECTRICAL LIGHTING AND POWER

FAC # 085

DATE 10/30/97

INSPECTOR: JAO

COMPONENT RATING: \$ <u>733,498</u> x <u>80%</u> = \$ <u>586,857</u> <div style="display: flex; justify-content: space-around; font-size: small;"> Possible Value Condition Value Multiplier Component Value </div>
--

SYSTEM DESCRIPTION

Sat Att

a. Lighting (lamp type):

- [] [X] Fluor 40 watt..... *in majority of building*
- [X] [] Fluor 32 watt..... *in remodeled rooms*
- [X] [] Fluor Can.....
- [] [X] Incandescent *original fixtures in stairwells and entrances*
- [X] [] HID [X]Mercury [X]HPS []Metal Halide
- [] [] Low Voltage (12V).....
- [] [] Other.....

b. Lighting Levels

- [X] [] Halls.....
- [X] [] Rooms.....
- [X] [] Mechanical Rooms

c. Fixture Condition

- [X] [] Fixtures
- [X] [] Bulbs.....
- [X] [] Fixture Lens.....

d. Receptacles & Switches:

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

c. Special:

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

COMMENTS:

The remaining 40 watt lighting needs to be replaced with 32 watt lighting in several areas. Incandescent lighting needs to be replaced with fluorescent bulbs.

SAFETY STANDARDS

FAC # 085

DATE 10/30/97

INSPECTOR: JAO

COMPONENT RATING: \$ 143,486 x 90% = \$ 129,149
Possible Condition Component
Value Value Multiplier Value

SYSTEM DESCRIPTION

Sat Att

a. Exits:

Stair Construction:

- concrete
- steel *with concrete fill*
- wood.....
- Number of Exit Stairs..... *two*
- Number of Other Exits*four*

b. Fire Rating:

- Construction Type: I__ II__ III__ IV X V__ VI__
- Building Height: 53 ft., 4 stories

c. Extinguishing Systems:

- Portable.....
- Standpipe*next to stairwells*
- Hose Cabinets..... *removed*
- Hoses *no*
- Sprinklers..... *wet and dry*
- Gas Suppression *in electrical room 056M*
- Other.....

d. Detection & Alarm Systems:

- Pull Stations.....
- Bells.....
- Horns
- Strobes*not to present code*
- Annunciator Panel*028M*
- Smoke Detectors.....
- Halls
- Elevators.....
- Rooms
- Equip Rooms.....
- Ducts

e. Lighting Systems:

- Exit Signs [X]BATTERY []EMC
- Exit Lighting [X]BATTERY []EMC
- Emergency Lighting [X]BATTERY []EMC

- [] [] Emergency Generator
- [] [] **f. Lightning Protection**

COMMENTS:

The emergency lighting units in the 1988 addition appear to be failing prematurely and are being replaced.

BUILDING PERIMETER EVALUATION

FAC # 085

DATE 10/30/97

INSPECTOR: JAO

SYSTEM DESCRIPTION

Sat Att

a. Building Access:

- | | | |
|-------------------------------------|-------------------------------------|-------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | Driveway |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Loading Dock |
| | | Sidewalks..... |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Front |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Side..... |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Rear |
| | | Steps |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Front..... |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Side..... |
| <input type="checkbox"/> | <input type="checkbox"/> | Rear |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Ramp <i>front</i> |

b. Lawn and Landscaping:

- | | | |
|-------------------------------------|--------------------------|--------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Lawn |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Shrubs..... |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Trees |
| <input type="checkbox"/> | <input type="checkbox"/> | Undesirable Insect |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Bedding Material |
| <input type="checkbox"/> | <input type="checkbox"/> | Watering System..... |

c. General Site Information:

- | | | |
|-------------------------------------|-------------------------------------|---------------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Signage |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Address Identification..... |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Security Lights..... |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Street Lights..... |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Drainage <i>in window wells</i> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Storm Drains..... |

COMMENTS:

Some blacktop sidewalks on the west side have spalled, settled or heaved and need to be replaced with concrete walks. Metal posts in the blacktop that have been cut off need to be removed.

The front main entrance limestone steps and surface has weathered and spalled and need to be repaired and caulked.

Trees and shrubs around the building need to be trimmed and mulched.

Planting walls on the southeast corner and east side need to be repaired where settled.

All of the window well drains need to be cleaned.

The area drains need to be installed or lowered, the area regarded and the drain pipes cleaned.

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 State of Ohio Division of Factory and Building Inspection at the time of construction approved the buildings inspected. 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
DDAHU	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
FPM.....	FEET PER MINUTE
GPM	GALLONS PER MINUTE
HID	HIGH INTENSITY DISCHARGE LIGHT
HPS	HIGH PRESSURE STEAM (125 PSI)
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)
MCC	MOTOR CONTROL CENTER
MPS.....	MEDIUM PRESSURE STEAM (50 PSI)
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
TR.....	TERMINAL REHEAT
V	VOLTS
VAV	VARIABLE AIR VOLUME

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