HOBART MANOR RESTORATION STUDY

SECOND FLOOR

SUBMITTED TO:

WILLIAM PATERSON COLLEGE

WAYNE, NEW JERSEY 07470

The RBA Group ENGINEERS • ARCHITECTS • PLANNERS

JOB No.: 6455-F

DATE: OCTOBER 5,1989

HOBART MANOR RESTORATION STUDY

SECOND FLOOR

The RBA Group

WILLIAM PATERSON COLLEGE

HOBART MANOR

TABLE OF CONTENTS

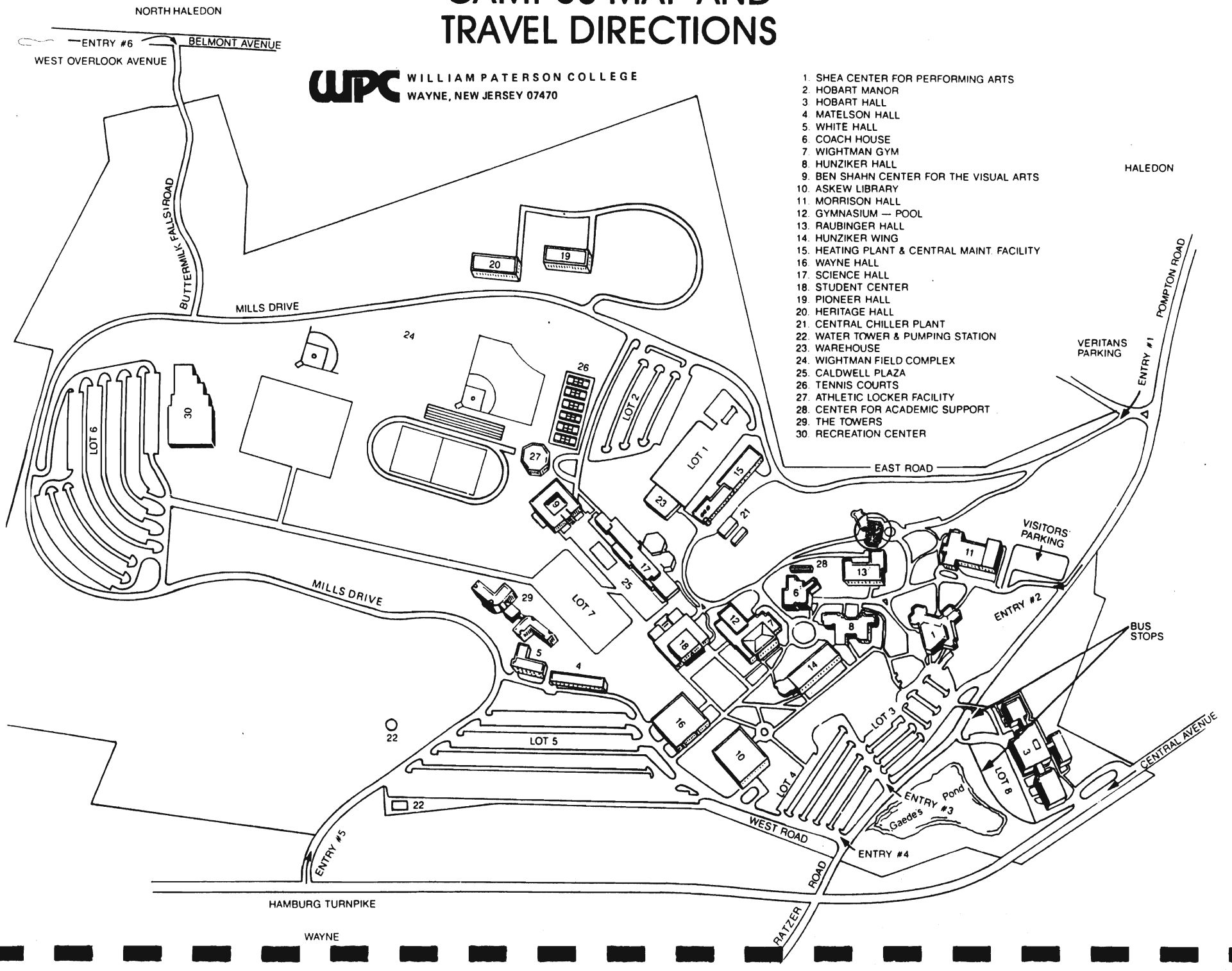
INTRODUCTION

INTRODUCTION

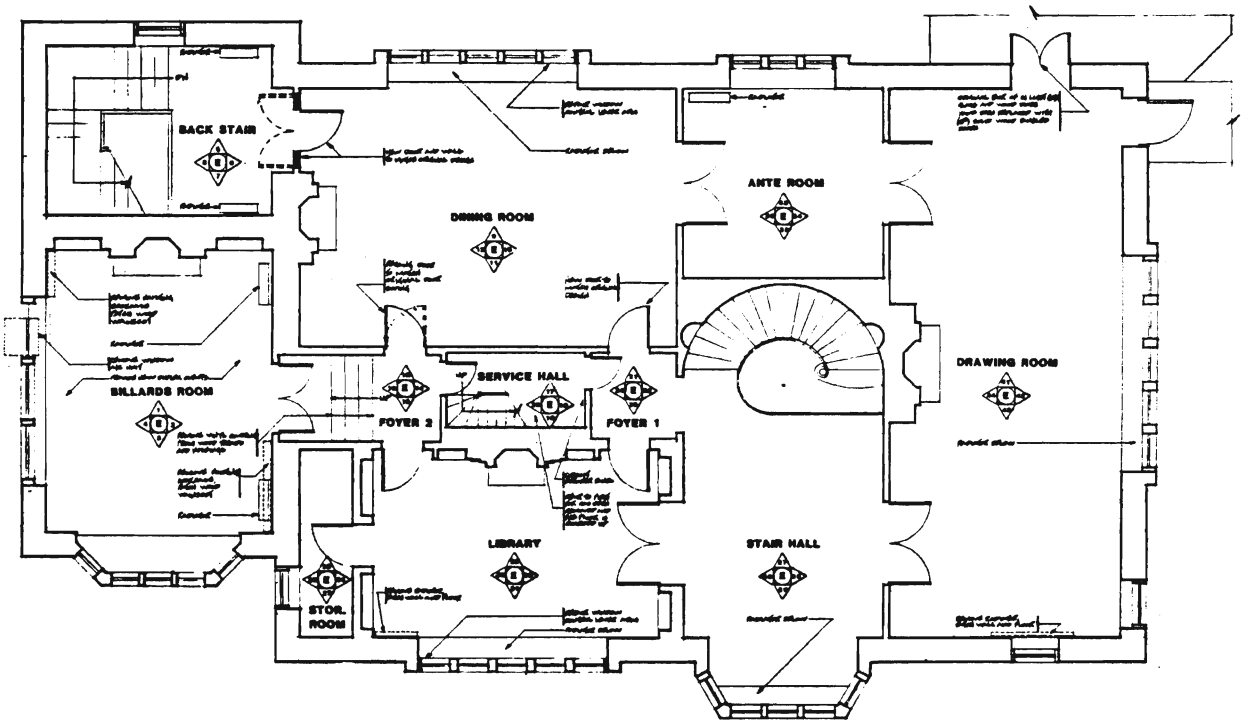
Hobart Manor is the most historically significant structure at William Paterson College. As stated by the College: "The Building is a focal point for the Institution's interaction with various constituancies". This study was undertaken to address the feasibility of a restoration to the second floor. Investigations were undertaken to examine the existing conditions in three areas; architectural and structural elements, mechanical systems and electrical systems. This was accomplished by performing field surveys and examining historic photographs. Recommendations and comments were then assembled. Based on our study and using the Department of the Interiors Standards and Guidelines an application for an "Historic Trust Bond" is encouraged as the standards and guidelines reflect our thoughts of how to restore Hobart Manor to it's "recaptured past".

SITE PLAN

CAMPUS MAP AND TRAVEL DIRECTIONS



RECOMMENDATIONS/COMMENTS



SECOND FLOOR PLAN
EXISTING CONDITIONS

KEY PLAN

BILLARDS ROOM

Recommendations/Comments:

A. Interior Finishes:

1. Remove glued on acoustic ceiling tiles. Laminate plaster ceiling with gypsum wallboard. Coat with thin layer of plaster
2. Remove book cases, patch wood base and wood wainscot.
3. Remove exterior awnings from windows.
4. Patch plaster walls, ceiling and wood moldings.
5. Replace missing wood moldings.
6. Refinish wood wainscot.
7. Lightly sand wood floor, stain and refinish.
8. Fireplace to be made operable.

B. Mechanical/Electrical:

1. Remove window air conditioning unit.
2. Remove all surface mounted wiremold, conduit, J-boxes, etc.
3. Remove surface mounted fluorescent light fixtures.
4. US Department of the Interior recommends preserving visible features of early mechanical system such as steam radiators. Provide new radiator controls.
5. Provide new air conditioning. Location of ceiling diffusers/grilles to be compatible with the room.
6. Provide new in-wall telephone outlet.
7. Reactivate four (4) wall J-boxes for new incandescent wall sconces.
8. Do not provide any ceiling lighting.
9. Change wall switch to a dimmer.
10. Provide new thermostat.
11. Provide new in-wall electical outlets. Cut and patch walls.

BACK STAIR

Recommendations/Comments:

A. Interior Finishes:

1. Remove existing pair of fire doors. Provide one (1) new fire door. Infill with new wall (for more information refer to description under Dining Room).

B. Mechanical/Electrical:

1. Remove surface mounted fluorescent light fixtures. Patch plaster ceiling.

2. Radiators to remain. Provide new controls.

3. Reactivate ceiling J-box. Provide new surface mounted incandescent light fixture. Cut and patch plaster ceiling.

DINING ROOM

Recommendations/Comments:

A. Interior Finishes:

1. Remove existing wallpaper, patch plaster walls.

2. Remove existing pair of fire doors next to fireplace. Provide one (1) new wood fire rated door. Door to have recessed panel. Provide new fire rated gypsum wallboard wall. Coat with a thin layer of plaster. Provide missing moldings.

   In summary, restore this area back to its original design. Possibly a light (small wired glass area) may be needed in door. Provide panic hardware which is compatible with the room.

3. Change door swing of door to Foyer-2 to original swing. This will eliminate the conflict with the wall sconce.

4. Patch plaster walls, ceiling and wood moldings.

5. Replace missing wood moldings.

6. Provide new matching glass and wood door to the opening at Foyer-1 as originally designed.

7. Lightly sand wood floor, stain and refinish.

FOYER 1

Recommendations/Comments:

A. Interior Finishes:

1. Patch plaster walls, ceiling and wood moldings.

2. Replace missing wood moldings.

3. Lightly sand wood floor, stain and refinish.

4. Provide missing hardware for the door to the Service Hall. Also, replace the twenty-one (21) panes of clear glass with frosted glass.

B. Mechanical/Electrical:

1. Remove surface mounted fluorescent light fixture and provide a new incandescent surface mounted light fixture.

FOYER 2

A. Interior Finishes:

1. Remove vinyl covering from wood treads and nosings of steps.

2. Lightly sand wood floor and steps, stain and refinish.

3. Patch plaster walls, ceiling and wood moldings.

4. Provide missing hardware for the door to the Library. Hardware to match other existing hardware.

5. Replace existing white metal hardware for the door to the Billards Room with yellow metal to match the other doors.

6. Replace two (2) clear panes of glass for the door to the Service Hall with matching frosted glass.

B. Mechanical/Electrical:

1. Remove surface mounted fluorescent light fixtures and provide two (2) new incandescent surface mounted light fixtures.

2. Remove all surface mounted wiremold, conduit, J-boxes, etc.

FOYER 2 (continued)

3. Provide new exit and emergency lights compatible with the room.

SERVICE HALL

Recommendations/Comments:

A. Interior Finishes:

1. Service stair to first floor had previously been removed and the resulting hole in the floor was boarded up. Consideration should be given to replacing the missing stair (only if first floor is restored).

2. Some minor work is required to the stair which goes to the attic. Repair loose treads.

B. Mechanical/Electrical:

1. Existing fluorescent light fixture to remain.

2. Circuit breaker panel is located in this area.

STORAGE ROOM

Recommendations/Comments:

A. Interior Finishes:

1. No comments.

B. Mechanical/Electrical:

1. Existing surface mounted fluorescent light fixtures to remain.

LIBRARY

Recommendations/Comments:

A. Interior Finishes:

1. Patch plaster walls, ceiling and wood moldings.

2. Replace missing library shelving. Replace missing wood moldings.

LIBRARY (continued)

3. Lightly sand wood floor, stain and refinish.

4. Replace all mirror glass panes for the pair of doors to the Stair Hall and Foyer-1 with clear glass. A total of sixty-three (63) panes.

5. Repair window control lever arm.

6. Remove exterior awning from windows.

7. Fireplace to be made operable.

B. Mechanical/Electrical:

1. Remove surface mounted fluorescent light fixtures, patch plaster ceiling.

2. Remove all surface mounted wiremold, conduit, J-box, etc.

3. Remove new surface mounted radiator. Patch wall and floor.

4. Provide new ceiling J-box for new pendent mounted incandescent light fixture. Cut and patch ceiling.

5. Reactivate existing electrical outlets in base molding, cut and patch walls.

6. Provide new radiator controls for radiator under window.

7. Provide new in-wall telephone outlets in base molding, cut and patch walls.

8. Reactivate four (4) wall J-boxes for new incandescent wall sconces.

9. Reactivate picture light outlet. Patch wall.

10. Change wall switches to dimmers.

11. Provide new thermostat.

12. Provide new air conditioning. Location of ceiling diffusers/ grilles to be compatible with the room.

ANTE ROOM

Recommendations/Comments:

A. Interior Finishes:

1. Patch plaster walls, ceiling and wood moldings.
2. Replace missing wood moldings.

B. Mechanical/Electrical:

1. Remove surface mounted fluorescent light fixtures. Patch plaster ceiling.
2. Remove all surface mounted wiremold, conduit, J-box, etc.
3. Reactivate ceiling J-box for new pendent mounted incandescent light fixture. Cut and patch ceiling.
4. Reactivate existing electrical outlets in base molding. Cut and patch walls.
5. Radiator to remain. Provide new controls. Remove radiator cover.
6. Provide new in-wall telephone outlet.
7. Change wall switches to dimmers.
8. Provide new thermostat.
9. Provide new air conditioning. Location of ceiling diffusers/ grilles to be compatible with the room.

STAIR HALL

Recommendations/Comments:

A. Interior Finishes:

1. Patch plaster walls, ceilings and wood moldings.
2. Replace missing wood moldings.
3. Lightly sand wood floor, stain and refinish.
4. Remove exterior awnings from windows.

STAIR HALL (continued)

B. Mechanical/Electrical:

1. Remove all surface mounted wiremold, conduits, J-boxes, etc.

2. Remove surface mounted fluorescent light fixtures. Patch plaster ceiling.

3. Fire pull box and speaker to remain in present location. Provide new exit and emergency lights. Relocate emergency light. The new exit and emergency lights shall be compatible with the room. Cut and patch walls and ceiling.

4. Reactivate existing electrical outlets in base molding. Cut and patch walls.

5. Provide new radiator controls.

6. Provide new in-wall telephone outlet.

7. Reactivate three (3) wall J-boxes for new incandescent wall sconces. Cut and patch walls and ceilings.

8. Provide one (1) new J-box for new incandescent wall sconce.

9. Reactivate picture light outlet.

10. Existing pendent mounted light fixture to remain.

11. Provide new thermostat.

12. Change wall switches to dimmers.

13. Provide new air conditioning. Location of ceiling diffusers/grilles to be compatible with the room.

DRAWING ROOM

Recommendations/Comments:

A. Interior Finishes:

1. Patch plaster walls, ceiling, and wood moldings.

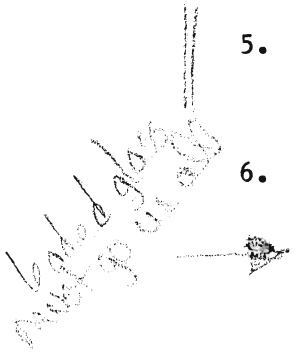
2. Replace missing wood moldings.

3. Lightly sand wood floor, stain and refinish.

DRAWING ROOM (continued)

4. The molded window shade enclosures above the two (2) single windows may not be original and their removal should be considered.

5. The pair of paneled double doors to the expansion wing are not original, but may be required for a fire rating between the two (2) buildings.



6. The five (5) windows above the old radiator now have four (4) panes with clear glass and one (1) pane with clear acrylic. The acrylic should be replaced with clear glass and consideration should be given to replacing all five (5) panes with leaded glass to match the other leaded glass windows.

7. Remove exterior awning from windows.

B. Mechanical/Electrical:

1. Remove surface mounted fluorescent light fixtures. Patch plaster ceiling.

2. Remove all surface mounted wiremold, conduits, J-boxes, etc.

3. Remove new surface mounted radiator. Patch wall, moldings and floor.

4. Reactivate three (3) ceiling J-boxes for new pendent mounted incandescent light fixtures. Cut and patch ceiling.

5. Reactivate existing electrical outlets in base molding. Cut and patch walls.

6. Provide new radiator controls for old radiator.

7. Provide new in-wall telephone outlet.

8. Reactivate three (3) wall J-boxes for new incandescent wall sconces. Cut and patch walls and ceilings.

9. Provide one (1) new J-box for new incandescent wall sconce.

10. Reactivate picture light outlet.

11. Provide new thermostat.

12. Change wall switches to dimmers.

13. Fire pull and speaker to remain in present location. Provide new exit and emergency lights. Relocate emergency light. The new exit and emergency lights shall be compatible with the room. Cut and patch walls and ceiling.

DRAWING ROOM (continued)

14. Provide new air conditioning. Location of ceiling diffusers/ grilles to be compatible with the room.

SECOND FLOOR

Recommendations/Comments:

A. Interior Finishes:

1. No comments.

B. Mechanical/Electrical:

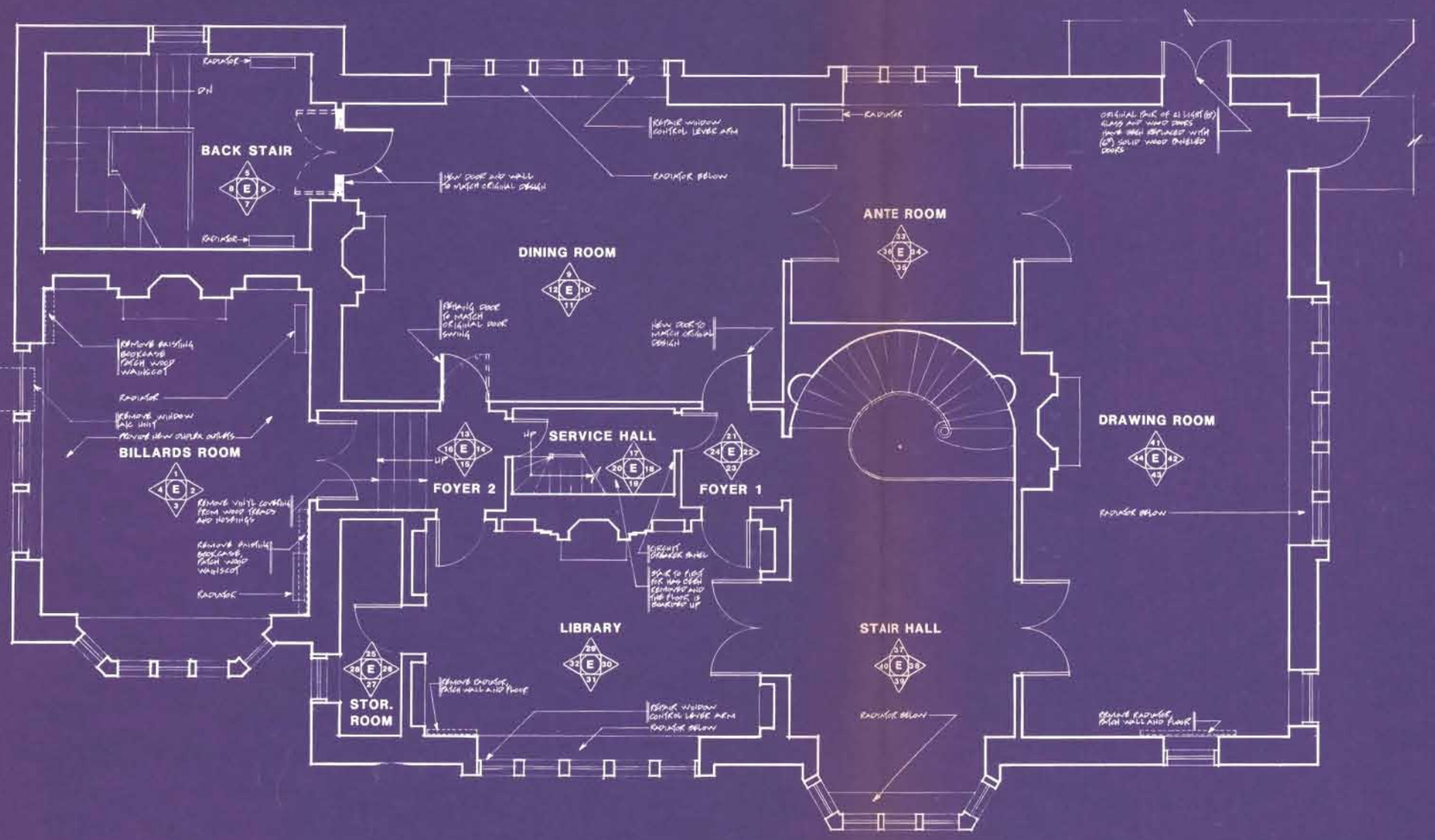
1. The existing building is a single zone steam heating system circa 1930's.

2. There is extensive use of asbestos in the heating system. We recommend that an environmental specialist make the appropriate determinations and recommendations.

3. We recommend that the heating system be retrofitted using electric electronic controls. At present the main boiler plant via underground distribution provides the building steam for this purpose. Other alternatives are to incorporate the heating system within the new cooling system by use of a heat pump or steam coils.

4. We propose to provide six (6) split cooling only systems to be located in the attic spaces. The remote condensing unit can be located on the flat areas of the roof. This area is shielded by the high parapet walls. Ductwork will be in the attic space.

DRAWINGS



SECOND FLOOR PLAN
EXISTING CONDITIONS

The RBA Group — ENGINEERS • ARCHITECTS • PLANNERS
1 Evergreen Plaza, P.O. Box 1927, Morristown, New Jersey 07962-1927 (201) 984-5325

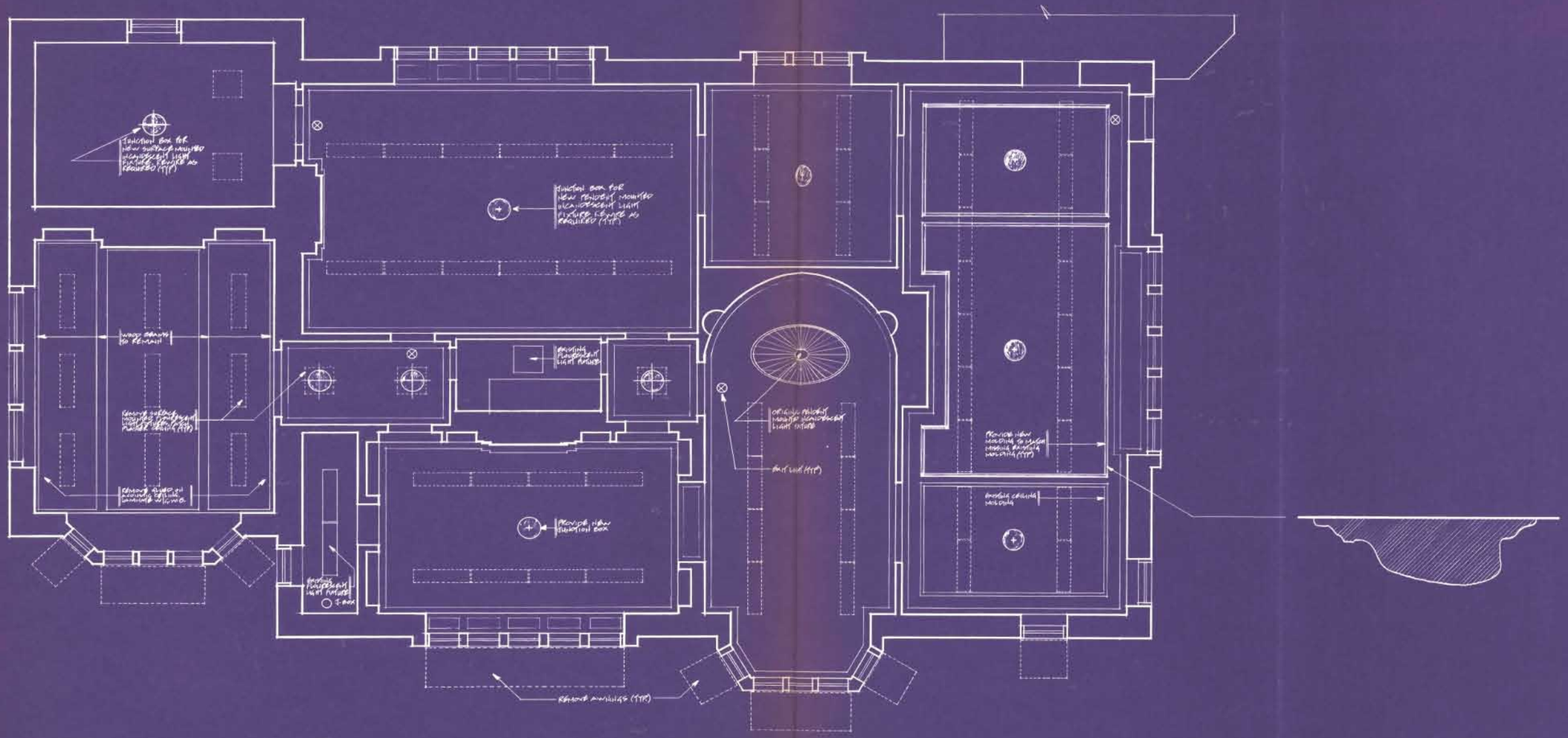
Job No.: 6455-F

HOBART MANOR
WILLIAM PATERSON COLLEGE
WAYNE NEW JERSEY 07470

W. Gerro, PE, PP 16288
W.E. Bendsen, RA, PP C-4241
J.D. Murphy, RA C-3669

Date: 10-5-84 Scale: 1/4"=1'-0"
Drawn: BK Checked:

A-1



REFLECTED CEILING PLAN
EXISTING CONDITIONS
SECOND FLOOR

The RBA Group — ENGINEERS • ARCHITECTS • PLANNERS
1 Evergreen Place, P.O. Box 1927, Morristown, New Jersey 07962-1927 (201) 984-5121

Job No.: 6455-f

W. Garro, PE, PP 16288
W.E. Bendixen, P.A., PP C-4241
J.B. Murphy, RA C-3885

HOBART MANOR
WILLIAM PATERSON COLLEGE
WAYNE NEW JERSEY 07470

Date: 10-5-89 Scale: 1/4"=1'-0"
Drawn: BK Checked:

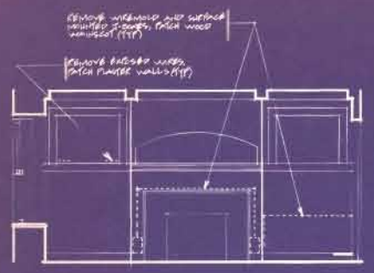
A-2

ATTIC FLOOR PLAN
EXISTING CONDITIONS

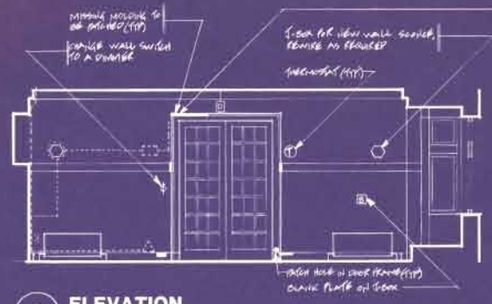
RBA

HOBART MANOR
WILLIAM PATERSON COLLEGE
WAYNE, NEW JERSEY 07470

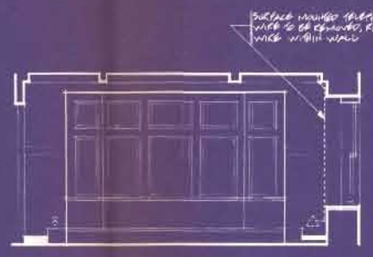
A-3



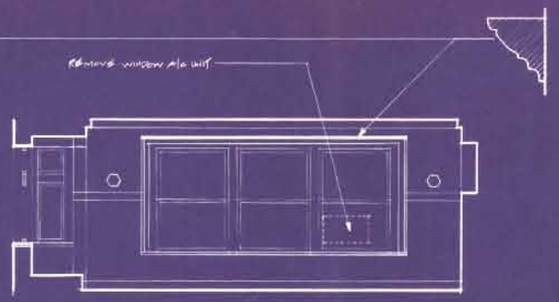
1 ELEVATION



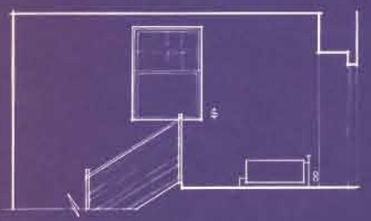
2 ELEVATION



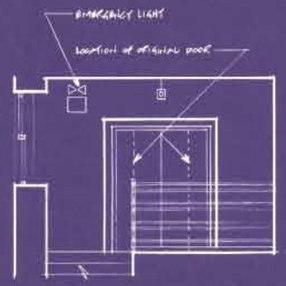
3 ELEVATION



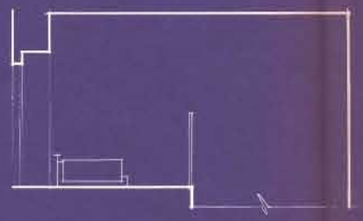
4 ELEVATION



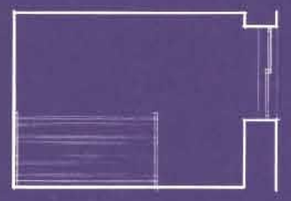
5 ELEVATION



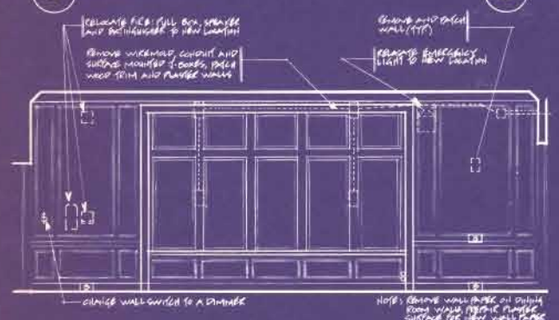
6 ELEVATION



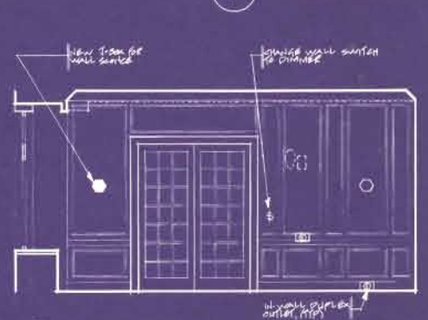
7 ELEVATION



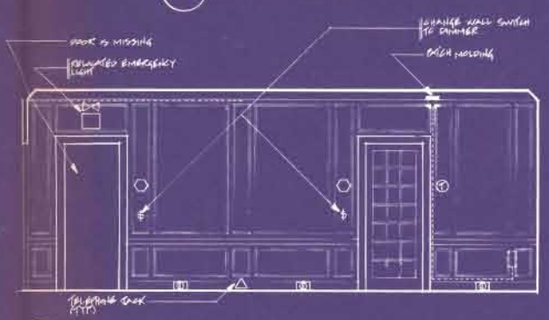
8 ELEVATION



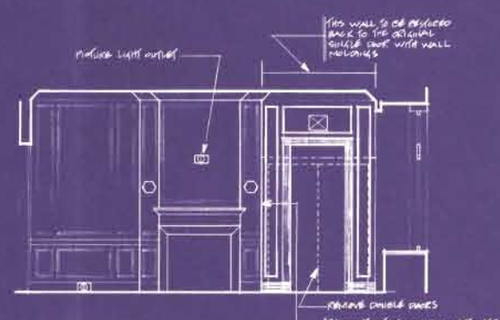
9 ELEVATION



10 ELEVATION



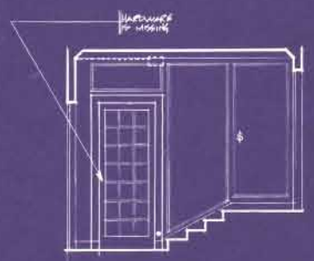
11 ELEVATION



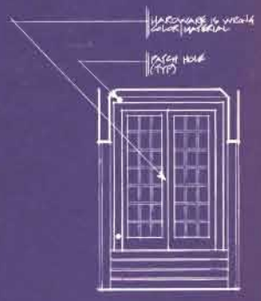
12 ELEVATION

13 ELEVATION

14 ELEVATION



15 ELEVATION



16 ELEVATION

The RBA Group — ENGINEERS • ARCHITECTS • PLANNERS
1 Evergreen Place, P.O. Box 1927, Morristown, New Jersey 07962-1927 (201) 984-5121

Job No.: 6455-F

W. Garro, PE, PP 16211
W.E. Bendixen, RA, PP C-4241
J.B. Murphy, RA C-3815

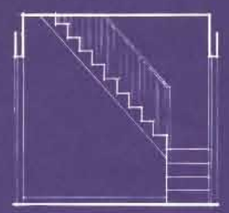
HOBART MANOR
WILLIAM PATERSON COLLEGE
WAYNE NEW JERSEY 07470

Date: 10-5-88 Scale: 1/4"=1'-0"
Drawn: BK Checked:

A-4

17 ELEVATION

18 ELEVATION



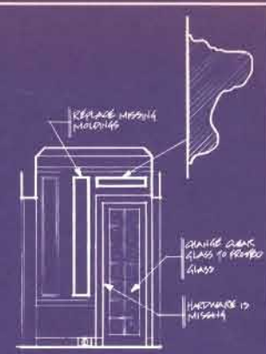
19 ELEVATION

20 ELEVATION

21 ELEVATION

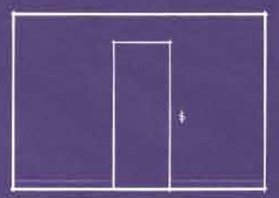
22 ELEVATION

23 ELEVATION



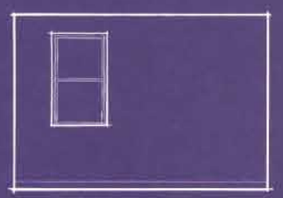
24 ELEVATION

25 ELEVATION

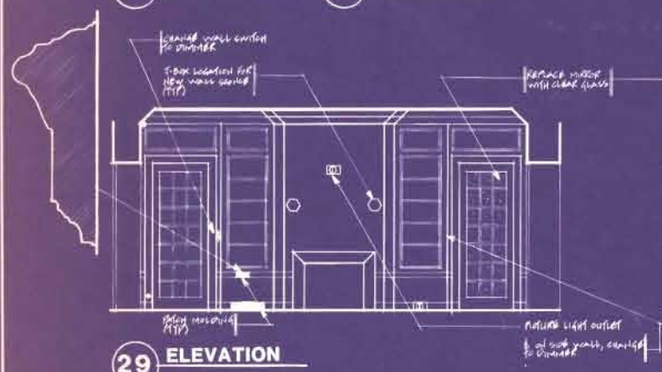


26 ELEVATION

27 ELEVATION

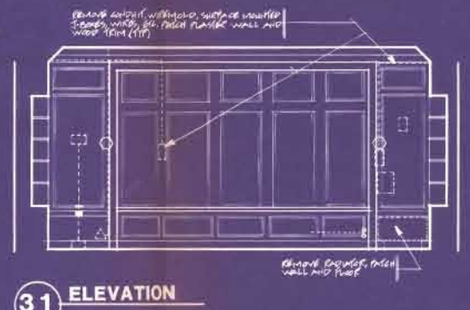


28 ELEVATION



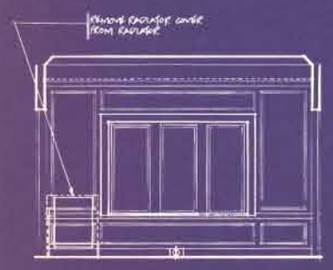
29 ELEVATION

30 ELEVATION



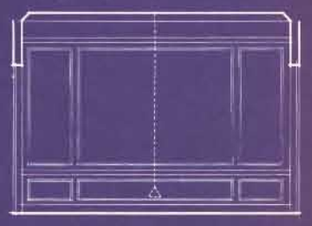
31 ELEVATION

32 ELEVATION

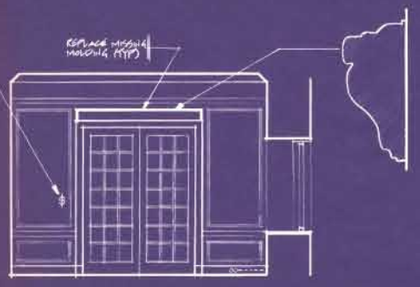


33 ELEVATION

34 ELEVATION



35 ELEVATION



36 ELEVATION

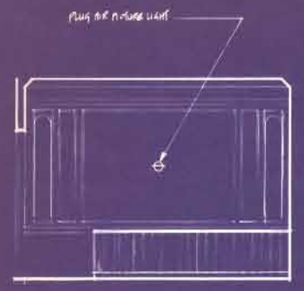
The RBA Group — ENGINEERS • ARCHITECTS • PLANNERS

Job No.: 6455-F

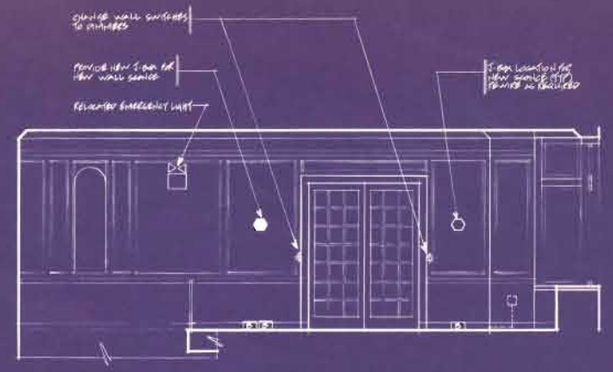
HOBART MANOR
WILLIAM PATERSON COLLEGE
WAYNE NEW JERSEY 07470

Date 10-5-80 Scale 1/4"=1'-0"
Drawn BK Checked

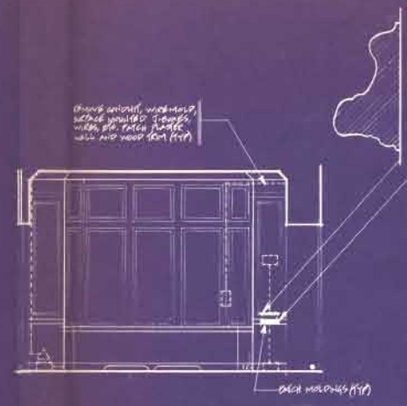
A-5



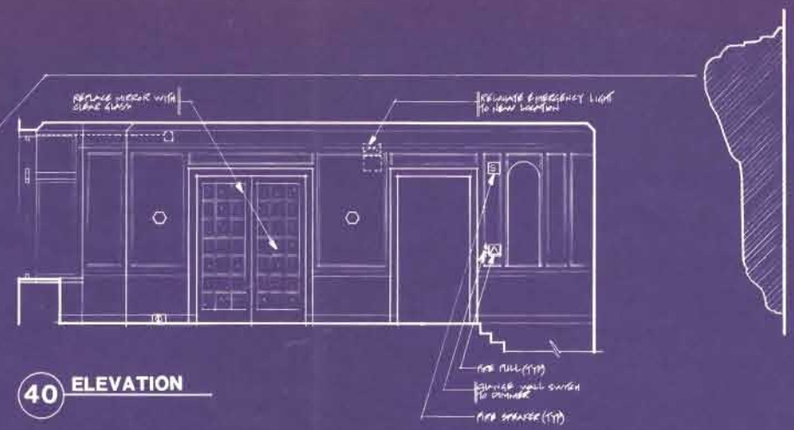
37 ELEVATION



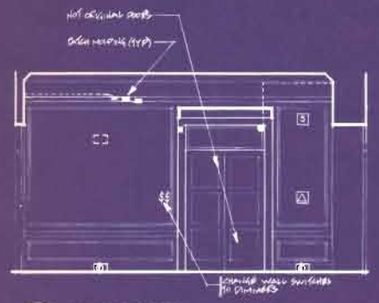
38 ELEVATION



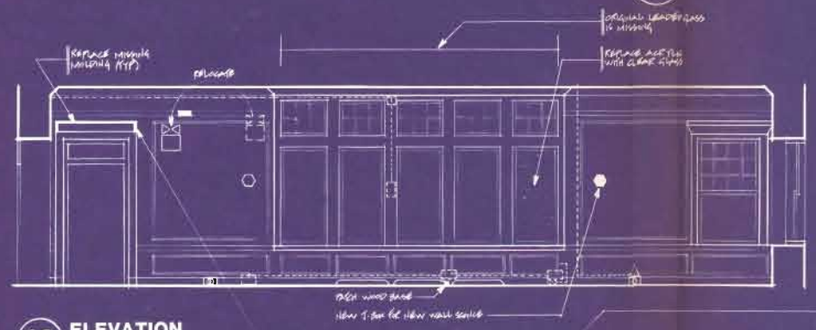
39 ELEVATION



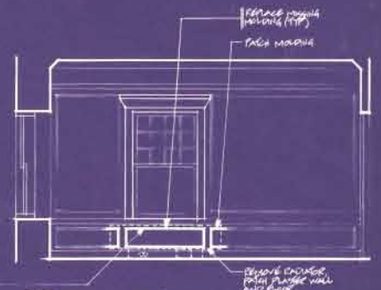
40 ELEVATION



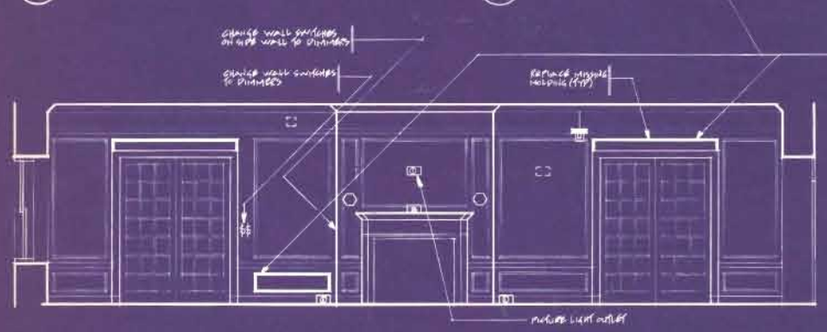
41 ELEVATION



42 ELEVATION



43 ELEVATION



44 ELEVATION

The RBA Group — ENGINEERS • ARCHITECTS • PLANNERS
1 Evergreen Place, P.O. Box 1927, Morristown, New Jersey 07962-1927 (201) 984-5123

Job No.: 6465-F

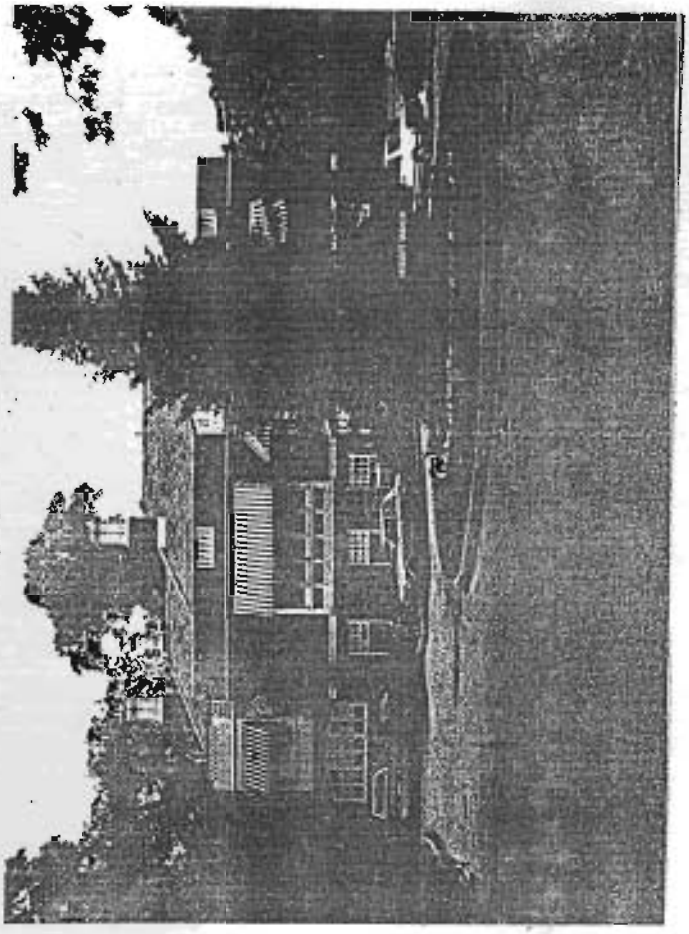
W. Garro, PE, PP 16288
W.E. Bendzsen, RA, PP C-4241
J.B. Murphy, RA C-3885

HOBART MANOR
WILLIAM PATERSON COLLEGE
WAYNE NEW JERSEY 07470

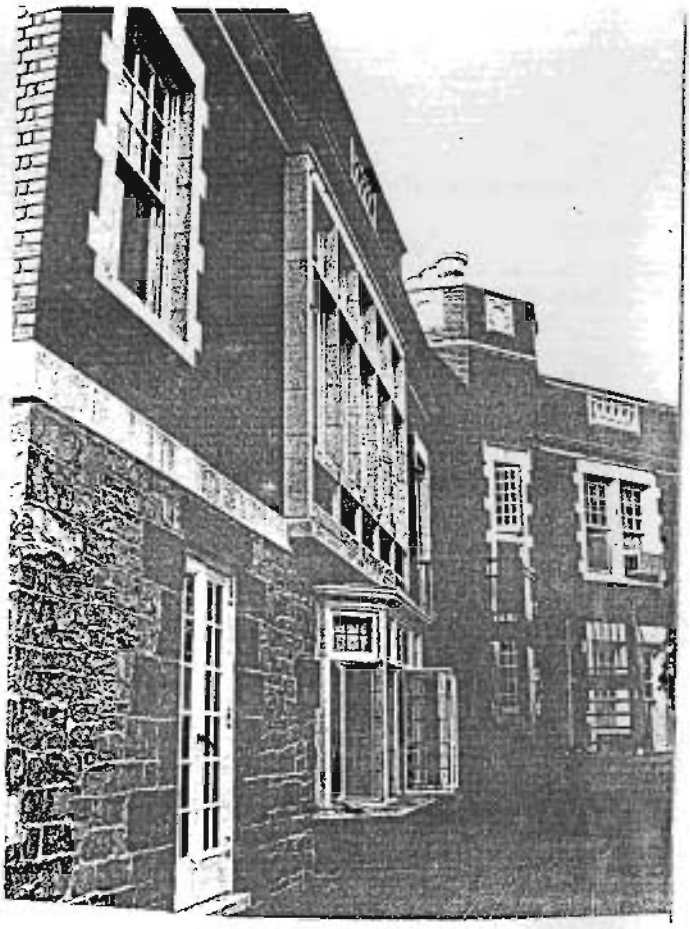
Date: 10-5-80 Scale: 1/4" = 1'-0"
Drawn: BK Checked:

A-6

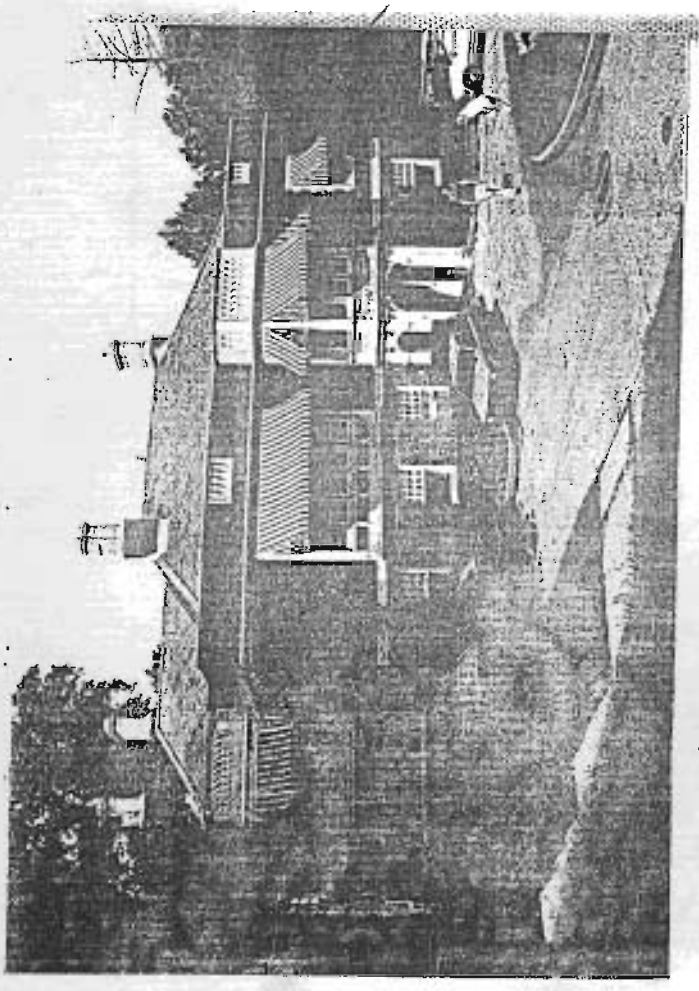
EXISTING CONDITIONS PHOTOGRAPHS

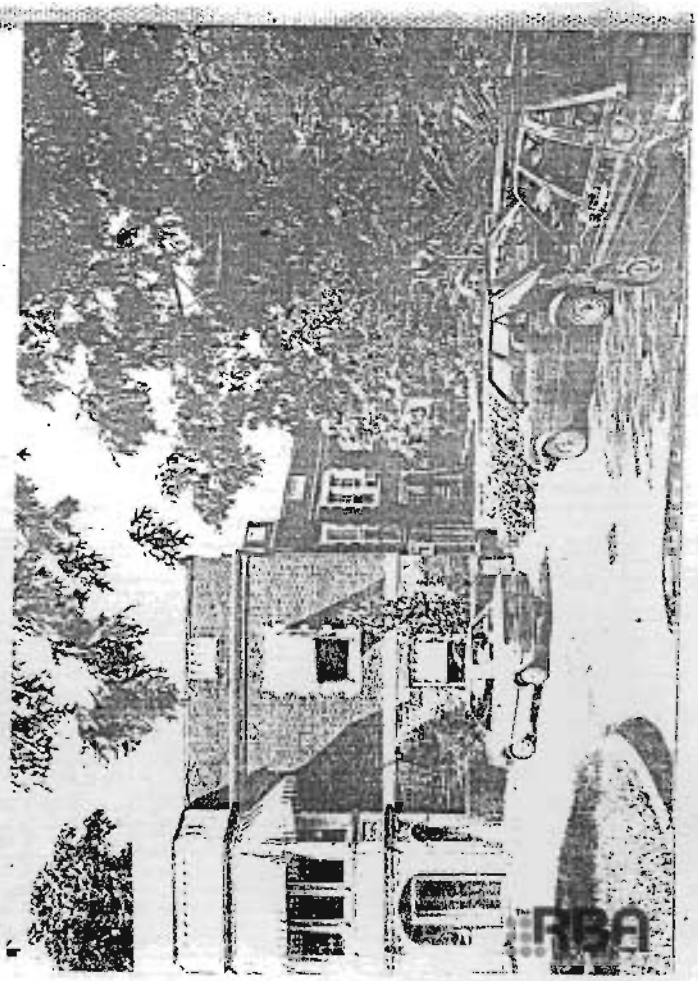


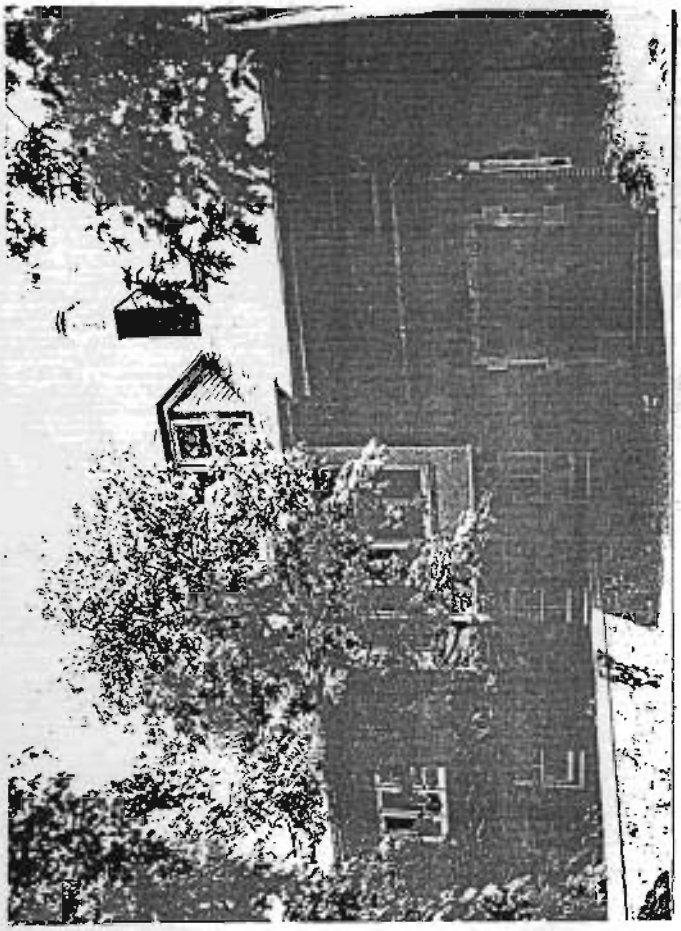
EXTERIOR/FRONT



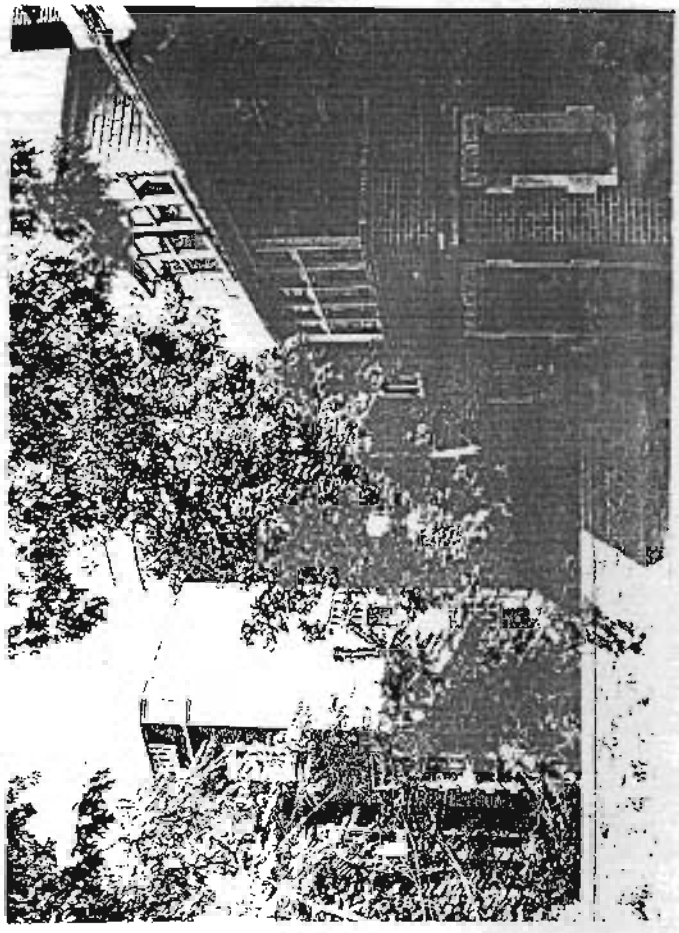
EXTERIOR/SIDE



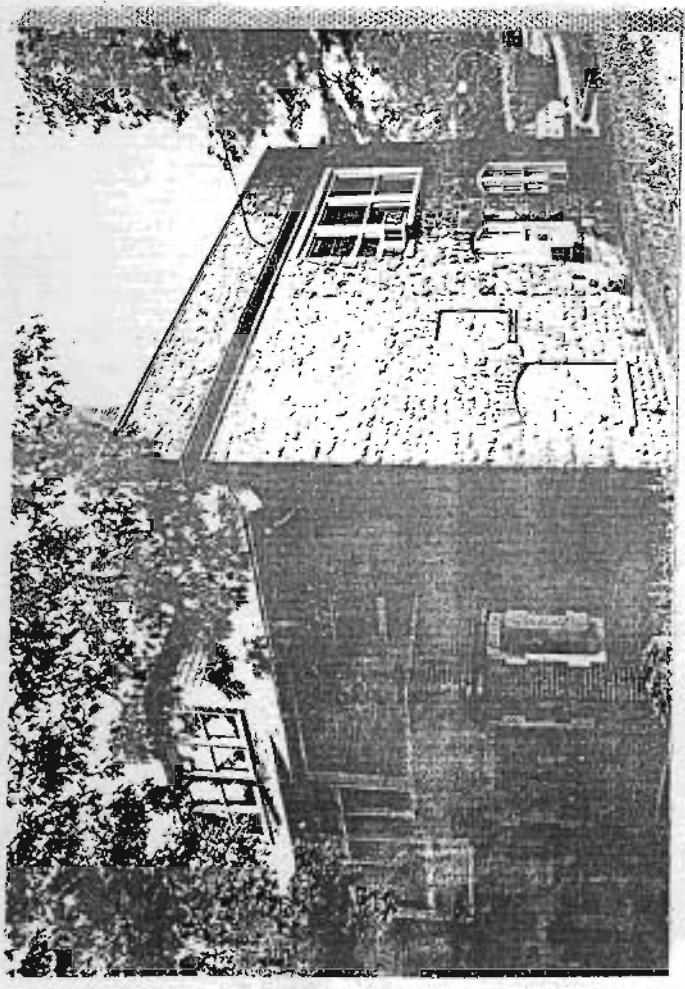


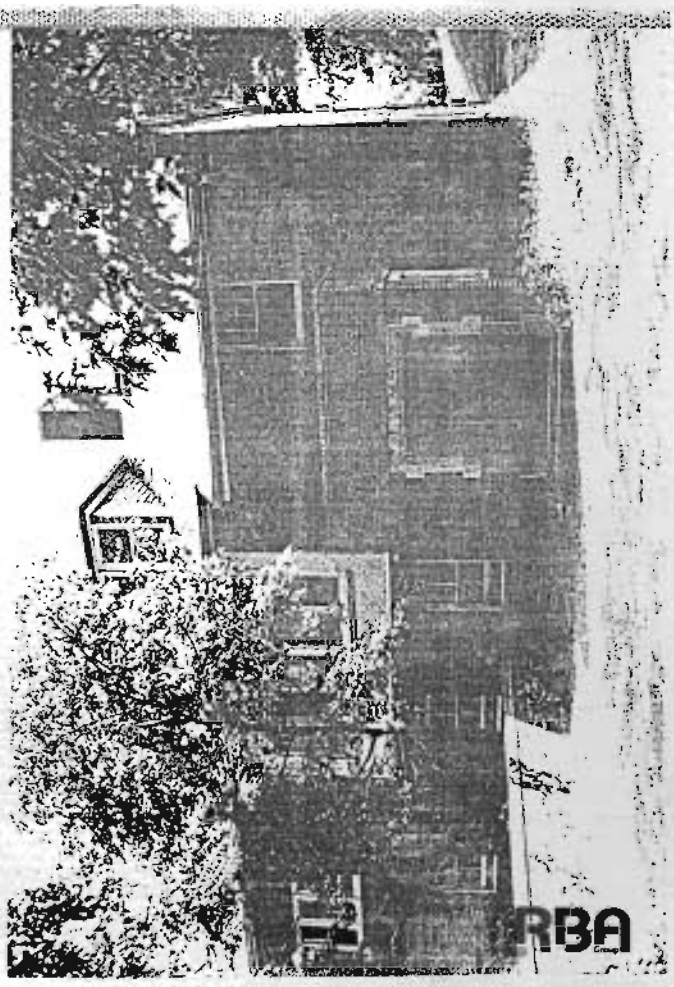


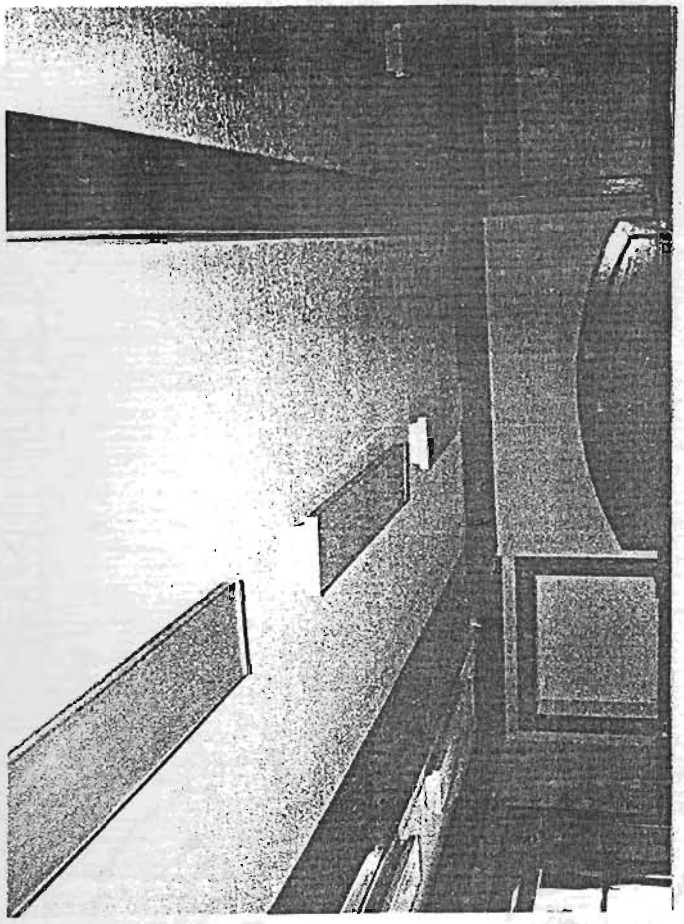
EXTERIOR/BACK

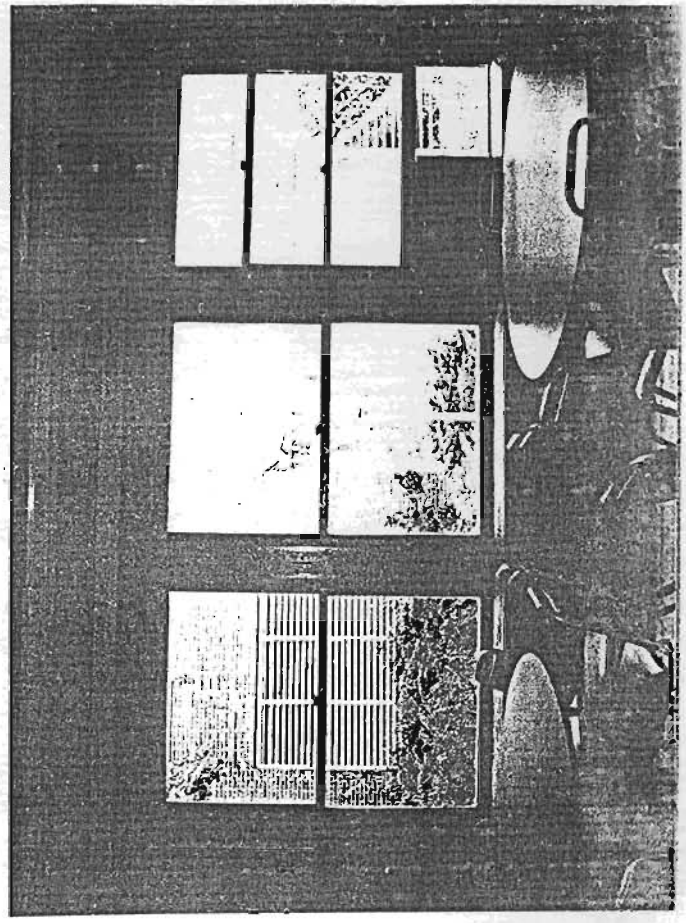


EXTERIOR/BACK

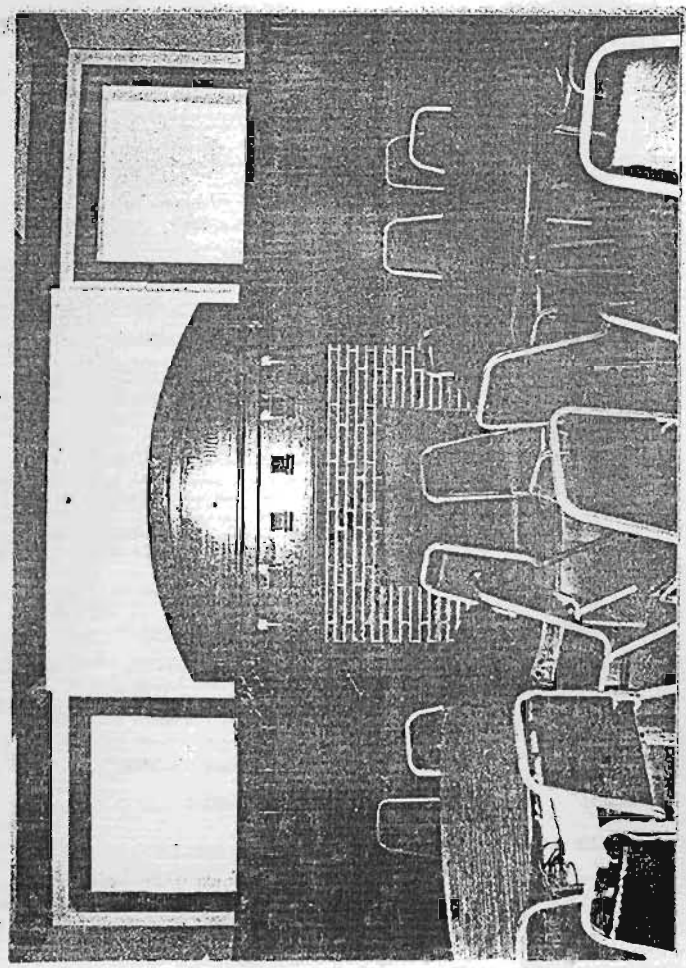


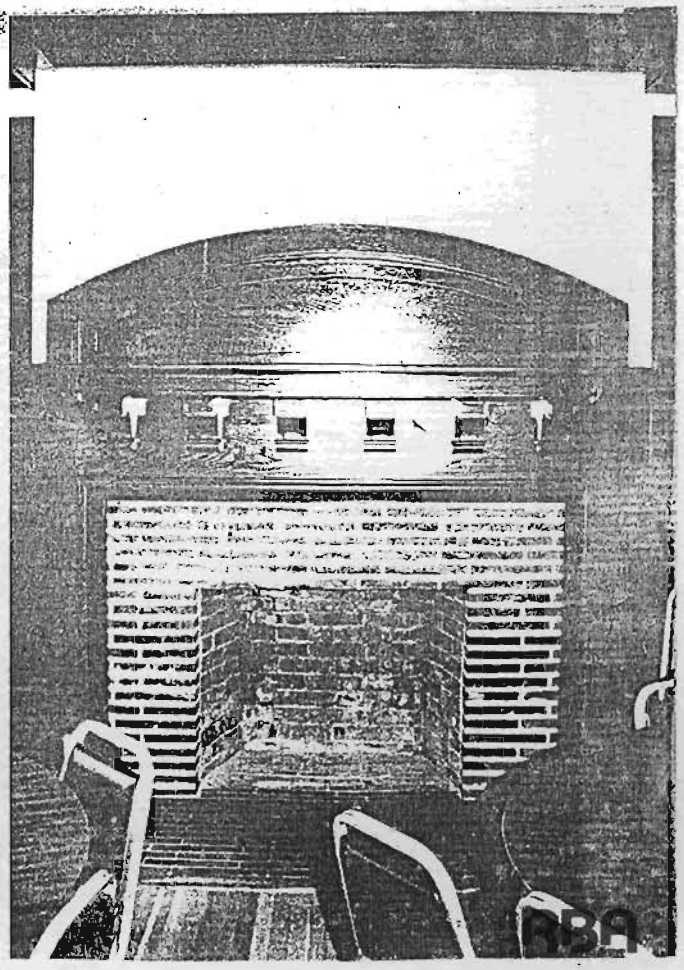


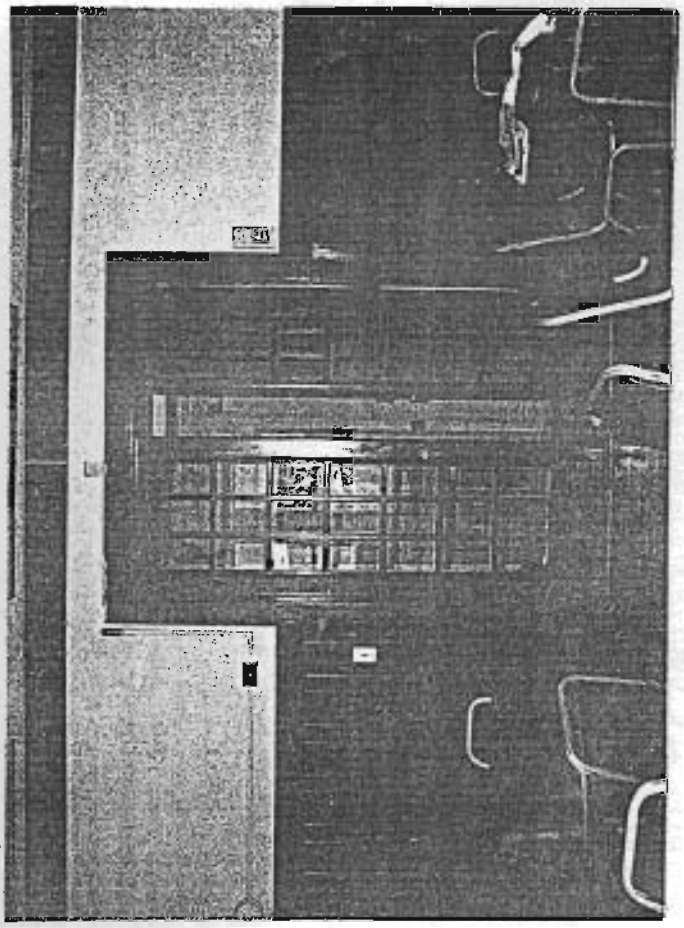




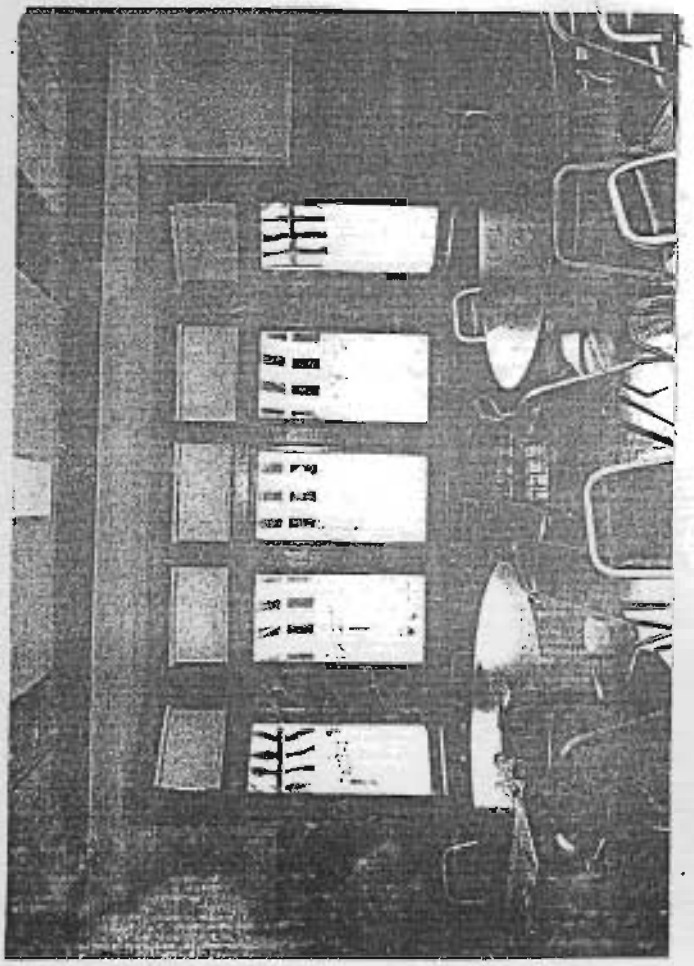
BILLARDS ROOM



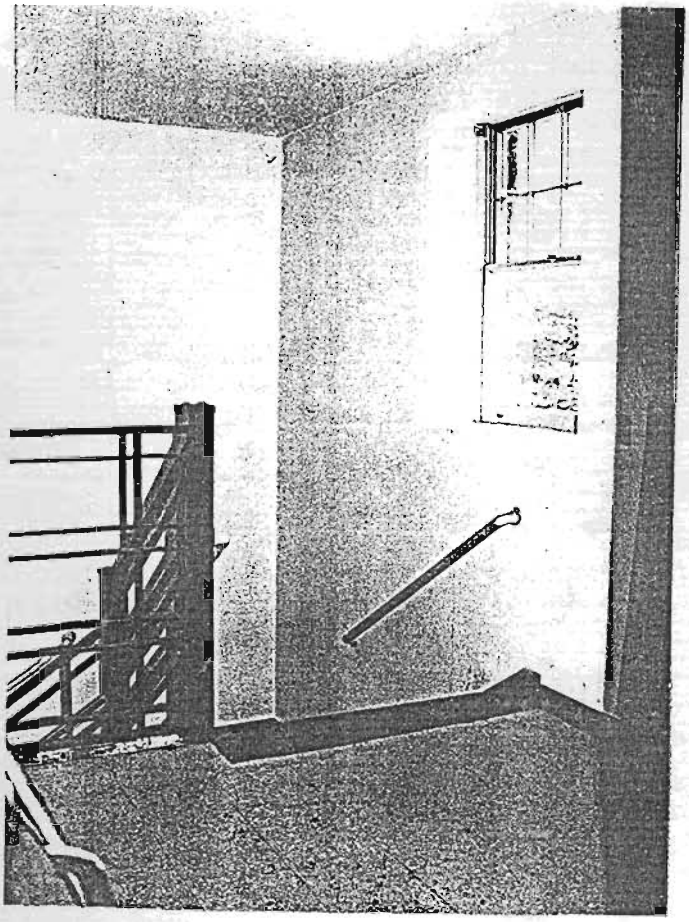


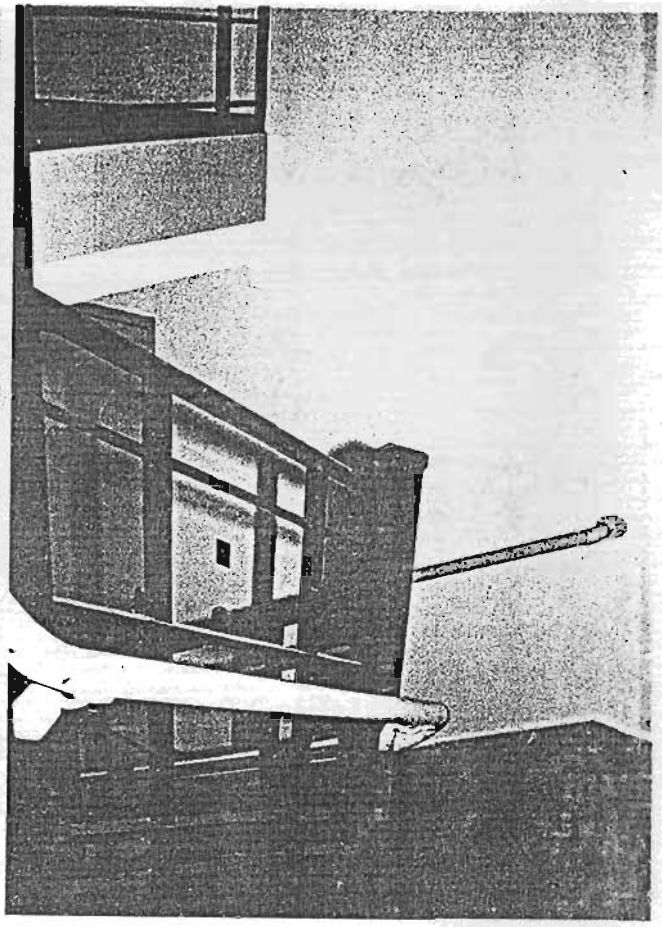


BILLARDS ROOM

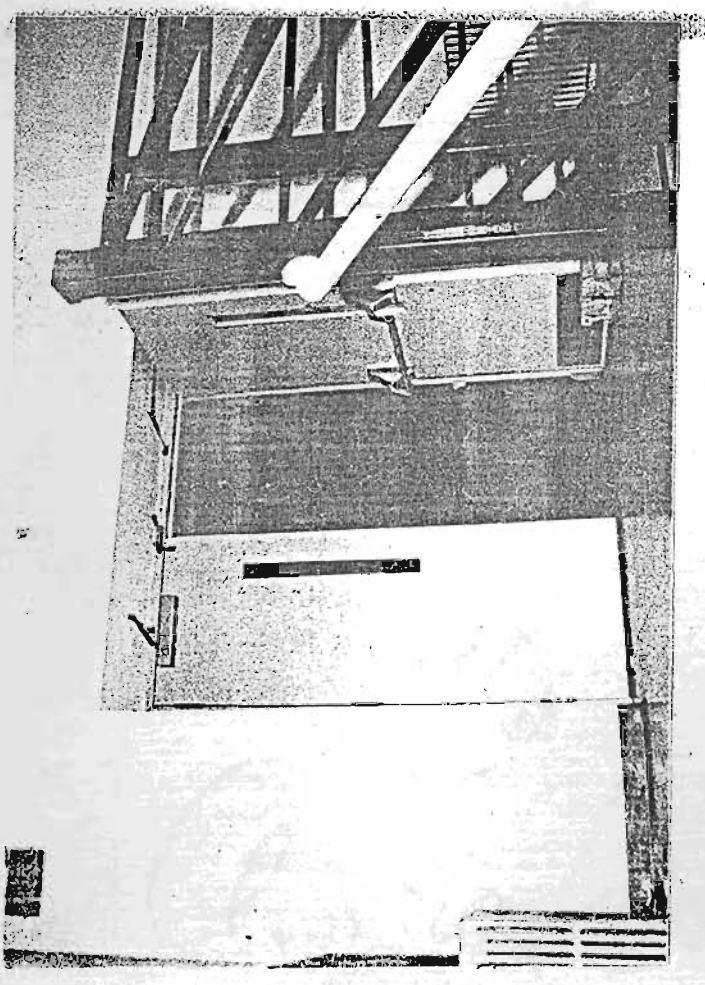


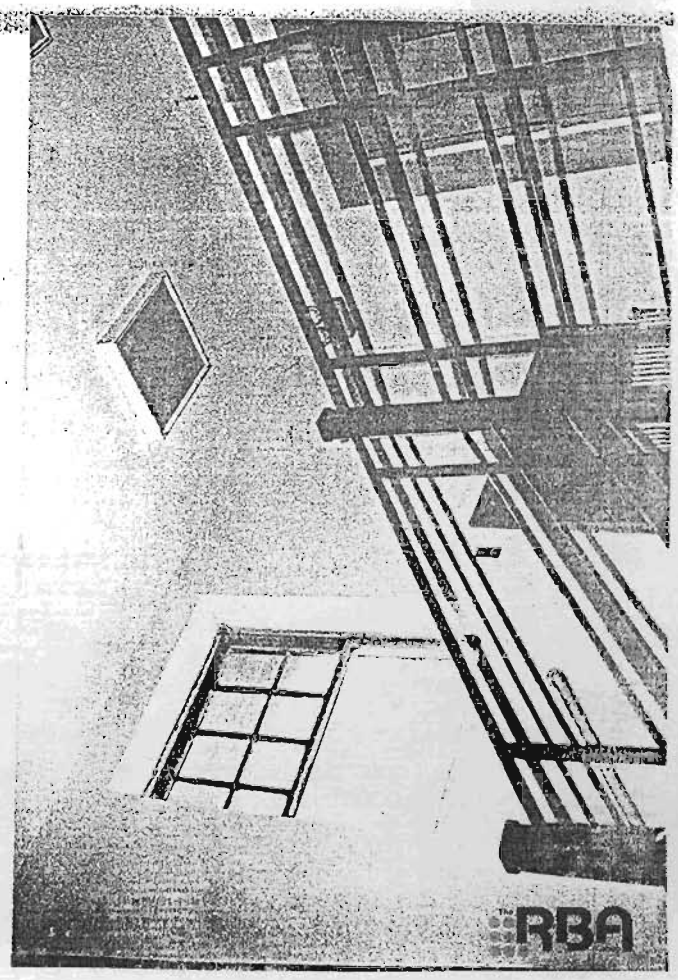
RBA

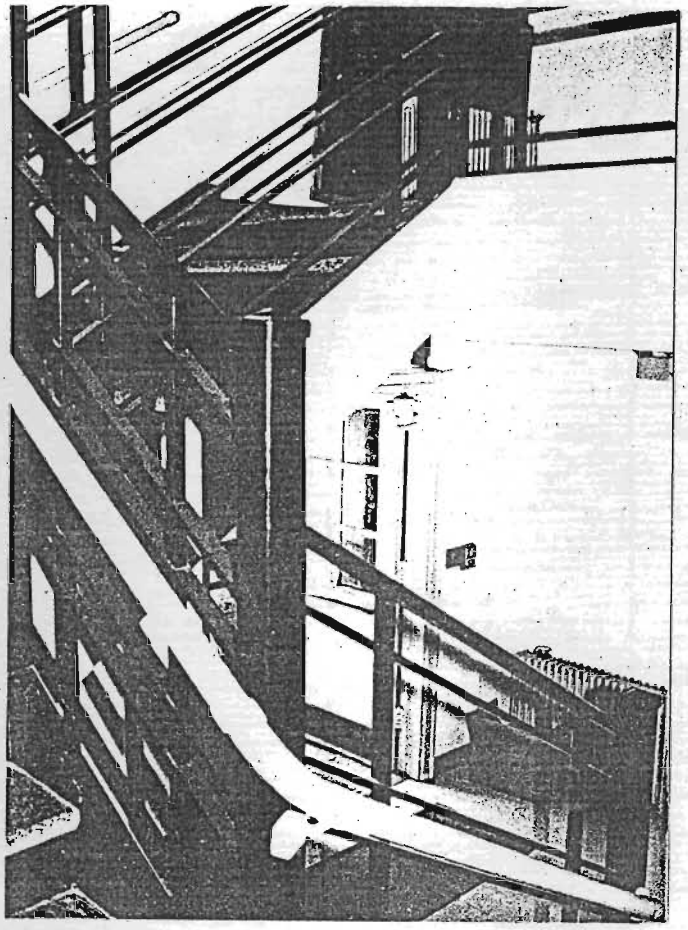




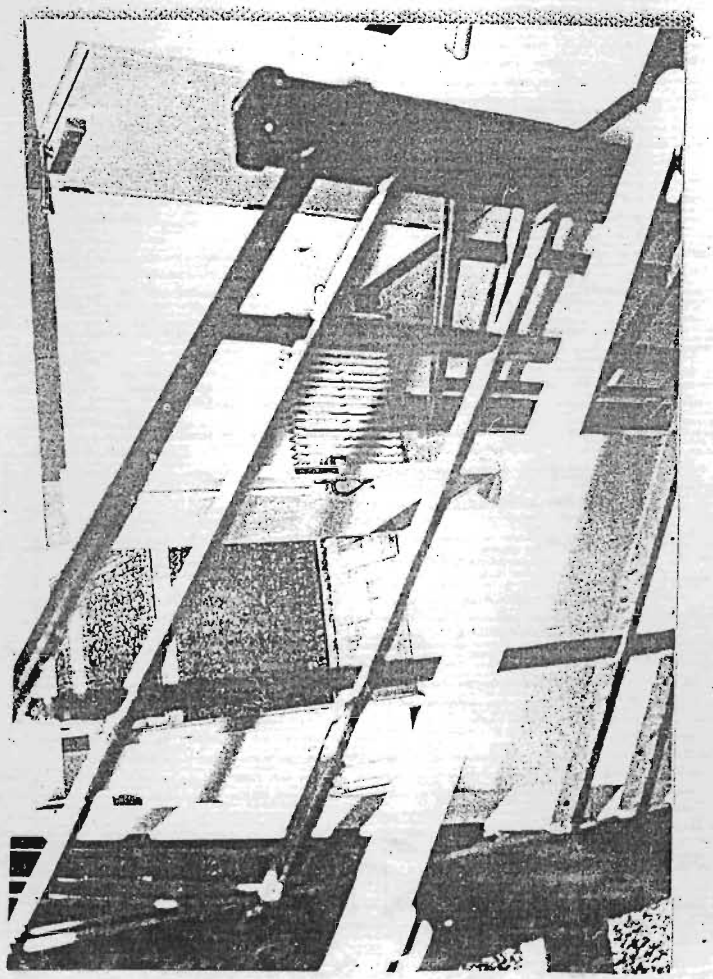
BACK STAIR

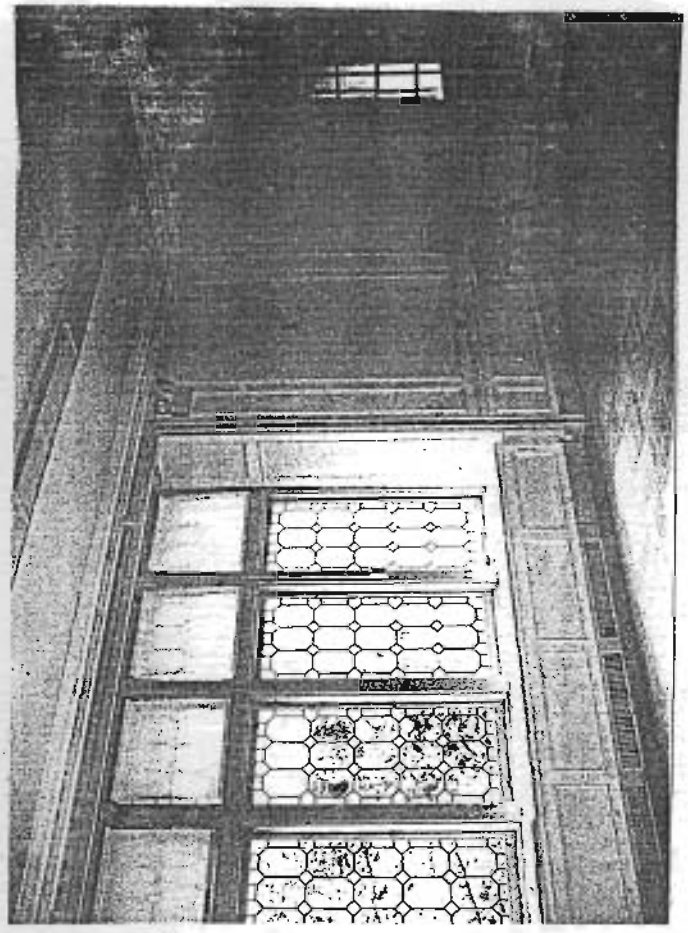


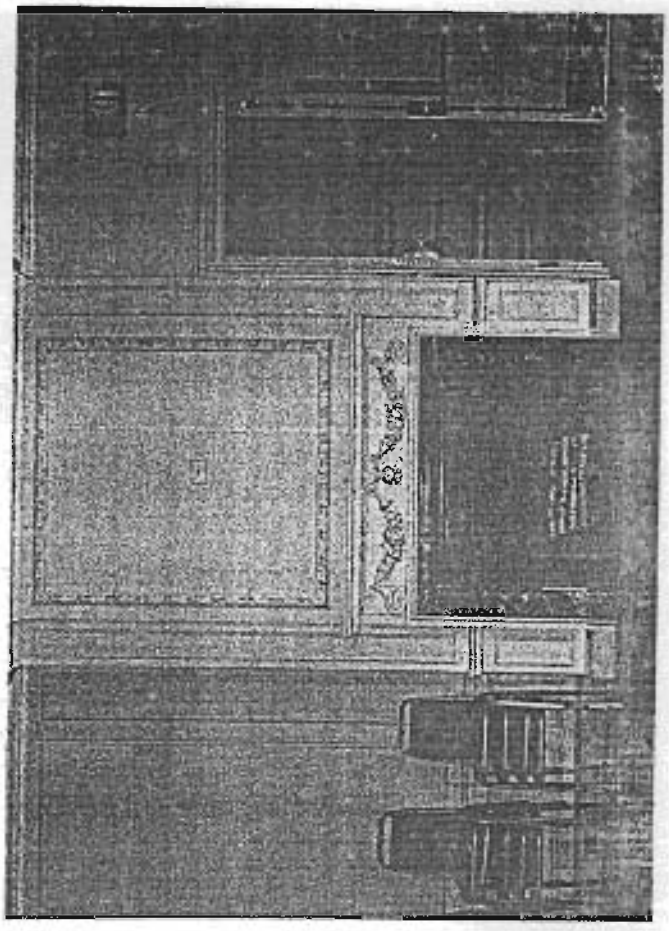




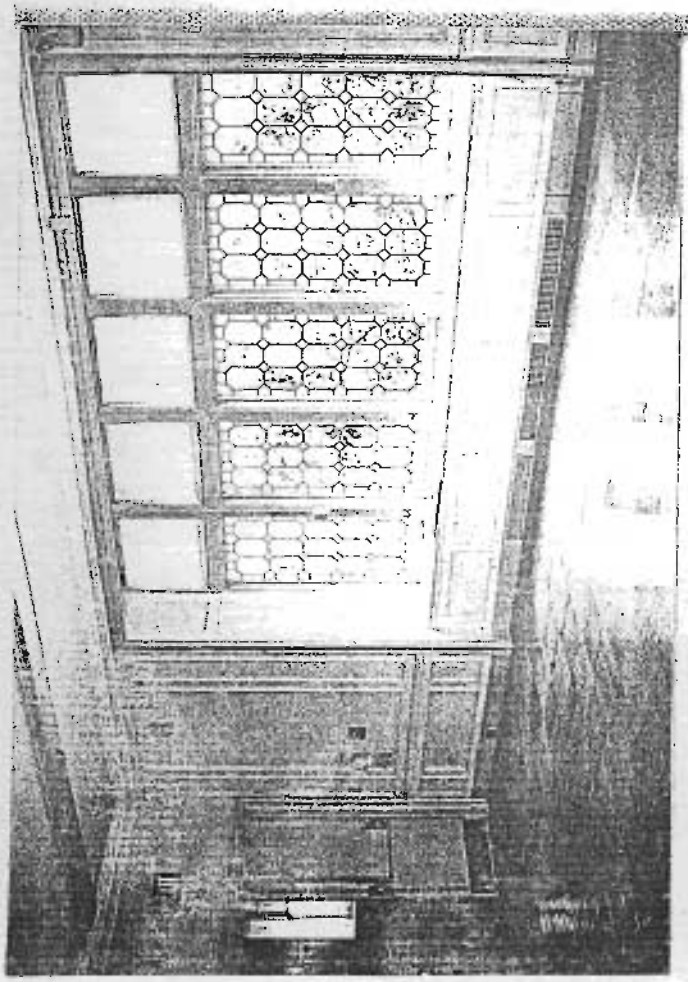
BACK STAIR

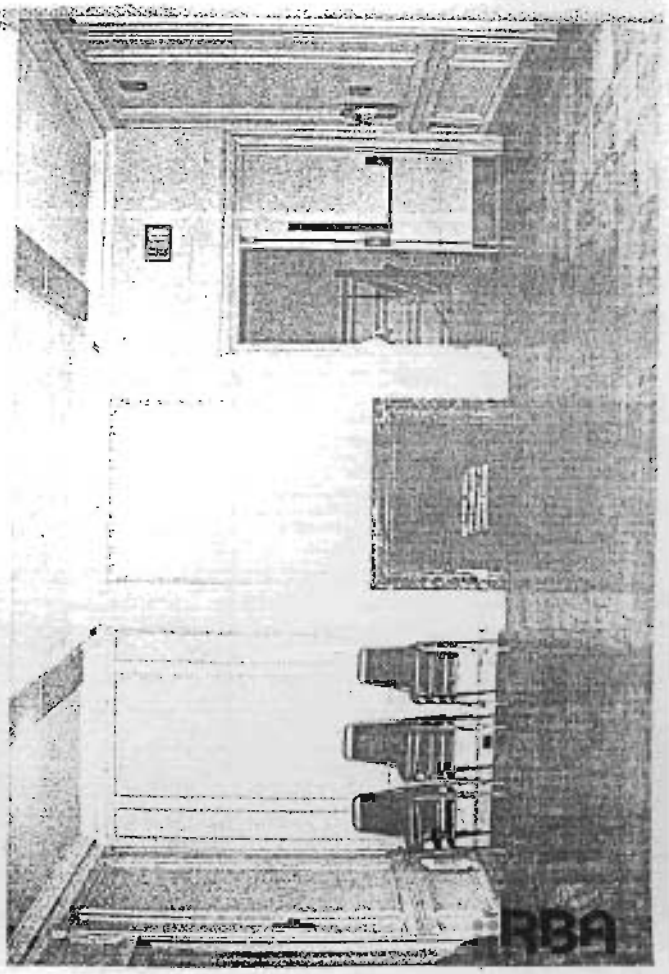




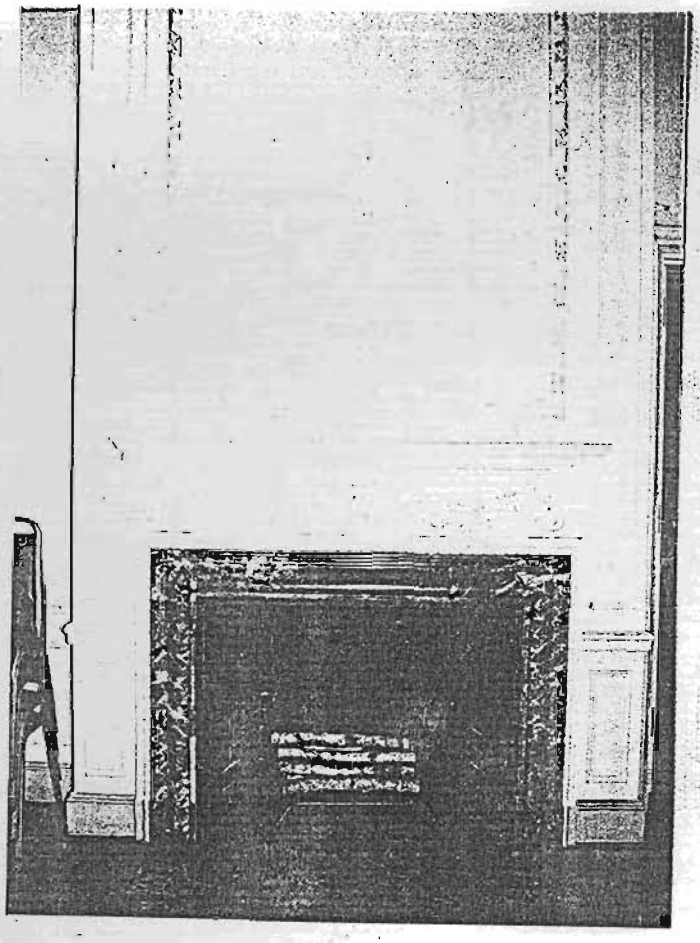


DINING ROOM

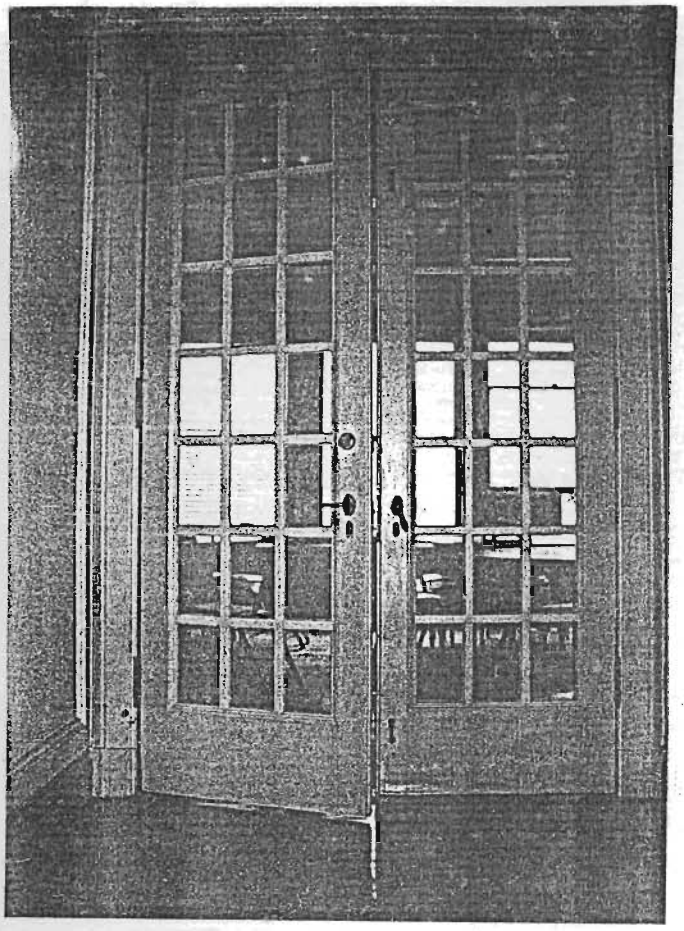


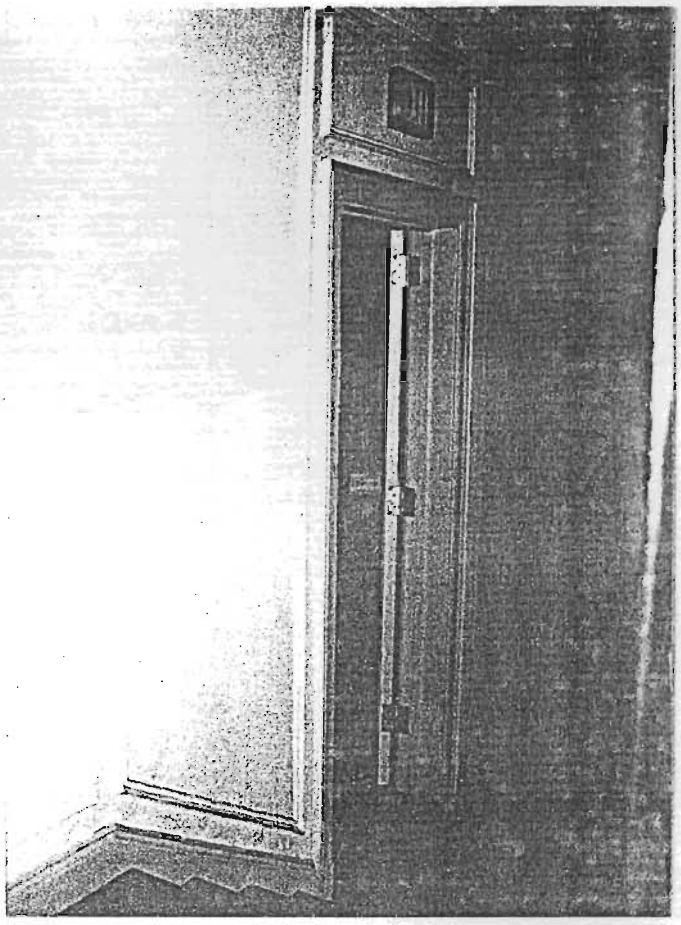


DINING ROOM

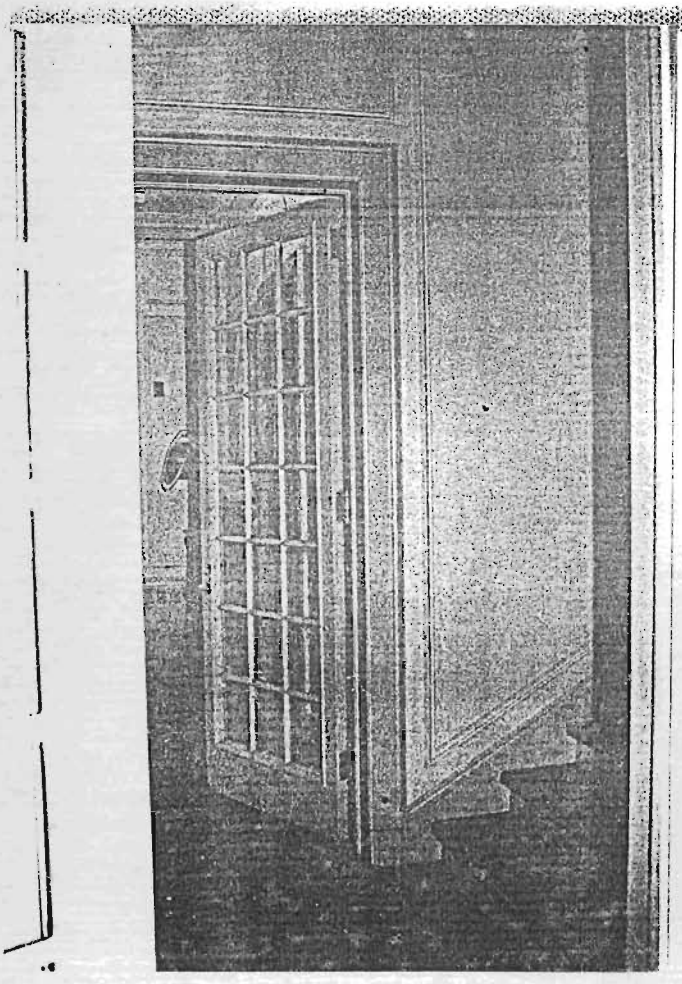


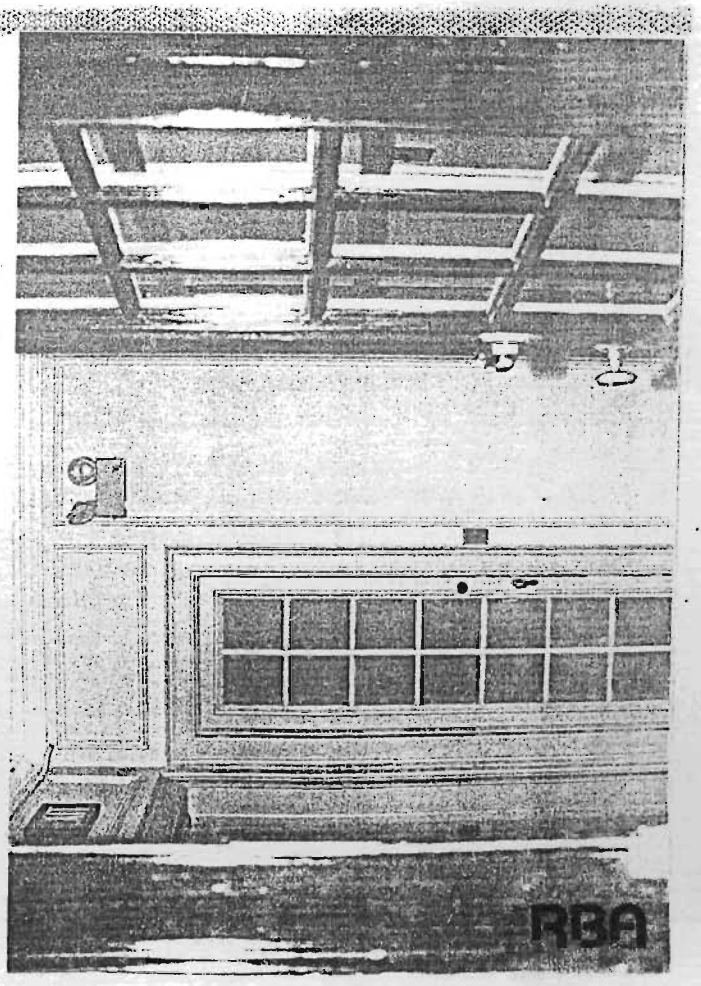
DINING ROOM



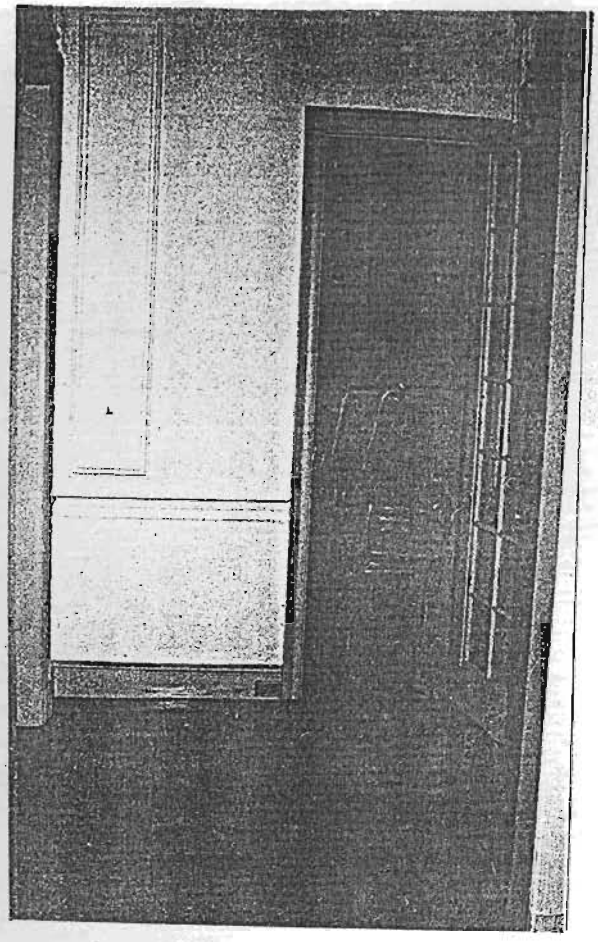


FOYER 2

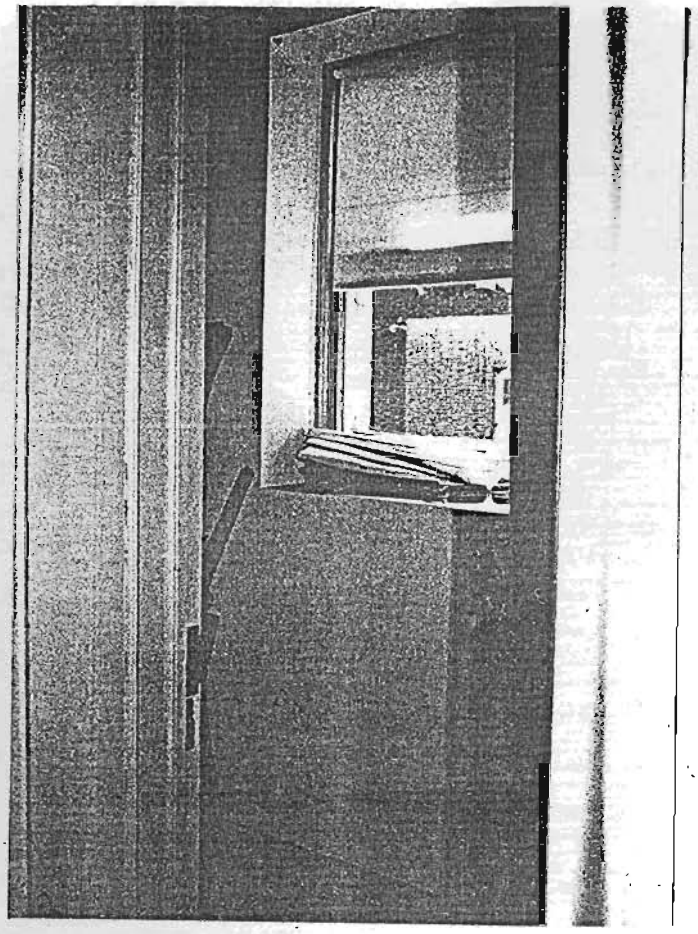




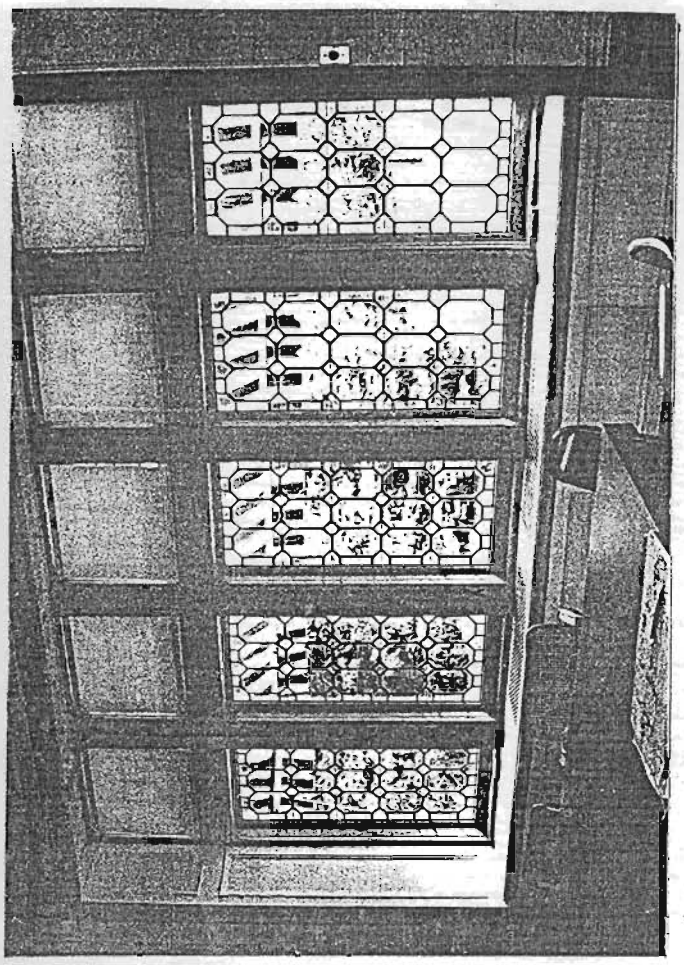
SERVICE STAIR

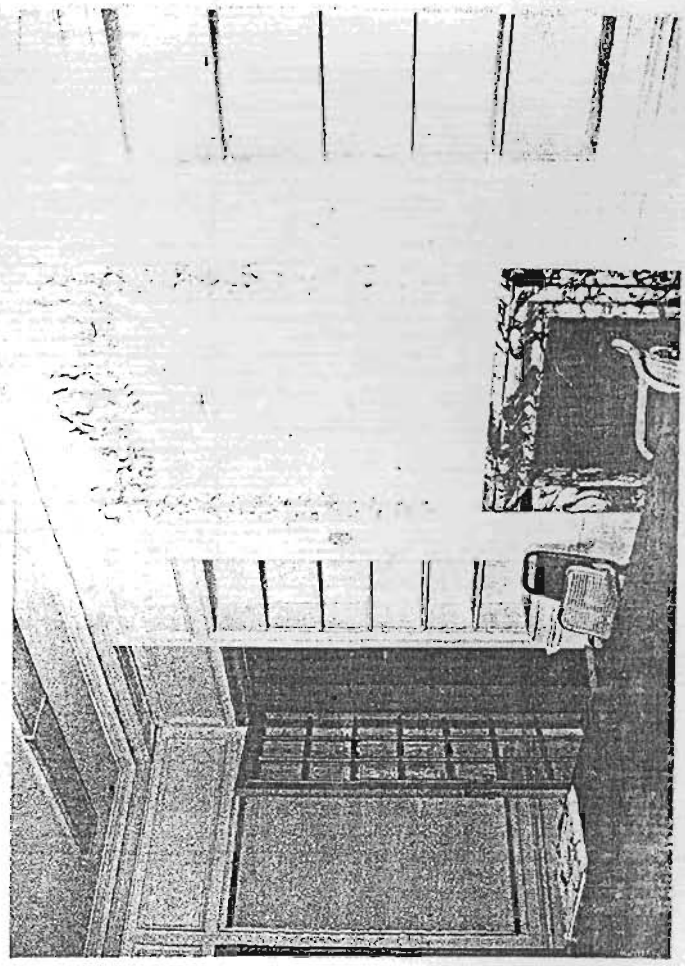


FOYER 1

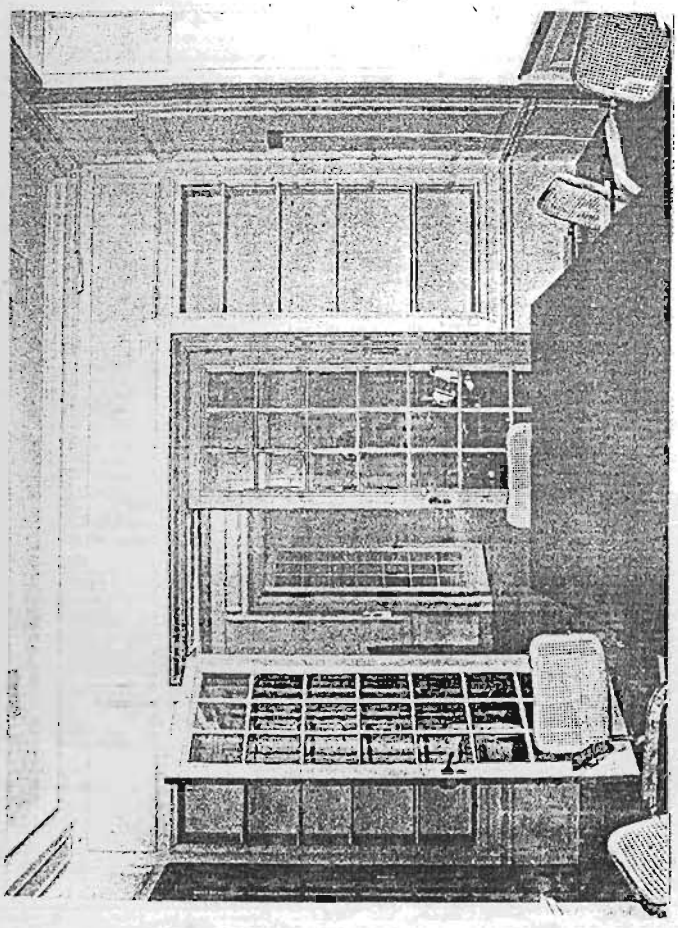


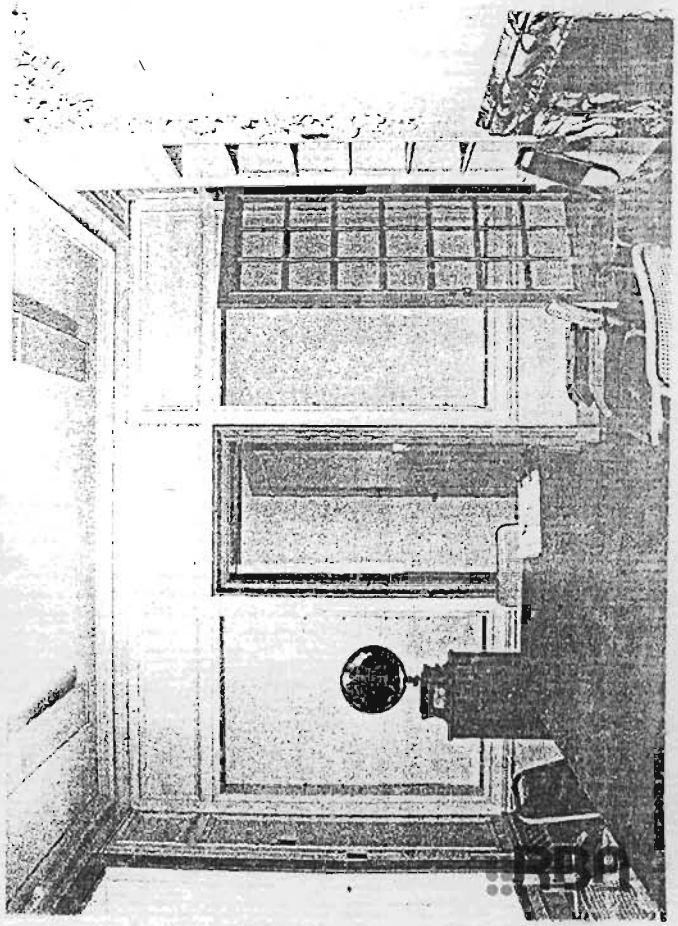
STORAGE ROOM

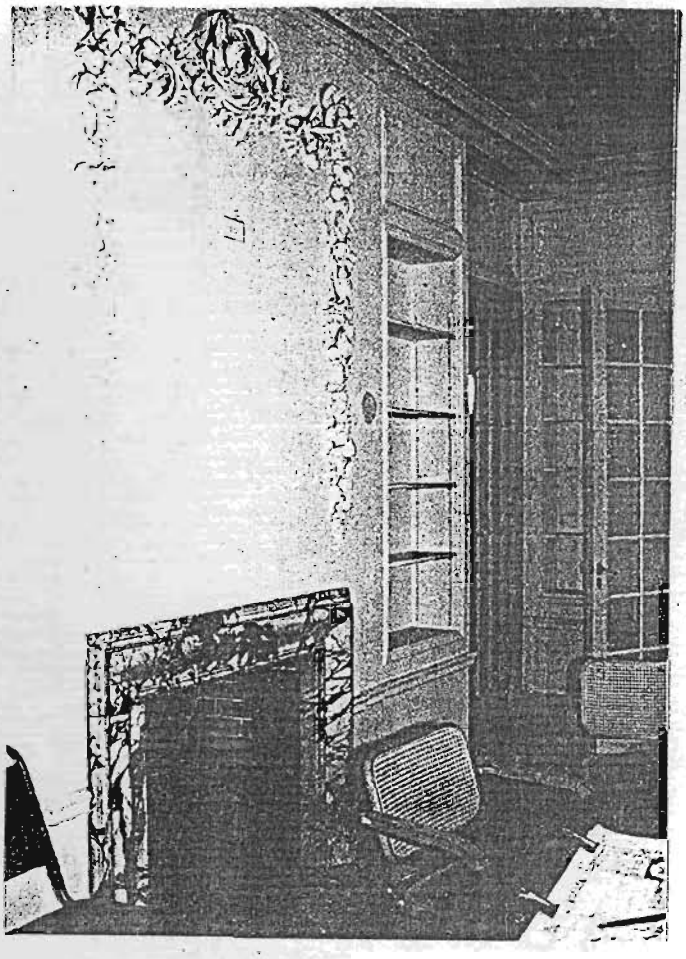




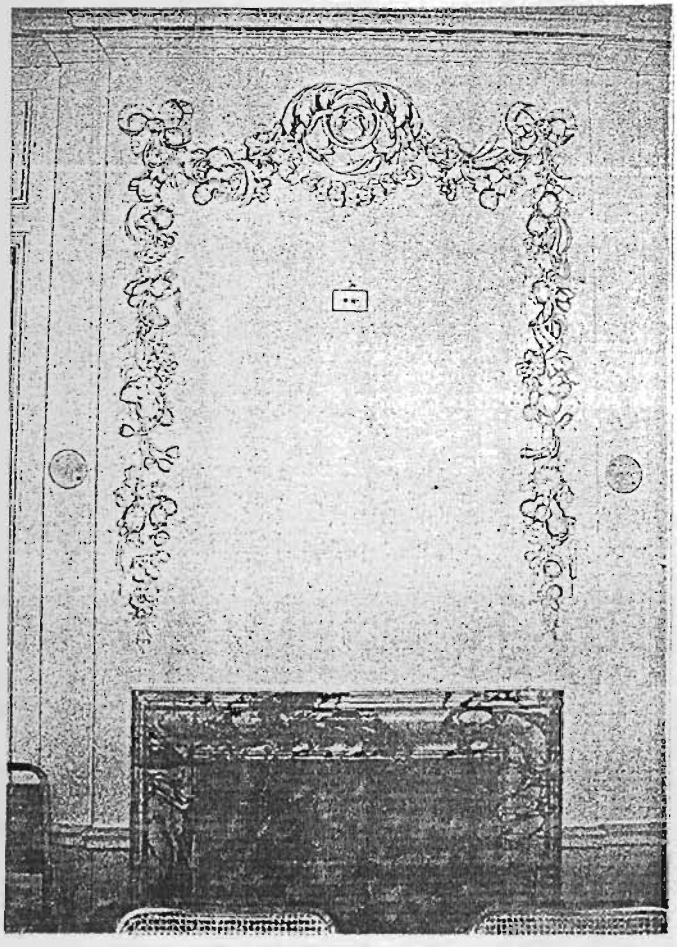
LIBRARY



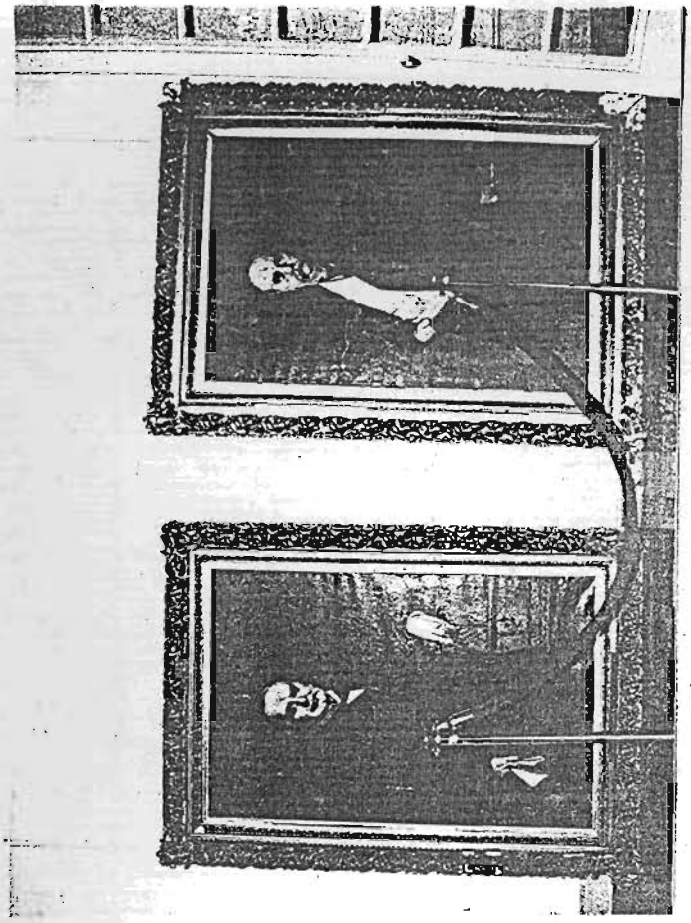


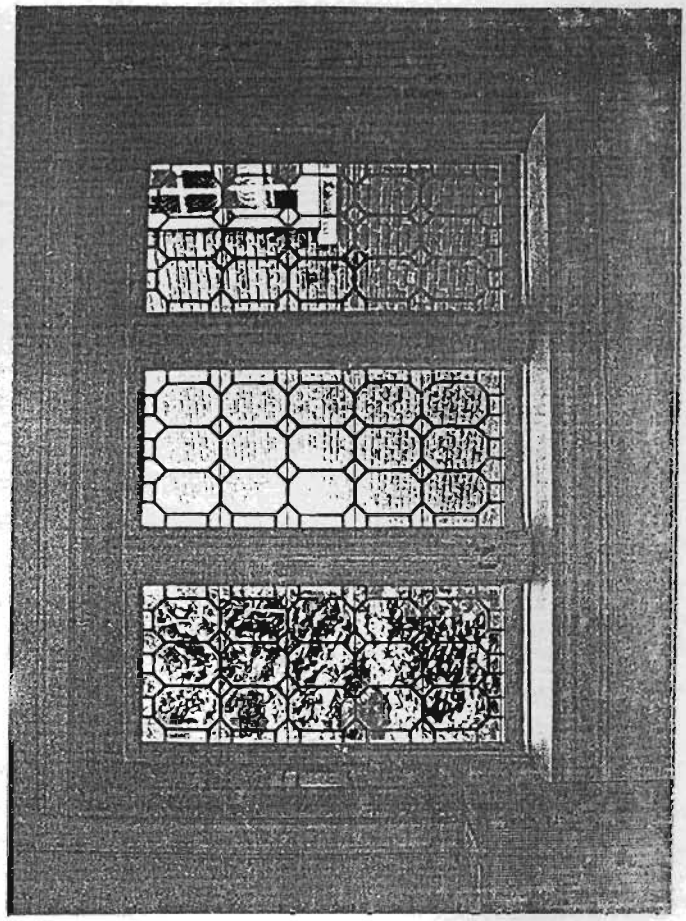


LIBRARY

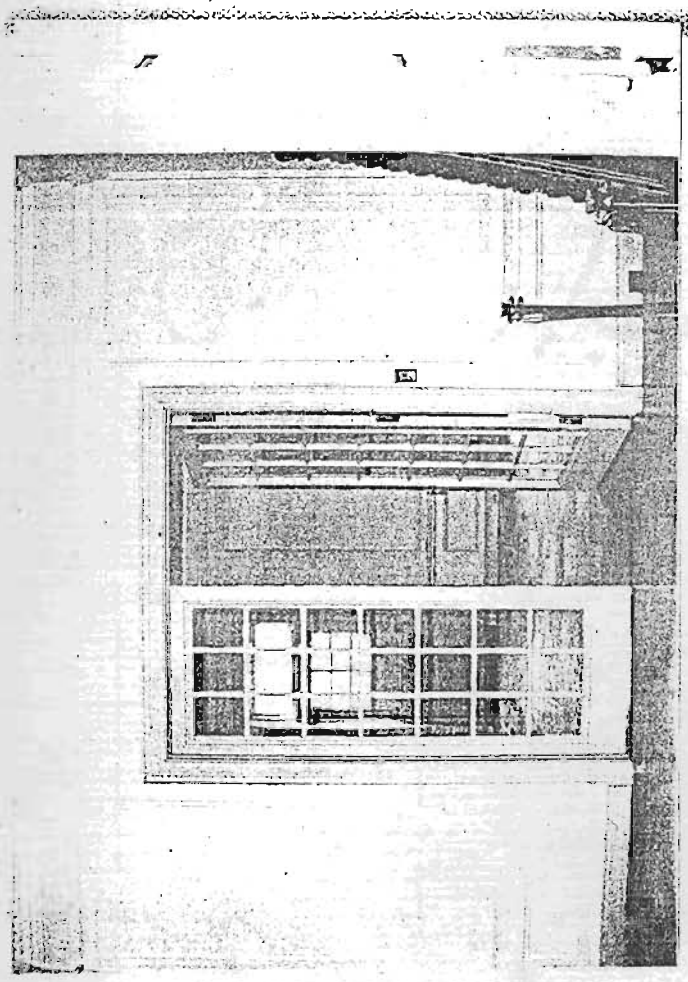


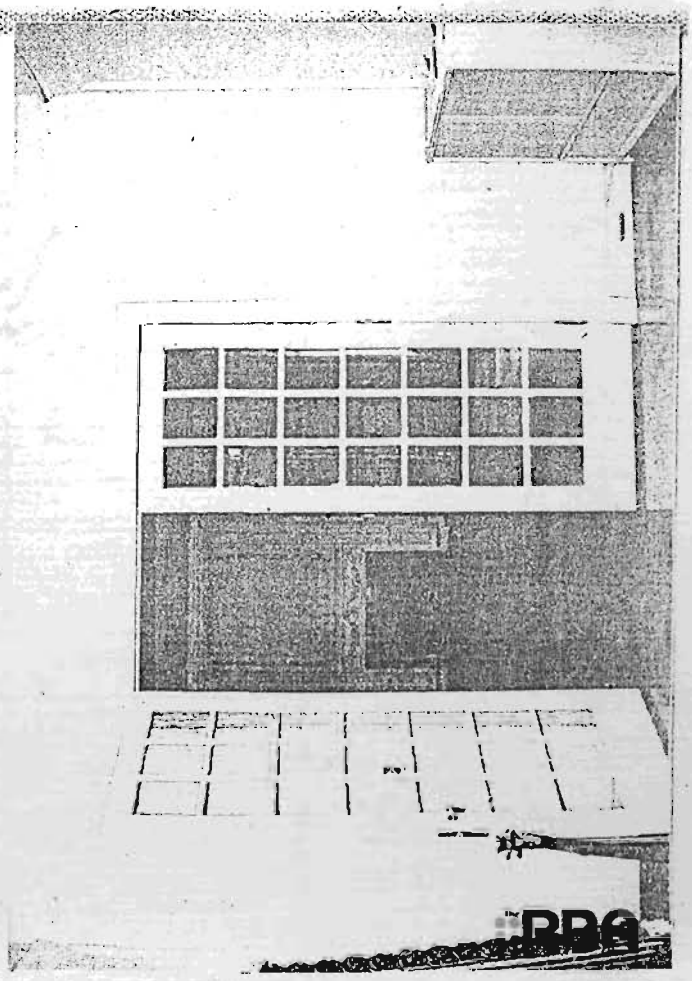
The RBA Group

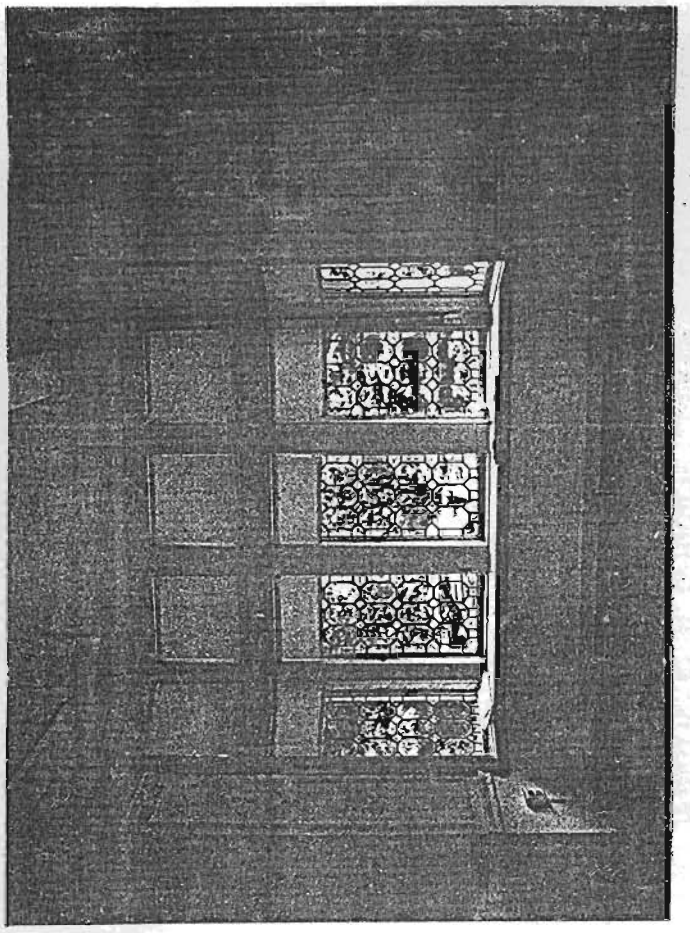


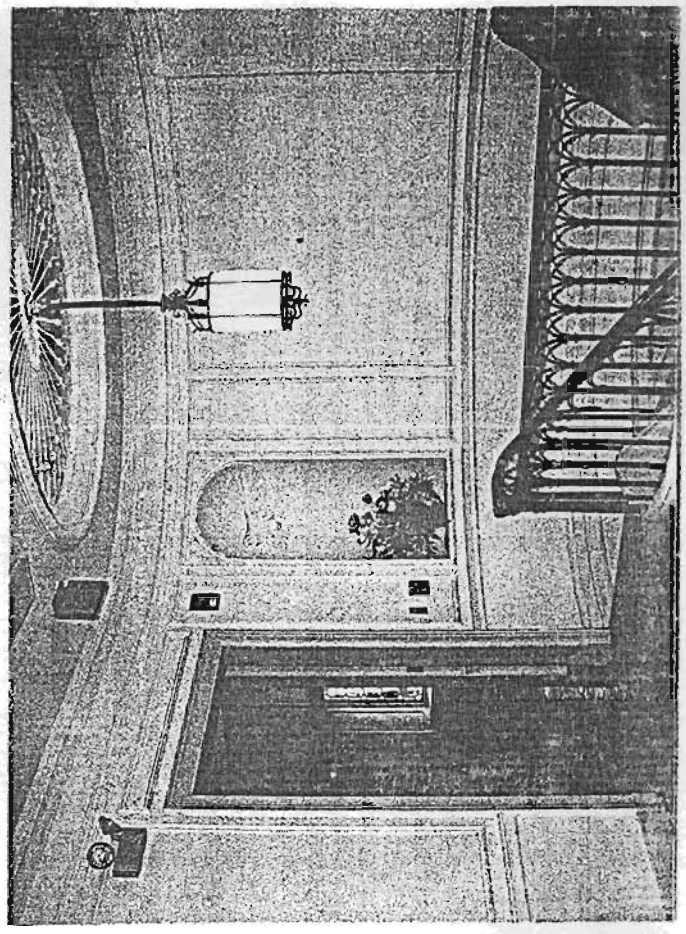


ANTE ROOM

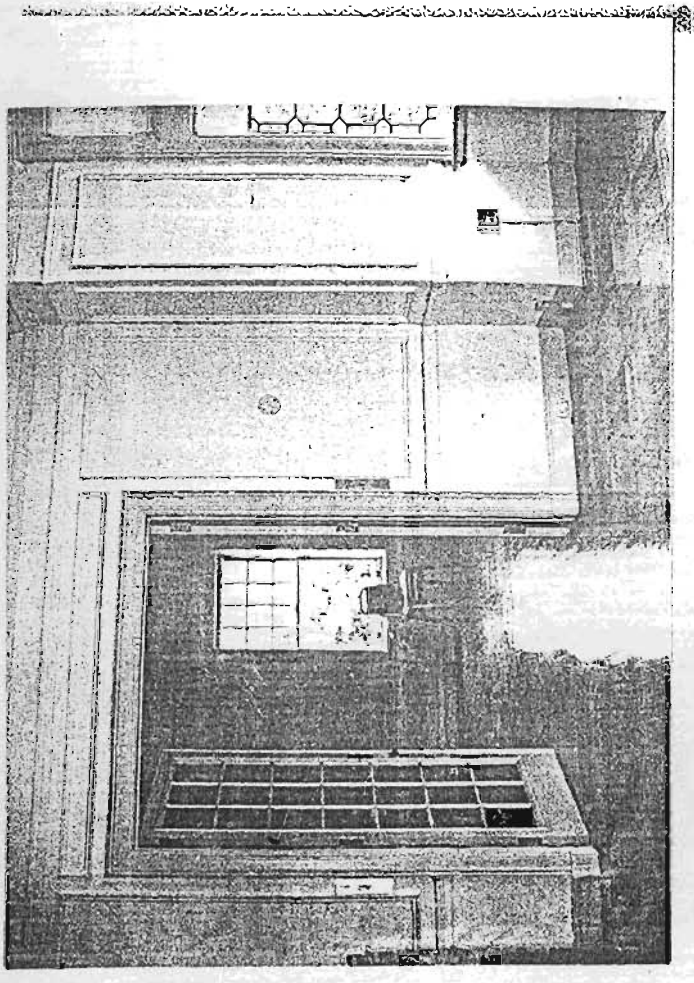


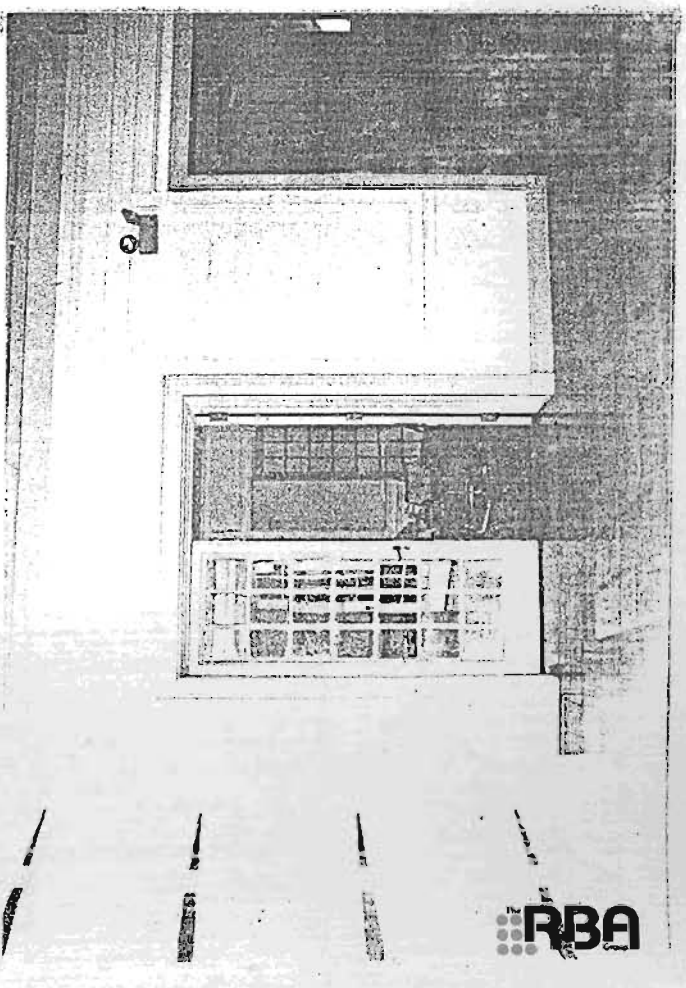




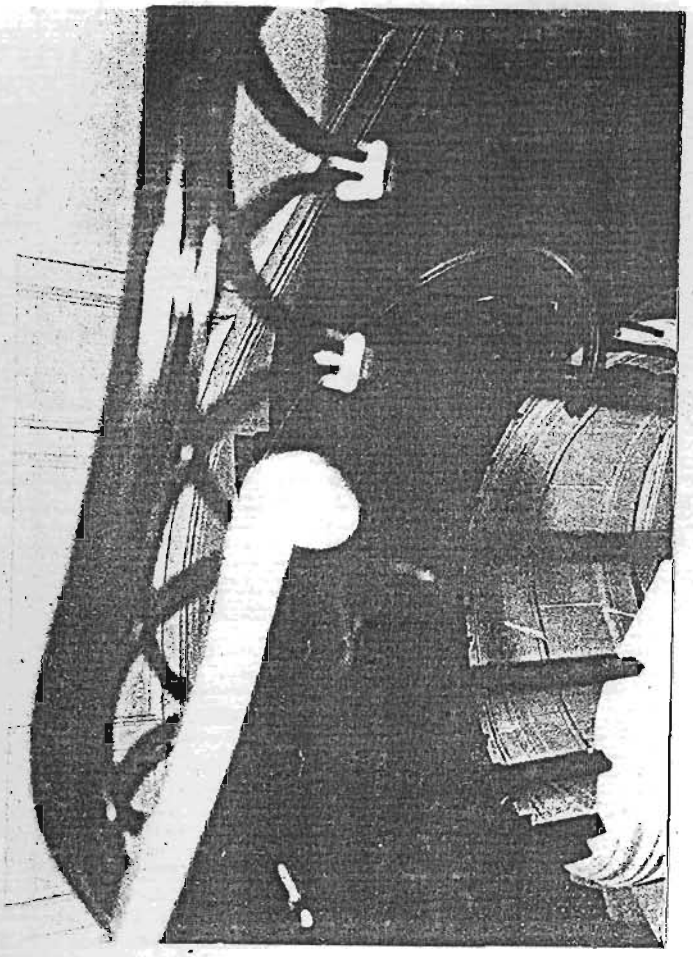


STAIR HALL

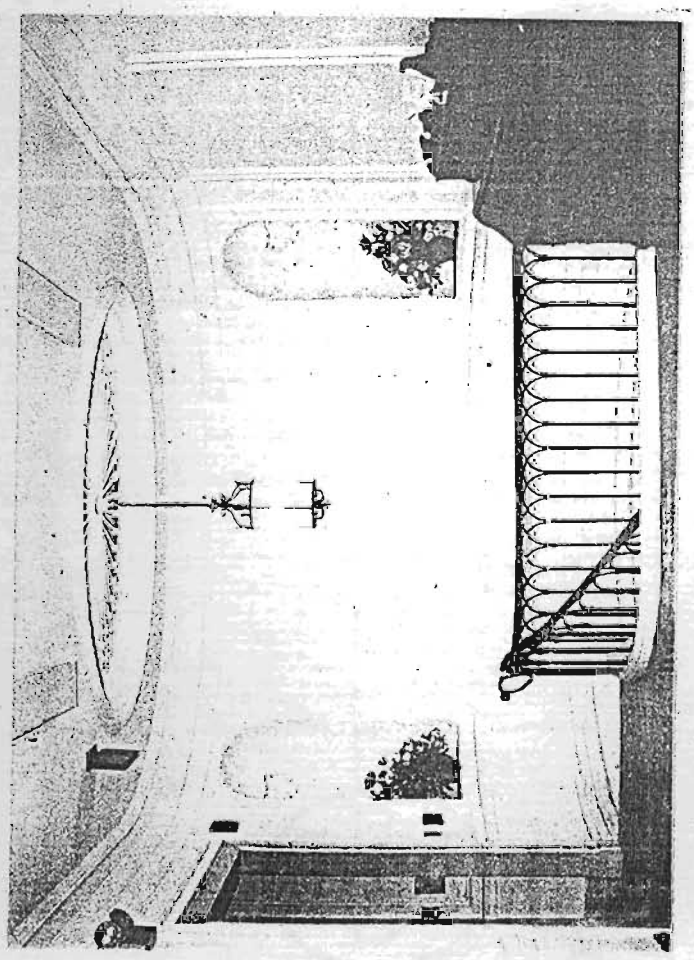




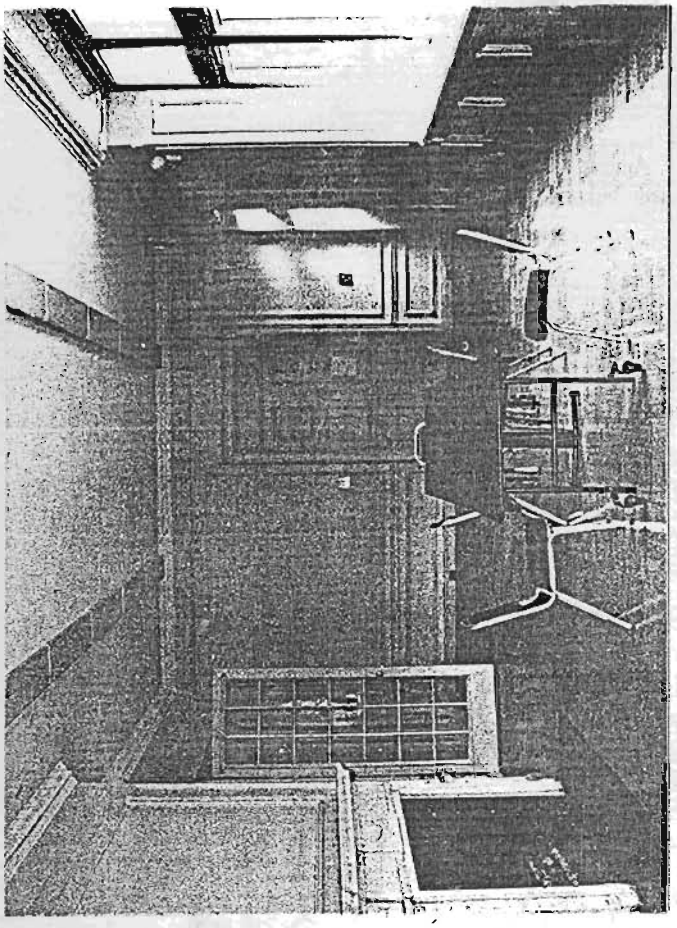
RBA

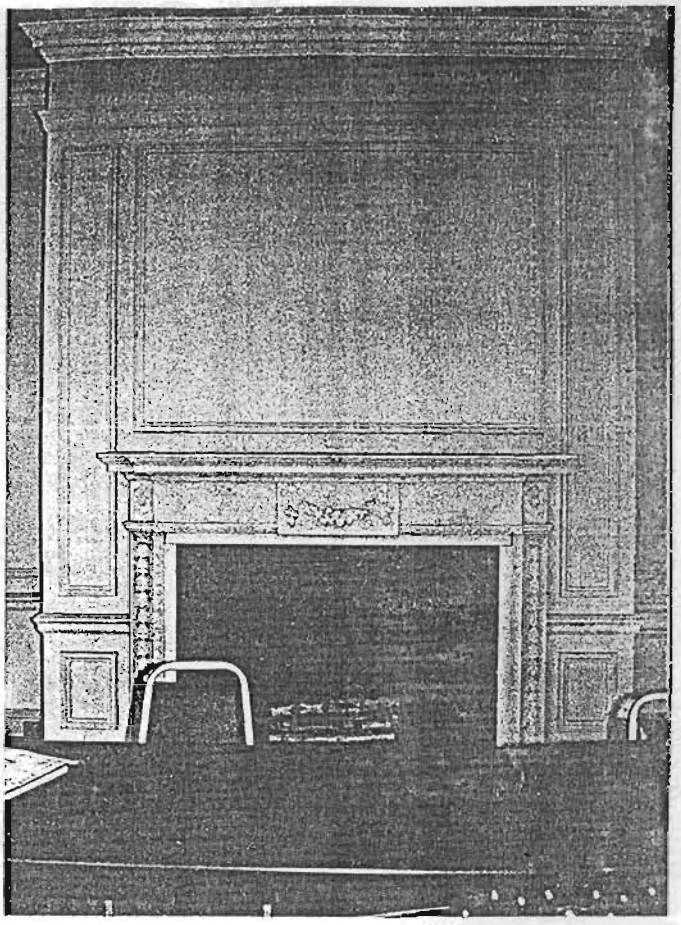


STAIR HALL

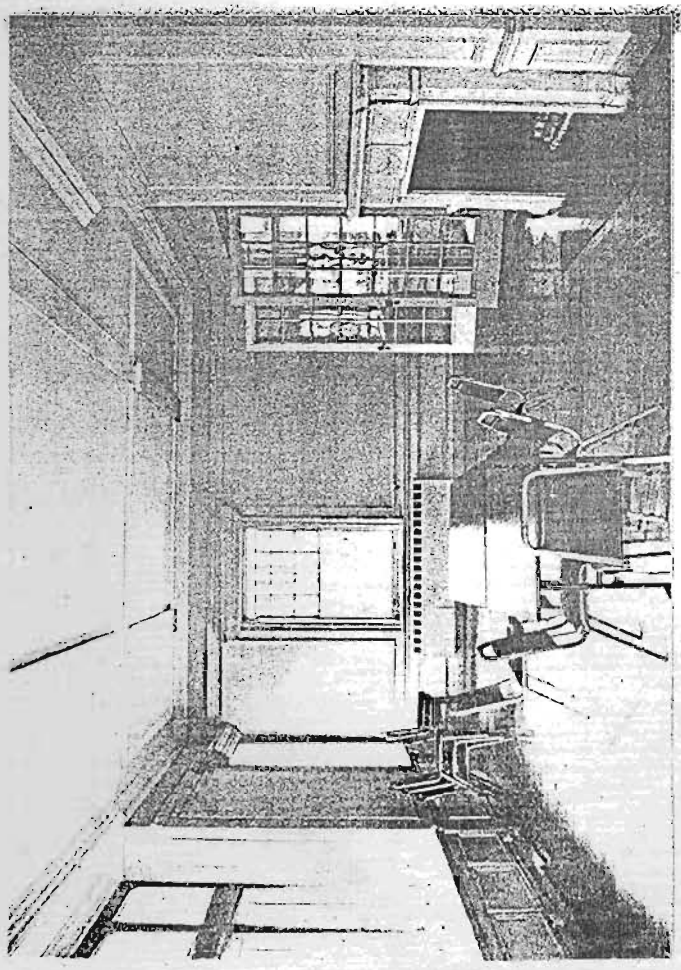


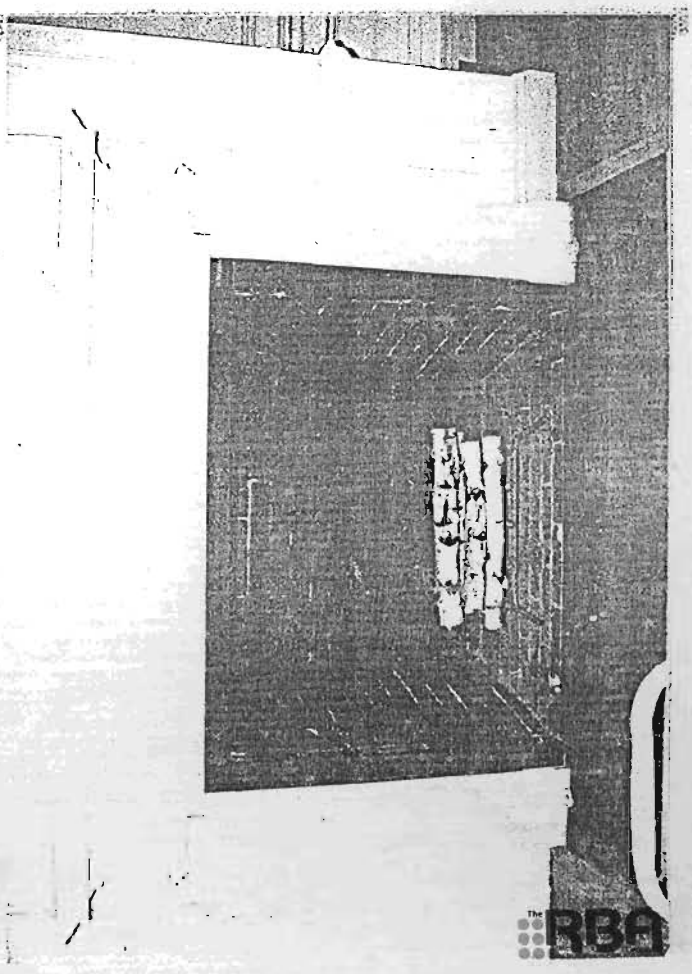
RBA

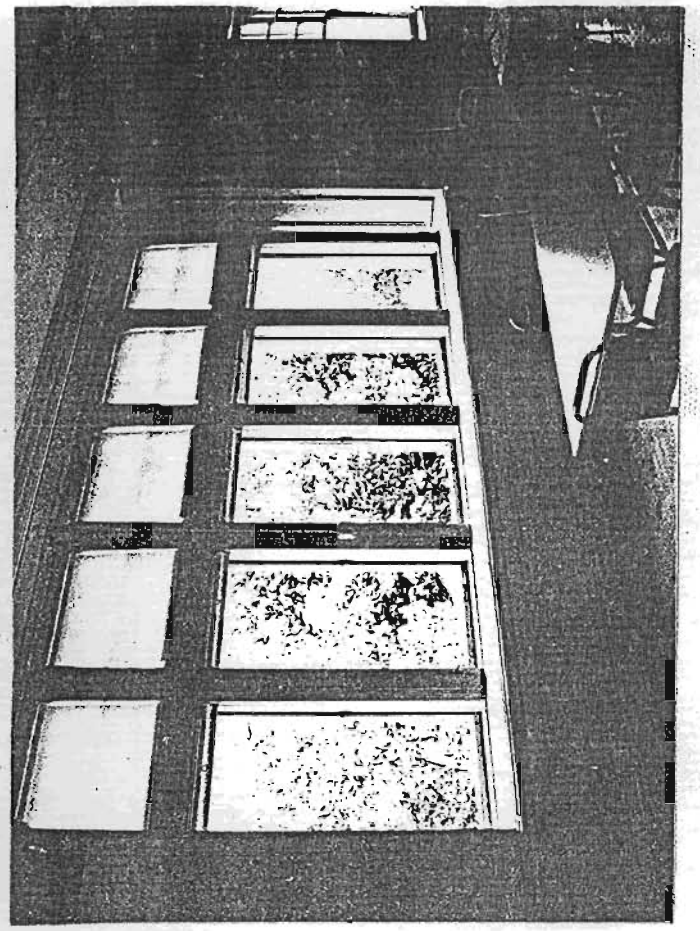




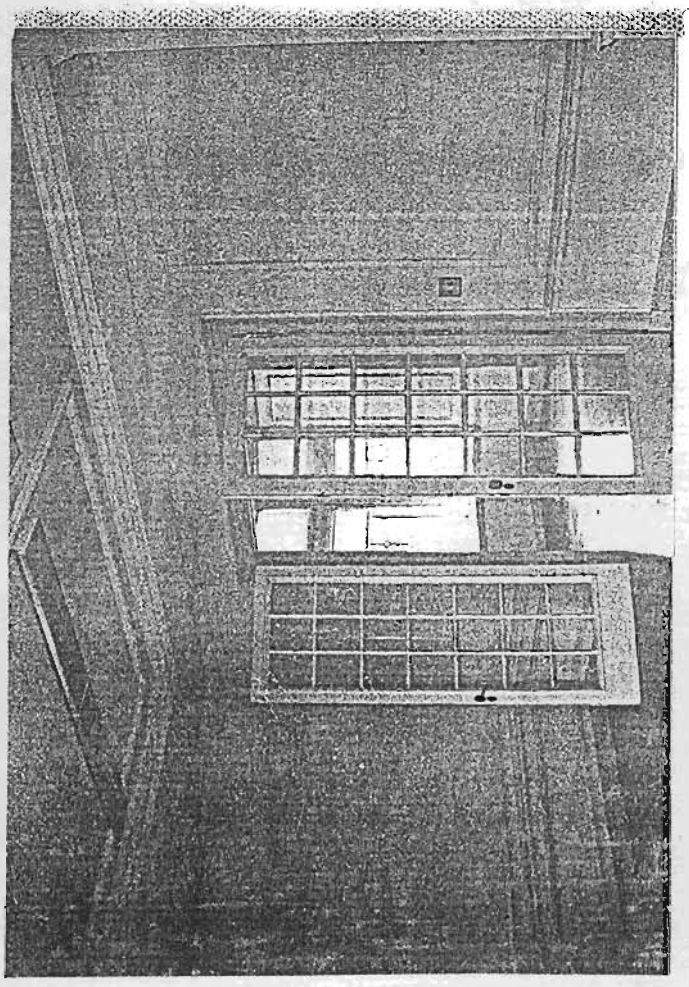
DRAWING ROOM

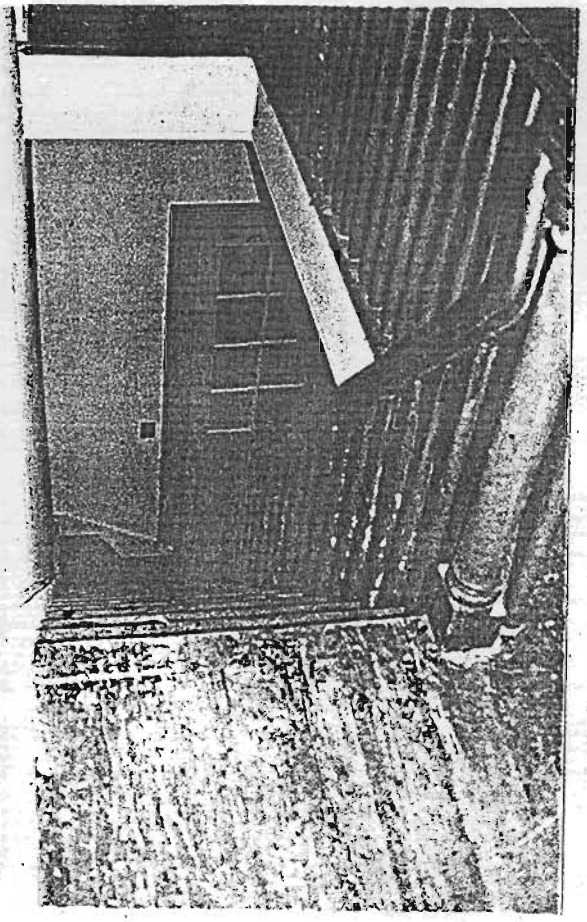


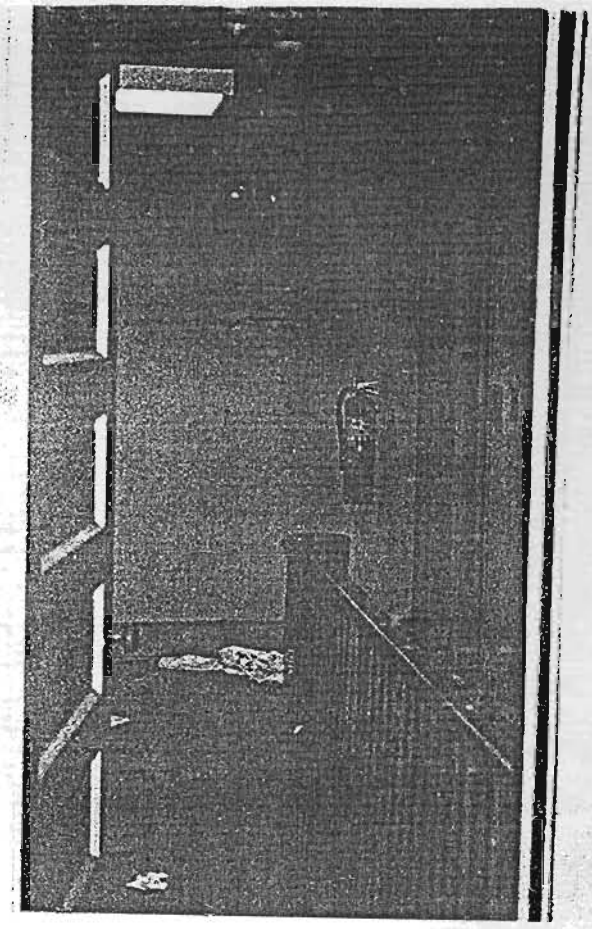




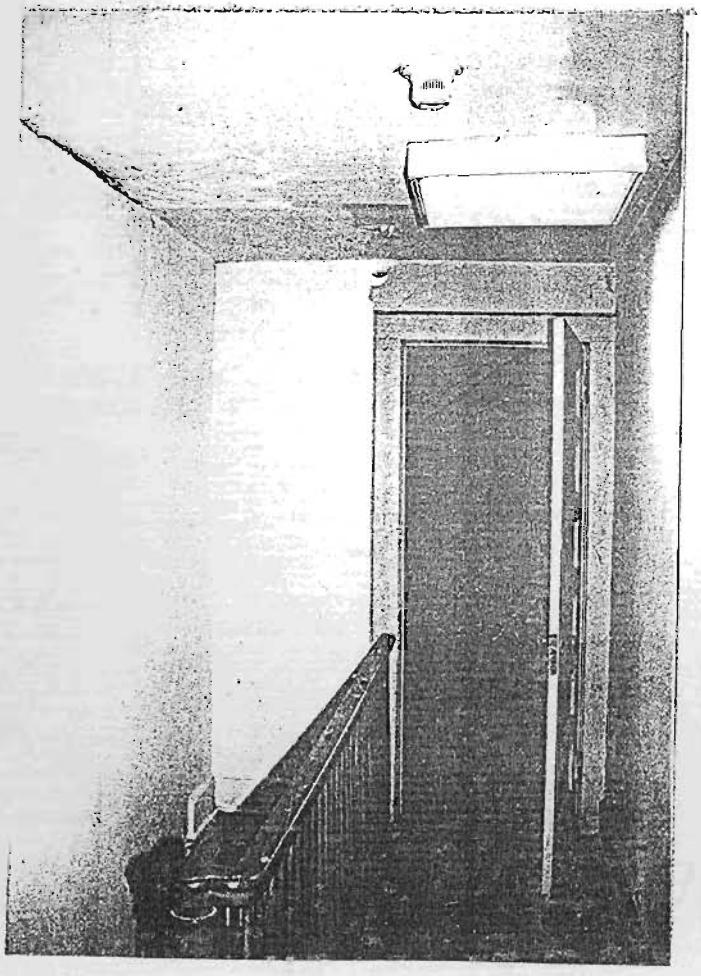
DRAWING ROOM

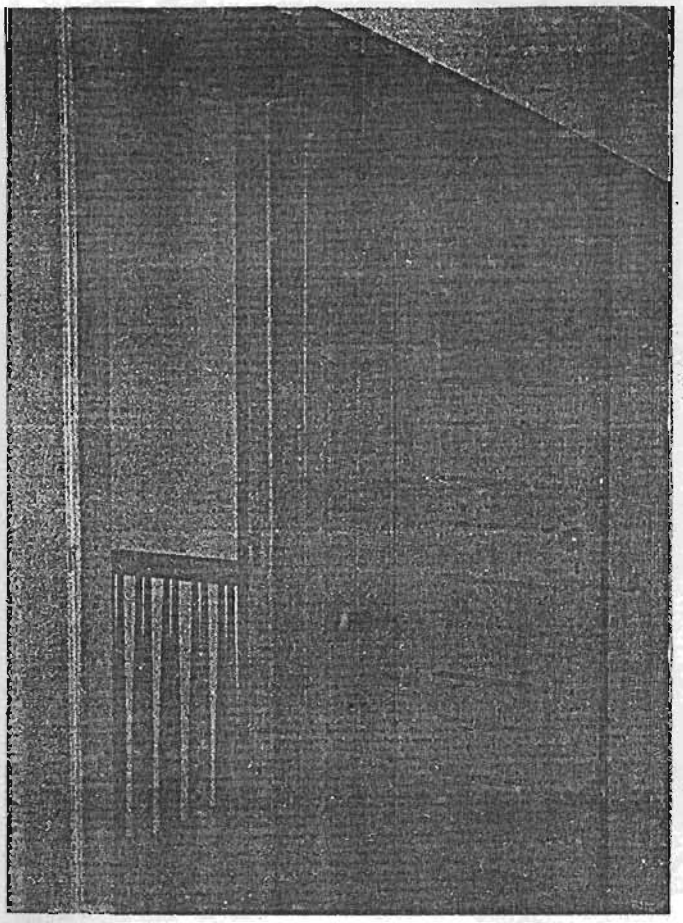


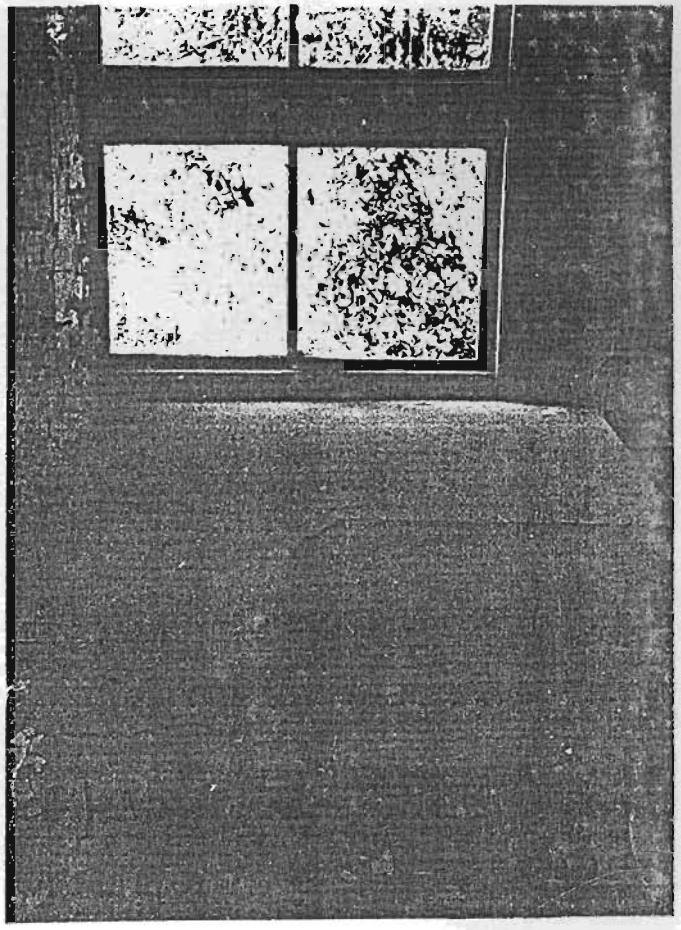




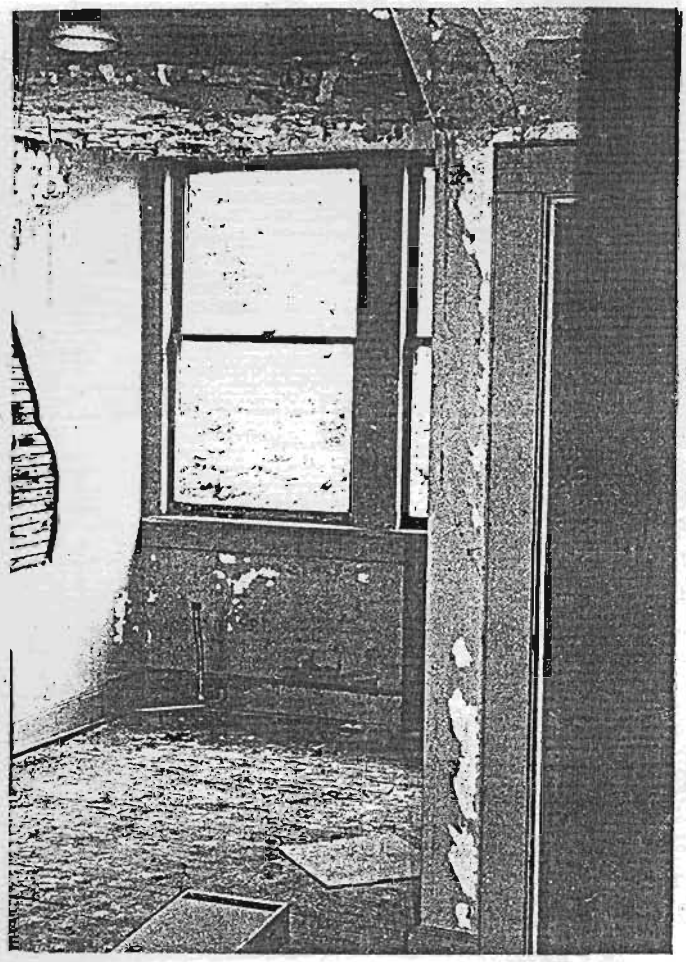
ATTIC SERVICE STAIR



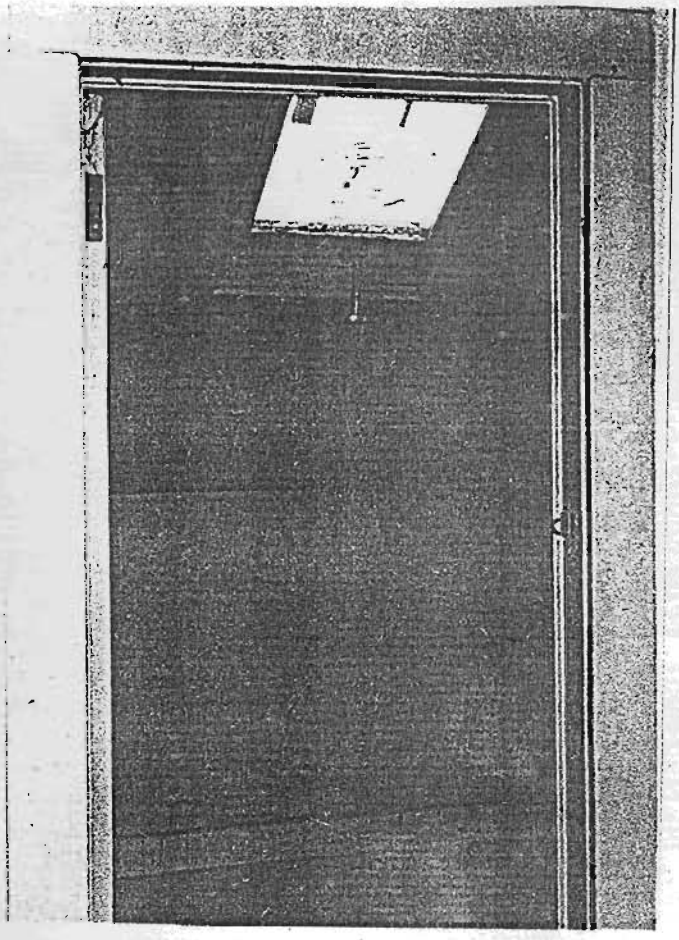




ATTIC BEDROOM 1

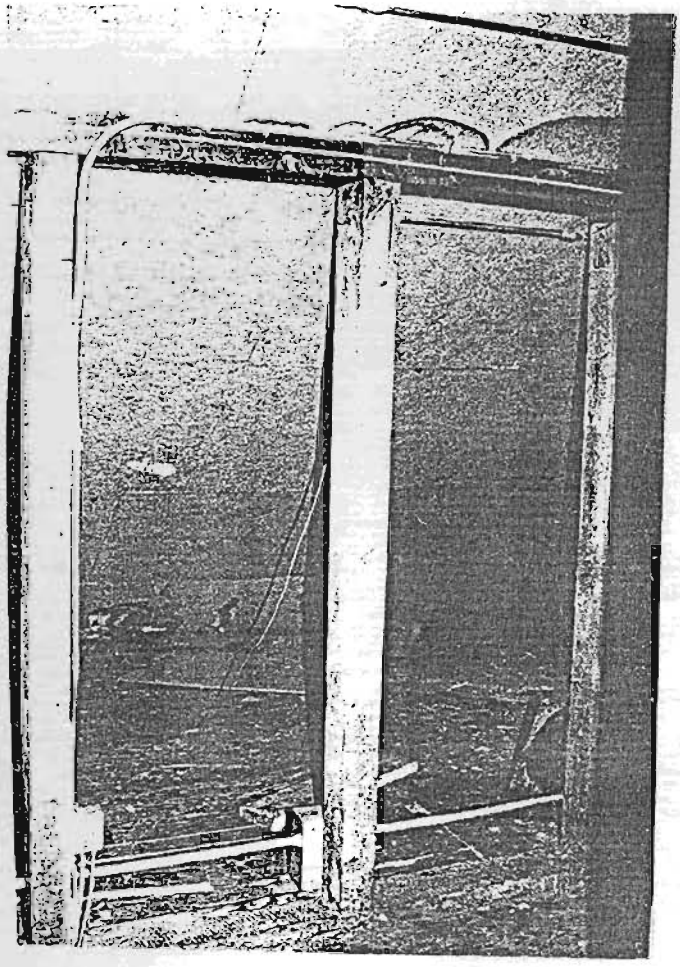


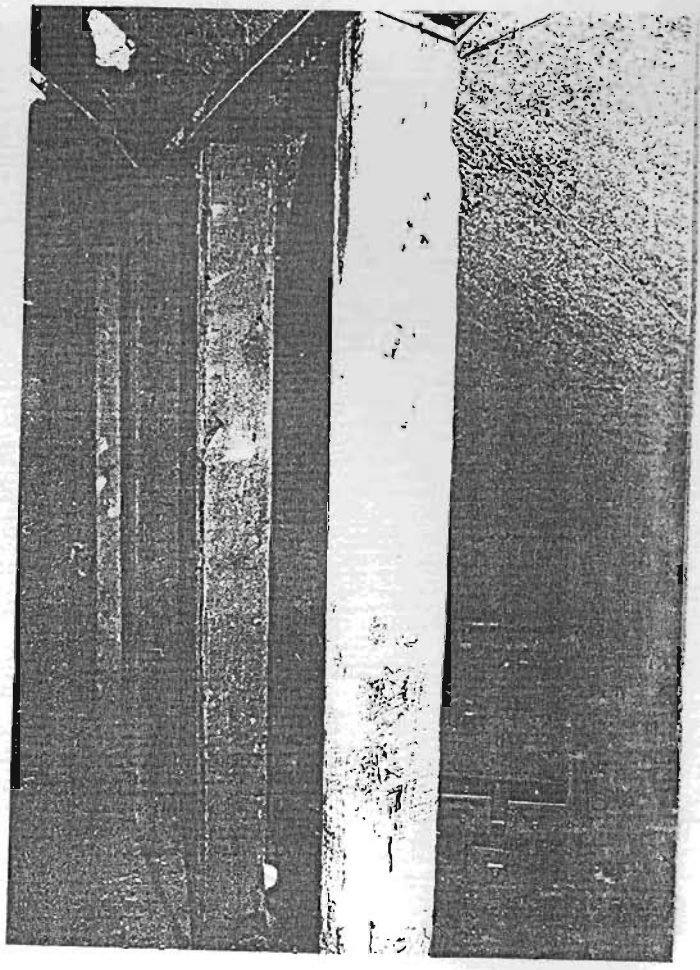
ATTIC BEDROOM 2



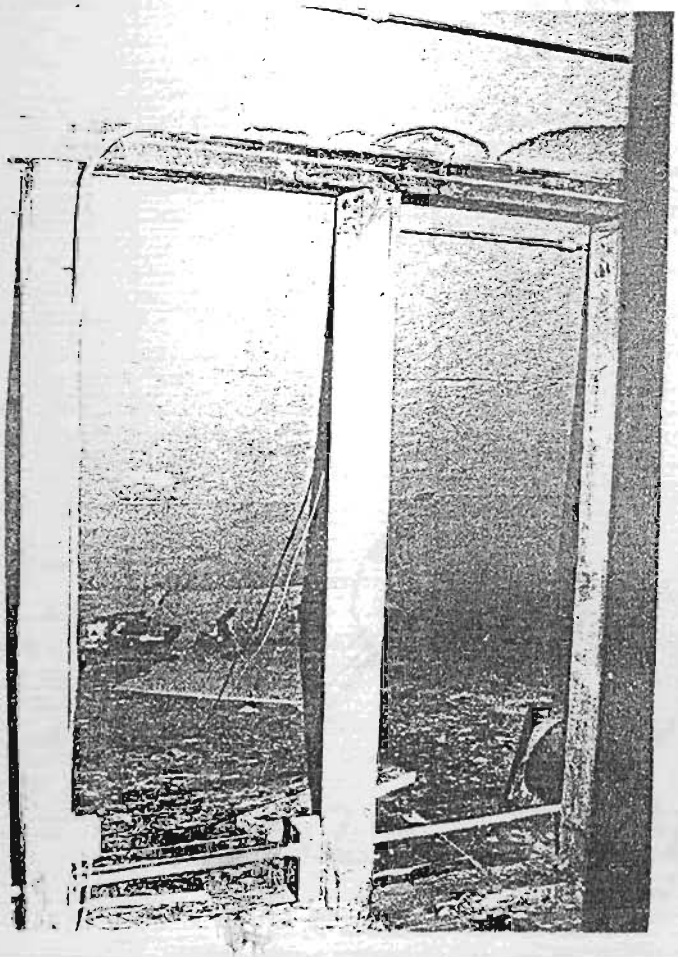
ATTIC BATHROOM

ATTIC ORGAN ROOM



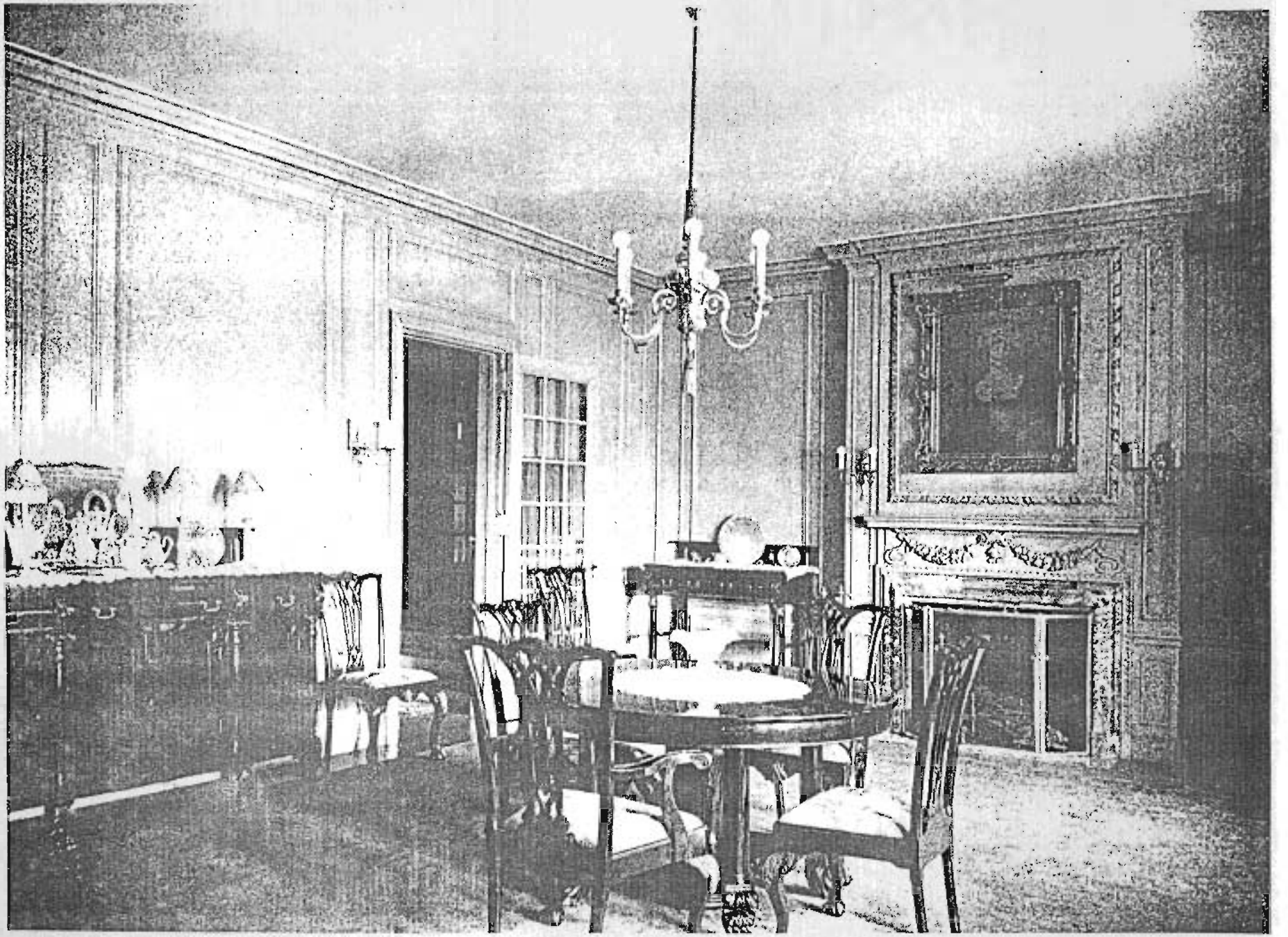


ATTIC UNFINISHED SPACE



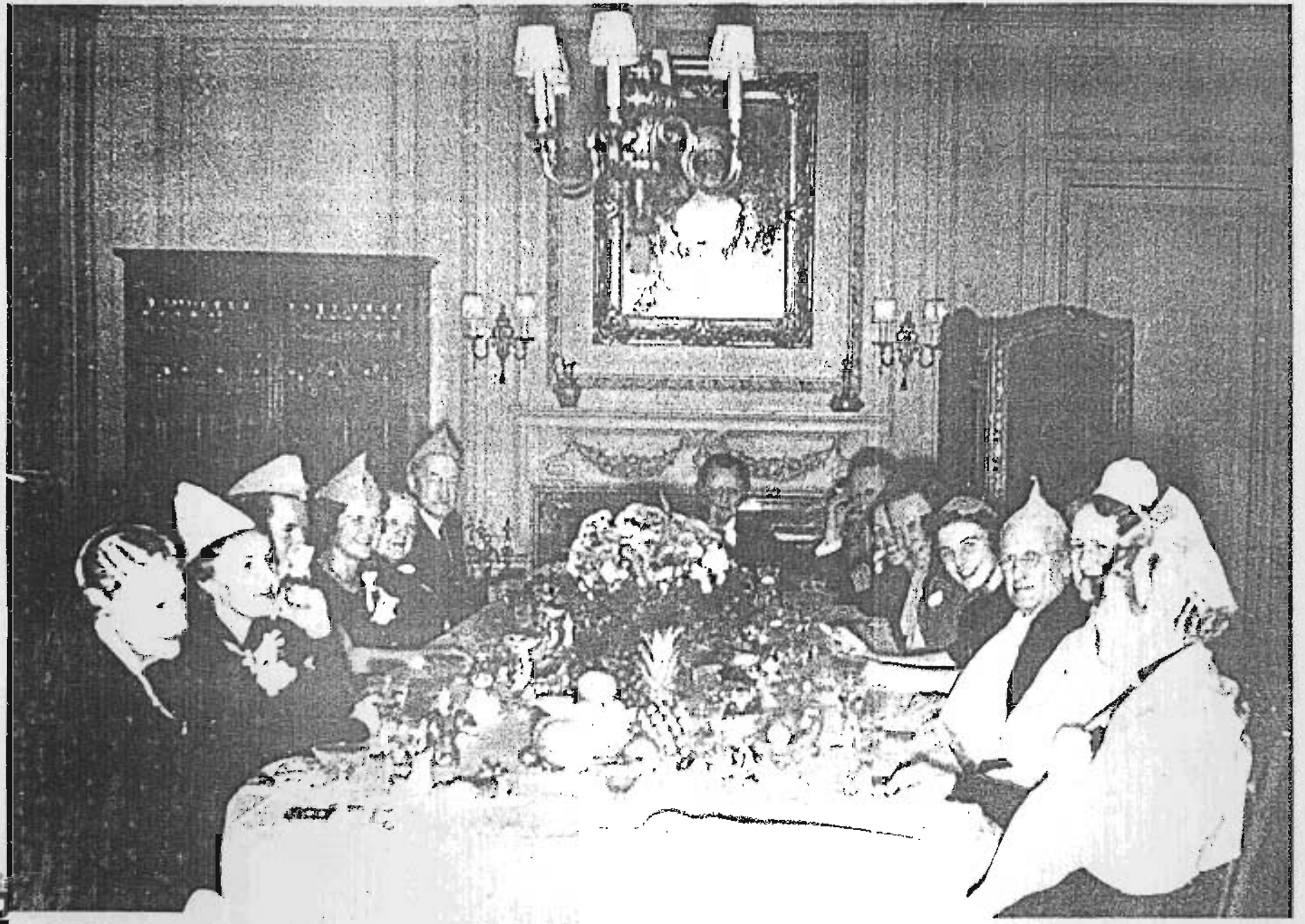
RBA

HISTORIC PHOTOGRAPHS



DINING ROOM

RBA

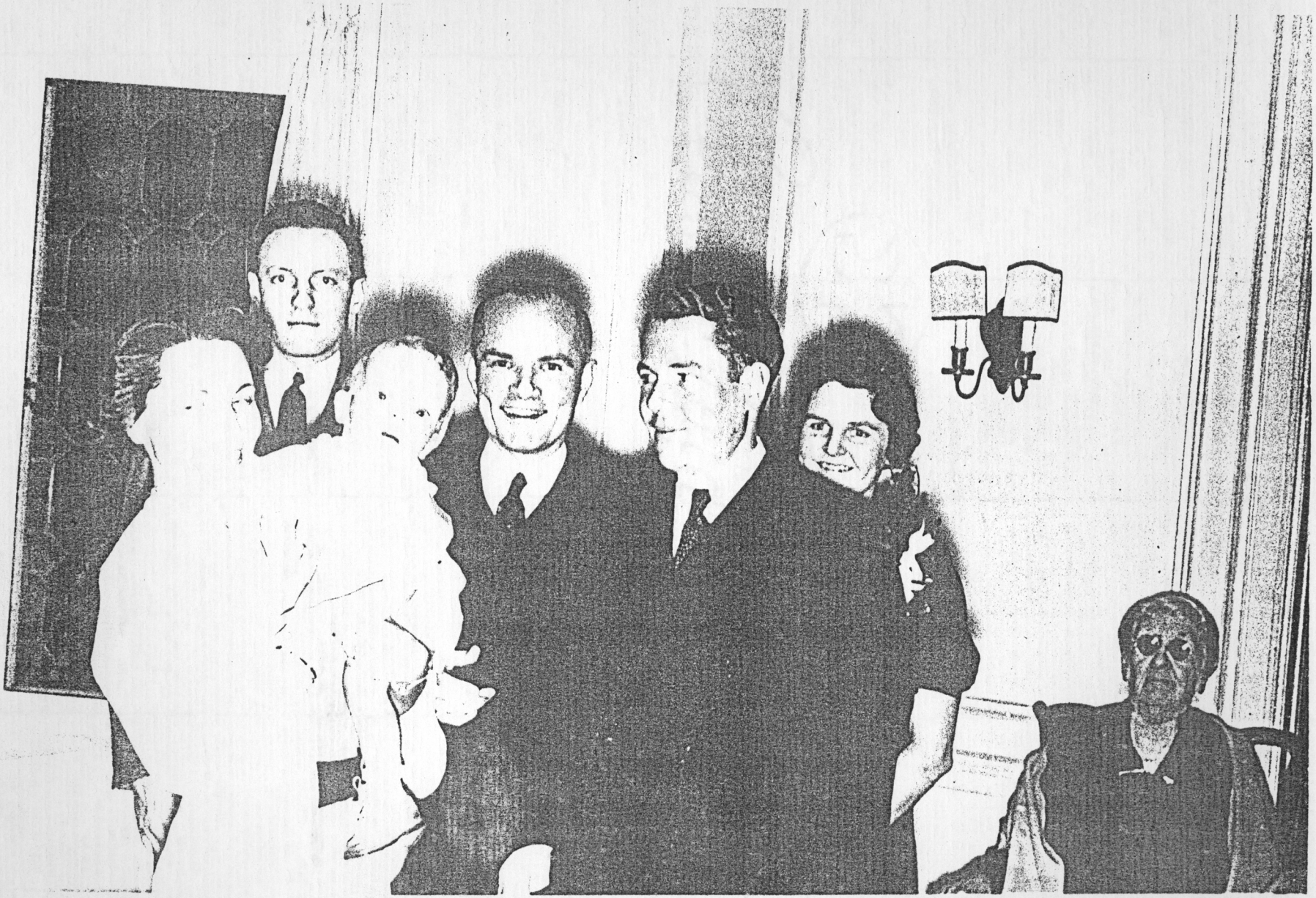


DINING ROOM

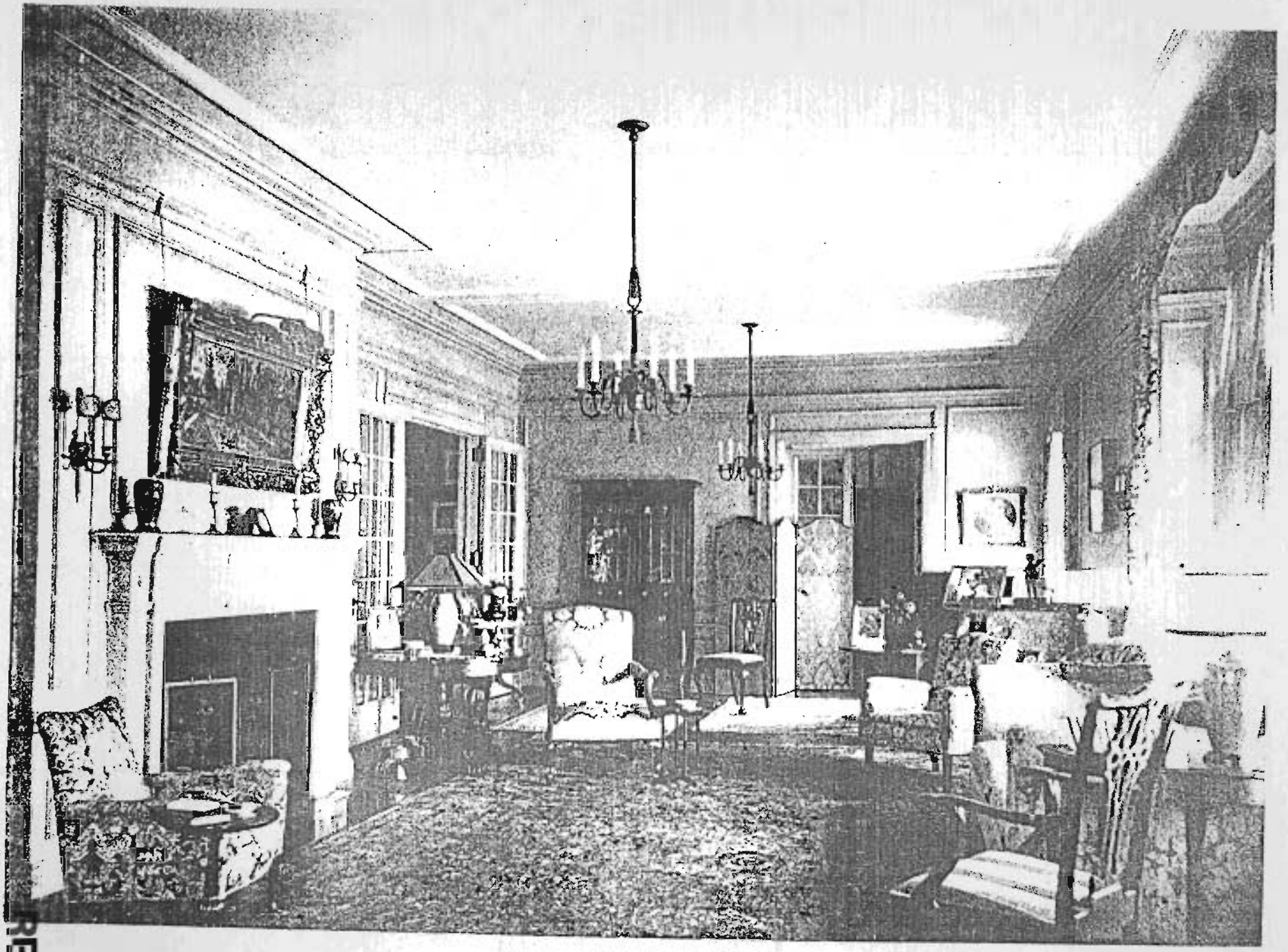
DINING ROOM

STAIR HALL

RBA



STAIR HALL



DRAWING ROOM

RBA

STANDARDS AND GUIDELINES

A. DEPARTMENT OF INTERIOR

B. BOCA

The Secretary of the Interior's

Standards for Rehabilitation

and Guidelines for Rehabilitating Historic Buildings

(Revised 1983)

U.S. Department of the Interior
National Park Service
Preservation Assistance Division
Washington, D.C.

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402

THE SECRETARY OF THE INTERIOR'S STANDARDS FOR REHABILITATION

The Secretary of the Interior is responsible for establishing standards for all programs under Departmental authority and for advising Federal agencies on the preservation of historic properties listed or eligible for listing in the National Register of Historic Places. In partial fulfillment of this responsibility, the Secretary of the Interior's Standards for Historic Preservation Projects have been developed to direct work undertaken on historic buildings.

Initially used by the Secretary of the Interior in determining the applicability of proposed project work on registered properties within the Historic Preservation Fund grant-in-aid program, the Standards for Historic Preservation Projects have received extensive testing over the years—more than 6,000 acquisition and development projects were approved for a variety of work treatments. In addition, the Standards have been used by Federal agencies in carrying out their historic preservation responsibilities for properties in Federal ownership or control; and by State and local officials in the review of both Federal and nonfederal rehabilitation proposals. They have also been adopted by a number of historic district and planning commissions across the country.

The Standards for Rehabilitation (36 CFR 67) comprise that section of the overall historic preservation project standards addressing the most prevalent treatment today: Rehabilitation. ***"Rehabilitation" is defined as the process of returning a property to a state of utility, through repair or alteration, which makes possible an efficient contemporary use while preserving those portions and features of the property which are significant to its historic, architectural, and cultural values.***

The Standards for Rehabilitation are as follows:

1. Every reasonable effort shall be made to provide a compatible use for a property which requires minimal alteration of the building, structure, or site and its environment, or to use a property for its originally intended purpose.

2. The distinguishing original qualities or character of a building, structure, or site and its environment shall not be destroyed. The removal or alteration of any historic material or distinctive architectural features should be avoided when possible.

3. All buildings, structures, and sites shall be recognized as products of their own time. Alterations that have no historical basis and which seek to create an earlier appearance shall be discouraged.

4. Changes which may have taken place in the course of time are evidence of the history and development of a building, structure, or site and its environment. These changes may have acquired significance in their own right, and this significance shall be recognized and respected.

5. Distinctive stylistic features or examples of skilled craftsmanship which characterize a building, structure, or site shall be treated with sensitivity.

6. Deteriorated architectural features shall be repaired rather than replaced, wherever possible. In the event replacement is necessary, the new material should match the material being replaced in composition, design, color, texture, and other visual qualities. Repair or replacement of missing architectural features should be based on accurate duplications of features, substantiated by historic, physical, or pictorial evidence rather than on conjectural designs or the availability of different architectural elements from other buildings or structures.

7. The surface cleaning of structures shall be undertaken with the gentlest means possible. Sandblasting and other cleaning methods that will damage the historic building materials shall not be undertaken.

8. Every reasonable effort shall be made to protect and preserve archeological resources affected by, or adjacent to any project.

9. Contemporary design for alterations and additions to existing properties shall not be discouraged when such alterations and additions do not destroy significant historical, architectural or cultural material, and such design is compatible with the size, scale, color, material, and character of the property, neighborhood or environment.

10. Wherever possible, new additions or alterations to structures shall be done in such a manner that if such additions or alterations were to be removed in the future, the essential form and integrity of the structure would be unimpaired.

In the past several years, the most frequent use of the Secretary's "Standards for Rehabilitation" has been to determine if a rehabilitation project qualifies as a "certified rehabilitation" pursuant to the Tax Reform Act of 1976, the Revenue Act of 1978, and the Economic Recovery Tax Act of 1981, as amended. The Secretary is required by law to certify rehabilitations that are "consistent with the historic character of the structure or the district in which it is located." The Standards are used to evaluate whether the historic character of a buiding is *preserved* in the process of rehabilitation. Between 1976 and 1982 over 5,000 projects were reviewed and approved under the Preservation Tax Incentives program.

As stated in the definition, the treatment "Rehabilitation" assumes that at least some repair or alteration of the historic building will need to take place in order to provide for an efficient contemporary use; however these repairs and alterations must not damage or destroy the materials and features—including their finishes—that are important in defining the building's historic character.

In terms of specific project work, preservation of the building and its historic character is based on the assumption that (1) the historic materials and features and their unique craftsmanship are of primary importance and that (2), in consequence they will be retained, protected, and repaired in the process of rehabilitation to the greatest extent possible, not removed and replaced with materials and features which appear to be historic, but which are—in fact—new.

To best achieve these preservation goals, a two-part evaluation needs to be applied by qualified historic preservation professionals for each project as follows: first, a particular property's materials and features which are important in defining its historic character should be identified. Examples may include a building's walls, cornice, window sash and frames and roof; rooms, hallways, stairs, and mantels; or a site's walkways, fences, and gardens. The second part of the evaluation should consist of assessing the potential impact of the work necessary to make possible an efficient contemporary use. A basic assumption in this process is that the historic character of each property is unique and therefore proposed rehabilitation work will necessarily have a different effect on each property; in other words, what may be acceptable for

one project may be unacceptable for another. However, the requirement set forth in the definition of "Rehabilitation" is always the same for every project: those portions and features of the property which are significant to its historic, architectural, and cultural values must be preserved in the process of rehabilitation. To accomplish this, all ten of the Secretary of the Interior's "Standards for Rehabilitation" must be met.

GUIDELINES FOR REHABILITATING HISTORIC BUILDINGS

The Guidelines were initially developed in 1977 to help property owners, developers, and Federal managers apply the Secretary of the Interior's "Standards for Rehabilitation" during the project planning stage by providing general design and technical recommendations. Unlike the Standards, the Guidelines are *not* codified as program requirements. Together with the "Standards for Rehabilitation" they provide a model process for owners, developers, and Federal agency managers to follow.

It should be noted at the outset that the Guidelines are intended to assist in applying the Standards to projects generally; consequently, they are not meant to give case-specific advice or address exceptions or rare instances. For example, they cannot tell an owner or developer which features of their own historic building are important in defining the historic character and must be preserved—although examples are provided in each section—or which features could be altered, if necessary, for the new use. This kind of careful case-by-case decisionmaking is best accomplished by seeking assistance from qualified historic preservation professionals in the planning stage of the project. Such professionals include architects, architectural historians, historians, archeologists, and others who are skilled in the preservation, rehabilitation, and restoration of historic properties.

The Guidelines pertain to historic buildings of all sizes, materials, occupancy, and construction types; and apply to interior and exterior work as well as new exterior additions. Those approaches, treatments, and techniques that are consistent with the Secretary of the Interior's "Standards for Rehabilitation" are listed in the "**Recommended**" column on the left; those approaches, treatments, and techniques which could adversely affect a building's historic character are listed in the "**Not Recommended**" column on the right.

To provide clear and consistent guidance for owners, developers, and federal agency managers to follow, the "Recommended" courses of action in each section are listed in order of historic preservation concerns so that a rehabilitation project may be successfully planned and completed—one that, first, assures the preservation of a building's important or "character-defining" architectural materials and features and, second, makes possible an efficient contemporary use. Rehabilitation guidance in each section begins with protection and maintenance, that work which should be maximized in every project to enhance overall preservation goals. Next, where some deterioration is present, repair of the building's historic materials and features is recommended. Finally, when deterioration is so extensive that repair is not possible, the most problematic area of work is considered: replacement of historic materials and features with new materials.

To further guide the owner and developer in planning a successful rehabilitation project, those complex design issues dealing with new use requirements such as alterations and additions are highlighted at the end of each section to underscore the need for particular sensitivity in these areas.

Identify, Retain, and Preserve

The guidance that is basic to the treatment of all historic buildings—***identifying, retaining, and preserving*** the form and detailing of those architectural materials and features that are important in *defining the historic character*—is always listed first in the "Recommended" column. The parallel "Not Recommended" column lists the types of actions that are most apt to cause the diminution or even loss of the building's historic character. It should be remembered, however, that such loss of character is just as often caused by the cumulative effect of a series of actions that would seem to be minor interventions. Thus, the guidance in *all* of the "Not Recommended" columns must be viewed in that larger context, e.g., for the total impact on a historic building.

Protect and Maintain

After identifying those materials and features that are important and must be retained in the process of rehabilitation work, then ***protecting and maintaining*** them are addressed. Protection generally involves the least degree of intervention and is preparatory to other work. For example, protection includes the maintenance of historic material through treatments such as rust removal, caulking, limited paint removal, and re-application of protective coatings; the cyclical cleaning of roof gutter systems; or installation of fencing, protective plywood, alarm systems and other temporary protective measures. Although a historic building will usually require more extensive work, an overall evaluation of its physical condition should always begin at this level.

Repair

Next, when the physical condition of character-defining materials and features warrants additional work ***repairing*** is recommended. Guidance for the repair of historic materials such as masonry, wood, and architectural metals again begins with the least degree of intervention possible such as patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading them according to recognized preservation methods. Repairing also includes the limited replacement in kind—or with compatible substitute material—of extensively deteriorated or missing *parts* of features when there are surviving prototypes (for example, brackets, dentils, steps, plaster, or portions of slate or tile roofing). Although using the same kind of material is always the preferred option, substitute material is acceptable if the form and design as well as the substitute material itself convey the visual appearance of the remaining parts of the feature and finish.

Windows

A highly decorative window with an unusual shape, or glazing pattern, or color is most likely identified immediately as a character-defining feature of the building. It is far more difficult, however, to assess the importance of repeated windows on a facade, particularly if they are individually simple in design and material, such as the large, multi-paned sash of many industrial buildings. Because rehabilitation projects frequently include proposals to replace window sash or even entire windows to improve thermal efficiency or to create a new appearance, it is essential that their contribution to the overall historic character of the building be assessed together with their physical condition before specific repair or replacement work is undertaken.

Recommended	*Not Recommended*
Identifying, retaining, and preserving windows—and their functional and decorative features—that are important in defining the overall historic character of the building. Such features can include frames, sash, muntins, glazing, sills, heads, hoodmolds, panelled or decorated jambs and moldings, and interior and exterior shutters and blinds.	Removing or radically changing windows which are important in defining the overall historic character of the building so that, as a result, the character is diminished.
	Changing the number, location, size or glazing pattern of windows, through cutting new openings, blocking-in windows, and installing replacement sash which does not fit the historic window opening.
	Changing the historic appearance of windows through the use of inappropriate designs, materials, finishes, or colors which radically change the sash, depth of reveal, and muntin configuration; the reflectivity and color of the glazing; or the appearance of the frame.
	Obscuring historic window trim with metal or other material.
	Stripping windows of historic material such as wood, iron, cast iron, and bronze.
Protecting and maintaining the wood and architectural metal which comprise the window frame, sash, muntins, and surrounds through appropriate surface treatments such as cleaning, rust removal, limited paint removal, and re-application of protective coating systems.	Failing to provide adequate protection of materials on a cyclical basis so that deterioration of the windows results.
Recommended	*Not Recommended*
Making windows weathertight by recaulking and replacing or installing weatherstripping. These actions also improve thermal efficiency.	Retrofitting or replacing windows rather than maintaining the sash, frame, and glazing.
Evaluating the overall condition of materials to determine whether more than protection and maintenance are required, i.e. if repairs to windows and window features will be required.	Failing to undertake adequate measures to assure the preservation of historic windows.
Repairing window frames and sash by patching, splicing, consolidating or otherwise reinforcing. Such repair may also include replacement in kind of those parts that are either extensively deteriorated or are missing when there are surviving prototypes such as architraves, hoodmolds, sash, sills, and interior or exterior shutters and blinds.	Replacing an entire window when repair of materials and limited replacement of deteriorated or missing parts are appropriate.
	Failing to reuse serviceable window hardware such as brass lifts and sash locks.
	Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts of the window or that is physically or chemically incompatible.
Replacing in kind an entire window that is too deteriorated to repair—if the overall form and detailing are still evident—using the physical evidence to guide the new work. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.	Removing a character-defining window that is unrepairable and blocking it in; or replacing it with a new window that does not convey the same visual appearance.

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Design for Missing Historic Features

Designing and installing new windows when the historic windows (frame, sash and glazing) are completely missing. The replacement windows may be an accurate restoration using historical, pictorial, and physical documentation; or be a new design that is compatible with the window openings and the historic character of the building.	Creating a false historical appearance because the replaced window is based on insufficient historical, pictorial, and physical documentation.
	Introducing a new design that is incompatible with the historic character of the building.

Following repair in the hierarchy, guidance is provided for ***replacing*** an entire character-defining feature with new material because the level of deterioration or damage of materials precludes repair (for example, an exterior cornice; an interior staircase; or a complete porch or storefront). If the essential form and detailing are still evident so that the physical evidence can be used to re-establish the feature as an integral part of the rehabilitation project, then its replacement is appropriate. Like the guidance for repair, the preferred option is always replacement of the entire feature in kind, that is, with the same material. Because this approach may not always be technically or economically feasible, provisions are made to consider the use of a compatible substitute material.

It should be noted that, while the National Park Service guidelines recommend the replacement of an entire character-defining feature under certain well-defined circumstances, they *never* recommend removal and replacement with new material of a feature that—although damaged or deteriorated—could reasonably be repaired and thus preserved.

Design for Missing Historic Features

When an entire interior or exterior feature is missing (for example, an entrance, or cast iron facade; or a principal staircase), it no longer plays a role in physically defining the historic character of the building unless it can be accurately recovered in form and detailing through the process of carefully documenting the historical appearance. Where an important architectural feature is missing, its recovery is always recommended in the guidelines as the *first* or preferred, course of action. Thus, if adequate historical, pictorial, and physical documentation exists so that the feature may be accurately reproduced, and if it is desireable to re-establish the feature as part of the building's historical appearance, then designing and constructing a new feature based on such information is appropriate. However, a *second* acceptable option for the replacement feature is a new design that is compatible with the remaining character-defining features of the historic building. The new design should always take into account the size, scale, and material of the historic building itself and, most importantly, should be clearly differentiated so that a false historical appearance is not created.

Alterations/Additions to Historic Buildings

Some exterior and interior alterations to the historic building are generally needed to assure its continued use, but it is most important that such alterations do not radically change, obscure, or destroy character-defining spaces, materials, features, or finishes. Alterations may include providing additional parking space on an existing historic building site; cutting new entrances or windows on secondary elevations; inserting an additional floor; installing an entirely new mechanical system; or creating an atrium or light well. Alteration may also include the selective removal of buildings or other features of the environment or building site that are intrusive and therefore detract from the overall historic character.

The construction of an exterior addition to a historic building may seem to be essential for the new use, but it is emphasized in the guidelines that such new additions should be avoided, if possible, and considered *only* after it is determined that those needs cannot be met by altering secondary, i.e., non character-defining interior spaces. If, after a thorough evaluation of interior solutions, an exterior addition is still judged to be the only viable alternative, it should be designed and constructed to be clearly differentiated from the historic building and so that the character-defining features are not radically changed, obscured, damaged, or destroyed.

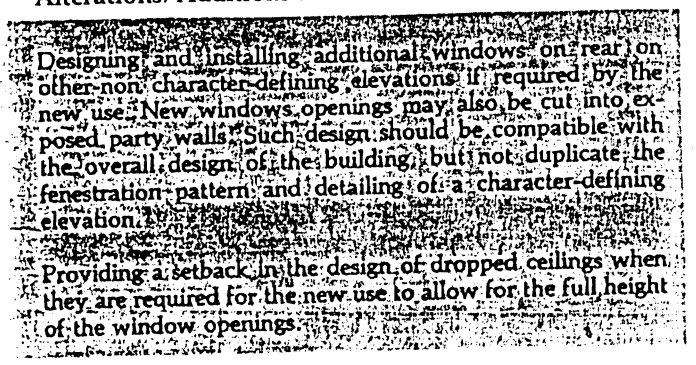
Additions to historic buildings are referenced within specific sections of the guidelines such as Site, Roof, Structural Systems, etc., but are also considered in more detail in a separate section, NEW ADDITIONS TO HISTORIC BUILDINGS.

Health and Safety Code Requirements; Energy Retrofitting

These sections of the rehabilitation guidance address work done to meet health and safety code requirements (for example, providing barrier-free access to historic buildings); or retrofitting measures to conserve energy (for example, installing solar collectors in an unobtrusive location on the site). Although this work is quite often an important aspect of rehabilitation projects, it is usually not part of the overall process of protecting or repairing character-defining features; rather, such work is assessed for its potential negative impact on the building's historic character. For this reason, particular care must be taken not to radically change, obscure, damage, or destroy character-defining materials or features in the process of rehabilitation work to meet code and energy requirements.

Recommended

Alterations/Additions for the New Use



Designing and installing additional windows on rear or other non-character-defining elevations if required by the new use. New windows openings may also be cut into exposed party walls. Such design should be compatible with the overall design of the building, but not duplicate the fenestration pattern and detailing of a character-defining elevation.

Providing a setback in the design of dropped ceilings when they are required for the new use to allow for the full height of the window openings.

Not Recommended

Installing new windows, including frames, sash, and muntin configuration that are incompatible with the building's historic appearance or obscure, damage, or destroy character-defining features.

Inserting new floors or furred-down ceilings which cut across the glazed areas of windows so that the exterior form and appearance of the windows are changed.

BUILDING INTERIOR

Structural System

If features of the structural system are exposed such as loadbearing brick walls, cast iron columns, roof trusses, posts and beams, vigas, or stone foundation walls, they may be important in defining the building's overall historic character. Unexposed structural features that are not character-defining or an entire structural system may nonetheless be significant in the history of building technology; therefore, the structural system should always be examined and evaluated early in the project planning stage to determine both its physical condition and its importance to the building's historic character or historical significance. See also Health and Safety Code Requirements.

Recommended

Identifying, retaining, and preserving structural systems—and individual features of systems—that are important in defining the overall historic character of the building, such as post and beam systems, trusses, summer beams, vigas, cast iron columns, above-grade stone foundation walls, or loadbearing brick or stone walls.

Not Recommended

Removing, covering, or radically changing features of structural systems which are important in defining the overall historic character of the building so that, as a result, the character is diminished.

Putting a new use into the building which could overload the existing structural system; or installing equipment or mechanical systems which could damage the structure.

Demolishing a loadbearing masonry wall that could be augmented and retained and replacing it with a new wall (i.e., brick or stone), using the historic masonry only as an exterior veneer.

Leaving known structural problems untreated such as deflection of beams, cracking and bowing of walls, or racking of structural members.

Utilizing treatments or products that accelerate the deterioration of structural material such as introducing urea-formaldehyde foam insulation into frame walls.

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Recommended	*Not Recommended*
Alterations/Additions for the New Use	
Limiting any new excavations adjacent to historic foundations to avoid undermining the structural stability of the building or adjacent historic buildings.	Carrying out excavations or regrading adjacent to or within a historic building which could cause the historic foundation to settle, shift, or fail; or could have a similar effect on adjacent historic buildings.
Correcting structural deficiencies in preparation for the new use in a manner that preserves the structural system and individual character-defining features.	Radically changing interior spaces or damaging or destroying features or finishes that are character-defining while trying to correct structural deficiencies in preparation for the new use.
Designing and installing new mechanical or electrical systems when required for the new use which minimize the number of cutouts or holes in structural members.	Installing new mechanical and electrical systems or equipment in a manner which results in numerous cuts, splices, or alterations to the structural members.
Adding a new floor when required for the new use if such an alteration does not damage or destroy the structural system or obscure, damage, or destroy character-defining spaces, features, or finishes.	Inserting a new floor when such a radical change damages a structural system or obscures or destroys interior spaces, features, or finishes.
	Inserting new floors or furred-down ceilings which cut across the glazed areas of windows so that the exterior form and appearance of the windows are radically changed.
Creating an atrium or a light well to provide natural light when required for the new use in a manner that assures the preservation of the structural system as well as character-defining interior spaces, features, and finishes.	Damaging the structural system or individual features; or radically changing, damaging, or destroying character-defining interior spaces, features, or finishes in order to create an atrium or a light well.

STRUCTURAL SYSTEM (continued)

Recommended	*Not Recommended*
Protecting and maintaining the structural system by cleaning the roof gutters and downspouts; replacing roof flashing; keeping masonry, wood, and architectural metals in a sound condition; and assuring that structural members are free from insect infestation.	Failing to provide proper building maintenance on a cyclical basis so that deterioration of the structural system results.
Examining and evaluating the physical condition of the structural system and its individual features using non-destructive techniques such as X-ray photography.	Utilizing destructive probing techniques that will damage or destroy structural material.
Repairing the structural system by augmenting or upgrading individual parts or features. For example, weakened structural members such as floor framing can be spliced, braced, or otherwise supplemented and reinforced.	Upgrading the building structurally in a manner that diminishes the historic character of the exterior, such as installing strapping channels or removing a decorative cornice; or damages interior features or spaces.
	Replacing a structural member or other feature of the structural system when it could be augmented and retained.
Replacing in kind—or with substitute material—those portions or features of the structural system that are either extensively deteriorated or are missing when there are surviving prototypes such as cast iron columns, roof rafters or trusses, or sections of loadbearing walls. Substitute material should convey the same form, design, and overall visual appearance as the historic feature; and, at a minimum, be equal to its loadbearing capabilities.	Installing a replacement feature that does not convey the same visual appearance, e.g., replacing an exposed wood summer beam with a steel beam.
	Using substitute material that does not equal the loadbearing capabilities of the historic material and design or is otherwise physically or chemically incompatible.

Mechanical Systems: Heating, Air Conditioning, Electrical, and Plumbing

The visible features of historic heating, lighting, air conditioning and plumbing systems may sometimes help define the overall historic character of the building and should thus be retained and repaired, whenever possible. The systems themselves (the compressors, boilers, generators and their ductwork, wiring and pipes) will generally either need to be upgraded, augmented, or entirely replaced in order to accommodate the new use and to meet code requirements. Less frequently, individual portions of a system or an entire system are significant in the history of building technology; therefore, the identification of character-defining features or historically significant systems should take place together with an evaluation of their physical condition early in project planning.

Recommended	*Not Recommended*
Identifying, retaining, and preserving visible features of early mechanical systems that are important in defining the overall historic character of the building, such as radiators, vents, fans, grilles, plumbing fixtures, switchplates, and lights.	Removing or radically changing features of mechanical systems that are important in defining the overall historic character of the building so that, as a result, the character is diminished.
Protecting and maintaining mechanical, plumbing, and electrical systems and their features through cyclical cleaning and other appropriate measures.	Failing to provide adequate protection of materials on a cyclical basis so that deterioration of mechanical systems and their visible features results.
Preventing accelerated deterioration of mechanical systems by providing adequate ventilation of attics, crawlspaces, and cellars so that moisture problems are avoided.	Enclosing mechanical systems in areas that are not adequately ventilated so that deterioration of the systems results.
Repairing mechanical systems by augmenting or upgrading system parts, such as installing new pipes and ducts; rewiring; or adding new compressors or boilers.	Replacing a mechanical system or its functional parts when it could be upgraded and retained.
Replacing in kind—or with compatible substitute material—those visible features of mechanical systems that are either extensively deteriorated or are missing when there are surviving prototypes such as ceiling fans, switchplates, radiators, grilles, or plumbing fixtures.	Installing a replacement feature that does not convey the same visual appearance.

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Recommended	*Not Recommended*
Alterations/Additions for the New Use	
Installing a completely new mechanical system if required for the new use so that it causes the least alteration possible to the building's floor plan, the exterior elevations, and the least damage to historic building material.	Installing a new mechanical system so that character-defining structural or interior features are radically changed, damaged, or destroyed.
Installing the vertical runs of ducts, pipes, and cables in closets, service rooms, and wall cavities.	Installing vertical runs of ducts, pipes, and cables in places where they will obscure character-defining features.
	Concealing mechanical equipment in walls or ceilings in a manner that requires the removal of historic building material.
	Installing "dropped" acoustical ceilings to hide mechanical equipment when this destroys the proportions of character-defining interior spaces.
Installing air conditioning units if required by the new use in such a manner that the historic materials and features are not damaged or obscured.	Cutting through features such as masonry walls in order to install air conditioning units.
Installing heating/air conditioning units in the window frames in such a manner that the sash and frames are protected. Window installations should be considered only when all other viable heating/cooling systems would result in significant damage to historic materials.	Radically changing the appearance of the historic building or damaging or destroying windows by installing heating/air conditioning units in historic window frames.

HEALTH AND SAFETY CODE REQUIREMENTS

As a part of the new use, it is often necessary to make modifications to a historic building so that it can comply with current health, safety and code requirements. Such work needs to be carefully planned and undertaken so that it does not result in a loss of character-defining spaces, features, and finishes.

Recommended	*Not Recommended*
Identifying the historic building's character-defining spaces, features, and finishes so that code-required work will not result in their damage or loss.	Undertaking code-required alterations to a building or site before identifying those spaces, features, or finishes which are character-defining and must therefore be preserved.
Complying with health and safety code, including seismic codes and barrier-free access requirements, in such a manner that character-defining spaces, features, and finishes are preserved.	Altering, damaging, or destroying character-defining spaces, features, and finishes while making modifications to a building or site to comply with safety codes.
Working with local code officials to investigate alternative life safety measures or variances available under some codes so that alterations and additions to historic buildings can be avoided.	Making changes to historic buildings without first seeking alternatives to code requirements.
Providing barrier-free access through removable or portable, rather than permanent, ramps.	Installing permanent ramps that damage or diminish character-defining features.
Providing seismic reinforcement to a historic building in a manner that avoids damaging the structural system and character-defining features.	Reinforcing a historic building using measures that damage or destroy character-defining structural and other features.
Upgrading historic stairways and elevators to meet health and safety codes in a manner that assures their preservation, i.e., so that they are not damaged or obscured.	Damaging or obscuring historic stairways and elevators or altering adjacent spaces in the process of doing work to meet code requirements.
Installing sensitively designed fire suppression systems, such as a sprinkler system for wood frame mill buildings, instead of applying fire-resistant sheathing to character-defining features.	Covering character-defining wood features with fire-resistant sheathing which results in altering their visual appearance.

Recommended	*Not Recommended*
Applying fire-retardant coatings, such as intumescent paints, which expand during fire to add thermal protection to steel.	Using fire-retardant coatings if they damage or obscure character-defining features.
Adding a new stairway or elevator to meet health and safety codes in a manner that preserves adjacent character-defining features and spaces.	Radically changing, damaging, or destroying character-defining spaces, features, or finishes when adding a new code-required stairway or elevator.
Placing a code-required stairway or elevator that cannot be accommodated within the historic building in a new exterior addition. Such an addition should be located at the rear of the building or on an inconspicuous side; and its size and scale limited in relationship to the historic building.	Constructing a new addition to accommodate code-required stairs and elevators on character-defining elevations highly visible from the street; or where it obscures, damages or destroys character-defining features.

ENERGY RETROFITTING

Some character-defining features of a historic building or site such as cupolas, shutters, transoms, skylights, sun rooms, porches, and plantings also play a secondary energy conserving role. Therefore, prior to retrofitting historic buildings to make them more energy efficient, the first step should always be to identify and evaluate the existing historic features to assess their inherent energy conserving potential. If it is determined that retrofitting measures are necessary, then such work needs to be carried out with particular care to insure that the building's historic character is preserved in the process of rehabilitation.

Recommended	*Not Recommended*
District/Neighborhood	
Maintaining those existing landscape features which moderate the effects of the climate on the setting such as deciduous trees, evergreen wind-blocks, and lakes or ponds.	Stripping the setting of landscape features and landforms so that the effects of the wind, rain, and the sun result in accelerated deterioration of historic materials.
Building Site	
Retaining plant materials, trees, and landscape features, especially those which perform passive solar energy functions such as sun shading and wind breaks.	Removing plant materials, trees, and landscape features, so that they no longer perform passive solar energy functions.
Installing freestanding solar collectors in a manner that preserves the historic property's character-defining features.	Installing freestanding solar collectors that obscure, damage, or destroy historic landscape or archeological features.
Designing attached solar collectors, including solar greenhouses, so that the character-defining features of the property are preserved.	Locating solar collectors where they radically change the property's appearance; or damage or destroy character-defining features.
Masonry/Wood/Architectural Metals	
Installing thermal insulation in attics and in unheated cellars and crawlspaces to increase the efficiency of the existing mechanical systems.	Applying urea of formaldehyde foam or any other thermal insulation with a water content into wall cavities in an attempt to reduce energy consumption.

Recommended	*Not Recommended*
Installing insulating material on the inside of masonry walls to increase energy efficiency where there is no character-defining interior moulding around the window or other interior architectural detailing.	Resurfacing historic building materials with more energy efficient but incompatible materials, such as covering historic masonry with exterior insulation.
Installing passive solar devices such as a glazed "trombe" wall on a rear or inconspicuous side of all the historic building.	Installing passive solar devices such as an attached glazed "trombe" wall on primary or other highly visible elevations; or where historic material must be removed or obscured.
Roofs	
Placing solar collectors on noncharacter-defining roofs or roofs of nonhistoric adjacent buildings.	Placing solar collectors on roofs when such collectors change the historic roofline or obscure the relationship of the roof to character-defining roof features such as dormers, skylights, and chimneys.
Windows	
Utilizing the inherent energy conserving features of a building by maintaining windows and louvered blinds in good operable condition for natural ventilation.	Removing historic shading devices rather than keeping them in an operable condition.
Improving thermal efficiency with weatherstripping, storm windows, caulking, interior shades, and, if historically appropriate, blinds and awnings.	Replacing historic multi-paned sash with new thermal sash utilizing false muntins.
Installing interior storm windows with airtight gaskets, ventilating holes, and/or removable clips to insure proper maintenance and to avoid condensation damage to historic windows.	Installing interior storm windows that allow moisture to accumulate and damage the window.

Interior: Spaces, Features, and Finishes	An interior floor plan, the arrangement of spaces, and built-in features and applied finishes may be individually or collectively important in defining the historic character of the building. Thus, their identification, retention, protection, and repair should be given prime consideration in every rehabilitation project and caution exercised in pursuing any plan that would radically change character-defining spaces or obscure, damage or destroy interior features or finishes.

Recommended	*Not Recommended*
Interior Spaces	
Identifying, retaining, and preserving a floor plan or interior spaces that are important in defining the overall historic character of the building. This includes the size, configuration, proportion, and relationship of rooms and corridors; the relationship of features to spaces; and the spaces themselves such as lobbies, reception halls, entrance halls, double parlors, theaters, auditoriums, and important industrial or commercial use spaces.	Radically changing a floor plan or interior spaces—including individual rooms—which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Altering the floor plan by demolishing principal walls and partitions to create a new appearance. Altering or destroying interior spaces by inserting floors, cutting through floors, lowering ceilings, or adding or removing walls. Relocating an interior feature such as a staircase so that the historic relationship between features and spaces is altered.

HEALTH AND SAFETY CODE REQUIREMENTS (continued)

Recommended	*Not Recommended*
Installing exterior storm windows which do not damage or obscure the windows and frames.	Installing new exterior storm windows which are inappropriate in size or color, which are inoperable. Replacing windows or transoms with fixed thermal glazing or permitting windows and transoms to remain inoperable rather than utilizing them for their energy conserving potential.
Considering the use of lightly tinted glazing on non-character-defining elevations if other energy retrofitting alternatives are not possible.	Using tinted or reflective glazing on character-defining or other conspicuous elevations.
Entrances and Porches	
Utilizing the inherent energy conserving features of a building by maintaining porches, and double vestibule entrances in good condition so that they can retain heat or block the sun and provide natural ventilation.	Enclosing porches located on character defining elevations to create passive solar collectors or airlock vestibules. Such enclosures can destroy the historic appearance of the building.
Interior Features	
Retaining historic interior shutters and transoms for their inherent energy conserving features.	Removing historic interior features which play a secondary energy conserving role.
New Additions to Historic Buildings	
Placing new additions that have an energy conserving function such as a solar greenhouse on non-character-defining elevations.	Installing new additions such as multistory solar greenhouse additions which obscure, damage, destroy character-defining features.
Mechanical Systems	
Installing thermal insulation in attics and in unheated cellars and crawlspaces to conserve energy.	Apply urea formaldehyde foam or any other thermal insulation with a water content or that may collect moisture into wall cavities.

Recommended	*Not Recommended*
Interior Features and Finishes	
Identifying, retaining, and preserving interior features and finishes that are important in defining the overall historic character of the building, including columns, cornices, baseboards, fireplaces and mantles, paneling, light fixtures, hardware, and flooring; and wallpaper, plaster, paint, and finishes such as stenciling, marbling, and graining; and other decorative materials that accent interior features and provide color, texture, and patterning to walls, floors, and ceilings.	Removing or radically changing features and finishes which are important in defining the overall historic character of the building so that, as a result, the character is diminished. Installing new decorative material that obscures or damages character-defining interior features or finishes. Removing paint, plaster, or other finishes from historically finished surfaces to create a new appearance (e.g., removing plaster to expose masonry surfaces such as brick walls or a chimney piece). Applying paint, plaster, or other finishes to surfaces that have been historically unfinished to create a new appearance. Stripping historically painted wood surfaces to bare wood, then applying clear finishes or stains to create a "natural look." Stripping paint to bare wood rather than repairing or reapplying grained or marbled finishes to features such as doors and paneling. Radically changing the type of finish or its color, such as painting a previously varnished wood feature.
Protecting and maintaining masonry, wood, and architectural metals which comprise interior features through appropriate surface treatments such as cleaning, rust removal, limited paint removal, and reapplication of protective coatings systems.	Failing to provide adequate protection to materials on a cyclical basis so that deterioration of interior features results.

Recommended	*Not Recommended*
Protecting interior features and finishes against arson and vandalism before project work begins, erecting protective fencing, boarding-up windows, and installing fire alarm systems that are keyed to local protection agencies.	Permitting entry into historic buildings through unsecured or broken windows and doors so that interior features and finishes are damaged by exposure to weather or through vandalism. Stripping interiors of features such as woodwork, doors, windows, light fixtures, copper piping, radiators; or of decorative materials.
Protecting interior features such as a staircase, mantel, or decorative finishes and wall coverings against damage during project work by covering them with heavy canvas or plastic sheets. Installing protective coverings in areas of heavy pedestrian traffic to protect historic features such as wall coverings, parquet flooring and panelling.	Failing to provide proper protection of interior features and finishes during work so that they are gouged, scratched, dented, or otherwise damaged. Failing to take new use patterns into consideration so that interior features and finishes are damaged.
Removing damaged or deteriorated paints and finishes to the next sound layer using the gentlest method possible, then repainting or refinishing using compatible paint or other coating systems.	Using destructive methods such as propane or butane torches or sandblasting to remove paint or other coatings. These methods can irreversibly damage the historic materials that comprise interior features.
Repainting with colors that are appropriate to the historic building.	Using new paint colors that are inappropriate to the historic building.
Limiting abrasive cleaning methods to certain industrial or warehouse buildings where the interior masonry or plaster features do not have distinguishing design, detailing, tooling, or finishes; and where wood features are not finished, molded, beaded, or worked by hand. Abrasive cleaning should *only* be considered after other, gentler methods have been proven ineffective.	Changing the texture and patina of character-defining features through sandblasting or use of other abrasive methods to remove paint, discoloration or plaster. This includes both exposed wood (including structural members) and masonry.
Evaluating the overall condition of materials to determine whether more than protection and maintenance are required, that is, if repairs to interior features and finishes will be necessary.	Failing to undertake adequate measures to assure the preservation of interior features and finishes.

Recommended	*Not Recommended*
Repairing interior features and finishes by reinforcing the historic materials. Repair will also generally include the limited replacement in kind—or with compatible substitute material—of those extensively deteriorated or missing parts of repeated features when there are surviving prototypes such as stairs, balustrades, wood panelling, columns; or decorative wall coverings or ornamental tin or plaster ceilings.	Replacing an entire interior feature such as a staircase, panelled wall, parquet floor, or cornice; or finish such as a decorative wall covering or ceiling when repair of materials and limited replacement of such parts are appropriate.
Replacing in kind an entire interior feature or finish that is too deteriorated to repair—if the overall form and detailing are still evident—using the physical evidence to guide the new work. Examples could include wainscoting, a tin ceiling, or interior stairs. If using the same kind of material is not technically or economically feasible, then a compatible substitute material may be considered.	Using a substitute material for the replacement part that does not convey the visual appearance of the surviving parts or portions of the interior feature or finish or that is physically or chemically incompatible. Removing a character-defining feature or finish that is unrepairable and not replacing it; or replacing it with a new feature or finish that does not convey the same visual appearance.

The following work is highlighted to indicate that it represents the particularly complex technical or design aspects of rehabilitation projects and should only be considered after the preservation concerns listed above have been addressed.

Design for Missing Historic Features

Designing and installing a new interior feature or finish if the historic feature or finish is completely missing. This could include missing partitions, stairs, elevators, lighting fixtures, and wall coverings, or even entire rooms, if all historic spaces, features, and finishes are missing or have been destroyed by inappropriate renovations. The design may be a restoration based on historical, pictorial, and physical documentation; or be a new design that is compatible with the historic character of the building, district, or neighborhood.	Creating a false historical appearance because the replaced feature is based on insufficient physical, historical, and pictorial documentation or on information derived from another building. Introducing a new interior feature or finish that is incompatible with the scale, design, materials, color, and texture of the surviving interior features and finishes.

Recommended	*Not Recommended*

Alterations/Additions for the New Use

Accommodating service functions such as bathrooms, mechanical equipment, and office machines required by the building's new use in secondary spaces such as first floor service areas or on upper floors.	Dividing rooms, lowering ceilings, and damaging or obscuring character-defining features such as fireplaces, niches, stairways or alcoves, so that a new use can be accommodated in the building.
Reusing decorative material or features that have had to be removed during the rehabilitation work including wall and baseboard trim, door moulding, panelled doors, and simple wainscoting; and relocating such material or features in areas appropriate to their historic placement.	Discarding historic material when it can be reused within the rehabilitation project or relocating it in historically inappropriate areas.
Installing permanent partitions in secondary spaces; removable partitions that do not destroy the sense of space should be installed when the new use requires the subdivision of character-defining interior spaces.	Installing permanent partitions that damage or obscure character-defining spaces, features, or finishes.
Enclosing an interior stairway where required by code so that its character is retained. In many cases, glazed fire-rated walls may be used.	Enclosing an interior stairway with fire-rated construction so that the stairwell space or any character-defining features are destroyed.
Placing new code-required stairways or elevators in secondary and service areas of the historic building.	Radically changing, damaging, or destroying character-defining spaces, features, or finishes when adding new code-required stairways and elevators.

Recommended	*Not Recommended*
Creating an atrium or a light well to provide natural light when required for the new use in a manner that preserves character-defining interior spaces, features, and finishes as well as the structural system.	Destroying character-defining interior spaces, features, or finishes; or damaging the structural system in order to create an atrium or light well.
Adding a new floor if required for the new use in a manner that preserves character-defining structural features, and interior spaces, features, and finishes.	Inserting a new floor within a building that alters or destroys the fenestration; radically changes a character-defining interior space; or obscures, damages, or destroys decorative detailing.

SECTION 513.0 SPECIAL HISTORIC BUILDINGS AND DISTRICTS

513.1 Approval: The provisions of this code relating to the construction, repair, alteration, enlargement, restoration and moving of buildings or structures shall not be mandatory for existing buildings or structures identified and classified by the state or local government authority as historic buildings, subject to the approval of the board of appeals, when such buildings are judged by the building official to be safe and in the interest of public health, safety and welfare regarding any proposed construction, alteration, repair, enlargement and relocation. All such approvals must be based on the applicant's complete submission of professional architectural and engineering plans and specifications bearing the professional seal of the designer.

PRELIMINARY COST ESTIMATE

The RBA Group

PRELIMINARY COST ESTIMATE

DEMOLITION		18,000
° Demolition, Trash Removal and Clean-up		
GENERAL CONSTRUCTION		59,000
° Patch and Repair Walls, Ceilings and Floors		
° Carpentry, Millwork, Glazing, Hardware		
° Painting and Refinishing		
° Repair Fireplaces		
MECHANICAL		42,000
° Air Conditioning		
Stair Hall (3 Tons)	(6,000.00)	
Library (3 Tons)	(6,000.00)	
Billards Room (2 Tons)	(5,000.00)	
Dining Room (3 Tons)	(6,000.00)	
Ante Room (3 Tons)	(6,000.00)	
Drawing Room (5 Tons)	(8,000.00)	
° Upgrade of Steam Radiators	(5,000.00)	
ELECTRICAL		15,000
° Wiring and Fixture Installation		
Sub-Total		134,000
CONTINGENCY @ 12%		16,000
Sub-Total		150,000
OVERHEAD @ 15%		22,500
Sub-Total		172,500
PROFIT @ 10%		17,250
TOTAL		189,750

* Estimate does not include the following:

- ° A/E Fees
- ° Cost of Light Fixtures
- ° Cost of Wallpaper
- ° Leaded Glazing
- ° Furniture
- ° Asbestos

PRELIMINARY COST ESTIMATE BREAKDOWN

DEMOLITION

° Removal of wiremold, conduits, etc.	380 l.f.
° Removal of doors	2 units
° Removal of surface mounted light fixtures	66 units
° Removal of window A/C unit	1 unit
° Removal of glued on acoustic ceiling tiles	350 s.f.
° Removal of exterior awnings	8 units
° Removal of vinyl covering from steps	25 s.f.
° Removal of wallpaper	800 s.f.
° Removal of bookcases	20 l.f.
° Dumpsters	2 units
° Protection/Clean up/Trash Removal	---

GENERAL CONSTRUCTION

° Replacing of missing moldings/wood trim	300 l.f.
° New walls	6 l.f.
° Rehang door	1 unit
° New wood paneled fire rated door	1 unit
° New wood and glass door	1 unit
° Laminate gypsum wallboard to ceiling	350 s.f.
° Repair Service Hall Stair	1 unit
° Cutting holes in ceiling for A/C diffusers and grilles	100 l.f.
° Replace missing shelving	35 l.f.
° Panic hardware	2 units
° Other hardware (knob, lock, etc.)	3 units
° Clear glazing for door pane	63 units
° Glazing for window pane	1 unit
° Frosted glazing for door pane	16 units
° Wall preparations	9,800 s.f.
° Coat gypsum wallboard with plaster	400 s.f.
° General plaster wall and ceiling patching	---
° Painting of walls	7,000 s.f.
° Painting of ceilings	2,800 s.f.
° Painting of doors	21 units
° Wood refinishing	550 s.f.
° Wood floor refinishing	2,800 s.f.
° Repair fireplaces	4 units

MECHANICAL

° Air Conditioning (19 Tons)	6 units
° Upgrade of steam radiators	9 units
° Electrical wiring of A/C and radiators	15 units
° New electrical outlets	5 units
° New in-wall telephone outlets	6 units
° Reactivating electrical outlets	15 units
° Thermostats	6 units
° Dimmers	15 units
° Installing light fixtures	35 units
° Installing exit lights	4 units
° Relocating pull box and speaker	2 units