

FACILITY AUDIT REPORT  
**BOLZ HALL**  
#146

JUNE 9, 1992

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Table of Contents

**GENERAL BUILDING INFORMATION**.....3  
**BUILDING SYSTEMS INFORMATION**.....4  
**BOLZ HALL NARRATIVE**.....5  
**PROPOSED MAINTENANCE PROJECTS**.....9  
**MAINTENANCE PROJECTS**.....10  
**BUILDING EVALUATION SUMMARY**.....11  
    **FOUNDATIONS**.....12  
    **COLUMNS AND BEAMS** .....13  
    **EXTERIOR WALLS** .....14  
    **EXTERIOR WINDOWS & DOORS** .....15  
    **ROOFING**.....16  
    **PARTITIONS & DOORS** .....17  
    **WALL FINISHES**.....18  
    **FLOOR FINISHES** .....19  
    **CEILING AND FINISHES** .....20  
    **CONVEYING**.....21  
    **MECHANICAL/PLUMBING** .....22  
    **MECHANICAL/HEATING** .....23  
    **COOLING & VENTILATING**.....24  
    **ELECTRICAL/SERVICE & DISTRIBUTION**.....25  
    **ELECTRICAL/LIGHTING & POWER**.....26  
    **SAFETY STANDARDS** .....27  
    **BUILDING PERIMETER EVALUATION**.....28  
**BUILDING AUDIT METHODOLOGY**.....29  
**ABBREVIATIONS** .....31  
**APPENDIX** .....32  
    Building Floor Plans .....32  
    C-1 Building Space Assignments.....32

GENERAL BUILDING INFORMATION

BOLZ HALL #146

BUILDING ADDRESS: 2036 NEIL AVENUE MALL

GROSS SQ. FT.: 84,302

NET ASSIGNABLE SQ. FT.: 58,984

MECHANICAL/CUSTODIAL AREA SQ. FT.: 3,701

YEAR OF CONSTRUCTION: 1960

YEAR OF LAST RENOVATION: N/A

NUMBER OF STORIES/BASEMENT: FOUR STORIES

AIR CONDITIONING (Percentage): 80.0

CURRENT USE: CIVIL ENGINEERING, AERONAUTICAL & ASTRONAUTICAL ENGINEERING, AND  
COMPUTER AND INFORMATION SCIENCE CLASSROOMS & LABS.

TYPE OF CONSTRUCTION: REINFORCED CONCRETE FRAME WITH MASONRY SKIN

ESTIMATED REPLACEMENT COST: \$ 10,875,000 \*

BUILDING APPEARANCE: INSTITUTIONAL, PLAIN, FUNCTIONAL, ECONOMIC CLASSROOM SPACE.

HANDICAPPED ACCESSIBILITY: WHEELCHAIR ACCESS IS PROVIDED THROUGH HITCHCOCK HALL,  
WHICH IS CONNECTED TO THE NORTH OF BOLZ OR THROUGH THE REAR DOOR OF BOLZ HALL  
ACROSS FROM THE LOADING DOCK.

OVERALL BUILDING CONDITION: SATISFACTORY \*\*

NUMBER OF EXIT STAIRWAYS: 2 STAIRWELLS

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

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

BUILDING SYSTEMS INFORMATION

BOLZ HALL #146

**HEATING:**

Source POWER PLANT  
Type Heating System HOT WATER  
Steam (Line size, valve location) NONE  
Building Htg Water (line size, valve location) 8" HWS AND 8" HWR, RM 135

**VENTILATION SYSTEM:**

TWO (2) MULTIZONE SYSTEMS, FIVE (5) DX SINGLE ZONE SYSTEMS

**COOLING:**

Bldg % 80 % Chillers TRANE, 215 TON & CARRIER, 150 TON BOTH ELEC.  
Window Units FOUR (4) Thru-the-wall N/A Direct exp. units FIVE (5)

**HVAC CONTROL SYSTEM:**

POWERS JC-80 PNEUMATIC SYSTEM

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

|                        |            |                          |                          |
|------------------------|------------|--------------------------|--------------------------|
| 1. <u>WESTINGHOUSE</u> | <u>750</u> | <u>13,200 / 480Y/277</u> | <u>LOCATED IN RM 111</u> |
| 2. <u>WESTINGHOUSE</u> | <u>500</u> | <u>13,200 / 208Y/120</u> | <u>LOCATED IN RM 111</u> |

**PLUMBING:**

Water (size, valve location) 5" LINE ROOM 185  
Gas (size, valve location) 2" LINE ROOM 185  
Domestic Hot Water (size, valve location) 2 1/2" LINE ROOM 185  
Compressed Air (size, location) 1 1/4" SUPPLY LINE ROOM 135M

**SEWERS:**

Storm N/A Sanitary N/A Combination 1 @ 6", 1 @ 8", 1 @ 10"

**METERS:**

Gas (size, location) NONE  
Water (size, location) RM 419M FOR COOLING TOWER, 1" LINE  
Electric (size, location) FIRST FLOOR OPPOSITE ROOM 110

**ALARM SYSTEMS:**

Fire Alarm YES Panel Location RM. 029M HITCHCOCK HALL  
Fire Pump NO Pump Location  
Sprinklers NO Panel Location  
Other Alarms NO

**ELEVATORS:**

Number ONE Type (passenger, freight) PASSENGER  
Manufacturer WESTINGHOUSE Size 4,000 LBS., 100 FPM

**EMERGENCY GENERATOR:** Size NONE Location

**KEY BOX LOCATION:** SOUTH CENTRAL DOOR IN THE CORRIDOR NEAR ROOM 111

**ASBESTOS SURVEY (1986):**

ASBESTOS CONTAINING MATERIALS WERE IDENTIFIED IN RMS 135 AND 419M IN THE DUCT INSULATION AND PIPE INSULATION.

## **BOLZ HALL NARRATIVE**

### **GENERAL**

This Building Audit was conducted by Physical Facilities for the purpose of evaluating the present condition of those aspects of the building for which Physical Facilities has a budgetary responsibility. This audit describes the current physical condition of those aspects of the facility and identifies existing corrective maintenance repairs and building component system replacement requirements. It has been assumed that the program needs of the tenant departments are being met by the facility.

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

### **HISTORY**

Bolz Hall was constructed in 1959 and completed for occupancy in January, 1960. The building was originally identified as the Engineering Classroom Building. After construction was completed it was named the Civil and Aeronautical Engineering Building. It retained that name until 1989 when the name was changed to Bolz Hall. The building has primarily been used for the Departments of Civil Engineering and Aeronautical Engineering until the early 1980's when the Department of Computer and Information Science began occupying space. Part of the Aeronautical Engineering laboratory space was converted to a computer laboratory in 1986 and today Computer and Information Science occupy a major part of the building.

Several of the original classrooms have been sub-divided and converted to office space on the 2nd and 3rd floors. The current building use is as follows: Classrooms 14.5%; Laboratory 37.8%; Offices 41.4%; and Mechanical 6.3%.

### **PRIMARY SYSTEMS**

The foundation, first floor slab, and columns & beams all appear to be in good condition. There are a few signs of settlement in the south side of the building, but this appears to have happened several years ago and there are no signs of current movement. The exterior closure which consists of metal panels and brick veneer does not show any signs of foundation problems. The mortar used for the brick veneer is beginning to show some crumbling when rubbed. The exterior will need to be cleaned and sealed within the next 5 to 10 years. The joints in the metal panels have caulking that is deteriorating and will also need to be replaced.

The windows are aluminum double hung windows with spring balances. The operation of the windows appeared to be good. The problem with the windows is the large amount of exterior wall area that is glass. About 30 % of the exterior wall area on the west and south sides of the building is single glazed glass. This results in solar gain in the summer that overloads the air conditioning system and a heat loss in the winter that add to the heating requirements. We have proposed a project to install new insulated windows to improve occupant comfort. Because of the number of windows to be replaced this is a very expensive project. We have also proposed a project to tint the windows to reduce the solar gain in the rooms that face the south and the west.

The entry doors at the west and south entrances are aluminum and in fair

condition. The entry doors in the rear of the building are steel and are operating satisfactorily. These steel doors are in need of painting.

The roof on Bolz Hall is the original built-up tar roof that is over 30 years old. There have been a few leaks experienced and there are a couple of areas that have been repaired, but considering its age, the roof is performing adequately. We have proposed a project to replace the roof cover before a major leak problem does occur.

The canopies over the main entrance on the west and the entrance on the south are constructed of reinforced concrete cantilevered from the second floor structure.

We had observed that these canopies are sloped so that the rain water will not flow to the drain until the water is at about 3" deep. Either the original construction was not according to the plans or there has been movement in the canopy. The construction shop removed the roofing to investigate the reason for the canopy sloping and found that the canopies were constructed to slope away from the drains.

## **SECONDARY SYSTEMS**

The partitions, doors, walls, and ceilings are very consistent in their condition throughout the building. The original classroom partitions are constructed of concrete block and glazed block. The partitions constructed to sub-divide classrooms into offices are built with metal studs and drywall. These partitions are in good condition.

The ceilings in the corridors and classrooms are 12" x 12" acoustical tile. These tiles are over 30 years old and are dirty or discolored in many areas. The light fixtures that suspend from the ceiling are also discolored and need to be cleaned. We have proposed a project to paint the ceiling tile and clean the light fixtures in the corridors and the classrooms.

The stairwells and restrooms are glazed block with plaster board ceilings. The glazed block in these areas needs to be cleaned and the ceilings painted. The stairs are constructed of a metal frame with concrete treads. The metal frames for the stairwell doors and corridor doors have been scratched and marked. We have proposed a project to have these metal frames painted.

## **SERVICE SYSTEMS**

The major service systems at Bolz Hall are over 30 years old. The elevator that continues to perform adequately is in need of a complete modernization. The handicapped access to the elevator is limited to the building entrance at the rear of the building and down the corridor on the east side and the south side of the building. There is also access to each floor of Bolz from Hitchcock Hall. The hot water heating system does a good job of heating Bolz Hall. The work orders from the winter months primarily resulted from rooms being too hot. The perimeter convectors are controlled by manual valves to the convectors and temperature control of the water.

The plumbing for the domestic water system is operating adequately. A few of the faucets in the restrooms are old and difficult to turn, but the water pressure and supply was adequate at all locations checked. The decor in the restrooms is very stark and needs to be freshened with a good cleaning and painting. We are also proposing that the incandescent lights in the restrooms be replaced with fluorescent fixtures.

The building is cooled by two separate multi-zone air handlers. There have also been five separate single zone systems installed to cool laboratories for computers and other specialized applications. The chilled water for the multi-zone systems is cooled by a new Trane 215 ton rotary chiller. The Trane chiller produces a very high pitched noise that is very annoying to occupants located on the 4th floor. We have proposed a project to add sound absorbing materials to the walls and doors of the mechanical room to absorb this noise.

There is also a 1959 Carrier centrifugal chiller available that serves as a back-up to the Trane chiller. This chiller was rebuilt in 1976. There has been a project proposed to replace the vacuum tube control panel on the Carrier chiller with a new electronic control panel. We are proposing that the new control panel be funded simultaneously with another rebuild of the centrifugal chiller to provide a reliable back-up to the new chiller. The cooling tower was installed in 1984 and appears to be performing very satisfactorily.

The building temperatures are difficult to control because of the amount of glass area on the south and the west sides of the building. We have proposed a project to add DDC controls to Bolz Hall to provide better control of the temperatures in the building and to better manage the energy consumption.

## **ELECTRICITY**

The building has two transformers. There is a 800 amp service for the 480Y/277 circuit and 1,000 amp service for the 120/208 circuit. Several additional breaker panels and electric circuits have been run to supply computer labs and classrooms converted to offices. This has utilized any extra capacity that the system originally had available. There are a few areas on the 3rd floor that the lights are operated off the breaker panel because adequate switches were not installed when the area was sub-divided into offices. This should be corrected by adding wall switches to these lighting circuits.

The majority of the building has fluorescent lighting. The exception to this are the stairwells, restrooms, and mechanical rooms. We have proposed a project to replace these incandescent lights with fluorescent fixtures.

## **SAFETY STANDARDS**

Bolz Hall is equipped with a manual fire alarm system. Portable fire extinguishers and hose cabinets are located in the corridors of each floor. There are lighted exit signs at each exit, but they do not have battery back-up. The only emergency lighting in the building is located outside Rooms 114, 116 & 118.

The building key box is missing the set of keys for the maintenance staff. The records in the lock shop indicate that these keys have been missing since July, 1991. The building coordinator was made aware of this, but being new was not sure what should be done. The missing keys is a security concern as well as an inconvenience when maintenance personnel are requested to perform work in certain areas of the building. We have listed the replacement of these keys as a current maintenance project.

The Ohio Board of Regents Facilities Asbestos Inspection and Risk Assessment Program's report: Inventory of Friable Asbestos-Containing Materials in Buildings of the Ohio State University (Main and Branch Campuses) and Recommendations for

Corrective Action by PEI Associates, September 1986, identifies asbestos containing materials in the duct insulation and pipe insulation in Rooms 135 and 419. Some asbestos containing pipe insulation in Room 111 was removed when it was remodeled.

## **BUILDING PERIMETER**

The sidewalks on the west and east sides of the building are in good condition. The sidewalk on the south side is covered with asphalt and has some unevenness in the walking surface. The front entrance is constructed of limestone that has been spalled from the use of chemicals to melt the ice in the winter time. A project has been proposed to replace this limestone to renew the wearing surface.

The rear of the building is hidden by the location of Hitchcock Hall and has become a storage area. The loading dock is full of trash from the structures laboratory and other projects that have been discontinued. This area needs to have the trash removed and the loading dock cleaned.

The handicapped access to Bolz Hall is also located off the driveway to the loading dock. The automatic door opener button is located on the building wall requiring the user to stand at the side of the door to keep from getting hit by the door when it opens. The transformers for Bolz Hall are also located on the ground in this area and are secured with a chain link fence. The fence has began to rust and needs to be painted.

The plantings around the building are in good condition except for the northeast corner. This area is hidden by the buildings from the sun and the plants have not done very well. This would be a good area to pave and install bike racks since it is adjacent to the entrance of Hitchcock Hall. There are also fenced off areas at the rear of the aeronautical laboratory that have accumulated trash and need to be cleaned and the fences painted.

## **CONCLUSION**

Bolz Hall was originally constructed as a classroom building, but has gradually been converted to an office and computer laboratory building. It would not be very difficult to convert some of the office areas back to classrooms. The basic construction of the building was of very durable materials that do not show a lot of wear and tear. Several of the building components are aging, but continue to operate satisfactorily.

The roof cover has exceeded its expected useful life. A new rotary chiller was recently added to improve the reliability of the HVAC system. The electric system has been expanded several times and has used up any spare capacity. The restrooms and elevator are in need of a modernization. The windows are operating satisfactorily, but are outdated and do not provide for good occupant comfort. The accessibility for handicapped individuals is through the rear and is at the opposite end of the building from the elevator. The exterior of the building will need to be cleaned and sealed to provide adequate protection against moisture penetrating the building.

It is anticipated that when the Dreese Laboratory Addition is completed in about 3 years the Computer and Informational Science Department will be moving out of Bolz Hall and will vacate about 16,000 SF or 28% of the usable space in Bolz Hall. There has not been any determination as to how this vacant space will be utilized.

PROPOSED MAINTENANCE PROJECTS

BOLZ HALL #146

**A. Corrective Maintenance Projects:**

|   |              |
|---|--------------|
| 1. Replace Built-up-Roof for the entire building (32,396 SF)  | \$ 190,000 * |
| 2. Replace limestone steps and porch deck at the main entrance  | 20,000 *     |
| 3. Repair cracks in masonry walls of the stairwells and paint ceilings, walls, and doors. Replace incandescent light fixtures with fluorescent fixtures | 5,200        |
| 4. Clean glazed block, paint ceilings, paint toilet partitions, and replace incandescent light fixtures with fluorescent fixtures in the 6 restrooms    | 5,000        |
| 5. Paint acoustical ceiling tile in corridors and classrooms (20,498 SF)  | <u>8,712</u> |
| SUB-TOTAL   | \$ 228,912   |

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

|  |               |
|--|---------------|
| 1. Provide window tinting on the south and west sides of the building to reduce solar gain and air conditioning costs..... | \$ 12,375     |
| 2. Replace windows throughout with double-pane insulated type (360 windows).....   | 347,535       |
| 3. Install DDC Controls for the HVAC system to improve manageability of building temperature.....                          | 25,000        |
| 4. Elevator modernization to improve cab, add fire fighters package, and improve controls.....                             | <u>75,000</u> |
| SUB-TOTAL  | \$ 459,910    |

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

|   |           |
|---|-----------|
| 1. Chemically clean exterior masonry, replace caulking, and seal the exterior masonry skin..... | \$ 59,376 |
|---|-----------|

**Total cost for all estimated projects = \$ 748,198**

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

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

**Bolz Hall** **#146**

1. Paint chain link fence around transformers and between exhaust stacks at the north end of the building.
2. Remove trash that has accumulated on the loading dock. This includes concrete and other materials from structures laboratory.
3. Convert damaged lawn area at the north side of the building to a paved bicycle rack.
4. Replace maintenance keys in building key box that have been missing since July 1991.
5. Install acoustical convoluted foam to the inside of the metal doors to room 419M and the concrete block wall on the corridor side of the room.
6. Paint exterior metal doors at loading dock.
7. Complete interior corridor painting project and paint metal doors to stairwells and the metal door frames to offices and classrooms.
8. Replace built-in entrance mat at the southeast entrance door off 19th Avenue.

**BUILDING EVALUATION SUMMARY**

**I. BUILDING INFORMATION**

FAC # 146 FACILITY NAME: BOLZ HALL  
 DATE: 5-26-92 INSPECTOR: RDL  
 YEAR CONSTRUCTED: 1960  
 GROSS SQ FT: 84,302 NET SQ FT: 58,984  
 REPLACEMENT COST \$ 10,875,000 X 90% = 9,787,500 \*

**II. COMPONENT RATING**

| COMPONENT         | BUILDING COMPONENT PERCENTAGE OF TOTAL COST ** | BUILDING COMPONENT REPLACEMENT COST | CONDITION VALUE MULTIPLIER FOR BLDG. COMPONENT | BUILDING COMPONENT CURRENT VALUE |
|-------------------|--|-------------------------------------|--|----------------------------------|
| Foundation        | 5.34   | 522,653                             | 0.90   | 470,388                          |
| Columns and Beams | 14.42  | 1,411,358                           | 0.86   | 1,213,768                        |
| Exterior Walls    | 3.05   | 298,519                             | 0.86   | 256,726                          |
| Windows & Doors   | 4.18   | 409,118                             | 0.76   | 310,930                          |
| Roofing           | 4.22   | 413,033                             | 0.47   | 194,126                          |
| Partitions & Drs. | 8.94   | 875,003                             | 0.83   | 726,252                          |
| Wall Finishes     | 2.72   | 266,220                             | 0.78   | 207,652                          |
| Floor Finishes    | 5.17   | 506,014                             | 0.76   | 384,571                          |
| Ceilings & Finish | 7.36   | 720,360                             | 0.60   | 432,216                          |
| Conveying         | 1.72   | 168,345                             | 0.74   | 124,575                          |
| Plumbing          | 6.63   | 648,911                             | 0.76   | 493,172                          |
| Heating           | 9.00   | 880,875                             | 0.72   | 634,230                          |
| Cooling & Vent.   | 10.32  | 1,010,070                           | 0.71   | 717,150                          |
| Elec. Ser. & Dist | 1.78   | 174,218                             | 0.79   | 137,632                          |
| Lighting & Power  | 11.97  | 1,171,564                           | 0.60   | 702,938                          |
| Safety Standards  | 3.18   | 311,243                             | 0.67   | 208,533                          |
| TOTALS            | 100.00   | 9,787,500                           | 0.74   | 7,214,859                        |

**III. BUILDING RATING SUMMARY**

**Overall Building Rating = 74.0 %**

\* Replacement Cost assigned September 1991 by The Office of Campus Planning and Space Utilization without the furnishings and fixed equipment allocation.

\*\* Percent allocation of each building component is calculated from The Means Standard Construction Cost data for College Classroom Buildings.

**FOUNDATIONS**

FAC # 146    DATE: 5-21-92    INSPECTOR: RDL

**A. SYSTEM DESCRIPTION**

|   | N/A | Sat | Att |
|---|-----|-----|-----|
| <b>a. Footings:</b>   |     |     |     |
| Individual Footings & Piers <u>LOCATED AT EACH COLUMN</u>   | [ ] | [X] | [ ] |
| Continuous Footings <u>LOCATED BETWEEN COLUMNS FOR SLAB</u> | [ ] | [X] | [ ] |
| Grade Beams _____   | [X] | [ ] | [ ] |
| Piles _____   | [X] | [ ] | [ ] |
| Caissons _____  | [X] | [ ] | [ ] |
| <br><b>b. Foundation Wall Materials:</b>                    |     |     |     |
| Steel _____   | [X] | [ ] | [ ] |
| Concrete Cast-in-place <u>REINFORCED CONCRETE</u>           | [ ] | [X] | [ ] |
| Concrete Block _____  | [X] | [ ] | [ ] |
| Other _____   | [X] | [ ] | [ ] |
| <br><b>c. Waterproofing and Underdrain:</b>                 |     |     |     |
| Coating <u>PLASTER PARGING BELOW GRADE</u>                  | [ ] | [X] | [ ] |
| Membrane _____  | [X] | [ ] | [ ] |
| Board _____   | [X] | [ ] | [ ] |
| Drain Tile _____  | [X] | [ ] | [ ] |
| <br><b>d. Slab on Grade (floor):</b>                        |     |     |     |
| Plain _____   | [X] | [ ] | [ ] |
| Reinforced <u>POURED IN PLACE CONCRETE SLAB</u>             | [ ] | [X] | [ ] |
| <br><b>e. Special Substructures:</b>                        |     |     |     |
| _____   | [X] | [ ] | [ ] |

**B. COMMENTS:**

1. NO SETTLEMENTS OR CRACKS WERE OBSERVED IN THE FOUNDATION.

**C. COMPONENT RATING:**     $( \underline{\$522,653} ) \times ( \underline{0.90} ) = \underline{\$470,388}$

|          |                  |           |
|----------|------------------|-----------|
| Possible | Condition        | Component |
| Value    | Value Multiplier | Value     |

**COLUMNS AND BEAMS**

FAC # 146 DATE: 5-21-92 INSPECTOR: RDL

**A. SYSTEM DESCRIPTION**

**a. Columns and Beams:**

|  | N/A | Sat | Att |
|--|-----|-----|-----|
| Concrete-in-place <u>REINFORCED CONCRETE</u> | [ ] | [X] | [ ] |
| Precast Concrete _____                       | [X] | [ ] | [ ] |
| Steel _____                                  | [X] | [ ] | [ ] |
| Steel Fireproofing _____                     | [X] | [ ] | [ ] |
| Wood _____                                   | [X] | [ ] | [ ] |
| Other _____                                  | [X] | [ ] | [ ] |

**b. Floors:**

|   |     |     |     |
|---|-----|-----|-----|
| Concrete Slab <u>POURED IN PLACE REINFORCED</u> | [ ] | [X] | [ ] |
| Precast Slab _____                              | [X] | [ ] | [ ] |
| Metal Deck _____                                | [X] | [ ] | [ ] |
| Metal Deck w/concrete fill _____                | [X] | [ ] | [ ] |
| Wood _____                                      | [X] | [ ] | [ ] |
| Other _____                                     | [X] | [ ] | [ ] |

**c. Roof System:**

|   |     |     |     |
|---|-----|-----|-----|
| Flat <u>FOUR STORY SECTION OF BUILDING IS POURED CONCRETE</u>   | [ ] | [X] | [ ] |
| Pitched _____   | [X] | [ ] | [ ] |
| Concrete <u>SECTION ABOVE AERONAUTICAL LAB IS PRECAST</u>       | [ ] | [X] | [ ] |
| Steel <u>SINGLE STORY WING HAS STEEL JOISTS AND DECK (EAST)</u> | [ ] | [X] | [ ] |
| Wood _____  | [X] | [ ] | [ ] |
| Other <u>INSULATION TAPERS TO CENTER OF THE BUILDING</u>        | [ ] | [X] | [ ] |

**B. COMMENTS:**

1. ROOF COVER HAS EXPERIENCED A FEW LEAKS. THERE ARE JUST A FEW CEILING WATER STAINS ON THE TOP FLOORS.
2. SOUTHEAST STAIRWELL HAS CRACKS IN THE CONCRETE BLOCK MORTAR JOINTS FROM MOVEMENT. SIMILAR CRACKS HAVE OCCURRED IN COLUMNS AT THE SOUTHWEST CORNER OF THE BUILDING. IT APPEARS THAT THERE WAS SOME MINOR SETTLEMENT IN THE SOUTH SIDE OF THE BUILDING AFTER CONSTRUCTION.

**C. COMPONENT RATING:**     $\left( \frac{\$1,213,768}{\text{Possible Value}} \right) \times \left( \frac{0.86}{\text{Condition Value Multiplier}} \right) = \frac{\$1,213,768}{\text{Component Value}}$

**EXTERIOR WALLS**

FAC # 146    DATE: 5-26-92    INSPECTOR: RDL

**A. SYSTEM DESCRIPTION**

**a. Walls:**

|  | N/A | Sat | Att |
|--|-----|-----|-----|
| Concrete _____   | [X] | [ ] | [ ] |
| Masonry <u>LIGHT-WEIGHT AGGREGATE BLOCK &amp; FACE BRICK</u> | [ ] | [X] | [ ] |
| Metal Siding <u>INSULATED METAL PANELS</u>                   | [ ] | [X] | [ ] |
| Wood Siding _____  | [X] | [ ] | [ ] |
| Other _____  | [X] | [ ] | [ ] |

**b. Finishes:**

|  |     |     |     |
|--|-----|-----|-----|
| Stucco _____   | [X] | [ ] | [ ] |
| Paint <u>BAKED ENAMEL, FACTORY APPLIED, METAL PANELS</u> | [ ] | [X] | [ ] |
| Other _____  | [X] | [ ] | [ ] |

**B. COMMENTS:**

1. MORTAR BETWEEN FACE BRICK IS BEGINNING TO CRUMBLE ON TOUCH.
2. METAL PANELS HAVE A FEW SCRATCHES & DENTS.
3. METAL PANELS HAVE SOME OXIDATION FILM THAT SHOULD BE CLEANED WITH A POWER WASH.

**C. COMPONENT RATING:**     $\frac{(\$298,519)}{\text{Possible Value}} \times \frac{(0.86)}{\text{Condition Value Multiplier}} = \frac{\$256,726}{\text{Component Value}}$

**EXTERIOR WINDOWS & DOORS**

FAC # 146    DATE: 5-26-92    INSPECTOR: RDL

**A. SYSTEM DESCRIPTION**

| <b>a. Windows type &amp; number:</b>                            | N/A | Sat | Att |
|---|-----|-----|-----|
| Wood _____  | [X] | [ ] | [ ] |
| Steel _____   | [X] | [ ] | [ ] |
| Alum <u>SINGLE GLAZED WINDOWS (360 WINDOWS)</u>                 | [ ] | [X] | [ ] |
| Other _____   | [X] | [ ] | [ ] |
| <br><b>b. Window glazing</b>                                    |     |     |     |
| Single pane <u>DOUBLE HUNG ALUMINUM FRAME</u>                   | [ ] | [ ] | [X] |
| Double pane _____   | [X] | [ ] | [ ] |
| Other _____   | [X] | [ ] | [ ] |
| <br><b>c. Doors type &amp; number:</b>                          |     |     |     |
| Wood _____  | [X] | [ ] | [ ] |
| Steel <u>METAL DOORS AT LOADING DOCK &amp; SERVICE ENTRANCE</u> | [ ] | [ ] | [X] |
| Alum <u>WITH FULL GLASS &amp; ALUMINUM FRAME</u>                | [ ] | [X] | [ ] |
| Other _____   | [X] | [ ] | [ ] |
| <br><b>d. Shading Devices:</b>                                  |     |     |     |
| Types <u>VENETIAN BLINDS</u>                                    | [ ] | [X] | [ ] |

**B. COMMENTS:**

1. METAL DOORS NEED TO BE PAINTED.
2. REPLACE WINDOWS WITH INSULATED GLASS AND THERMAL BREAK WINDOW FRAMES.
3. THE WINDOW SCREENS HAVE BEEN REMOVED FROM THE WINDOWS AND STORED IN THE MECHANICAL ROOMS FOR THE PAST SEVERAL YEARS.

**C. COMPONENT RATING:**    ( \$409,118 )    X    ( 0.76 )    =    \$310,930

|          |                  |           |
|----------|------------------|-----------|
| Possible | Condition        | Component |
| Value    | Value Multiplier | Value     |

**ROOFING**

FAC # 146    DATE: 5-26-92    INSPECTOR: RDL

**A. SYSTEM DESCRIPTION**

| <b>a. Roof Covering:</b>  | N/A | Sat | Att |
|---|-----|-----|-----|
| Built-up _____  | [X] | [ ] | [ ] |
| Built-up w/gravel <u>ENTIRE ROOF AREA (33,580 SF)</u>           | [ ] | [ ] | [X] |
| Asphalt Shingle _____   | [X] | [ ] | [ ] |
| Copper _____  | [X] | [ ] | [ ] |
| Glass (Skylight) _____  | [X] | [ ] | [ ] |
| Slate _____   | [X] | [ ] | [ ] |
| Spanish Tile _____  | [X] | [ ] | [ ] |
| Metal <u>CANOPIES ARE COVERED WITH A METAL ROOFING (309 SF)</u> | [ ] | [ ] | [X] |
| Other _____   | [X] | [ ] | [ ] |

**b. Flashing:**

|   |     |     |     |
|---|-----|-----|-----|
| Base & Counter <u>BUR BASE AND METAL COUNTER FLASHING</u> | [ ] | [X] | [ ] |
| Cap _____   | [X] | [ ] | [ ] |
| Through Wall _____  | [X] | [ ] | [ ] |
| Valley & Ridge _____                                      | [X] | [ ] | [ ] |

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

|   |     |     |     |
|---|-----|-----|-----|
| Type <u>COPPER GRAVEL STOP HAS HAD MASTIC APPLIED AT JOINTS</u> | [ ] | [ ] | [X] |
|---|-----|-----|-----|

**e. Drainage:**

|  |     |     |     |
|--|-----|-----|-----|
| Gutters _____  | [X] | [ ] | [ ] |
| Drains <u>LOCATED IN THE CENTER OF THE ROOF AREA</u> | [ ] | [X] | [ ] |
| Scuppers _____                                       | [X] | [ ] | [ ] |
| Downspouts <u>ENTRANCE CANOPIES</u>                  | [ ] | [X] | [ ] |

**f. Parapets:**

|  |     |     |     |
|--|-----|-----|-----|
| Concrete _____   | [X] | [ ] | [ ] |
| Brick <u>THE AIR SHAFTS FOR THE AERONAUTICAL LABS.</u> | [ ] | [X] | [ ] |
| Block _____  | [X] | [ ] | [ ] |
| Precast _____  | [X] | [ ] | [ ] |
| Other _____  | [X] | [ ] | [ ] |

**g. Insulation:**

|   |     |     |     |
|---|-----|-----|-----|
| Type <u>LIGHT WEIGHT CONCRETE FILL ON TOP OF DECK</u> | [ ] | [X] | [ ] |
|---|-----|-----|-----|

**B. COMMENTS**

1. THE REINFORCED CONCRETE ENTRANCE CANOPIES ARE SLOPING AWAY FROM THE THE DRAINS. THIS HAS RESULTED IN WATER PONDING AND LEAKING TO RUST THE PORCELAIN UNDERSIDE OF THE CANOPY. THE SLOPING OF THE REINFORCED CONCRETE CANOPIES IS BEING INVESTIGATED TO DETERMINE IF THIS IS THE RESULT OF A STRUCTURAL FAILURE.
2. THE ROOF COVER HAS PERFORMED SATISFACTORY, BUT HAS EXCEEDED ITS USEFUL EXPECTED LIFE.

**C. COMPONENT RATING:**     $( \underline{\$413,033} ) \times ( \underline{0.47} ) = \underline{\$194,126}$

|          |                  |           |
|----------|------------------|-----------|
| Possible | Condition        | Component |
| Value    | Value Multiplier | Value     |

**PARTITIONS & DOORS**

FAC # 146 DATE: 5-26-92 INSPECTOR: RDL

**A. SYSTEM DESCRIPTION**

|  | N/A | Sat | Att |
|--|-----|-----|-----|
| <b>a. Partition Framing:</b>                                   |     |     |     |
| Concrete Block <u>USED FOR THE ORIGINAL CONSTRUCTION</u>       | [ ] | [X] | [ ] |
| Glazed Block <u>USED IN STAIRWELLS &amp; RESTROOMS</u>         | [ ] | [X] | [ ] |
| Wood Stud _____  | [X] | [ ] | [ ] |
| Metal Stud <u>USED TO SUB-DIVIDE SPACE INTO OFFICES</u>        | [ ] | [X] | [ ] |
| Structural Tile _____  | [X] | [ ] | [ ] |
| Rated _____  | [X] | [ ] | [ ] |
| Other _____  | [X] | [ ] | [ ] |
| <b>b. Special partitions and Walls:</b>                        |     |     |     |
| Toilet <u>PAINTED METAL PARTITIONS</u>                         | [ ] | [ ] | [X] |
| Screen Walls _____   | [X] | [ ] | [ ] |
| Gate _____   | [X] | [ ] | [ ] |
| Other _____  | [X] | [ ] | [ ] |
| <b>c. Wall Material:</b>                                       |     |     |     |
| Plaster _____  | [X] | [ ] | [ ] |
| Plaster Board <u>USED WHEN SPACE HAS BEEN SUB-DIVIDED</u>      | [ ] | [X] | [ ] |
| Glass _____  | [X] | [ ] | [ ] |
| Plywood _____  | [X] | [ ] | [ ] |
| Paneling _____   | [X] | [ ] | [ ] |
| Trim & Wainscot _____  | [X] | [ ] | [ ] |
| Tile/Glazed _____  | [X] | [ ] | [ ] |
| <b>d. Interior Doors &amp; Frames:</b>                         |     |     |     |
| Met Door/Met Frame <u>USED FOR MECHANICAL ROOMS</u>            | [ ] | [X] | [ ] |
| Wood Door/Wood Frame _____                                     | [X] | [ ] | [ ] |
| Wood Door/Metal Frame <u>USED FOR CLASSROOMS &amp; OFFICES</u> | [ ] | [X] | [ ] |
| Glazing _____  | [X] | [ ] | [ ] |
| Roll Up _____  | [X] | [ ] | [ ] |
| Sliding _____  | [X] | [ ] | [ ] |
| <b>e. Hardware:</b>  |     |     |     |
| Door Closers <u>USED FOR CORRIDOR &amp; STAIRWELL DOORS</u>    | [ ] | [X] | [ ] |
| Lock Sets <u>USED FOR OFFICE &amp; STORAGE ROOM DOORS</u>      | [ ] | [X] | [ ] |
| Kick/Push Plates _____   | [X] | [ ] | [ ] |
| Thresholds _____   | [X] | [ ] | [ ] |
| Panic Devices <u>USED FOR STAIRWELL DOORS</u>                  | [X] | [ ] | [ ] |
| Security & Detection _____                                     | [X] | [ ] | [ ] |
| Automatic Openers <u>LOCATED AT REAR DOOR NEXT TO RM 111</u>   | [ ] | [X] | [ ] |

**B. COMMENTS:**

1. PARTITIONS AND DOORS ARE IN GOOD CONDITION. THERE ARE AREAS THAT NEED TO BE CLEANED THAT HAVE NOT BEEN TOUCHED FOR SEVERAL YEARS.
2. METAL DOORS TO THE STAIRWELLS ARE SCRATCHED & NICKED AND NEED TO BE PAINTED. THE CORRIDOR WALLS HAVE RECENTLY BEEN PAINTED.

**C. COMPONENT RATING:** ( \$875,003 ) x ( 0.83 ) = \$726,252  
                                     Possible                                    Condition                                    Component  
   Value                                    Value Multiplier                                    Value

**WALL FINISHES**

FAC # 146    DATE: 5-26-92    INSPECTOR: RDL

| <b>A. SYSTEM DESCRIPTION</b>                                  | <u>N/A</u> | <u>Sat</u> | <u>Att</u> |
|---|------------|------------|------------|
| a. Paint <u>CORRIDOR WALLS HAVE RECENTLY BEEN PAINTED</u>     | [ ]        | [X]        | [ ]        |
| b. Wall Coating _____   | [X]        | [ ]        | [ ]        |
| c. Wall Coverings _____                                       | [X]        | [ ]        | [ ]        |
| d. Paneling _____   |            |            |            |
| Prefinished _____   | [X]        | [ ]        | [ ]        |
| Plank _____   | [X]        | [ ]        | [ ]        |
| e. Cork _____   | [X]        | [ ]        | [ ]        |
| f. Wallpaper _____  | [X]        | [ ]        | [ ]        |
| g. Ceramic Tile _____   | [X]        | [ ]        | [ ]        |
| h. Trim & Wainscot <u>METAL DOOR FRAMES NEED PAINT</u>        | [ ]        | [ ]        | [X]        |
| i. Decoration _____   | [X]        | [ ]        | [ ]        |
| j. Glass _____  | [X]        | [ ]        | [ ]        |
| k. Other <u>GLAZED BLOCK IN RESTROOM NEEDS TO BE CLEANED.</u> | [ ]        | [ ]        | [X]        |

**B. COMMENTS**

1. GLAZED BLOCK HAS BEEN USED IN CORRIDORS FOR THE LOWER 4 FEET OF THE CORRIDOR WALL AND AS A BASE IN THE CLASSROOMS.
2. SEVERAL CLASSROOMS ON THE 2ND AND 3RD FLOOR HAVE BEEN CONVERTED TO OFFICE SPACE BY SUB-DIVIDING WITH DRYWALL PARTITIONS.

**C. COMPONENT RATING:**     $\frac{(\$266,220)}{\text{Possible Value}} \times \frac{(0.78)}{\text{Condition Value Multiplier}} = \frac{\$207,652}{\text{Component Value}}$

**FLOOR FINISHES**

FAC # 146    DATE: 5-26-92    INSPECTOR: RDL

**A. SYSTEM DESCRIPTION**

|  | N/A | Sat | Att |
|--|-----|-----|-----|
| <b>a. Carpet:</b>  |     |     |     |
| Rolled _____   | [X] | [ ] | [ ] |
| Tile _____   | [X] | [ ] | [ ] |
| <b>b. Composition:</b>   |     |     |     |
| Epoxy _____  | [X] | [ ] | [ ] |
| Synthetic _____  | [X] | [ ] | [ ] |
| Other _____  | [X] | [ ] | [ ] |
| <b>c. Concrete Topping:</b>                                      |     |     |     |
| Clear Sealant <u>MECHANICAL ROOMS NEED TO BE SEALED</u> _____    | [ ] | [ ] | [X] |
| Abrasive _____   | [X] | [ ] | [ ] |
| Epoxy _____  | [X] | [ ] | [ ] |
| Aggregate _____  | [X] | [ ] | [ ] |
| <b>d. Resilient:</b>   |     |     |     |
| Vinyl Tile <u>USED EXCLUSIVELY THROUGHOUT THE BUILDING</u> _____ | [ ] | [X] | [ ] |
| Linoleum _____   | [X] | [ ] | [ ] |
| Vinyl _____  | [X] | [ ] | [ ] |
| Rubber _____   | [X] | [ ] | [ ] |
| Cork _____   | [X] | [ ] | [ ] |
| <b>e. Ceramic Tile</b> _____                                     | [X] | [ ] | [ ] |
| <b>f. Masonry</b> _____  | [X] | [ ] | [ ] |
| <b>g. Terrazzo</b> _____   | [X] | [ ] | [ ] |
| <b>h. Wood</b> _____   | [X] | [ ] | [ ] |
| <b>i. Metal</b> _____  | [X] | [ ] | [ ] |

**B. COMMENTS**

1. FLOOR TILE IS IN FAIR CONDITION. THE COLORS DO NOT MATCH IN SOME AREAS.

**C. COMPONENT RATING:**     $( \underline{\$506,014} ) \times ( \underline{0.76} ) = \underline{\$384,571}$

Possible                      Condition                      Component

Value                              Value Multiplier              Value







**MECHANICAL/HEATING**

FAC # 146 DATE: 5-27-92 INSPECTOR: RDL

**A. SYSTEM DESCRIPTION**

| <b>a. Heat Source:</b>   | N/A | Sat | Att |
|--|-----|-----|-----|
| Central Plant Steam _____  | [X] | [ ] | [ ] |
| Central Plant Hot Water <u>8" SUPPLY, ROOM 135</u>                   | [ ] | [X] | [ ] |
| Boilers: Type _____  | [X] | [ ] | [ ] |
| Size _____   | [X] | [ ] | [ ] |
| Furnace: Type _____  | [X] | [ ] | [ ] |
| Size _____   | [X] | [ ] | [ ] |
| Heat Pump: Type _____  | [X] | [ ] | [ ] |
| Size _____   | [X] | [ ] | [ ] |
| Burners: gas _____   | [X] | [ ] | [ ] |
| oil _____  | [X] | [ ] | [ ] |
| <br>   |     |     |     |
| <b>b. System Type:</b>   |     |     |     |
| Steam _____  | [X] | [ ] | [ ] |
| Hot Water <u>PERIMETER WALL CONVECTORS &amp; MULTI-ZONE AIR DIST</u> | [ ] | [X] | [ ] |
| Air _____  | [X] | [ ] | [ ] |
| Electric _____   | [X] | [ ] | [ ] |
| Solar _____  | [X] | [ ] | [ ] |
| Other _____  | [X] | [ ] | [ ] |
| <br>   |     |     |     |
| <b>c. Space Equipment:</b>   |     |     |     |
| Radiators _____  | [X] | [ ] | [ ] |
| Convectors <u>LOCATED ON THE EXTERIOR WALLS</u>                      | [ ] | [X] | [ ] |
| Finned Tube _____  | [X] | [ ] | [ ] |
| Baseboard _____  | [X] | [ ] | [ ] |
| 2-Pipe Fan Coil _____  | [X] | [ ] | [ ] |
| Unit Ventilators _____   | [X] | [ ] | [ ] |
| Multizone <u>HOT WATER HEATING COILS ARE USED IN MULTIZONE</u>       | [ ] | [X] | [ ] |
| Double Duct _____  | [X] | [ ] | [ ] |
| Terminal Reheat _____  | [X] | [ ] | [ ] |
| Other _____  | [X] | [ ] | [ ] |
| <br>   |     |     |     |
| <b>d. Control Type:</b>  |     |     |     |
| Pneu <u>POWERS &amp; JOHNSON JC-80 SYSTEM</u>                        | [ ] | [X] | [ ] |
| Electric _____   | [X] | [ ] | [ ] |
| Electronic _____   | [X] | [ ] | [ ] |
| DDC _____  | [X] | [ ] | [ ] |
| Manual Valves _____  | [X] | [ ] | [ ] |

**B. COMMENTS:**

1. DDC CONTROLS WOULD IMPROVE OUR ABILITY TO CONTROL TEMPERATURES IN THE BLDG.

**C. COMPONENT RATING:**    ( \$880,875 ) x ( 0.72 ) = \$634,230  
                                  Possible                    Condition                    Component  
                                  Value                    Value Multiplier            Value

**COOLING & VENTILATING**

FAC # 146 DATE: 5-26-92 INSPECTOR: RDL

**A. SYSTEM DESCRIPTION**

|   | N/A | Sat | Att |
|---|-----|-----|-----|
| <b>a. System:</b>   |     |     |     |
| Type <u>MULTI-ZONE SYSTEM, TWO SEPARATE AIR HANDLERS</u>                | [ ] | [X] | [ ] |
| Capacity <u>215 TONS</u>  | [X] | [ ] | [ ] |
| <b>b. Chillers:</b>   |     |     |     |
| Centrifugal <u>CARRIER, MODEL # 19C3AAS-3-3, 150 TONS (1959)</u>        | [ ] | [ ] | [X] |
| Reciprocating _____   | [X] | [ ] | [ ] |
| Absorption _____  | [X] | [ ] | [ ] |
| Rotary <u>TRANE, CENTRAVAC SERIES "R", 215 TONS (1991)</u>              | [ ] | [X] | [ ] |
| <b>c. Cooling Towers:</b>   |     |     |     |
| Type <u>MARLEY, SERIAL# 8805 6-452-84 (INSTALLED IN 1984)</u>           | [ ] | [X] | [ ] |
| Capacity <u>APPROXIMATELY 300 TONS</u>                                  | [X] | [ ] | [ ] |
| <b>d. Condensers:</b> <u>FIVE AIR CONDENSERS FOR DX UNITS (15 TONS)</u> | [ ] | [X] | [ ] |
| <b>e. Space Equipment:</b>  |     |     |     |
| Direct Expansion -  |     |     |     |
| Window units <u>FOUR (4) WINDOW UNITS</u>                               | [ ] | [X] | [ ] |
| Thru-the-wall _____   | [X] | [ ] | [ ] |
| Single zone <u>FIVE SEPARATE SYSTEMS FOR DIFFERENT AREAS</u>            | [ ] | [X] | [ ] |
| Air/Water -   |     |     |     |
| 2-pipe fan coil _____   | [X] | [ ] | [ ] |
| Unit ventilators _____  | [X] | [ ] | [ ] |
| Terminal Reheat _____   | [X] | [ ] | [ ] |
| Variable volume _____   | [X] | [ ] | [ ] |
| Dual Duct _____   | [X] | [ ] | [ ] |
| Multi-zone <u>TWO AIR HANDLER SYSTEMS IN BUILDING</u>                   | [ ] | [X] | [ ] |
| <b>f. Special Systems:</b>  |     |     |     |
| Type <u>MAMMOTH PACKAGED A/C FOR COMPUTER LAB IN RM 111</u>             | [ ] | [X] | [ ] |
| Capacity <u>(APPROX. 26 TONS)</u>                                       | [X] | [ ] | [ ] |
| <b>g. Control Systems:</b>  |     |     |     |
| Pneu <u>JC-80 CONTROL SYSTEM</u>  | [ ] | [ ] | [X] |
| Electric _____  | [X] | [ ] | [ ] |
| Electronic _____  | [X] | [ ] | [ ] |
| <b>h. Fans:</b>   |     |     |     |
| Exhaust <u>TEN (10) EXHAUST FANS</u>                                    | [ ] | [X] | [ ] |
| Recirculating <u>NINETEEN (19) SUPPLY &amp; RECIRCULATING FANS</u>      | [ ] | [X] | [ ] |

**B. COMMENTS:**

1. NEW TRANE CHILLER IS PROVIDING ADEQUATE CHILLED WATER TO CORRECTLY COOL THE BUILDING. THE NEW CHILLER IS NOISY AND CAN BE HEARD WHEN RUNNING ON THE 3RD AND 4TH FLOORS OF BOLZ HALL.

**C. COMPONENT RATING:**     $\frac{(\$1,010,070)}{\text{Possible Value}} \times \left( \frac{0.71}{\text{Condition Value Multiplier}} \right) = \frac{\$717,150}{\text{Component Value}}$







**BUILDING PERIMETER EVALUATION**

FAC # 146    DATE: 5-21-92    INSPECTOR: RDL

**A. SYSTEM DESCRIPTION**

|   | N/A | Sat | Att |
|---|-----|-----|-----|
| 1. Structural Access:   |     |     |     |
| Driveway <u>LOCATED ON THE NORTH, EAST AND SOUTH OF BLDG.</u>     | [ ] | [X] | [ ] |
| Loading Dock <u>LOCATED ON THE NORTH NEXT TO HITCHCOCK HALL</u>   | [ ] | [X] | [ ] |
| Sidewalks   |     |     |     |
| Front <u>CONCRETE ALONG NEIL AVENUE MALL</u>                      | [ ] | [X] | [ ] |
| Side <u>NE HAS SUNKEN SECTION OF WALK, ASPHALT ON SOUTH</u>       | [ ] | [ ] | [X] |
| Rear <u>NEXT TO BUILDING AT LOADING DOCK</u>                      | [ ] | [X] | [ ] |
| Steps   |     |     |     |
| Front <u>LIMESTONE HAS DETERIORATED, NEEDS REPLACED</u>           | [ ] | [ ] | [X] |
| Side <u>CONCRETE STEPS AT THE SOUTHEAST ENTRANCE</u>              | [ ] | [X] | [ ] |
| Rear <u>REAR ENTRANCE AT LOADING DOCK IS AT GRADE LEVEL</u>       | [ ] | [X] | [ ] |
| Handicap Ramp <u>ADJACENT TO LOADING DOCK</u>                     | [ ] | [ ] | [X] |
| 2. Lawn and Landscaping:  |     |     |     |
| Lawn <u>THE NORTH &amp; SOUTH AREAS ARE BARE OR FULL OF WEEDS</u> | [ ] | [ ] | [X] |
| Shrubs <u>AT THE WEST SIDE OF BLDG. ARE OVERGROWN</u>             | [ ] | [ ] | [X] |
| Trees <u>AT THE WEST AND SOUTH SIDES ARE SMALL &amp; TRIMMED</u>  | [ ] | [X] | [ ] |
| Undesirable Insect <u>NONE OBSERVED</u>                           | [ ] | [X] | [ ] |
| Bedding Material <u>WEST SIDE HAS IVY THAT COVERS GROUND</u>      | [ ] | [X] | [ ] |
| Watering System _____   | [X] | [ ] | [ ] |
| 3. General Site Information:                                      |     |     |     |
| Signage <u>LOCATED AT WEST ENTRANCE, OFF NEIL AVENUE MALL</u>     | [ ] | [X] | [ ] |
| Address Identification <u>LOCATED ON THE SIGN</u>                 | [ ] | [X] | [ ] |
| Security Lights _____   | [X] | [ ] | [ ] |
| Street Lights <u>LOCATED ON WEST 19TH AVENUE</u>                  | [ ] | [X] | [ ] |
| Drainage <u>LOCATED ON A SLOPE AND DRAINS TO THE WEST</u>         | [ ] | [X] | [ ] |
| Storm Drains <u>LOCATED IN DRIVEWAYS AND STREET</u>               | [ ] | [X] | [ ] |

**B. COMMENTS:**

1. CHAIN LINK FENCE AROUND TRANSFORMERS AND FUEL TANKS NEEDS PAINTED.
2. LAWN AREA AT THE NORTHEAST CORNER WOULD BE A GOOD LOCATION TO INSTALL A BIKE RACK. THIS IS AT THE ENTRANCE TO HITCHCOCK HALL AND IS AN AREA THAT IS DIFFICULT TO MAINTAIN.
3. ASPHALT WALK ON THE SOUTH SIDE OF THE BUILDING HAS SOME UNEVENNESS AND DIPS IN THE WALKING SURFACE.
4. LOADING DOCK IS FULL OF TRASH FROM STRUCTURES LAB AND CONCRETE TESTING THIS AREA SHOULD BE CLEANED AND TRASH REMOVED.

**The Ohio State University  
Department of Physical Facilities  
BUILDING AUDIT METHODOLOGY**

1. BUILDING AUDIT PROGRAM OBJECTIVE

To provide a building-by-building inventory, including maintenance deficiencies that currently exist, for the OSU buildings that the Department of Physical Facilities has budgetary responsibility. These audits will be used to establish corrective maintenance projects and budget cost estimates.

2. BUILDING AUDIT APPROACH

A five-step procedure is used to meet the program objectives:

1. Collect Historical and Inventory Data on each building.
2. Interview Building Occupants.
3. Perform a Building Inspection.
4. Complete Building Evaluation Forms.
5. Issue Written Report.

3. DATA ORGANIZATION

The data collected is stored by hard copy with field notes in a building file established for each building. The report data is being stored in a database program that allows retrieval of specific data as it is needed. The "Building Evaluation" forms contain ratings for the condition of each building component and a description of any deficiencies for those components. The "Building Information" sheets provide data on the utilities to the buildings and the type of systems in each building.

4. COST ESTIMATES

Costs are for budgeting purposes only and are based on The Means Standard Construction Cost data, engineer's experience, industry sources and OSU project cost data. Costs are reported current to the year of the audit. The building component values assigned in the "Building Evaluation" forms are not cost estimates. These values are calculated from the replacement cost provided by The Office of Campus Planning and Space Utilization for each OSU building.

5. LIMITATIONS

(1) All inspections are visual and do not include physical tests, instrumentation or metering measurements, sampling, or monitoring.

(2) Only random typical offices or laboratories are entered. Typical spaces are deemed to be representative of average conditions throughout each building.

(3) The scope of the analysis does not include complete OSHA, energy, or physical impaired access study. Buildings and components are inspected for condition and general safety requirements rather than specialized code conformance.

(4) It is assumed that the buildings inspected were approved by the State of Ohio Division of Factory and Building Inspection at the time of construction. The recommendations listed in the reports are not an attempt to bring these existing buildings up to present day code standards. Rather, the intent is to eliminate

obvious problems and to upgrade the buildings in a reasonable manner in regard to occupant safety.

(5) Cost estimates are in current year dollars and include contractor mark-ups, construction administration costs, and architectural/ engineering costs where applicable. Escalation factors must be applied for future work. Combining of projects should serve to decrease costs. These estimates are strictly for purposes of budgeting, and final pricing will be required when the specific scope of work for the project is defined.

(6) The building inspections are defined to include the following:

(a) Includes general repainting and redecorating, wholesale replacement of building and system components. Ongoing maintenance, replacement and renovation projects are not included.

(b) Includes exterior building walls and attached items.

(c) Includes the entrance steps up at all entries. Ramps outside the buildings are included. Plantings around the building exterior are included.

(d) Movable furniture is not included.

(e) Fixed equipment inside the buildings that is installed and maintained by a specific academic department or using agency is not included.

(f) Utility lines supplying the buildings are not included.

(g) The program needs of the using department are assumed to be satisfied. No consideration has been given to anticipate any changes in current occupant space needs.

## ABBREVIATIONS

|           |   |
|-----------|---|
| ATT.....  | ATTENTION   |
| BLDG..... | BUILDING  |
| BUR.....  | BUILT UP ROOF                                       |
| COND..... | CONDENSATE WATER                                    |
| DD.....   | DUAL DUCT AIR HANDLING SYSTEM                       |
| DDHV..... | DUAL DUCT HIGH VELOCITY                             |
| DHWR..... | DOMESTIC HOT WATER RETURN                           |
| DHWS..... | DOMESTIC HOT WATER SUPPLY                           |
| DX.....   | DIRECT EXPANSION AIR CONDITIONER                    |
| FPM.....  | FEET PER MINUTE                                     |
| HID.....  | HIGH INTENSITY DISCHARGE LIGHT                      |
| HPS.....  | HIGH PRESSURE STEAM (125 PSI)                       |
| HVAC..... | HEATING, VENTILATING AND<br>AIR CONDITIONING SYSTEM |
| KV.....   | KILOVOLTS   |
| KVA.....  | KILOVOLTS AMPS                                      |
| KW.....   | KILOWATTS   |
| LC.....   | LIQUID COOLED                                       |
| LPS.....  | LOW PRESSURE STEAM (15 PSI)                         |
| MPS.....  | MEDIUM PRESSURE STEAM (50 PSI)                      |
| MZ.....   | MULTIZONE AIR HANDLING SYSTEM                       |
| N/A.....  | NOT APPLICABLE                                      |
| PSI.....  | POUNDS PER SQUARE INCH                              |
| RM.....   | ROOM  |
| SAT.....  | SATISFACTORY  |
| SR.....   | STEAM RETURN LINE                                   |
| SS.....   | STEAM SUPPLY LINE                                   |
| TR.....   | TERMINAL REHEAT AIR HANDLING SYSTEM                 |
| V.....    | VOLTS   |
| VAV.....  | VARIABLE AIR VOLUME SYSTEM                          |

**APPENDIX**

Building Floor Plans  
C-1 Building Space Assignments