FACILITY AUDIT REPORT
HALE HALL, Bldg 259
APRIL 15, 1993

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EXECUTIVE SUMMARY AND PROJECT LIST
HALE HALL

Hale Hall is basically divided into two sections, the Frank W. Hale Jr. Black Cultural Center and inactive space that was formerly the Bradford Commons kitchen. The Black Cultural Center was remodeled in 1989. Finishes and mechanical systems were updated at that time and are in good condition. The old kitchen area is now being used for storage. The roof is relatively new and in good condition. There are a large number of exhaust fans over the kitchen area. The exterior of the building requires attention in the form of new sealants, cleaning and sealing. The roof top air conditioning package units appear to be functioning adequately at this time and are fairly new. The use of so many air conditioning systems for the relatively small space cooled has resulted in a high maintenance system. If the rest of the building is renovated and air conditioned, a single multizone HVAC system should be considered for the entire building. One of the heating hot water steam converters will require new tube bundles in the near future and the current heating system should be equipped with isolation valves at each of the cabinet heaters for ease of maintenance. The driveway at the loading dock should be patched and sealed. The brick wall at the loading dock area should be rebuilt.

PROPOSED MAINTENANCE PROJECTS:

A. Corrective Maintenance Projects:		**Control #**
1. Replace tube bundle in heating hot water converter	$5,000	2060
2. Replace brick privacy wall at loading dock area	16,600	2061
3. Clean and reseal masonry, replace sealants	12,800	2062
	Sub Total $ 33,800	

B. Building Improvement/Addition Project:

NO IMPROVEMENT PROJECTS ARE IDENTIFIED THIS CYCLE

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

NO PROJECTS IDENTIFIED THIS CYCLE

Total cost for estimated projects = $ 33,800

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GENERAL BUILDING INFORMATION

HALE HALL #259

BUILDING ADDRESS: 153 W. 12TH AVENUE

GROSS SQ. FT.: 23,994 SF

NET ASSIGNABLE SQ. FT.: 15,800 SF

MECHANICAL/CUSTODIAL AREA SQ. FT.: 4,022 SF

YEAR OF CONSTRUCTION: 1964

YEAR OF LAST RENOVATION: PARTIAL RENOVATION IN 1989

NUMBER OF STORIES/BASEMENT: ONE STORY AND PARTIAL BASEMENT

AIR CONDITIONING (Percentage): 30%

CURRENT USE: BLACK CULTURAL CENTER INCLUDING OFFICES AND STUDENT ACTIVITY AREA, FORMER KITCHEN AND FOOD PREPARATION AREAS ARE USED FOR STORAGE AND ARE CLASSIFIED AS INACTIVE AS INACTIVE SPACE.

TYPE OF CONSTRUCTION: REINFORCED CONCRETE FRAME WITH MASONRY VENEER.

ESTIMATED REPLACEMENT COST: $2,712,000 *

WHEELCHAIR ACCESSIBILITY: THERE IS A RAMP AT THE WEST ENTRANCE TO THE BUILDING AND A DOOR EQUIPPED WITH AN AUTOMATIC OPENER. THE BUILDING HAS ONE FLOOR ONLY.

OVERALL BUILDING CONDITION: FUNCTIONALLY SATISFACTORY **

NUMBER OF EXIT STAIRWAYS: 4 EXITS (BUILDING IS ONE-STORY)

* Replacement Cost assigned November, 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

HALE HALL #259

HEATING:
Source UNIVERSITY POWER PLANT STEAM
Type Heating System HOT WATER
Steam (Line size, valve location) 3" SUPPLY, 2-1/2" COND. RET, RM 001M
Building Htg Water (line size, valve location) STEAM CONVERTER, RM 001M

VENTILATION SYSTEM:
PACKAGED A/C UNITS, UNIT VENTILATORS, MAKE-UP AIR SYSTEM WITH HOT WATER COIL IN KITCHEN AREA.

COOLING:
Bldg % 30 Chillers 0
Window Units 0 Thru-the-wall Direct exp. units 6 (56 TONS TOTAL CAP.)

HVAC CONTROL SYSTEM:
DIRECT DIGITAL CONTROL

ELECTRIC: Source Size(KVA) Primary/Secondary Switchgear & Main Disc. (Rm)
1.BUCKEYE (102/206) 500 13,200/(208Y/120) OUTSIDE BY LOADING DOCK

PLUMBING:
Water (size, valve location) 4", RM 001M
Gas (size, valve location) N/A
Domestic Hot Water (size, valve location) STEAM CONVERTER, RM OO1M
Compressed Air (size, location) CONTROL AIR, RM 001M

SEWERS:
Storm 6 @ 6" Sanitary 1 @ 6"

METERS:
Gas (size, location) N/A
Water (size, location) N/A
Electric (size, location) RM OO1M

ALARM SYSTEMS:
Fire Alarm YES Panel Location BASEMENT
Fire Pump NO Pump Location N/A
Sprinklers NO Panel Location N/A
Other Alarms N/A

ELEVATORS:
Number 0 Type (passenger, freight) N/A
Manufacturer N/A Size N/A

EMERGENCY GENERATOR:
Size NONE Location N/A

KEY BOX LOCATION:
INSIDE FOYER AT WEST ENTRANCE.

ASBESTOS SURVEY (1986):
ASBESTOS CONTAINING INSULATION AT DOMESTIC HOT WATER STORAGE TANKS, HEAT EXCHANGERS AND ON PIPES LOCATED IN BASEMENT (RM 001M)

HALE HALL NARRATIVE

HISTORY

Hale Hall was constructed in 1964. It was designed and built to be a kitchen and student dining hall and was formerly called Bradford Commons. In 1989 the area that had functioned as the dining room, which comprises about one-half of the main floor, was remodeled for the Frank W. Hale Jr. Black Cultural Center. The entire building is now referred to as Hale Hall. The other half of the main floor of the building, the former food service area, is unoccupied and is classified as inactive space by the Office of Campus Planning and Space Utilization. The building also has a basement that is used as a mechanical room and a small mechanical room on the roof.

PRIMARY SYSTEMS

The one-story structure is supported by concrete footings and piers. Cast-in-place concrete columns support the concrete first floor. The exterior consists of concrete blocks with a brick veneer. The roof structure is predominantly galvanized steel decking supported by steel bar trusses although the canopies over the building entrances are concrete.

The building roof is covered with rigid insulation, built-up roofing and gravel. The covering was installed in 1987. There was evidence of a few leaks primarily below flashed joints but there was only one reported leak in the workorder system over the last six months. The roof is broken in numerous places with equipment mounting pads for exhaust fan hoods over the kitchen area and 6 air conditioning units. If these units are removed in the near future the mounting pads should be capped rather than removed.

The south exterior wall appears to have been sealed recently. The rest of the exterior walls should be cleaned and sealed. The caulking at the parapet caps is very deteriorated and should be replaced. The building has a limited number of fixed glass single-pane windows. No faults were observed with the windows. The aluminum exterior doors are in good condition.

SECONDARY SYSTEMS

Interior partition walls are concrete block or metal stud and drywall. Surface finishes are in good condition throughout the Black Cultural Center and consist primarily of epoxy paint on the concrete block or painted drywall. Some of the paint in the inactive areas is in poor condition and will require attention if this area is remodeled.

Floors in the Black Cultural Center are covered with carpeting. The carpeting is in good condition. Vinyl tile covers the floors in the lounge and dark room. The floors throughout the food service areas are covered with quarry tile. The ceiling was replaced throughout the Black Cultural Center during the 1989 renovation and is in good condition with the exception of a few tiles stained by roof leaks. The ceilings in food service area are in poor condition and will require replacement if that area is renovated.

SERVICE SYSTEMS

The building is heated and cooled by two separate systems. The air conditioning ductwork and controls were replaced during the Hale Center renovation

project. The building is equipped with six packaged air conditioning units which were installed in 1987. Maintenance personnel did not report any problems with the units. Building occupants commented that there have been some spot problems with temperature control. Two small offices, rooms 100B and 100C, were reported to be uncomfortable when the doors were closed. There were no return air vents in either office. The food service area is not air conditioned. There are eleven exhaust fans in the kitchen area. Heated make-up air is supplied to this area. The current HVAC system is very fragmented resulting in a high maintenance system. If the kitchen area is renovated, a single multizone HVAC system should be considered for the entire building for improved occupant comfort and ease of maintainability. HVAC systems are controlled by the Direct Digital Control system administered by the Utilities Division.

Heating hot water is provided by two steam converters. The tube bundles in one of the converters require replacement. Maintenance personnel reported that the unit heater coils have become plugged on several occasions and that there is no way to isolate the unit heaters from the heating hot water system for coil repairs. The entire heating hot water system must be shut down when a unit fails during heating season. As a result, maintenance personnel must wait for warm weather to repair these units when they become plugged. Valves should be installed at each heater to enable repairs to individual units during the heating season.

Domestic hot water is provided by a hot water converter. The building was designed and built with a large domestic hot water production and storage system for the kitchen, which is no longer used. Most of this system has been inactive for several years and is still in place. There were no major plumbing problems in the maintenance workorder system when we surveyed it. Plumbing fixtures are in good condition throughout.

ELECTRICITY

The building has one 500 KVA transformer with primary voltage of 13,200 and secondary voltage of 208Y/120. Utility Division utilization records indicate that the transformer is utilized at approximately 56% of capacity. It should be noted that any major expansion of the HVAC system will require additional transformer capacity. There were no signs of overloaded circuits in the Hale Center electrical panels.

New 4-tube fluorescent fixtures were installed during the recent renovation throughout the Hale Black Cultural Center and are in good condition. The original 2-tube fixtures remain in the inactive food service areas. There are 120 volt grounded duplex convenience outlets throughout the building.

SAFETY STANDARDS

There are smoke detectors in the HVAC ductwork. The building has lighted exit signs. The public entrance on the west side of the building is equipped with a ramp up from grade level. The door is equipped with an electric opener for the handicapped at this entrance. The public entrance area is illuminated and there are no obstructions close to the door.

ASBESTOS

The Ohio Board of Regents Facilities Asbestos Inspection and Risk Assessment Program's report: Inventory of Friable Asbestos-Containing Materials in Buildings of

the Ohio State University (Main and Branch Campuses) and Recommendations for Corrective Action by PEI Associates, September 1986, identifies asbestos containing materials in the insulation surrounding the domestic hot water storage tank and heat exchangers in the basement.

BUILDING PERIMETER

The main entrance to the Frank W. Hale Jr. Black Cultural Center is located on the west side of the building. The structure is handicapped accessible via a ramp located on this side of the building. There are sidewalks on the west, south and east sides of the building. The sidewalk on the south side of the building is cracked and sunken in several locations. There are also a couple of broken spots on the north wall and a sunken section on the west side of the building. The building is serviced by a loading dock on the east side of the building, which is accessible from a driveway and parking lot located on the north side.

The parking lot at the loading dock has a number of holes requiring filling and the lot should be resealed. The brick wall surrounding this area is badly deteriorated and should be demolished and a new wall installed. The shrubs along the north side of the building are overgrown and should be trimmed or replaced. There are several bare spots on the west lawn and the area adjacent to the outside basement entrance requires grading and landscaping.

FRANK W. HALE JR. BLACK CULTURAL CENTER #259

Maintenance Projects (LESS THAN $5000):

1. Repair curb along 12th Ave.
   (Workorder Number: 01-5063-004069-51)
2. Fill holes and seal parking lot.
   (Workorder Number: 01-5063-004074-51)
3. Repair concrete steps at loading dock.
   (Workorder Number: 01-5063-004071-51)
4. Replace stained ceiling tiles.
   (Workorder Number: 01-5064-057350-68)
5. Repair sidewalks.
   (Workorder Number: 01-5064-004076-51)
6. Install isolation valves at cabinet heaters.
   (Workorder Number: 01-5064-057351-68)
7. Repaint soffit at east exit.
   (Workorder Number: 01-5064-057344-68)
8. Seed west lawn bare spots and at basement entrance on east side of building.
   (Workorder Number: 01-5063-004078-52)

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BUILDING EVALUATION SUMMARY

I. BUILDING INFORMATION

FAC # 259 FACILITY NAME: HALE HALL
DATE: 3/5/93 INSPECTOR: JAMES P. HERTENSTEIN
YEAR CONSTRUCTED: 1964, SIDE CONTAINING CULTURAL CNTR RENOVATED-1989
GROSS SQ FT: 23,994 SF NET SQ FT: 15,800
REPLACEMENT COST $ 2,712,000 *

II. COMPONENT RATING

COMPONENT	BUILDING COMPONENT PERCENTAGE OF TOTAL COST **	BUILDING COMPONENT REPLACEMENT COST	CONDITION VALUE MULTIPLIER FOR BLDG. COMPONENT	BUILDING COMPONENT CURRENT VALUE
Foundation	16.8	455,616	.91	414,611
Columns and Beams	9.2	249,504	.81	202,098
Exterior Walls	5.7	154,584	.70	108,209
Windows & Doors	1.3	35,256	.77	27,147
Roofing	5.7	154,584	.94	145,309
Partitions & Drs.	9.3	252,216	.89	224,472
Wall Finishes	2.9	78,648	.87	68,424
Floor Finishes	5.4	146,448	.87	127,410
Ceilings & Finish	7.7	208,824	.87	181,677
Conveying	0	0	0	0
Plumbing	5.4	146,448	.80	117,158
Heating	9.4	254,928	.77	196,295
Cooling & Vent.	7.2	195,264	.90	175,738
Elec. Ser. & Dist	1.9	51,528	.98	50,497
Lighting & Power	11.5	311,880	.79	246,385
Safety Standards	.6	16,272	.72	11,716
TOTALS	100.00	2,712,000		2,297,146

III. BUILDING RATING SUMMARY

Overall Building Rating = 84.7%

* 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 #259 DATE 3/1/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

	N/A	Sat	Att
a. Footings:			
Individual Footings & Piers SUPPORT CONCRETE COLUMNS	[ ]	[X]	[ ]
Continuous Footings UNDER EXTERIOR AND BSMT STEP WALLS	[ ]	[X]	[ ]
Grade Beams	[X]	[ ]	[ ]
Piles	[X]	[ ]	[ ]
Caissons SUPPORT SOME OF COLUMNS LOCATED IN THE BASEMENT	[ ]	[X]	[ ]
b. Foundation Wall Materials:			
Steel	[X]	[ ]	[ ]
Concrete Cast-in-place	[ ]	[X]	[ ]
Concrete Block	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]
c. Waterproofing and Underdrain:			
Coating	[X]	[ ]	[ ]
Membrane	[X]	[ ]	[ ]
Board	[X]	[ ]	[ ]
Drain Tile PERIMETER TILE CONNECTED TO SUMP PUMP	[ ]	[X]	[ ]
d. Slab on Grade (floor):			
Plain	[X]	[ ]	[ ]
Reinforced	[ ]	[X]	[ ]
e. Special Substructures:			
	[X]	[ ]	[ ]

B. COMMENTS:

NO STRUCTURAL PROBLEMS OR DEFECTS OBSERVED.

C. COMPONENT RATING: ($455,600) X (91 %) = $414,600

Possible Value	Condition Value	Multiplier	Component Value

COLUMNS AND BEAMS

FAC #259 DATE 3/1/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

a. Columns and Beams:	N/A	Sat	Att
Concrete-in-place BASEMENT AND FIRST FLOOR	[ ]	[X]	[ ]
Precast Concrete	[X]	[ ]	[ ]
Steel	[X]	[ ]	[ ]
Steel Fireproofing	[X]	[ ]	[ ]
Wood	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]
b. Floors:			
Concrete Slab FLOORS ARE SLOPED TO DRAINS IN KITCHEN AREA	[ ]	[X]	[ ]
Precast Slab	[X]	[ ]	[ ]
Metal Deck	[X]	[ ]	[ ]
Metal Deck w/concrete fill	[X]	[ ]	[ ]
Wood	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]
c. Roof System:			
Flat	[ ]	[X]	[ ]
Pitched	[X]	[ ]	[ ]
Concrete	[X]	[ ]	[ ]
Steel STEEL BAR JOISTS AND DECKING	[ ]	[X]	[ ]
Wood	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]

B. COMMENTS:

NO STRUCTURAL PROBLEMS OBSERVED.

C. COMPONENT RATING: ($249,500) X (81 %) = $202,100

Possible Value	Condition Value	Multiplier	Component Value

EXTERIOR WALLS

FAC #259 DATE 3/1/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

a. Walls:	N/A	Sat	Att
Concrete	[ ]	[X]	[ ]
Masonry CONCRETE BLOCK WITH BRICK EXTERIOR VENEER	[ ]	[ ]	[X]
Metal Siding GALVANIZED PANELS AT FAN ROOM ON ROOF	[ ]	[X]	[ ]
Wood Siding	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]

b. Finishes:			
Stucco	[X]	[ ]	[ ]
Paint SOFFIT AT EAST ENTRANCE NEEDS NEW PAINT	[ ]	[ ]	[X]
Other	[X]	[ ]	[ ]

B. COMMENTS:

THE SOUTH WALL OF THE BUILDING WAS SEALED LAST SUMMER IN CONJUNCTION WITH A PARAPET REPAIR PROJECT. THE REST OF THE MASONRY SHOULD BE CLEANED AND SEALED AS WELL.

C. COMPONENT RATING: ($154,600) X (70 %) = $108,200

Possible Value	Condition Value	Multiplier	Component Value

EXTERIOR WINDOWS & DOORS

FAC #259 DATE 3/1/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

a. Windows type & number:	N/A	Sat	Att
Wood	[X]	[ ]	[ ]
Steel 1 AWNING TYPE	[ ]	[X]	[ ]
Alum 3 FIXED UNITS	[ ]	[X]	[ ]
Other	[X]	[ ]	[ ]
b. Window glazing:			
Single pane	[ ]	[X]	[ ]
Double pane	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]
c. Doors type & number:			
Wood	[X]	[ ]	[ ]
Steel ONE SINGLE DOOR TO THE BASEMENT MECHANICAL ROOM	[ ]	[X]	[ ]
Alum 3 SETS OF DOUBLE DOORS WITH GLAZING	[ ]	[X]	[ ]
Other	[X]	[ ]	[ ]
d. Shading Devices:			
Types CURTAINS	[ ]	[X]	[ ]

B. COMMENTS:

WINDOWS AND DOORS ARE IN GOOD CONDITION. THERE IS NOT ENOUGH WINDOW SPACE TO ECONOMICALLY JUSTIFY REPLACEMENT WITH THERMAL-BREAK TYPE WINDOWS.

C. COMPONENT RATING: ($35,300) X (77 %) = $27,100

Possible Value	Condition Value	Multiplier	Component Value

ROOFING

FAC #259 DATE 3/1/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

a. Roof Covering:	N/A	Sat	Att
Built-up	[X]	[ ]	[ ]
Built-up w/gravel 19,800 SF, INSTALLED 1987	[ ]	[X]	[ ]
Asphalt Shingle	[X]	[ ]	[ ]
Copper	[X]	[ ]	[ ]
Glass (Skylight)	[X]	[ ]	[ ]
Slate	[X]	[ ]	[ ]
Spanish Tile	[X]	[ ]	[ ]
Metal	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]
c. Flashing:			
Base & Counter ASPHALTIC FELT AND STAINLESS STEEL	[ ]	[X]	[ ]
Cap	[X]	[ ]	[ ]
Through Wall PARAPETS BELOW STONE CAP	[ ]	[X]	[ ]
Valley & Ridge	[X]	[ ]	[ ]
d. Gravel Stop & Edge Strips:			
Type STAINLESS STEEL	[ ]	[X]	[ ]
e. Drainage:			
Gutters w/ Exterior Downspouts MECHANICAL ROOM ON ROOF	[ ]	[X]	[ ]
Scuppers w/ Exterior Downspouts	[ ]	[X]	[ ]
Drains w/ Interior Storm Drains	[ ]	[X]	[ ]
f. Parapets:			
Concrete	[X]	[ ]	[ ]
Brick VENEER WITH STONE COPING	[ ]	[X]	[ ]
Block STRUCTURAL BEHIND VENEER	[ ]	[X]	[ ]
Precast	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]
g. Insulation:			
Type 2" RIGID	[ ]	[X]	[ ]

B. COMMENTS

A NEW ROOF WAS INSTALLED IN 1987. THERE ARE SOME STAINED CEILING TILES INDICATIVE OF LEAKS IN THE ROOF IN ROOM 100F (WE OBSERVED STANDING WATER ON THE ROOF IN THIS AREA). THERE ARE A LARGE NUMBER OF EXHAUST FANS IN THE KITCHEN AREA AND THE ROOF ALSO HAS 6 A/C UNITS.

C. COMPONENT RATING: ($154,600) X (94 %) = $145,300

Possible Value	Condition Value	Multiplier	Component Value

PARTITIONS & DOORS

FAC #259 DATE 3/1/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

	N/A	Sat	Att
a. Partition Framing:			
Concrete Block USED THROUGHOUT	[ ]	[X]	[ ]
Glazed Block	[X]	[ ]	[ ]
Wood Stud LIMITED TO SOME PARTITIONS IN KITCHEN AREA	[ ]	[X]	[ ]
Metal Stud WALLS BUILT DURING 1989 RENOVATION	[ ]	[X]	[ ]
Structural Tile	[X]	[ ]	[ ]
Rated	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]
b. Special partitions and Walls:			
Toilet METAL	[ ]	[X]	[ ]
Screen Walls	[X]	[ ]	[ ]
Gate	[X]	[ ]	[ ]
Other INSULATED METAL WALLS AT COOLERS IN KITCHEN AREA	[ ]	[X]	[ ]
c. Wall Material:			
Plaster	[X]	[ ]	[ ]
Plaster Board USED WITH METAL AND WOOD STUDS	[ ]	[X]	[ ]
Glass WINDOWS IN OFFICES IN THE KITCHEN AREA	[ ]	[X]	[ ]
Plywood	[X]	[ ]	[ ]
Paneling LOUNGE IN KITCHEN AREA	[ ]	[X]	[ ]
Trim & Wainscot	[X]	[ ]	[ ]
Tile/Glazed	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]
d. Interior Doors & Frames:			
Met Door/Met Frame REFRIGERATOR AND MAINTENANCE RM DOORS	[ ]	[X]	[ ]
Wood Door/Wood Frame	[X]	[ ]	[ ]
Wood Door/Metal Frame PREDOMINANT	[ ]	[X]	[ ]
Glazing USED IN SOME DOORS IN KITCHEN AREA	[ ]	[X]	[ ]
Rollup	[X]	[ ]	[ ]
Sliding	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]
e. Hardware:			
Door Closers	[ ]	[X]	[ ]
Lock Sets	[ ]	[X]	[ ]
Kick/Push Plates	[ ]	[X]	[ ]
Thresholds	[ ]	[X]	[ ]
Panic Devices	[ ]	[X]	[ ]
Security & Detection BUILDING HAS A SECURITY SYSTEM	[ ]	[X]	[ ]
Automatic Openers AT HANDICAPPED ACCESSIBLE ENTRANCE	[ ]	[X]	[ ]
Other	[X]	[ ]	[ ]

B. COMMENTS:

KITCHEN AREA IS CURRENTLY CLASSIFIED AS 'INACTIVE SPACE' AND IS USED AS STORAGE. PARTITIONS AND HARDWARE IN THE BLACK CULTURAL CENTER ARE IN GOOD CONDITION. PARTITIONS AND HARDWARE LOCATED IN THE KITCHEN AREA IS ORIGINAL AND SPECIFIC TO KITCHEN USES.

C. COMPONENT RATING: ($252,200) X (89 %) = $224,500

Possible Value	Condition Value	Multiplier	Component Value

WALL FINISHES

FAC #259 DATE 3/1/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION	N/A	Sat	Att
a. Paint DRYWALL AND CONCRETE BLOCK THROUGHOUT	[ ]	[X]	[ ]
b. Wall Coating	[X]	[ ]	[ ]
c. Wall Coverings	[X]	[ ]	[ ]
d. Paneling			
Prefinished LOUNGE IN KITCHEN AREA	[ ]	[X]	[ ]
Plank	[X]	[ ]	[ ]
e. Cork	[X]	[ ]	[ ]
f. Wallpaper	[X]	[ ]	[ ]
g. Ceramic Tile	[X]	[ ]	[ ]
h. Trim & Wainscot	[X]	[ ]	[ ]
i. Decoration	[X]	[ ]	[ ]
j. Glass LIMITED TO SOME GLAZING IN THE KITCHEN AREA	[ ]	[X]	[ ]
k. Other	[X]	[ ]	[ ]

B. COMMENTS

EPOXY PAINT ON SOME WALLS IN THE KITCHEN AREA WILL REQUIRE ATTENTION IF THE SPACE IS RENOVATED. WALL FINISHES ARE IN GOOD CONDITION IN THE HALE CENTER.

C. COMPONENT RATING: ($78,600) X (87 %) = $68,400

Possible Value	Condition Value	Multiplier	Component Value

FLOOR FINISHES

FAC #259 DATE 3/1/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

	N/A	Sat	Att
a. Carpet:			
Rolled INSTALLED THROUGHOUT THE HALE CENTER	[ ]	[X]	[ ]
Tile	[X]	[ ]	[ ]
b. Composition:			
Epoxy	[X]	[ ]	[ ]
Synthetic	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]
c. Concrete Topping:			
Clear Sealant LOADING DOCK AREA AND RESTROOMS, BASEMENT	[ ]	[X]	[ ]
Abrasive	[X]	[ ]	[ ]
Epoxy	[X]	[ ]	[ ]
Aggregate	[X]	[ ]	[ ]
d. Resilient:			
Vinyl Tile LIMITED USE	[ ]	[X]	[ ]
Linoleum	[X]	[ ]	[ ]
Vinyl	[X]	[ ]	[ ]
Rubber	[X]	[ ]	[ ]
Cork	[X]	[ ]	[ ]
e. Ceramic Tile	[X]	[ ]	[ ]
f. Masonry QUARRY TILE THROUGHOUT KITCHEN	[ ]	[ ]	[X]
g. Terrazzo	[X]	[ ]	[ ]
h. Wood	[X]	[ ]	[ ]
i. Metal REFRIGERATED ROOMS	[ ]	[X]	[ ]

B. COMMENTS

CARPETING AND OTHER FLOOR FINISHES WERE INSTALLED IN 1989 IN THE HALE CENTER. QUARRY TILE IS CHIPPED IN SEVERAL AREAS IN THE INACTIVE KITCHEN SPACE. FLOORS IN MANY ROOMS IN KITCHEN AREA SLOPE TOWARDS DRAINS.

C. COMPONENT RATING: ($146,400) X (87 %) = $127,400

Possible Value	Condition Value	Multiplier	Component Value

CEILINGS AND FINISHES

FAC #259 DATE 3/1/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

a. System Type:	N/A	Sat	Att
Exposed BASEMENT	[ ]	[X]	[ ]
Applied to Structure	[X]	[ ]	[ ]
Suspended CEILING IN KITCHEN AREA IS DIRTY AND AGING	[ ]	[ ]	[X]
b. Materials:			
Drywall	[ ]	[X]	[ ]
Plaster	[X]	[ ]	[ ]
Mineral Fiber Board THROUGHOUT HALE CENTER	[ ]	[X]	[ ]
Metal Pan	[X]	[ ]	[ ]
Luminous Panels	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]
c. Finishes:			
Paint	[X]	[ ]	[ ]
Fabric PANELS ARE COVERED WITH VINYL FABRIC IN KITCHEN	[ ]	[ ]	[X]
Prefinished	[ ]	[X]	[ ]
Other	[X]	[ ]	[ ]
d. Openings & Inserts:			
Air Distribution DIRTY IN INACTIVE KITCHEN AREA	[ ]	[ ]	[X]
Lighting Fixtures DIRTY IN INACTIVE KITCHEN AREA	[ ]	[ ]	[X]
Access Panels	[ ]	[X]	[ ]
Skylights	[X]	[ ]	[ ]
Fire Protection	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]

B. COMMENTS:

CEILINGS ARE IN GOOD CONDITION IN HALE BLACK CULTURAL CENTER. CEILINGS IN KITCHEN AREA WILL REQUIRE REPLACEMENT, (GREASY AND DIRTY) IF THAT AREA IS RENOVATED.

C. COMPONENT RATING: ($208,800) X (87 %) = $181,700

Possible Value	Condition Value	Multiplier	Component Value

CONVEYING

FAC #259 DATE 3/1/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

a. Elevators:	N/A	Sat	Att
Number	[X]	[ ]	[ ]
Type	[X]	[ ]	[ ]
Speed	[X]	[ ]	[ ]
Capacity (lbs)	[X]	[ ]	[ ]
Dimensions	[X]	[ ]	[ ]
Door Operation:			
Center	[X]	[ ]	[ ]
To Side	[X]	[ ]	[ ]
Handicapped-accessible controls	[X]	[ ]	[ ]
b. Lifts and Hoists:			
Number	[X]	[ ]	[ ]
Type	[X]	[ ]	[ ]
c. Moving Stairs and Walks:			
Number	[X]	[ ]	[ ]
Type	[X]	[ ]	[ ]
d. Conveyors:			
Number	[X]	[ ]	[ ]
Type	[X]	[ ]	[ ]
e. Pneumatic Tubes:			
Number	[X]	[ ]	[ ]
Type	[X]	[ ]	[ ]

B. COMMENTS:

THERE IS NO ELEVATOR IN THE BUILDING. (PUBLIC AREAS ARE RESTRICTED TO ONE FLOOR).

C. COMPONENT RATING: ($ N/A) X (N/A %) = $ N/A

Possible Value	Condition Value	Multiplier	Component Value

MECHANICAL/PLUMBING

FAC #259 DATE 3/1/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

	N/A	Sat	Att
a. Services Available:			
Cold Water 4" SERVICE	[ ]	[X]	[ ]
Hot Water STEAM CONVERTER LOCATED IN BASEMENT	[ ]	[X]	[ ]
Acid Waste	[X]	[ ]	[ ]
Oxygen	[X]	[ ]	[ ]
Natural Gas	[X]	[ ]	[ ]
Vacuum	[X]	[ ]	[ ]
Distilled Water	[X]	[ ]	[ ]
Compressed Air CONTROL AIR COMPRESSOR	[ ]	[X]	[ ]
Other	[X]	[ ]	[ ]
b. Piping & Fittings:			
Cast Iron WASTE AND VENT PIPES	[ ]	[X]	[ ]
Copper Tubing DOMESTIC WATER SYSTEM	[ ]	[X]	[ ]
Plastic	[X]	[ ]	[ ]
Steel STEAM AND PORTIONS OF DOMESTIC SYSTEM	[ ]	[X]	[ ]
Glass	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]
c. Water Heaters:			
Electric	[X]	[ ]	[ ]
Gas	[X]	[ ]	[ ]
Oil	[X]	[ ]	[ ]
Steam Converter ONE IN OPERATION/REQUIRED NEEDS NEW TUBES	[ ]	[ ]	[X]
Other	[X]	[ ]	[ ]
d. Drainage:			
Storm Drains 6 @ 6"	[ ]	[X]	[ ]
Sanitary Drainage 1 @ 6"	[ ]	[X]	[ ]
Combined Storm/San.	[X]	[ ]	[ ]
Floor Drains THROUGHOUT KITCHEN AREA	[ ]	[X]	[ ]
e. Fixtures:			
Water Closets 10	[ ]	[X]	[ ]
Urinals 2	[ ]	[X]	[ ]
Lavatories 7	[ ]	[X]	[ ]
Showers 2	[ ]	[X]	[ ]
Kitchen Sinks 2 IN HALE CENTER, SEVERAL IN KITCHEN AREA	[ ]	[X]	[ ]
Service Sinks 4	[X]	[ ]	[ ]
Drinking Fountains	[X]	[ ]	[ ]
Electric Water Coolers 1	[ ]	[X]	[ ]
f. Sprinkler Systems:			
Wet	[X]	[ ]	[ ]
Dry	[X]	[ ]	[ ]
g. Standpipe Systems:			
Wet	[X]	[ ]	[ ]
Dry	[X]	[ ]	[ ]
Valves	[X]	[ ]	[ ]
Hose Cabinets	[X]	[ ]	[ ]

B. COMMENTS:

MOST OF THE PIPING IS IN GOOD CONDITION. A LARGE PORTION OF THE SYSTEM WAS DEDICATED TO KITCHEN OPERATIONS. THERE ARE TWO HOT WATER BOOSTER HEATERS, 2 HOT WATER STORAGE TANKS AND ONE STEAM CONVERTER THAT ARE NO LONGER USED. THE BUILDING NOW ONLY USES LOW PRESSURE STEAM.

C. COMPONENT RATING: ($ 146,400) X (80 %) = $ 117,200

Possible Value	Condition Value	Multiplier	Component Value

MECHANICAL/HEATING

FAC #259 DATE 3/1/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

a. Heat Source:	N/A	Sat	Att
Central Plant Steam 3" SUPPLY, 2-1/2" CONDENSATE RETURN	[ ]	[X]	[ ]
Central Plant Hot Water	[X]	[ ]	[ ]
Boilers: Type	[X]	[ ]	[ ]
Size	[X]	[ ]	[ ]
Furnace: Type	[X]	[ ]	[ ]
Size	[X]	[ ]	[ ]
Heat Pump: Type	[X]	[ ]	[ ]
Size	[X]	[ ]	[ ]
b. System Type:			
Steam	[X]	[ ]	[ ]
Hot Water TWO STEAM CONVERTERS	[ ]	[X]	[ ]
Air	[X]	[ ]	[ ]
Multizone	[X]	[ ]	[ ]
Dual Duct	[X]	[ ]	[ ]
Terminal Reheat	[X]	[ ]	[ ]
Variable Volume	[X]	[ ]	[ ]
Other MAKE-UP AIR SYSTEM FOR KITCHEN USES HOT WATER COILS	[ ]	[X]	[ ]
c. Space Equipment:			
Radiators	[X]	[ ]	[ ]
Convectors	[ ]	[X]	[ ]
2-Pipe Fan Coil	[X]	[ ]	[ ]
Unit Heaters	[ ]	[ ]	[X]
Other	[X]	[ ]	[ ]
d. Control Type:			
Pneu	[X]	[ ]	[ ]
Electric	[X]	[ ]	[ ]
DDC	[ ]	[X]	[ ]
Manual Valves	[X]	[ ]	[ ]

B. COMMENTS:

MOST OF HEATING SYSTEM IS ORIGINAL. MAINTENANCE PERSONNEL AND OCCUPANTS REPORTED THAT THERE HAVE BEEN PROBLEMS WITH UNIT HEATERS. UNIT HEATER COILS CANNOT BE CLEANED UNLESS THE ENTIRE SYSTEM IS SHUT DOWN AND DRAINED. ISOLATION VALVES SHOULD BE INSTALLED AT THE UNIT HEATERS TO ENHANCE MAINTAINABILITY.

C. COMPONENT RATING: ($254,900) X (77 %) = $196,300

Possible Value	Condition Value	Multiplier	Component Value

COOLING & VENTILATING

FAC #259 DATE 3/1/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

	N/A	Sat	Att
a. System:			
Type 6 PACKAGED AIR CONDITIONING SYSTEMS	[ ]	[X]	[ ]
Capacity TOTAL TONNAGE IS 56 TONS - INSTALLED IN 1986	[ ]	[X]	[ ]
b. Chillers:			
Centrifugal	[X]	[ ]	[ ]
Reciprocating	[X]	[ ]	[ ]
Absorption	[X]	[ ]	[ ]
c. Cooling Towers:			
Type	[X]	[ ]	[ ]
Capacity	[X]	[ ]	[ ]
d. Condensers:	[X]	[ ]	[ ]
e. Space Equipment:			
Direct Expansion -			
Window units	[X]	[ ]	[ ]
Thru-the-wall	[X]	[ ]	[ ]
Single zone 6 SINGLE ZONE SYSTEMS	[ ]	[X]	[ ]
Single zone con. vol.	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]
Air/Water -			
2-pipe fan coil	[X]	[ ]	[ ]
Unit ventilators	[X]	[ ]	[ ]
Terminal reheat	[X]	[ ]	[ ]
Variable volume	[X]	[ ]	[ ]
Dual Duct	[X]	[ ]	[ ]
Multizone	[X]	[ ]	[ ]
f. Special Systems:			
Type	[X]	[ ]	[ ]
Capacity	[X]	[ ]	[ ]
g. Control Systems:			
Pneu ACTUATORS AND THERMOSTATS	[ ]	[X]	[ ]
Electric	[X]	[ ]	[ ]
Electronic DIRECT DIGITAL CONTROL	[ ]	[X]	[ ]
h. Fans:			
Exhaust 18 (11 LOCATED IN KITCHEN AREA)	[ ]	[X]	[ ]
Recirculating AIR HANDLERS FOR PACKAGED SYSTEMS	[ ]	[X]	[ ]

B. COMMENTS:

THE DUCTWORK WAS REPLACED DURING THE RENOVATION OF THE HALE CENTER. THE PACKAGED DX UNITS WERE INSTALLED IN 1987 AND NO PROBLEMS WERE REPORTED WITH THEM. THE CURRENT SYSTEM BASICALLY REPLACED THE ORIGINALLY DESIGNED SYS-TEM AND PROVIDES COOLED AIR ONLY. THE KITCHEN AREA IS NOT AIR CONDITIONED.

C. COMPONENT RATING: ($195,300) X (90 %) = $175,800

Possible Value	Condition Value	Multiplier	Component Value

ELECTRICAL/SERVICE & DISTRIBUTION

FAC #259 DATE 3/1/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

(a)Service:

Substation BUCKEYE, FEEDER CIRCUIT (102/206)
Primary Voltage 13,200 VOLTS
Transformer:

Manufacture	Type	KVA	Secondary Voltages
GENERAL ELECTRIC	SILICONE	500	208Y/120

(b)Distribution System:

Panelboard (type) CIRCUIT BREAKER
Voltage 208/120
Amperage 2000 AMPS
Conduit GALVANIZED STEEL AND ALUMINUM
Conductor COPPER
Wire (type) VARIES
Armored Cable LIMITED USE WITH SOME EQUIPMENT
Other

(c)Emergency System:

General or (type & capacity) NONE

B. COMMENTS:

TRANSFORMER WAS REPLACED IN 1990 IN PCB ELIMINATION PROJECT. UTILITY DIVISION RECORDS INDICATE THAT PEAK TRANSFORMER UTILIZATION IS APPROXIMATELY 56%.

C. COMPONENT RATING: ($51,530) X (98 %) = $50,500

Possible Value	Condition Value	Multiplier	Component Value

ELECTRICAL/LIGHTING & POWER

FAC #259 DATE 3/1/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

a. Lighting (lamp type):	N/A	Sat	Att
Fluor 2-TUBE FIXTURES IN KITCHEN, 4-TUBE IN HALE CNTR	[ ]	[X]	[ ]
Incand LIMITED TO DOCK AREA AND SOME RESTROOMS	[ ]	[X]	[ ]
HID EXTERIOR SECURITY LIGHTS	[ ]	[X]	[ ]
Other	[X]	[ ]	[ ]
b. Receptacles & Switches:			
Type & Capacity GROUNDED DUPLEX 120 VOLTS	[ ]	[X]	[ ]
c. Special:			
Baseboard Heat	[X]	[ ]	[ ]
Lightning Protection	[X]	[ ]	[ ]
Communication & Alarm	[X]	[ ]	[ ]
Data Systems	[X]	[ ]	[ ]

B. COMMENTS:

HALE BLACK CULTURAL CENTER WAS REWIRED DURING THE RENOVATION. THE REST OF THE BUILDING HAS ITS ORIGINAL CIRCUITS. NO FAULTS WERE OBSERVED.

C. COMPONENT RATING: **($311,900)** X **(79 %)** = **$246,400**

Possible Value		Condition Value Multiplier		Component Value

SAFETY STANDARDS

FAC #259 DATE 3/1/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

	N/A	Sat	Att
(a)Exits:			
Stair Construction:			
concrete	[X]	[ ]	[ ]
steel	[ ]	[X]	[ ]
wood	[X]	[ ]	[ ]
Number of exits 4	[ ]	[X]	[ ]
(b)Fire Rating:			
Construction Type: I___ II_X_ III___ IV___ V___ VI			
Building Height: 21 ft., ONE STORY AND A BASEMENT			
(c)Extinguishing Systems:			
Portable	[ ]	[X]	[ ]
Standpipe	[X]	[ ]	[ ]
Hose Cabinets	[X]	[ ]	[ ]
Sprinklers	[X]	[ ]	[ ]
Suppression	[X]	[ ]	[ ]
Other	[X]	[ ]	[ ]
(d)Detection & Alarm Systems:			
Manual Alarm	[ ]	[X]	[ ]
Annunciator	[X]	[ ]	[ ]
Smoke Detectors	[ ]	[X]	[ ]
(e)Lighting Systems:			
Exit Signs LIGHTED EXIT SIGNS	[ ]	[X]	[ ]
Exit Lighting SIGNS	[ ]	[X]	[ ]
Emergency Lighting	[X]	[ ]	[ ]
Emergency Generator	[X]	[ ]	[ ]

B. COMMENTS:

NO PROBLEMS NOTED.

C. COMPONENT RATING: ($16,300) X (72 %) = $11,700

Possible Value		Condition Value		Component Value
		Multiplier		

BUILDING PERIMETER EVALUATION

FAC #259 DATE 3/1/93 INSPECTOR: JPH

A. SYSTEM DESCRIPTION

1. Building Access:	N/A	Sat	Att
Driveway SERVES LOADING DOCK AT NORTH EAST SIDE	[ ]	[ ]	[X]
Loading Dock	[ ]	[X]	[ ]
Sidewalks			
Front	[ ]	[X]	[ ]
Side	[ ]	[X]	[ ]
Rear SOUTH WALK IS CRACKED AND SINKING IN SPOTS	[ ]	[ ]	[X]
Steps			
Front WEST	[ ]	[X]	[ ]
Side	[ ]	[ ]	[ ]
Rear	[ ]	[ ]	[ ]
Handicap Ramp LOCATED AT WEST ENTRANCE	[ ]	[X]	[ ]
2. Lawn and Landscaping:			
Lawn BARE SPOTS SHOULD BE SEEDED	[ ]	[ ]	[X]
Shrubs SHRUBS GENERALLY REQUIRE TRIMMING	[ ]	[ ]	[X]
Trees	[ ]	[X]	[ ]
Undesirable Insect	[X]	[ ]	[ ]
Bedding Material	[X]	[ ]	[ ]
Watering System	[X]	[ ]	[ ]
3. General Site Information:			
Signage	[ ]	[X]	[ ]
Address Identification	[ ]	[X]	[ ]
Security Lights	[ ]	[X]	[ ]
Street Lights	[ ]	[X]	[ ]
Drainage	[ ]	[X]	[ ]
Storm Drains	[ ]	[X]	[ ]

B. COMMENTS:

BRICK SCREEN WALL SURROUNDING DRIVE AND PARKING AREA AT LOADING DOCK IS IN VERY POOR CONDITION AND SHOULD BE REPLACED. THE CURBING ALONG 11TH AVENUE IS CRACKED AND SPALLING IN A NUMBER OF AREAS. THE DRIVE AT THE LOADING DOCK HAS A NUMBER OF POTHOLES REQUIRING FILLING.

The Ohio State University
Department of Physical Facilities

BUILDING AUDIT METHODOLOGY

1. 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.

2. BUILDING AUDIT PROGRAM OBJECTIVE

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

3. 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.

4. 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.

5. 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.

6. LIMITATIONS

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

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

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

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

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

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

(a) Includes general repainting, redecorating and wholesale replacement of building and system components. Ongoing maintenance, replacement and renovation projects are included.

(b) Includes exterior building walls and attached items.

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

(d) Movable furniture is not included.

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

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

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

ABBREVIATIONS

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

APPENDIX

Reduced Scale Building Floor Plans

C-1 Building Space Assignments