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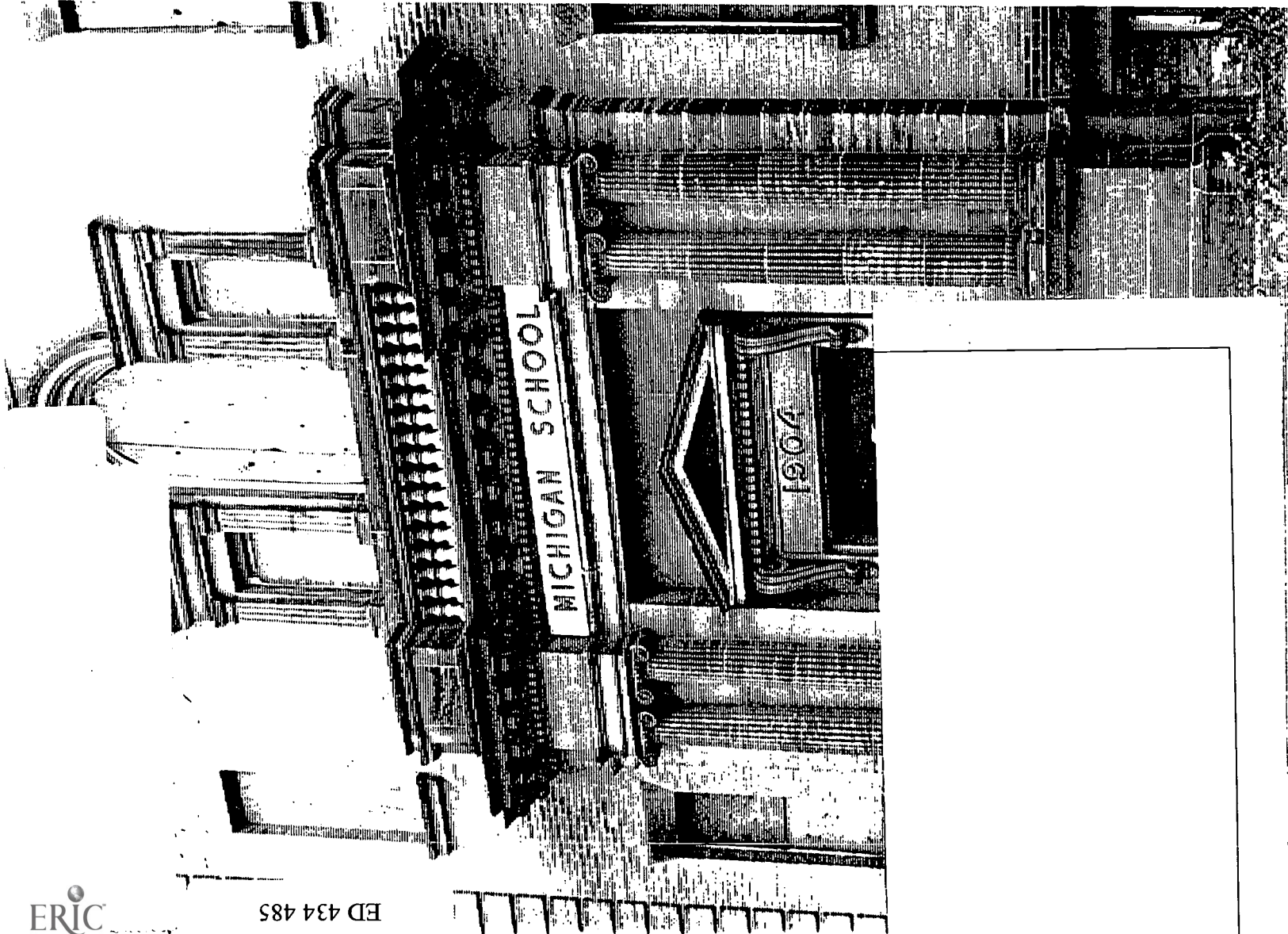
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ABSTRACT

This manual provides recommendations for school boards and communities concerning the leasing, selling, and marketing of school buildings. The reuse potential of each type of school building is investigated, and suggestions are made for successful conversions. Design considerations and the many aspects of acquiring and developing a school reuse project are discussed, including ownership, building codes, feasibility analysis, design guidelines, and financing. Finally, successful school reuse projects from across the country, along with designs developed by the authors, are cited to further demonstrate the great reuse potential which school buildings have. Appendices provide the Secretary of the Interior's Standards for Rehabilitation and selected funding sources. (Contains 40 references.) (GR)

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a guide for the Adaptive Use of Surplus Schools

by
Jack W. Giljahn
Thomas R. Matheny



Columbus Landmarks Foundation

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Cover Photo: The vacant Michigan Avenue School, located in Columbus' historic Victorian Village area, has recently been converted for use as housing for elderly persons.
Photo by Jack W. Gijahn.

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by
Jack W. Giljahn
Thomas R. Matheny



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The Adaptive Use of Surplus Schools

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Preface

Communities across the country are facing the challenge of re-using school buildings which are no longer needed for educational purposes. The Columbus Landmarks Foundation is pleased to present A GUIDE FOR THE ADAPTIVE USE OF SURPLUS SCHOOLS, prepared by Thomas R. Matheny and Jack W. Giljahn. The design manual, which has grown out of studies begun as a part of the graduate specialization in Architectural and Environmental Preservation in the Department of Architecture at The Ohio State University and which uses the Columbus City School system as a laboratory, studies the important problem of surplus school space, takes an in-depth look at the buildings involved and examines the potentials for school reuse. Included are architectural and preservation considerations, development economics, recommended new uses and case studies of school re-use projects which have been completed across the country.

The manual is a valuable contribution toward understanding the DESIGN possibilities inherent in our stock of surplus schools. Thus, it fills an important gap in the literature available on school re-use, which has generally concentrated on administrative or political approaches. The intent of the manual is to help school boards, community groups, government agencies, architects, developers and others become aware of a tremendous community resource that has so often been considered a liability.

Publication of this manual is an action response to the two most important goals of the Columbus Landmarks Foundation: I. LEADERSHIP (involving preservation principles) and II. EDUCATION (preservation advocacy, awareness and visibility). CLF is grateful to the Ohio Historic Preservation Office and the Ohio Arts Council for their support in making this publication possible. Of course, without the time and energies devoted to this project by Tom Matheny and Jack Giljahn – countless hours spent to research, write, edit, design, draw, photograph, revise and paste-up the manual – there would be no publication.

This manual provides the necessary tools; only the imagination of the reader can serve to limit the creativity with which they are applied. Surplus schools are a valuable resource.

Robert D. Loversidge, Jr.
Project Director
Columbus Landmarks Foundation

Columbus, Ohio
October, 1981

Introduction

School districts and communities throughout the country are facing an increasingly difficult problem. Declining birth rates and shifting residential patterns have presented school officials with a significant number of school facilities which are no longer needed to house the current student population. The issue is a complex one, and to understand it, a thorough investigation of the roots of the problem, its history, and its effects on school boards and communities is required. Though many school districts recognize the need to find new uses for these buildings, they are only just beginning to identify potential tenants and explore the many options available.

Vacant schools can become a new resource, often already paid for, in which a host of public programs and activities can take place, and, if no suitable public use exists, the private sector offers still further possibilities for development. Imagination on the part of an owner and architect, creative investigation into the available sources of financing, an appreciation of the built-in amenities in an existing building, and cooperation from the local government can provide rewarding results in adapting surplus schools to new uses.

This manual was designed as an awareness tool for educators, administrators, facility planners, developers, architects, citizens — for anyone faced with surplus school space. Recommendations are provided for school boards and communities concerning the leasing, selling and marketing of school buildings. The reuse potential of each type of school building is investigated, and suggestions are made for successful conversions. Design considerations and the many aspects of acquiring and developing a school reuse project are discussed, including ownership, building codes, feasibility analysis, design guidelines and financing. Finally, successful school reuse projects from across the country, along with designs developed by the authors, are cited to further demonstrate the great reuse potential which school buildings have.

Since this project was begun, a great number of schools have gone to the auction block as school systems try to reconcile future needs

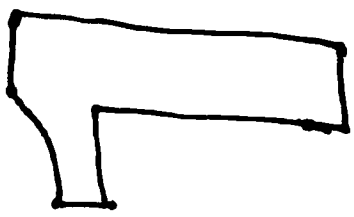
with present realities. Some of these schools have been successfully adapted for continued use, while others have sadly met the wrecking ball. It is certain that many more schools will be slated for an unknown future as enrollment projections continue to force school boards to label even more schools "surplus".

It is our hope that this book provides the information and incentive necessary to change the course of those surplus schools which may be headed toward neglect and demolition, to one of successful reuse and an extended life.

Jack W. Giljahn
Thomas R. Matheny

Columbus, Ohio
October, 1981

the conservation
issue



The Reasons Behind School Closings

Declining Enrollments

During the 1950's and 1960's the great majority of school districts in this country experienced enormous student growth directly associated with the post-WW II baby boom. That growth produced two decades of unprecedented school building as the need for additional space exceeded the facilities available. School districts caught up in this explosion found themselves continually pursuing larger budgets, additional operating levies, and new bond issues, and consequently, were completely unprepared for the dilemma that was produced when enrollments began to drop in the 1970's.

In 1959, the average U.S. family had 3.7 children, today the average family contains 1.8 children.¹ In 1971, there were 18 births per 1000 population while in 1976 there were only 14.7.² The 1970's enrollment increase predicted as post-war baby boom women reached maturity has never materialized. Since 1961, the rising number of women of childbearing age has been offset by a declining fertility rate (the number of births per 1000 women aged 15-44. See Figure 1).

A look at some statistics underscores the present drop in school enrollment. The Council of Educational Facilities Planners, in its publication, **SURPLUS SCHOOL SPACE --- THE PROBLEM AND THE POSSIBILITIES**, states:

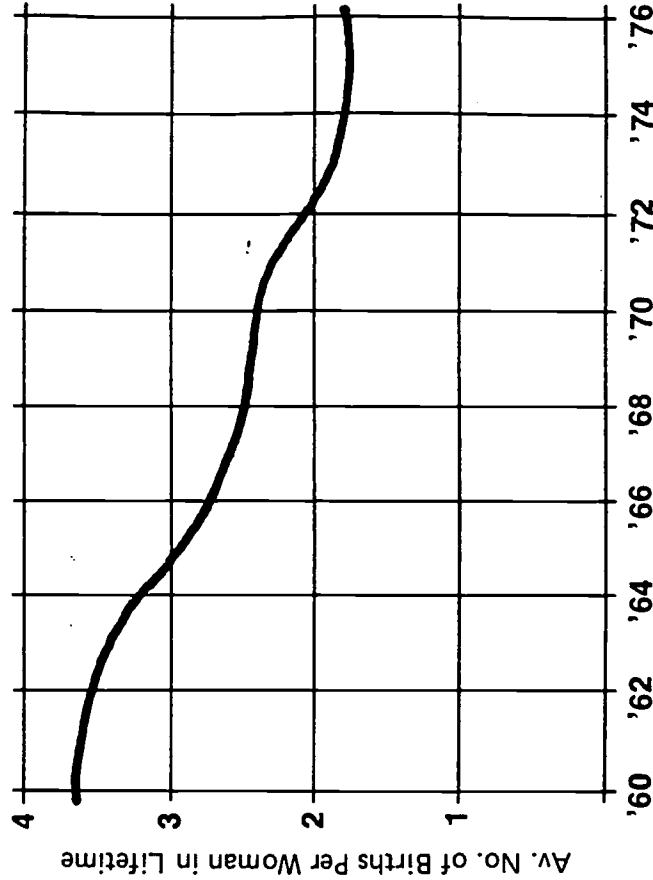
The United States Office of Education predicts that schools in the United States will face a 12% drop in enrollment between 1972 and 1982. The average for school enrollment in all grades peaked in 1970 at 51.3 million students. Elementary school enrollment has been declining since the 1969 figure of 36.79 million, and is expected to continue declining; 1980 projections indicate an approximate 30.9 million students will be enrolled in elementary schools. (It should be noted, too, that national enrollment predictions now

indicate the possibility of increased K-8 enrollments after about 1983.

Although delayed, the effect is the same for secondary school enrollments (grades 9-12). Having peaked in 1976 with 15.6 million students, secondary school enrollments are expected to diminish to 12 million in 1989. The picture for both elementary and secondary school enrollments shows 51.3 million students in 1970; 49.8 million in 1974, and 44.8 million in 1984. Thus, during the fourteen year period from 1970 to 1984, we may witness a 12.7% enrollment drop.⁴

Fig. 1 3

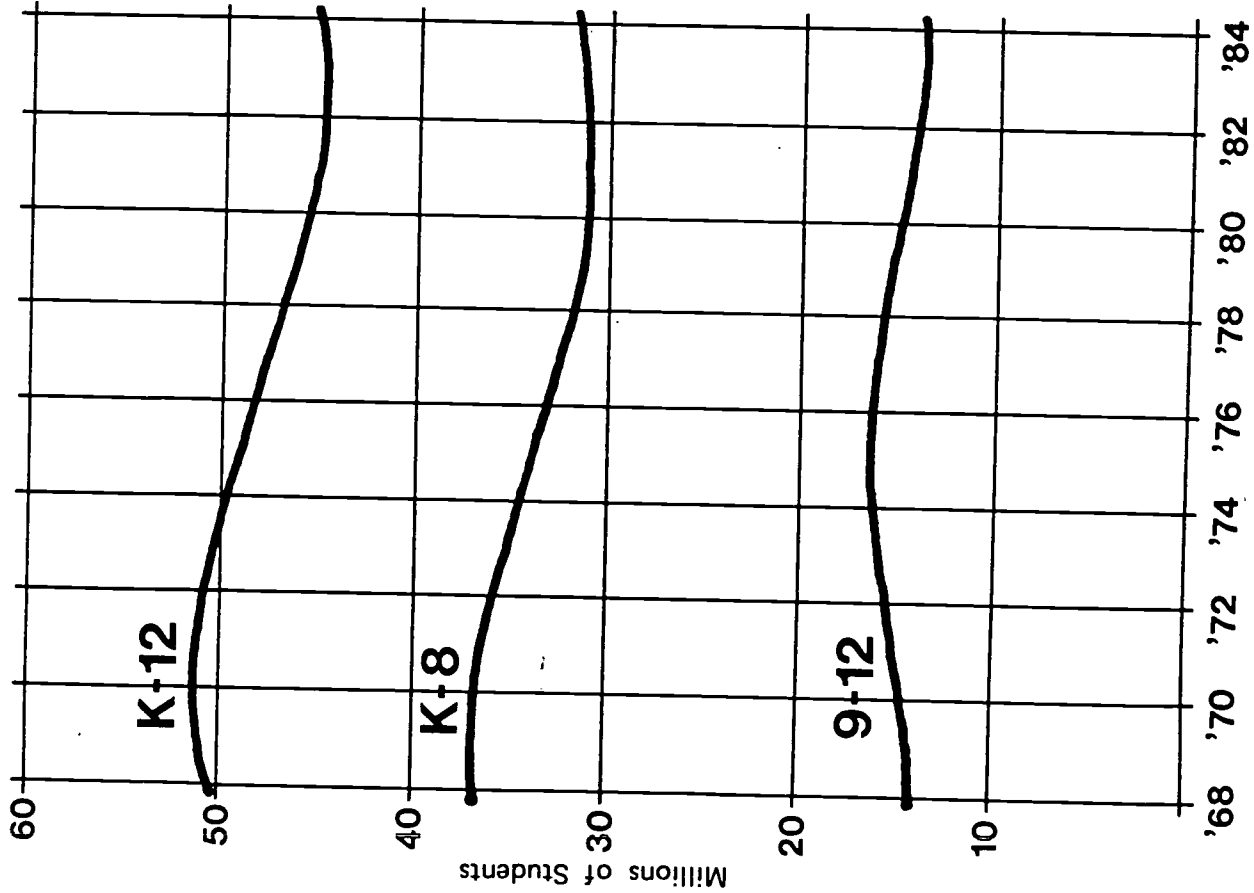
Fertility Rates



The 12.7% enrollment drop figure used here is a national average. More indicative of the magnitude of the problem is the fact that many urban areas are reporting enrollment declines as high as 25%.

Fig. 2 6

Enrollment Projections



These enrollment trends can be seen more clearly in Figure 2. The steady decline of these curves indicates a general decrease in enrollment since 1968. A national survey of 49 school districts by Richard Andrews of the University of Washington shows that almost three-quarters of those surveyed cite declining enrollment as the major factor behind school closings.⁵

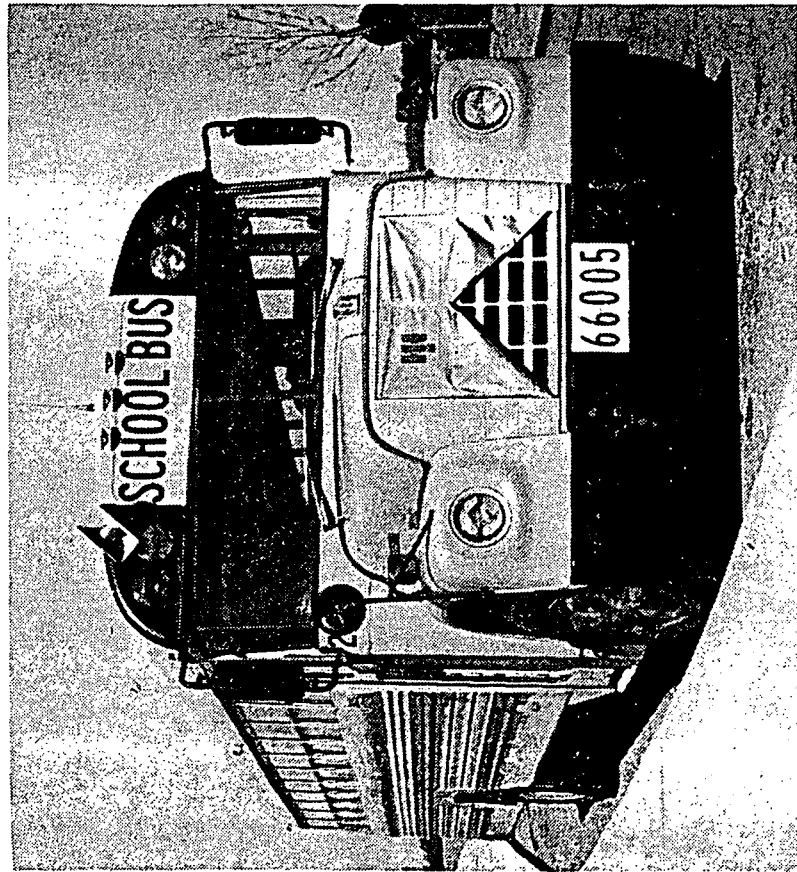
Mobility and Population Shifts

Mobility and population shifts are also causes of enrollment loss. Nationally, migration is occurring away from the eastern and mid-western states to the warmer southern and western climates. Since 1970, these areas have experienced 85% of our nation's growth, while the Northeast and Midwest have been losing population and industry.⁷

Within metropolitan areas, population is growing in suburban areas and nearby small towns, leaving inner-city schools with fewer students. The more recent "back-to-the-cities" movement, sparked by a renewed interest in urban neighborhoods, does not seem to be significantly changing these urban trends. Many of these new urban dwellers are either young-marrieds putting off having children or "empty-nesters" beyond childbearing years. Additionally, the displacement caused as multi-family buildings (many old urban homes were converted to apartment buildings as a neighborhood declined) are converted back to single family residences contributes to enrollment loss within the community.

Other Reasons

Many cities have recently been forced to institute desegregation plans which have contributed to the surplus schools problem. Court-ordered busing, an integral part of most desegregation plans, has allowed school districts to consolidate students from partially used buildings into a smaller number of fully utilized facilities, thus leaving additional vacant school buildings.



Recent desegregation plans in many cities have resulted in the busing of some students outside their neighborhood.

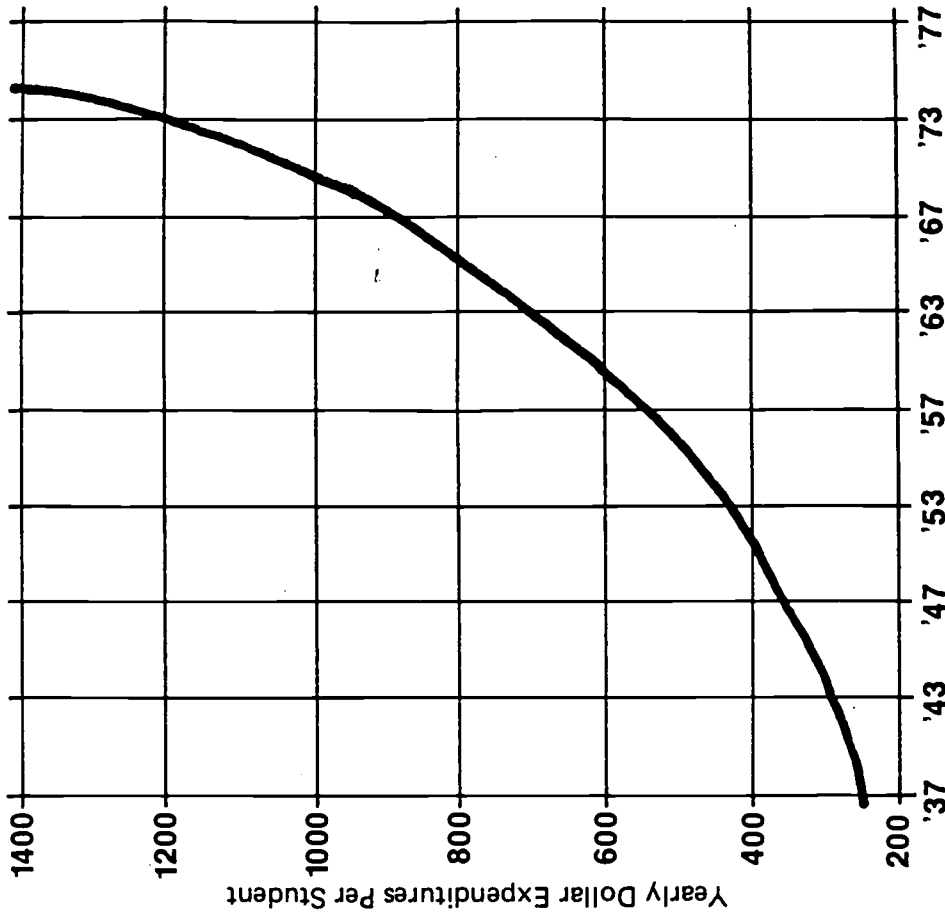
Compounding this problem is the unpleasant prospect of even further enrollment declines as more people look with greater interest toward private schools for educating their children — in many cases a direct result of desegregation. Also, large city school systems have a reputation (deserved or not) for a steadily decreasing quality of education⁸, resulting, again, in increased private school enrollment.

In some cases, school buildings are abandoned due to physical deterioration. In still other cases, the building has become functionally obsolete, being inadequate for certain types of educational programs, or not easily adapted to new teaching philosophies. These are smaller, though still prevalent problems.

Making the Decision to Close

The reduction in the enrollment rate was at first welcomed by school boards as a respite from the growth problems of the previous two decades. However, harsh realities soon had to be confronted as it quickly became apparent that declining enrollments did not produce a corresponding reduction in costs. In fact, an inflationary economy combined with a declining student base sent per pupil costs soaring.

Expenditures for Education ⁹



the costs of operating half-empty schools is particularly wasteful. Many basic expenses of operating under-utilized schools continue as though the building were fully occupied. Almost as many teachers and custodial workers are required to staff a partially used school, and neither utility bills nor debt service charges fall with decreased enrollments.

Faced with dramatically declining enrollments and administrative studies predicting that the pattern will continue, school district officials have generally recommended the closing of one or more schools as the simplest and least expensive immediate solution. As mentioned, desegregation plans, which are being instituted in many school districts, have allowed more latitude in which schools can be closed.

Consolidation of students and educational resources has immediate educational benefits. It allows:¹⁰

- balancing of class sizes
- sharing of educational materials
- staff reductions
- better use of specialists
- easier supervision of the program
- fewer dollars spent on fuel, maintenance, and personnel

This last factor, however, is much less significant than is commonly assumed.

The major criteria used by school boards in determining which schools are to be closed are:

- the enrollment patterns and changes in the school age population in the area served by the school.
- the flexibility and adaptability of the building for various present and future educational programs. Functionally obsolete buildings are usually closed first.
- the age and structural condition of the building. Older buildings in need of considerable repair are prime candidates for closing.

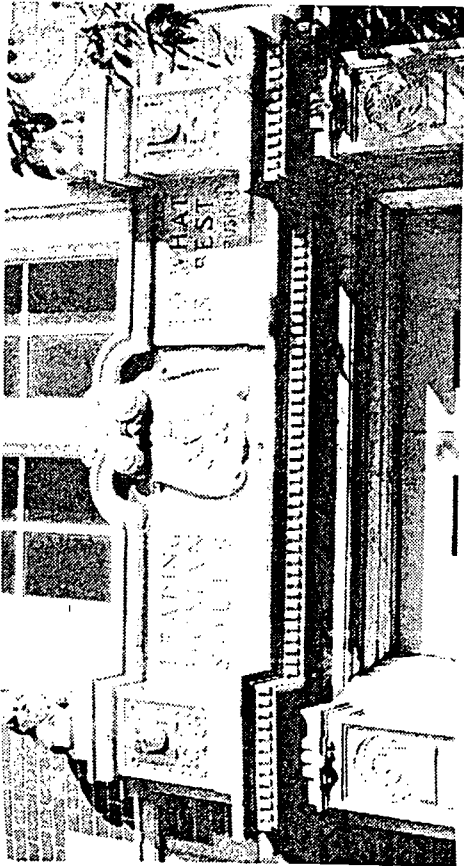
- maintenance costs. Some buildings are inherently more expensive to maintain than others.
- transportation costs. This is a factor derived directly from desegregation. School boards must now look at which combination of utilized buildings will result in the lowest transportation costs.
- size. Given a choice between closing two schools in the same area, the school board will generally close the smaller of the two.

The phenomenon of empty desks is usually not confined to one school, although one section of a district may decline earlier than others. All the elementary schools in a district will feel the effects, as will the intermediate and high schools in a few years when the enrollment decline reaches the upper grade levels. Facing these future problems early will give school districts more time to prepare.

The Schoolhouse as Community Cornerstone

Many problems arise when a school building is closed, but perhaps the ultimate liability of a totally closed building is the impact on its neighborhood.

A school building is a community cornerstone. It is a symbol of continuity and stability from one generation to another. To residents, a school represents their property taxes, the education of their children, and an institution around which a multitude of community activities and interactions take place. The neighborhood school building frequently becomes hallowed ground in the minds of those directly effected by the decision to close.

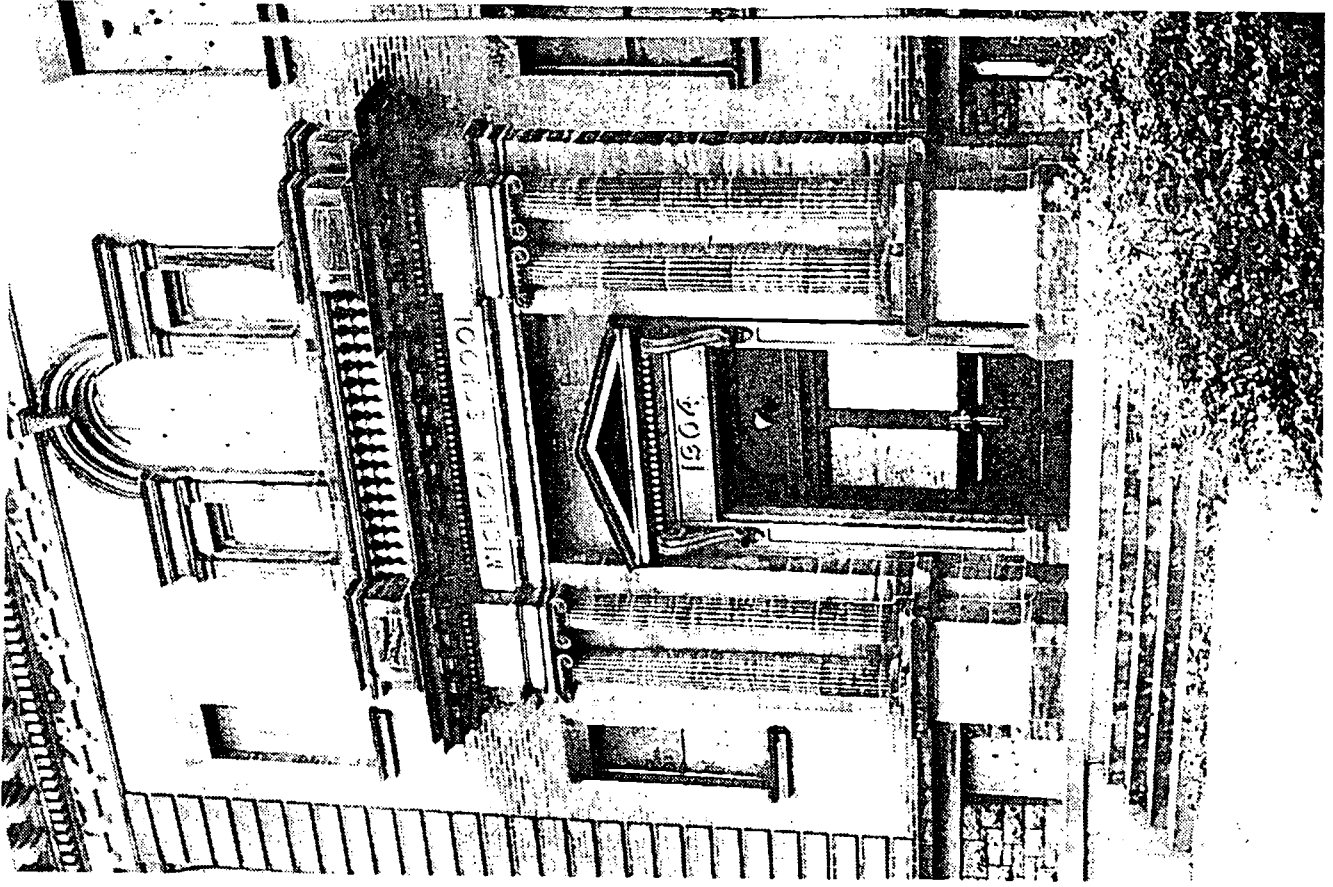


The inscriptions found above the entrances to many schools are indicative of their importance to the community.

When the windows are boarded up on that familiar red brick building, it means to many people that the community is changing, and probably not for the better. Residents in the community fear that closing a school will cause the community to go downhill and decline.

Empty school buildings are often targets for vandalism, creating community eyesores. "Young families, many of whom rank proximity to good schools as a high priority in selecting a home, may intentionally avoid those neighborhoods in which schools have been closed. Some areas have experienced a decline in real estate values following a school abandonment as a result of young couples 'skipping over' the neighborhood."¹¹ No concrete figures yet exist on this phenomenon, however.

Keeping a school building an active vital part of the community in the face of declining enrollments is psychologically very important to that community. This can be accomplished by using the school for a host of alternative educational programs; leasing the building to one of many public or private non-profit organizations looking for economical space; or, after careful consideration of future needs, leasing or selling the building to the private sector.



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Declining enrollments can lead to a positive and constructive re-organization of the district and a chance to implement new educational opportunities. In addition, there are a rapidly increasing number of school building reuse projects. School closings can become a catalyst for educational and community improvements which might never have otherwise occurred. These new options keep vacant buildings from serving as painful monuments to a neighborhood's demise by injecting new life into the community.

Advice to School Boards

Mothballing

What happens to all of these abandoned school buildings? Some vacant schools are demolished as a result of a false perception that the building's adaptability to other uses is relatively limited and, in many cases, that the building itself is a liability — only the land (property) is an asset. Since demolition is obviously irreversible, all other options should be thoroughly investigated before this course of action is taken.

Many schools are simply boarded-up and "mothballed" until the space is needed again or the building's future disposition can be determined. The vandalism and physical decay associated with complete mothballing, as well as its effect on the surrounding neighborhood, make this a less than perfect solution.

Somewhat better is the method used in Columbus, Ohio, where school officials have elected to keep maintenance heat in their vacant school buildings, along with minimal custodial services. According to school officials, this practice costs between \$10,000 and \$15,000 per year per school (1979), but avoids much of the severe deterioration and vandalism accompanying complete mothballing.

Often, the savings expected from closing a school never materialize. Since many school costs are on a per pupil basis, closing a school does not always bring all of the expected decreases in costs. Then there are the initial costs of mothballing as well as ongoing costs for minimal maintenance, utilities, security and repair.

In the light of these and many other problems caused by school abandonment, school administrators, local officials and community groups are recommending that alternative uses for surplus schools be found.

Legal Constraints

There may be certain legal constraints which will effect a decision to abandon a school building. Districts in some states lose control of their buildings when they are no longer used as schools. In California, for instance, any profit made from the sale of a school goes to the state treasury. In Massachusetts, schools are controlled by the cities, therefore abandoned schools remain the property of the city rather than the district. In Nashville, Tennessee, any building declared surplus by the board of education is to be administered by the Public Property Administration, which may choose to rent, lease, or sell the building at private auction.¹² And in Columbus, Ohio, where the school district owns the school buildings, money from the sale of a school cannot be used toward operating expenses, but must be placed into a capital improvements fund.

State laws should be checked for restrictions which may control alternatives. In some states, a school building cannot be used for other than school purposes without a community referendum. And, assuming a building can be leased or sold, checks should be made for restrictions on the activities that can be carried out within it. In some states, schools cannot be leased to a religious group, political group, or a private school.

Leasing Surplus Schools

Once a school board has decided to search for alternative uses for its

surplus schools, one of the first questions confronting it is whether to lease or sell the building. If all or a major portion of a facility is to be used by a non-school agency or organization, ownership considerations are very important. Some districts hesitate to sell buildings because possible future enrollment increases may make them once again needed as schools. Leasing provides a hedge against the day school space is needed again. And, leasing is politically popular because the school system is not giving anything away.

Another option exists should the intended primary user of a facility be another government agency. The surplus school could be leased to this agency for a token payment, and since the new user would be tax supported, the interests of the taxpayers who built the building originally would be served.

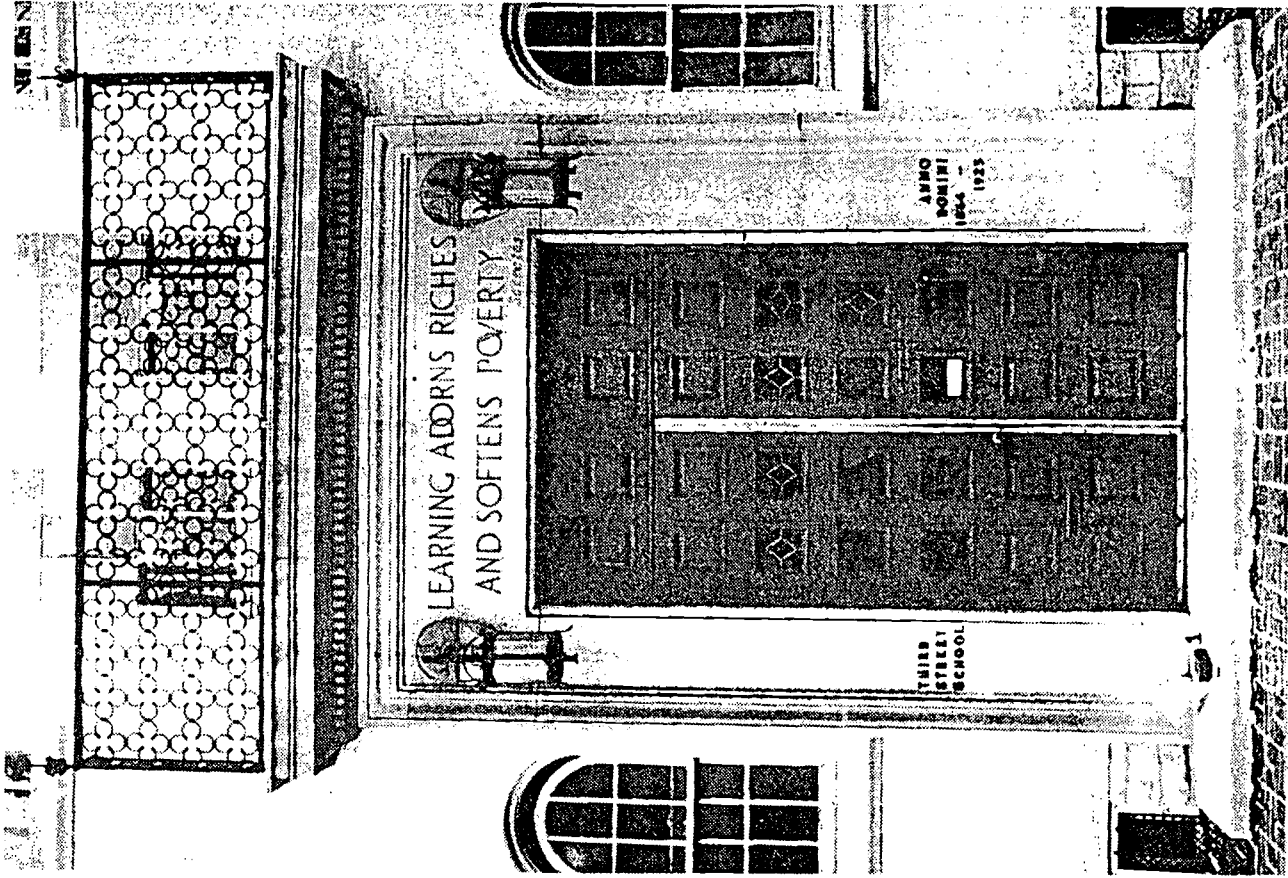
Leases can be written so that the district retains its basic right to the property, while the tenant assumes all costs of upkeep and operations.¹³ Also, leases can be arranged in exchange for substantive in-kind services. Rent payments to the school system could be made through services to the system, thereby freeing a substantial amount of the system's capital for other uses.

Advantages of Leasing

- Buildings can be reclaimed again if needed since ownership is retained.
- Inexpensive space can be made available to governmental, non-profit, and community organizations.
- Leasing is a hedge against fluctuating enrollments.
- Income is obtained from unused space.

Disadvantages of Leasing

- Many ownership costs, such as maintenance, continue.
- Though not used as a school, property still generates no tax revenue.
- School systems are usually not prepared to be property managers.



The Columbus Department of Recreation and Parks has converted the former Third Street School for use as a Golden Age Hobby Shop.

Selling Surplus Schools

When all district needs have been accounted for, and all public agencies that could immediately use available space have been satisfied, an increasing number of school districts are choosing to sell their property to the private sector, often with a guarantee that the building will be rehabilitated for a specific use. It is unwise to dispose of every building down to the minimum number required to house the current student population. If this were done and enrollments were to climb, a school board might find itself in the embarrassing position of facing the voters several years hence with a bond issue for a new building at what would undoubtedly be ten to twenty times the sale price of the one recently sold! Some excess space must be retained for flexibility in coping with fluctuating enrollments. Comprehensive and long-range planning by school officials is essential.

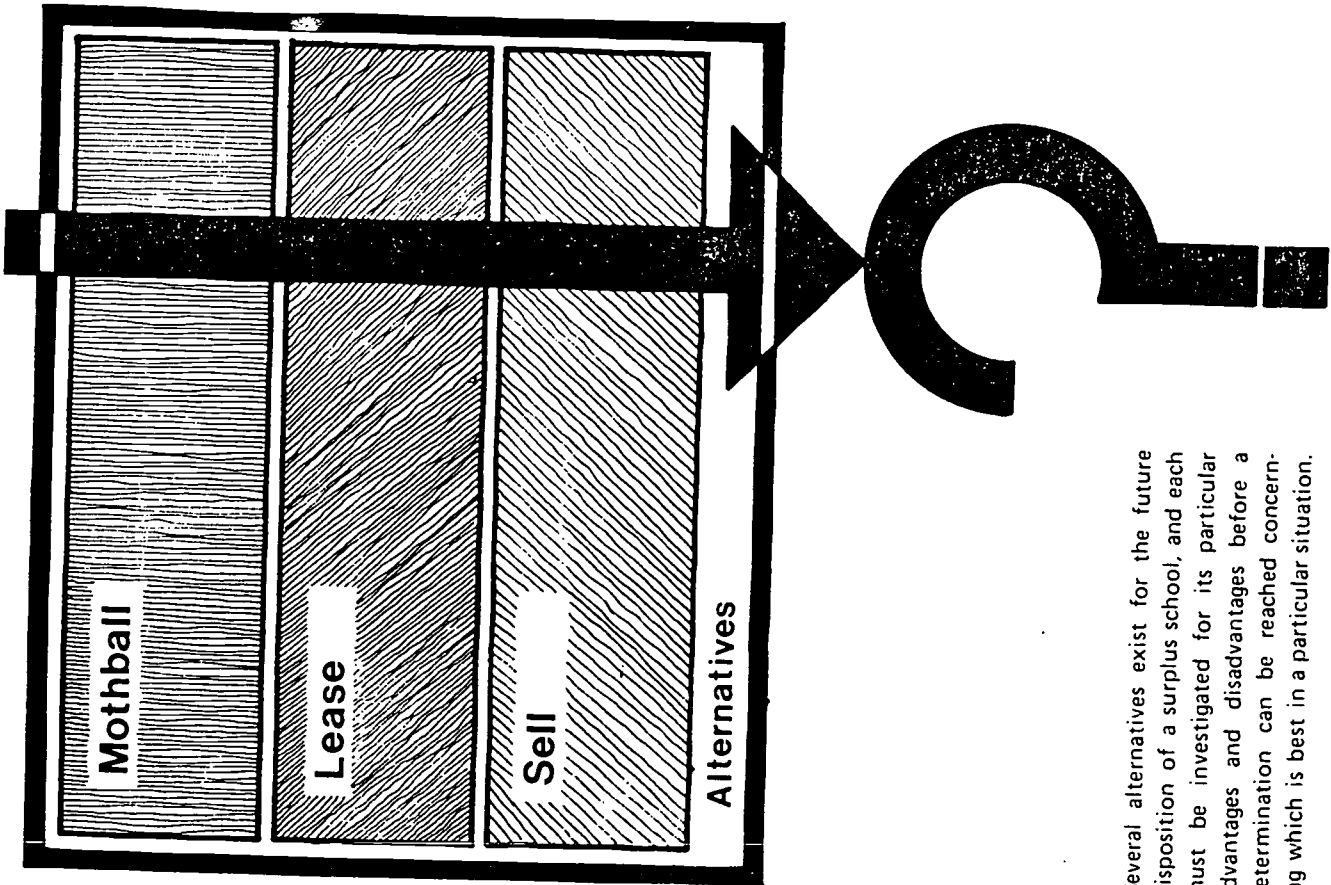
Many larger school districts have 30-40 or more vacant school buildings, however. Though the number will vary from area to area, when the magnitude of the problem reaches this point, and detailed enrollment projections show no future need for the buildings as schools, placing some of the buildings up for sale is certainly a plausible solution.

Care must be taken to assure that the new use is not disruptive or objectionable to the surrounding areas. The residential character of the neighborhoods in which many schools are located has encouraged recycling as housing units, although redevelopment for office or commercial uses has been successful, especially with buildings located on arterial streets or near commercial areas.

Advantages of Selling

- Upkeep costs to the school system are eliminated.
- The property is returned to the community tax rolls.
- If reuse of the building is specified at the sale, preservation of the building is ensured.

Several alternatives exist for the future disposition of a surplus school, and each must be investigated for its particular advantages and disadvantages before a determination can be reached concerning which is best in a particular situation.



- New use of the building can provide a psychological advantage to the community.
- The school system obtains a financial return on space which is no longer needed.

Disadvantages of Selling

- School buildings usually have low market values.
- The zoning of school property is often limited.
- The school system might need the building again as a school.
- The school system may be unable to determine a building's impact on the community after the sale.

Marketing Surplus Schools

There are three major components in determining the potential market for a school building. "First, is the assessment of the objectives of the school district and a description of the major building features. Secondly, is an evaluation of what kind of activity is needed at the location of the property — housing, municipal services, recreation, commercial office space, etc. And finally there is the need to measure the suitability of a property with specific characteristics to the user identified."¹⁴

A disposition checklist similar to the one developed by Perkins & Will, Chicago, Illinois (see below) should be completed by the school board early in the marketing process. The checklist will serve to guide and record the decisions which need to be made, and will allow those involved to be aware of their options.

Disposition Checklist¹⁵

- Would we prefer to sell or rent the property? What are the advantages of each?
- How much income through sale or lease revenue would we like or need?

- Should the rent cover utilities or not?
- Would we be willing to provide a potential tenant with an allowance for improvement or renovation of the property and amortize this cost in the tenant's lease?
- Is it likely that we can get a term of lease (length) long enough to cover these "tenant improvements"?
- In order to compete with the private real estate market will this be a necessary accommodation?
- Would we be willing to lease to more than one tenant?
- Do we want to market this property ourselves or do we want to use an agent?
- If we lease, do we want to manage the property ourselves or hire an agent?
- Should we try to include equipment (cabinets, bookcases, etc.) within the basic sale or lease package? Should we try to price it separately? Should we retain it? Should we try and sell it separately?

Furthermore, an inventory of each individual building's features should be kept on file for each school. Included in this inventory should be:

- Name of school
- Address
- Year constructed, including additions
- Number and size of classrooms
- Number of offices
- Special facilities such as laboratories, gymnasiums, auditoriums, libraries, and shops
- Building configuration and type of construction including age and physical condition (each component)
- Floor area per floor
- Neighborhood context, including proximity to shopping centers, homes, and businesses

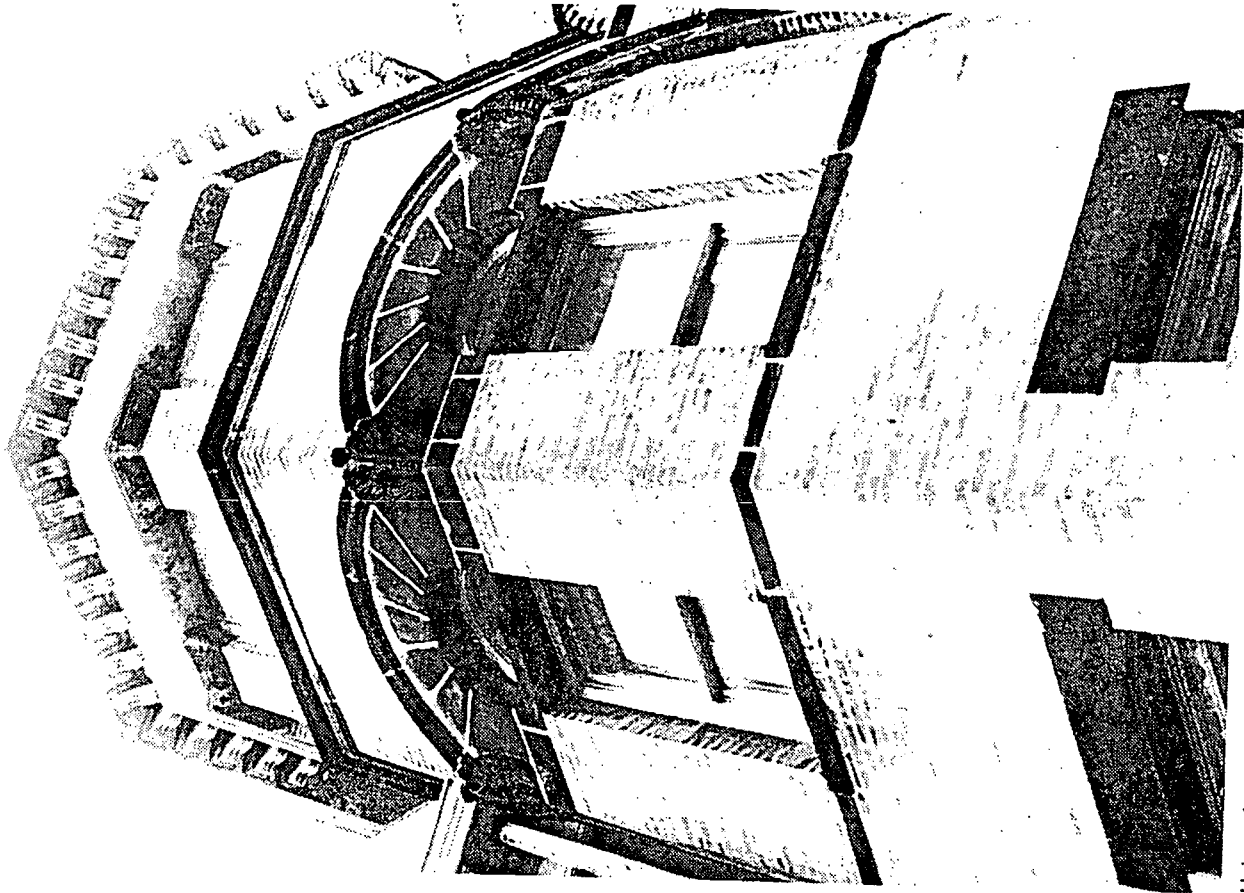
- Accessibility to public and private transportation
- Available parking
- Zoning, including possible changes and real estate taxes in the zone
- Acreage of the entire site
- Type of fuel and utility costs
- Fire rating and existence of sprinklers
- Existence of elevators
- Accessibility to handicapped persons
- Historic/architectural significance

When completed, this inventory will be available to aid decisions concerning individual cases, and will be extremely valuable later in the marketing process. Most school districts will have all of this information in one place or another, and only its compilation into one concise list and subsequent analysis will need to be done.

"School boards considering the sale of school property might do well to investigate in advance the potential for zoning change to a more commercially marketable classification and, if feasible, petition for such a change before putting the property on the market."¹⁶ Since many developers make their offers to buy contingent on getting the proper zoning, this reduces the potential buyer's risk and may have a favorable impact on the selling price. Furthermore, zoning boards may react more favorably to the request of a school board than that of a private developer.

Most importantly, marketable assets must be identified before selling or leasing. The market needs to be shown the property's locational or physical advantages for other purposes. Also, it must be shown that the building's practicality for its new use compares favorably with other buildings, both old and new.

School districts can stimulate interest by making suggestions on potential re-use, by doing some homework on potential costs, by developing preliminary graphic representations of new uses, citing



Unique features such as towers should be identified and marketed as assets which can be converted into unique spaces.

examples of re-use projects in other cities, and perhaps even suggesting some means of financing.¹⁷ Since many school districts do not have expertise in many of these areas, it may be wise to consult a team of experts, consisting of an educational planning consultant, an architect, and a real estate agent. These professionals can survey the building and make suggestions concerning potential new uses. The costs involved here are usually more than offset by an increase in the sale price.

School boards have a moral obligation to their community to realize the highest return on the tax dollars invested in each school. As a result, school boards should not be too hasty when it comes time to sell a building. In the case of St. Louis Park, Minnesota, for instance, a year's worth of negotiations by the superintendent and board with the potential buyer meant an increase of \$250,000 over the initial offer and the appraised value of one of its surplus schools.¹⁸

A proper approach to marketing vacant schools, along with imagination and enthusiasm by the district, can go a long way toward ensuring the top dollar return on the many tax dollars invested in these properties.

The Possibilities for Reuse

More Space for Education

Many sound school buildings are being closed simply because there are not enough students. However, for many imaginative school districts, surplus space is being viewed as an opportunity, rather than the difficult problem it appears to be initially. Convincing a community to view the problem this way is a challenge, however.

School administrators can think of using extra space to house new school activities or expand facilities for existing programs. Unused space might be converted into craft shops, music studios, art studios, housing for on-going science projects, business simulation areas,

production or manufacturing set-ups, exhibit space, or kindergartens where they are not already provided.¹⁹ Left-over facilities can also be turned into specialized training facilities to expand the community's adult, vocational, and career educational programs.

Another choice is to house new approaches to education. Alternative schools are being instituted in many cities. These alternative schools are not all the same, but most contain programs which could not be conducted within the regular school curriculum or building. Becoming more common also are community colleges which have moved into closed schools with a college program designed to meet the needs of the people in the surrounding community.

Sharing and Renting

A school system could keep a building open for its own use and offset operating costs by finding appropriate tenants to rent surplus space in the building. With commercial office space leasing for the rates it does, schools can offer a substantial savings to certain types of groups and agencies. Examples of potential tenants in this category could include public non-profit agencies (such as the United Way), governmental groups and commissions, and some private groups that operate on limited funds and for whom plush office space is not a prime consideration. Other possible users are small private schools and pre-schools for whom the space is usually ideally suited.²⁰

These same types of groups may also lease a whole building, or part of a building in conjunction with other tenants. Multiple use of a building, though presenting security problems which must be overcome, may be desirable because there are usually more small users than large users. Multiple leasing may therefore result in the greatest financial return for the school district.²¹

Mixing School with Community

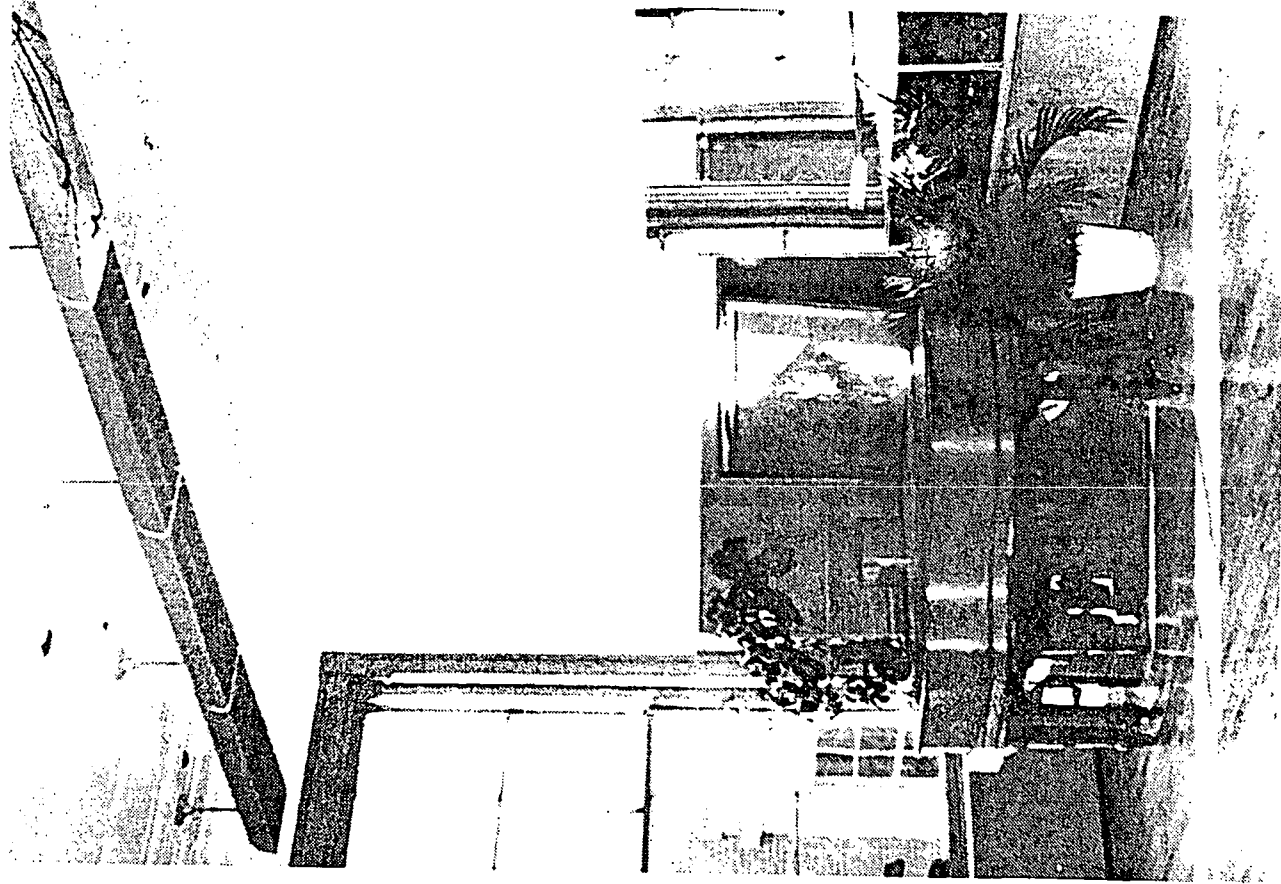
School houses have traditionally been centers of community activity. The neighborhood focus and residential location of many school

Buildings suggest their shared use as centers for services that are pedestrian related. So what better use is there for a surplus school than as a community service center? These centers can contain such programs as extended daycare centers, senior citizen center, occupational development programs, legal and health clinics, arts and crafts centers, a branch library, recreation programs, and meeting space for local clubs and organizations. All are possible ways of utilizing school space in a manner that will be beneficial to the entire community.

Typical of these kinds of facilities is the Eureka School in Wichita, Kansas. The 20-classroom building with a large gymnasium was in good condition and was an important asset to the community. The school district leases the building to the Community Action Program for \$1 a year. The building and its program are available to the public six days a week from 8 A.M. to 10 P.M. Many of the programs receive federal, state, or local funds. In addition, the center accepts donations and has several fund-raising programs.

A listing of the services in the Eureka Community Center reveals the wide range of programs that can fit into empty school space: health clinics, including venereal disease, prenatal, and outpatient care, legal aid, a library, consumer education programs, including sewing and cooking classes, shopping tips, and nutrition and budgeting information, an economic survival program; a senior citizen center including a nutrition program, health services, games, trips and companionship; manpower job counseling; Alcoholics Anonymous; Operation Share, a cooperative run by 52 churches that makes clothing available to the needy; a drug counseling clinic; a recreation program in the gymnasium and fields; a Community Action Program that takes outreach services to persons who cannot go to the center; weekly square dances and other social events; community meeting rooms for organizational use; movies; counseling and tutorial programs for dropouts; adult basic education programs; and preschool and day-care programs.²²

Combined in this fashion, local groups are provided with much-needed space, while at the same time preserving a valuable community resource.



A dance studio in the Near North Side; Community Center, which is located in Northwood School, Columbus, Ohio.

Adaptive Use

Converting school buildings to many of the uses mentioned previously often makes only minor demands on the building itself — new plastering, windows, wiring, a wall taken down or put up, and a great deal of paint are the main physical changes. There are also school buildings that are being completely adapted to an entirely different use.

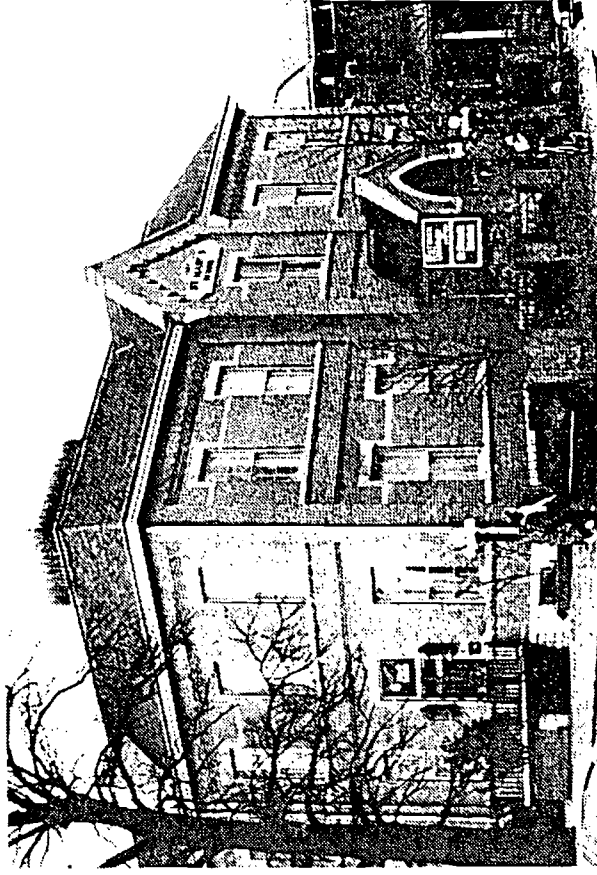
School buildings often have the advantage of central locations and are designed for public occupancy. As a result, most have adequate storage, plenty of stairs and exits, and the schoolyard can be used for parking.

In many cases, the oldest school buildings are those most likely to be abandoned. These buildings may be important neighborhood landmarks, and may possess important historic or architectural significance. In addition, these old buildings usually contain reusable interior elements such as maple floors, wood wainscoting and trim, pressed metal ceilings and paneled closets — amenities which cannot be duplicated with today's high construction costs.

In addition to preserving a neighborhood landmark, preservation and adaptive use has many built-in advantages for developers. For example:

- Building time is shorter than with new construction which translates into a savings in interest and faster rent-up.
- Construction costs in general are lower than new construction, since the shell of the building already exists and can usually be purchased at an attractive price.
- Since many building materials are re-used, preservation and adaptive use have been found to require 23% less energy to complete than comparable new construction.
- In studies by the Energy Research and Development Administration, older buildings with their thick insulating walls and operable windows were found to use less energy for heating and cooling than newer buildings.

- Preservation and adaptive use are more labor intensive than comparable new construction. U.S. Department of Commerce studies have shown that one million dollars spent on adaptive use creates 109 jobs, while the same amount of money spent on comparable new construction creates only 69 jobs.



German Village Center — formerly St. Mary's School, Columbus, Ohio

Schools have been sold for uses as diverse as churches (Des Moines); antique galleries (Atlanta), and even a handsome funeral parlor (Geneva, Illinois). In Ocean City, New Jersey, a three story grammar school has been converted into a Historical and Cultural Arts Center. The Historical Museum on the ground floor was funded from city money, donations, and memberships. The Cultural Arts Center renovated the top two floors for studios which are rented by artists or used for teaching. In Ithaca, New York, the DeWitt Junior High School has been transformed into apartments, offices, and retail stores. This multi-use project has contributed significantly toward retaining the quality of Ithaca's downtown (see case studies).

Recycling school buildings to new uses is rapidly gaining momentum at the head of the solutions for surplus schools. Razing sound buildings should be rejected as wasteful, uneconomical, and destructive of the urban fabric. The variety of new uses and their success is limited only by the innovation and persistence of school districts and local government.

Footnotes

- ¹The Council of Educational Facility Planners, SURPLUS SCHOOL SPACE - THE PROBLEM AND THE POSSIBILITIES, p. 10.
- ²IBID., p. 11.
- ³IBID., p. 10.
- ⁴IBID., p. 9.
- ⁵Judith N. Gentzels, "Don't Scrap That School" PLANNING, (November, 1976), p. 22.
- ⁶The Council of Educational Facility Planners, OP. CIT., p. 9.
- ⁷IBID., p. 11.
- ⁸IBID., p. 14.
- ⁹IBID., p. 12.
- ¹⁰Michael Grenis, "How to Close a School Without Spilling Blood," AMERICAN SCHOOL AND UNIVERSITY, (September, 1976), p. 59.
- ¹¹Janice Huff, "School Recycling," INNOVATIONS 3(Spring, 1979), p. 3.
- ¹²Educational Facilities Laboratories, SURPLUS SCHOOL SPACE: OPTIONS AND OPPORTUNITIES, p. 56.
- ¹³M. E. Hickey, "Here's how to prevent closed schools from becoming empty buildings," THE AMERICAN SCHOOL BOARD JOURNAL, (February, 1979), p. 28.
- ¹⁴Pat Rosenzweig, "Marketing Surplus Schools," SCHOOL BUSINESS AFFAIRS, (June, 1979), p. 13.
- ¹⁵IBID., p. 13.
- ¹⁶M. E. Hickey, OP. CIT., p. 29.
- ¹⁷Pat Rosenzweig, OP. CIT., p. 13.
- ¹⁸M. E. Hickey, OP. CIT., p. 29.
- ¹⁹Educational Facility Planners, OP. CIT., p. 24.
- ²⁰M. E. Hickey, OP. CIT., p. 29.
- ²¹Marion Pasnik, "Are You Prepared for Declining Enrollments," AMERICAN SCHOOL AND UNIVERSITY, (March, 1979).
- ²²Educational Facilities Laboratories, OP. CIT., p. 17.

2

Classification of
School buildings

History and Evolution of the School Building

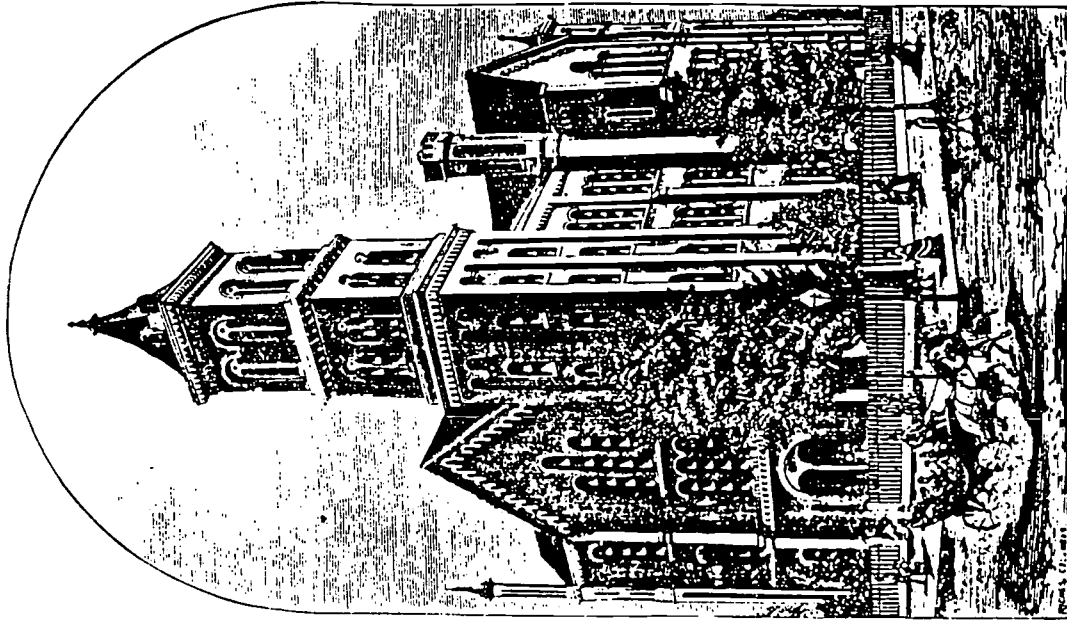
The issues of surplus schools may initially appear to be a recent phenomenon, having come to the forefront of school district and community over the last five years. The seeds of this problem, however, have been growing over the past two decades. Furthermore, the buildings abandoned as a result of the surplus schools problem are not confined to any particular vintage. Empty schools represent buildings constructed at various times during the past century.

The styles and use patterns of school buildings have changed during this time. A brief look at the development of education* will provide an insight into the schoolhouse and will help to identify several different types of schools built as a result of changing educational philosophies. Knowledge of school building development will aid in coping with the problem of surplus schools.

The physical development of the American schoolhouse reflects changes and forces that were present in the evolution of American education. The desire for public responsibility for education in its earliest history was small, with the belief that the individual was responsible for his own education. Schools held in private residences developed, but they were not free and were not compulsory, so most children received their education at home.

As public responsibility for education developed in colonial times, it took divergent directions in the North and South. In New England colonies, great emphasis was placed on universal literacy. Massachusetts towns of 50 families or more were required to appoint a teacher to instruct reading and writing. In the South, plantation owners generally hired tutors to educate their children privately, and, if they were enlightened, sometimes built classrooms for their slaves.

Pioneers, who carried this concern for public education into the



Columbus, Ohio's first high school was built in 1853. (Etching taken from: Studer, Jacob. COLUMBUS, OHIO: ITS HISTORY, RESOURCES, AND PROGRESS, 1873.)

Northwest Territory, built one-room schoolhouses as some of their first permanent structures. Public primary and secondary schools in the Middle Colonies were often single-room structures.¹

A transitional period in education developed about the time of the Revolutionary War, placing more emphasis on public education. The efforts of Benjamin Franklin and Thomas Jefferson increased the emphasis of the states on public education, and broadened the subject matter taught. And the Northwest Ordinance of 1785 set aside one section of every township for public education in the newly developing Northwest Territory.

The nineteenth century saw the development of an American educational system. America realized that the needs of democracy required literate citizens, and therefore, education for citizenship grew. By 1840, elementary schools were offering free education. These public schools began by offering reading and writing. Gradually, courses were added, and the schools became graded. More children began attending schools under the free public system and consequently, more schools were needed. In urban areas, where this problem was compounded by a growing population, multi-room schools were built. The American high school was created to house secondary education, and by 1860 several hundred high schools stood out as landmarks of community dedication to education.

From 1890 to World War II, the record of educational history is mainly one of growth. "By 1900 there were more than 6000 high schools in America serving 15 million children. Rapid growth continued, and by the 1920's half of all children were in school. This necessitated the building of new classroom space, theaters, auditoriums, swimming pools, playgrounds, and other facilities, a task accomplished in part through the federal construction projects of the Works Projects Administration in the 1930's."²

The schools of the 1930's and 1940's expressed a campaign to eliminate frills from the schoolhouse. The school "challenge" was to produce a low-cost, low-maintenance space that was scaled to children and created a learning environment.

A challenge to the compact, conventional, two-story schoolhouse arose in the late 1940's from the "California school", which provided the necessary individual spaces for the expanding educational system,

at a lower cost. These schools, often referred to as "finger plan" or "campus plan" buildings, became the common design for the 1950's.

As a further step in the interest of economy and an improved learning environment, the classroom underwent investigation to develop the right balance of indirect north light and warm south light through the development of clear glass, glass block, skylights, baffles, and louvers. The 1950's also saw the transformation of schools in the area of auxiliary facilities. School cafeterias and kitchens were studied, spawning the "cafetorium" or all-purpose room. And new approaches to physical education facilities appeared with President Kennedy's call for physical fitness programs in the 1960's.³

Innovative new designs of the 1960's reflected new construction systems and new teaching methods, leading to the "open plan" school. These schools utilized more open, flexible teaching spaces, than the earlier individual, compartmentalized classroom buildings.

Classrooms of the 1970's have become totally flexible areas within a single "universal" space, a drastic change from the schoolhouse forty years earlier, and distantly representative of the one-room schoolhouse of over one hundred years ago.

*The main historical facts in this chapter were taken from: Edward J. Power, MAIN CURRENTS IN THE HISTORY OF EDUCATION, pp. 535-583.

Classification of School Buildings

The development of the school building can be traced by examining the physical characteristics of the individual structures. Each phase of school development generated changes in the design of the school buildings. The ease with which school buildings lend themselves to conversion, and the type of conversion for which they are most suitable, depends to a great extent upon their individual characteristics.

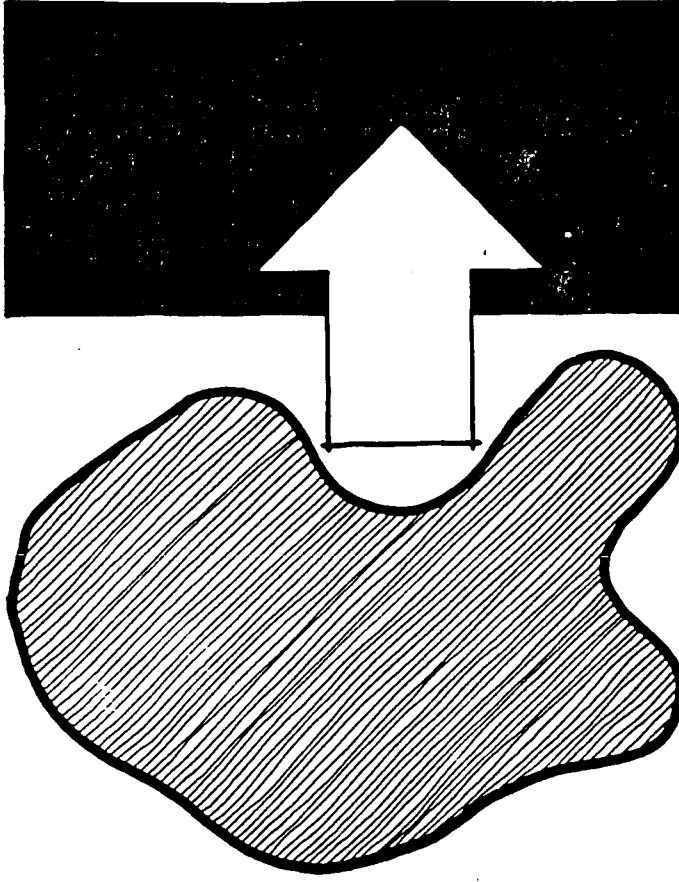
The classifications that follow represent a general categorization of school buildings into distinct types. Physical characteristics which vary from one classification to another are:

- floor plan and massing
- building size and arrangement
- construction type, materials and techniques
- fenestration
- architectural details
- age of building

Architectural style and the precise age of a building are not over-emphasized here due to regional variations. For example, due to the earlier development of Cincinnati, Ohio, schools in that city tended to precede those in Columbus, Ohio, by approximately ten years.

The examples cited in the following classifications are all drawn from the Columbus (Ohio) City School System. This system was chosen for its wide cross-section of buildings and the availability of information to the authors. Though some regional variations will exist, the buildings depicted are representative of those found in countless communities across this country.

The characteristics listed for each classification are typical, however, regional exceptions will exist (dates are specific to Columbus, Ohio). These characteristics should be used as general guidelines in classifying a building, but as with any system of architectural categorization, they cannot be used as hard and fast rules in every case.



Characteristics

Classification

Though individual characteristics of various groups of schools vary from building to building, there are certain reoccurring features which allow school buildings to be placed in a structured classification system.

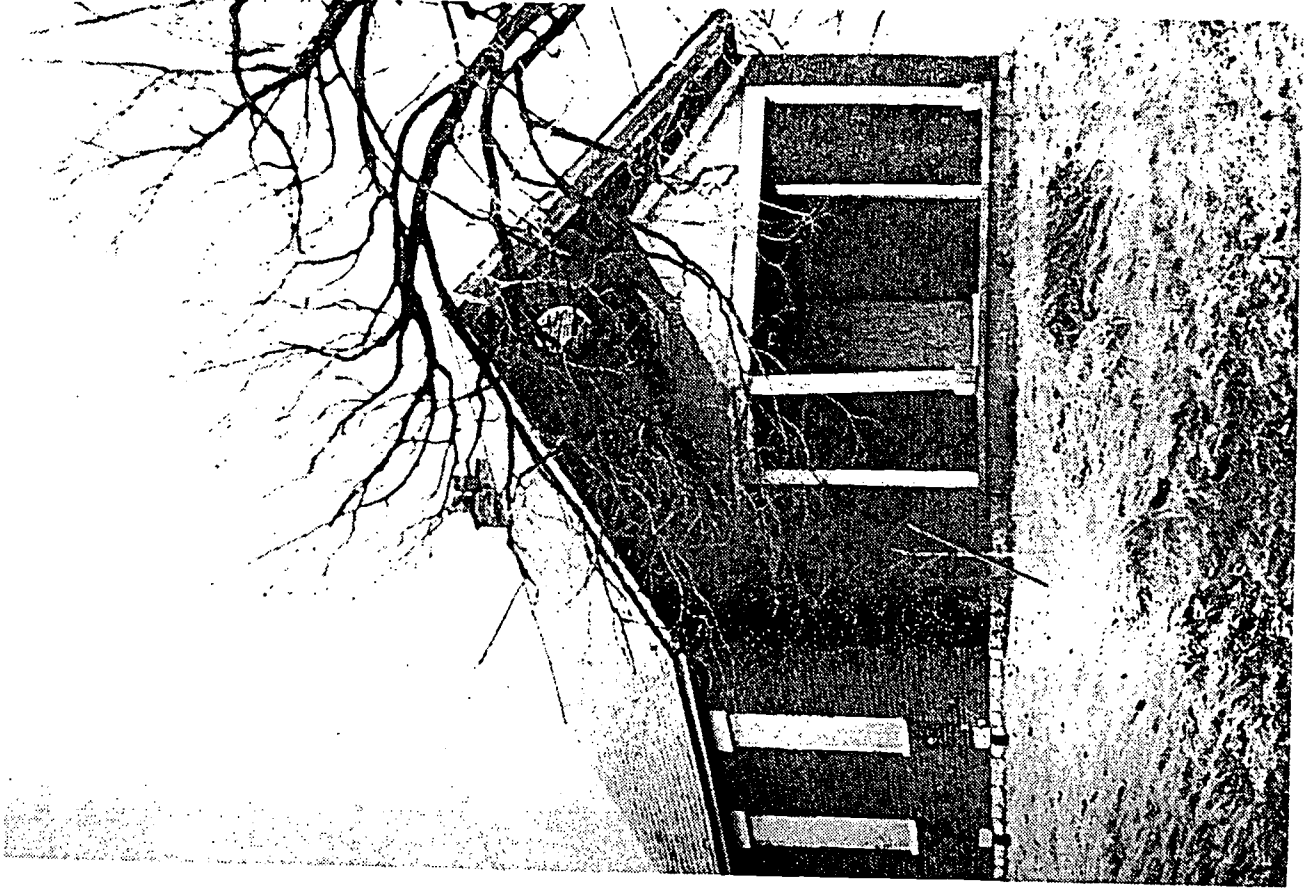
Type A

General Description

Representing educational facilities from the earliest stages of development until the 1840's is the single-room schoolhouse. Built of either wood frame or masonry construction, they are one story in height, with wood double-hung windows and a gable roof. The few remaining structures are usually located in the suburbs or rural areas -- the growth in the downtowns has caused many of the early school buildings to be demolished. Remaining structures today are rarely used for educational purposes and normally have survived only because they have been converted to other uses such as houses and commercial establishments.

Physical Characteristics

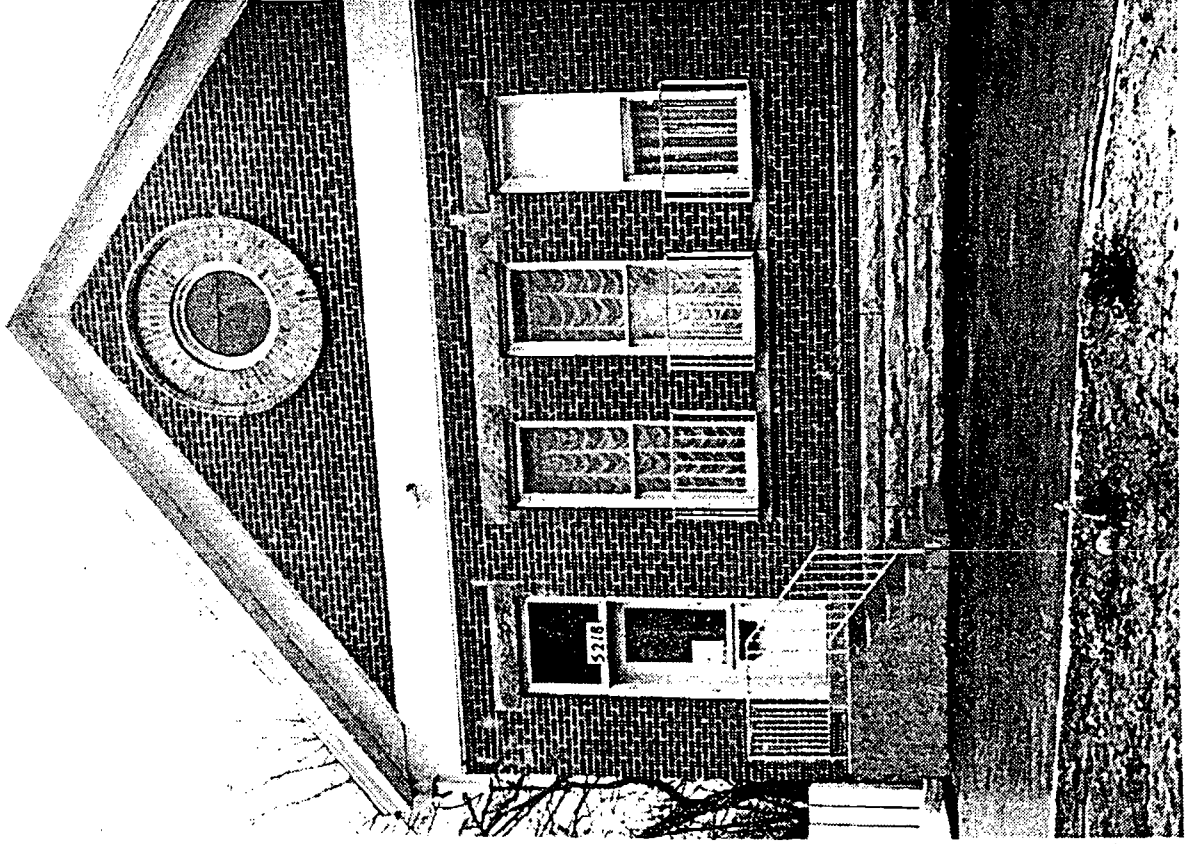
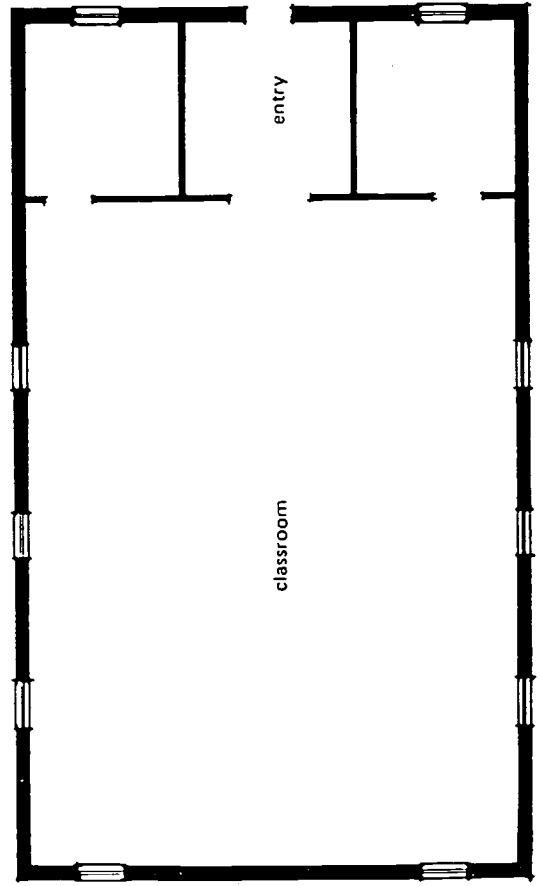
- rectangular plan
- masonry or wood bearing wall construction
- single story
- gable roof
- wood double-hung windows



One Room Schoolhouse, Route 23, Franklin County



One Room Schoolhouse, Schrock Road, Franklin County

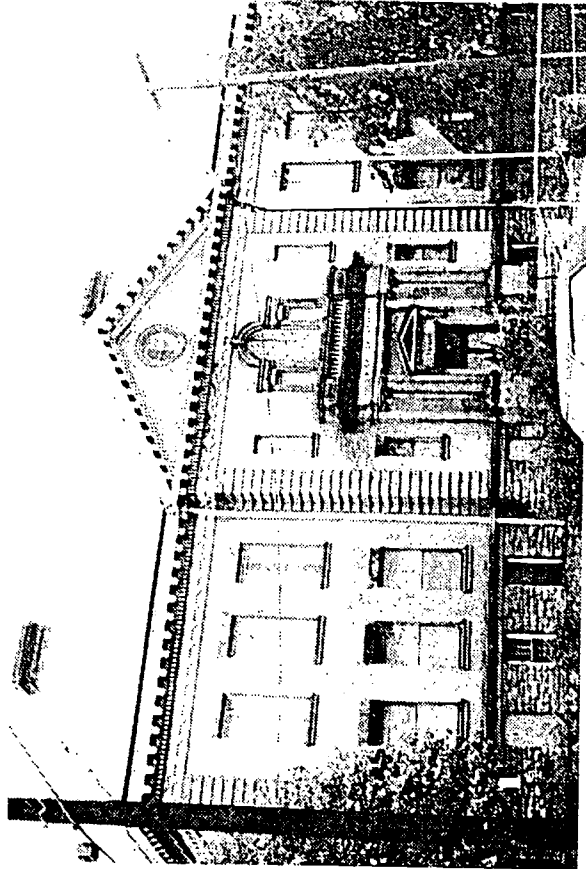


One Room Schoolhouse, North High Street, Columbus, Ohio

Type B

General Description

Buildings in this classification were commonly built during the late 1840's to 1900, and represent the consolidation of many independent one-room schools into larger, more organized public facilities. These buildings usually exhibit Italianate or Georgian stylistic influences. They typically are two or three stories in height with a basement, and have an intersecting gable roof or pediment identifying the main entrance of the building. Wood double-hung windows are mounted in individual openings usually adorned with hoodmolds, arches, or lintels. They are found in inner city neighborhoods, where they are often community landmarks.



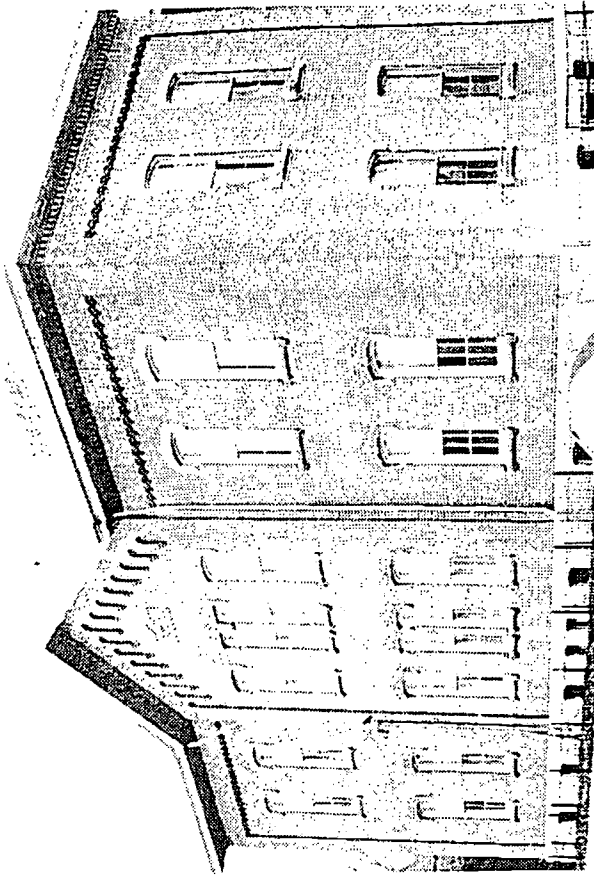
Michigan School, Columbus, Ohio — 1904



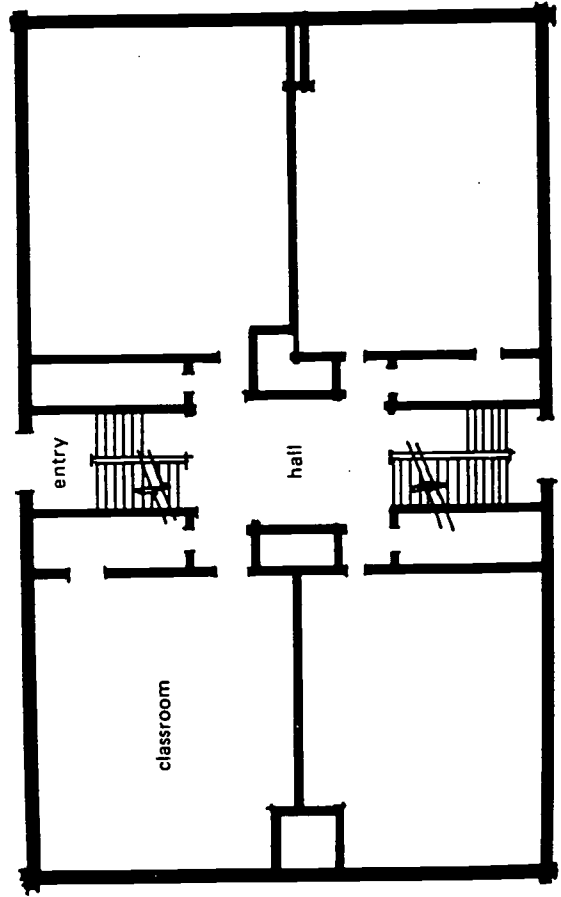
Shepard School, Columbus, Ohio — 1906

Physical Characteristics

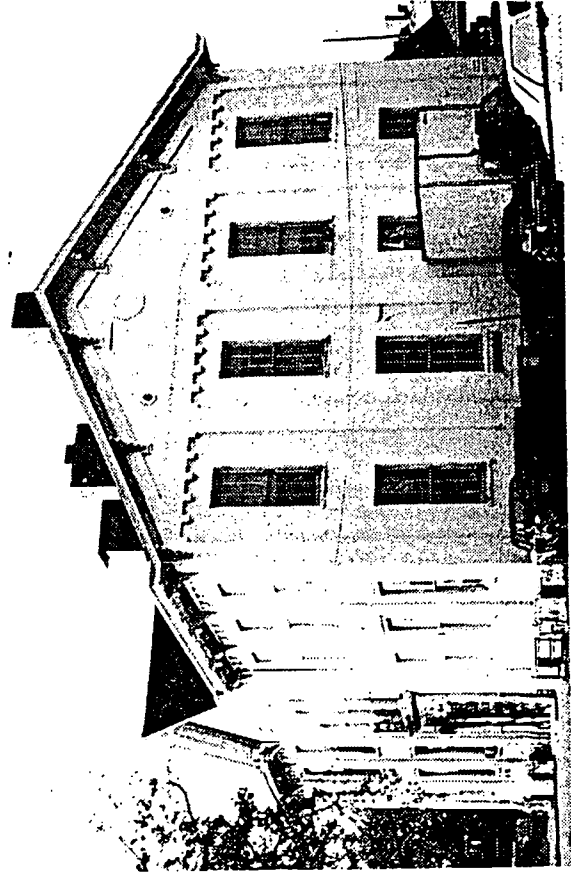
- rectangular in plan
- masonry bearing wall construction
- wood floor construction (stairwells and corridor often replaced with concrete)
- two to three stories
- gable roof with pediment or intersecting gable above main entrance
- wood double-hung windows
- high ceilings
- central circulation space with surrounding classrooms
- plaster interior partitions on wood lath
- large attic area
- basement



First Avenue School, Columbus, Ohio — 1873



Third Street School, Columbus, Ohio — 1864

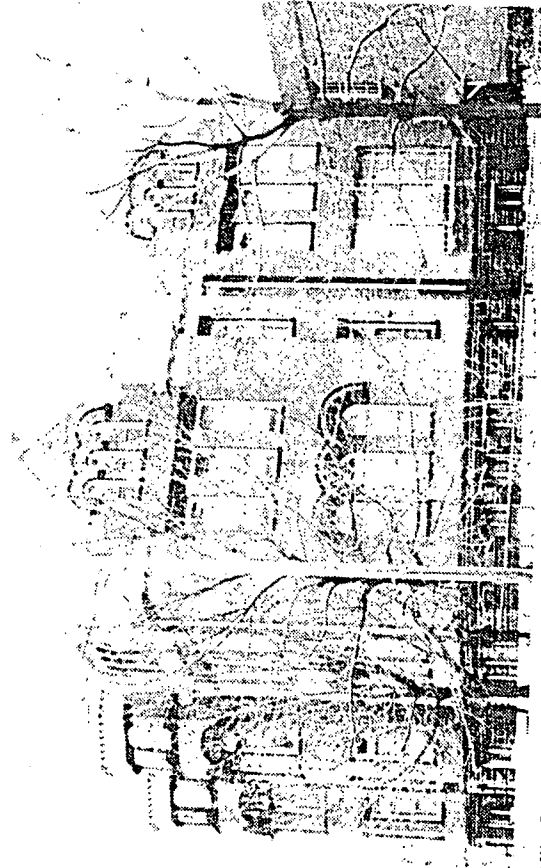


Third Street School, Columbus, Ohio — 1864

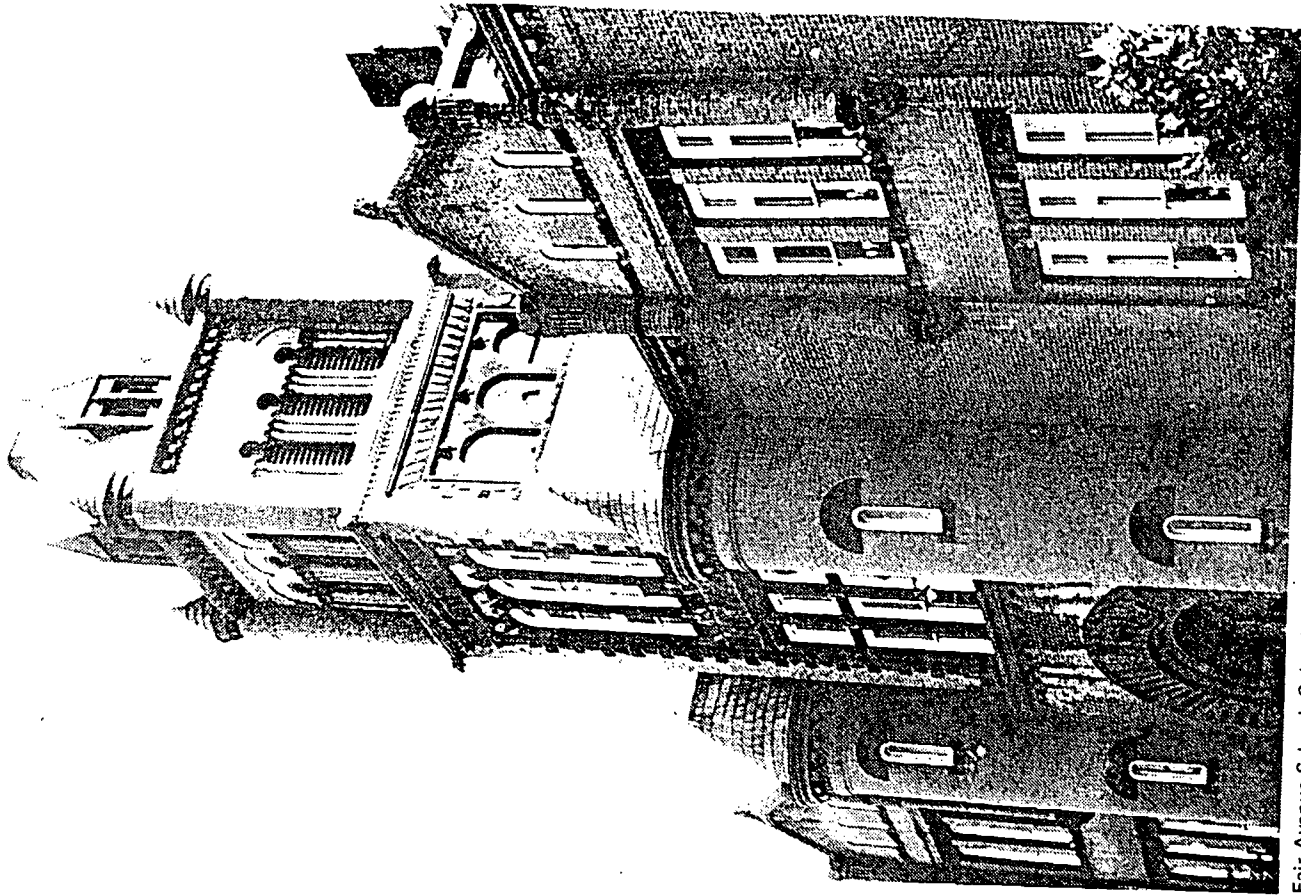
Type C

General Description

Architectural features of the buildings in this classification often express Romanesque or Italianate influences. These schools are typically two or three stories in height with steep pitched hip roofs. Wall dormers are also sometimes present. Wood double-hung windows are used in individual openings, often grouped by continuous hoodmolds. Towers or pediments are frequently used to emphasize the main entrance to the building. Constructed from 1890 to 1920, these buildings now stand in older, well-established neighborhoods — monuments to the rapid growth of many towns around the turn of the century.



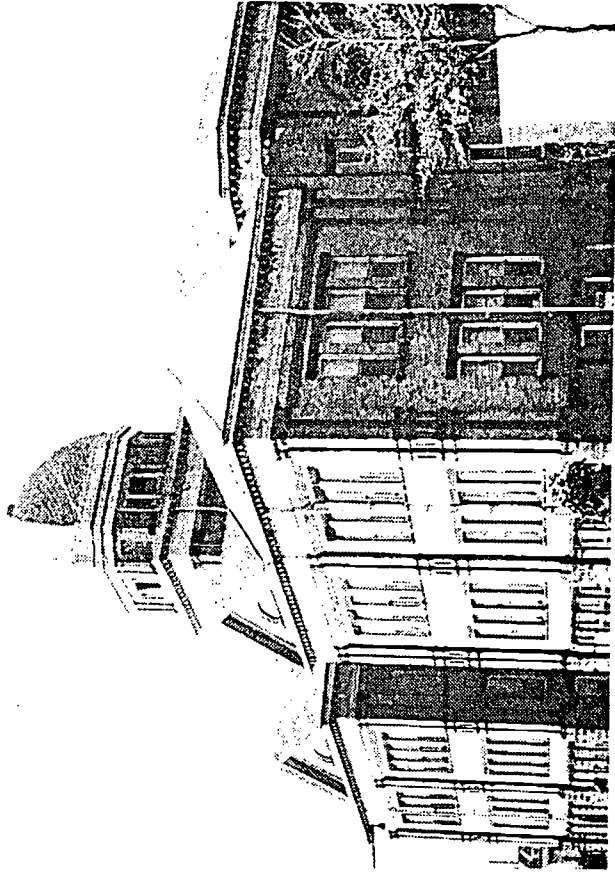
Milo School, Columbus, Ohio — 1894



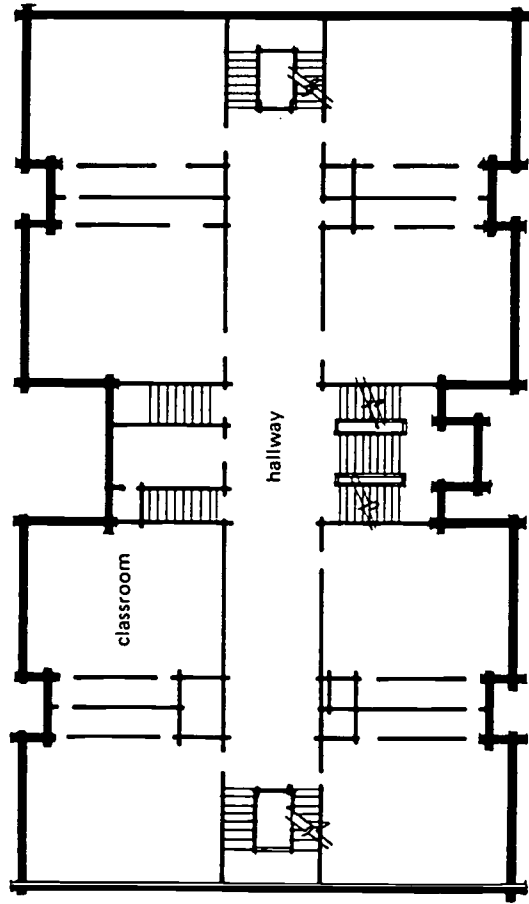
Fair Avenue School, Columbus, Ohio -- 1890

Physical Characteristics

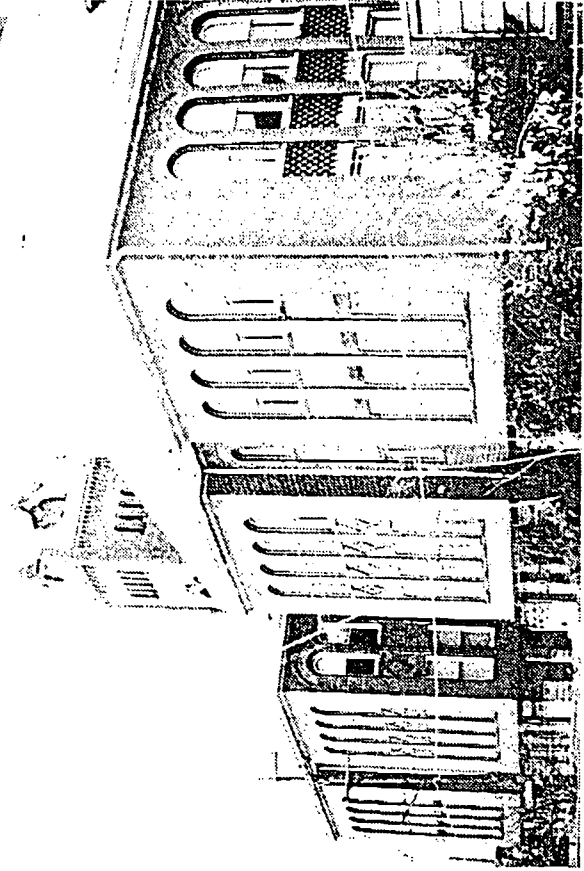
- larger, more rectangular plan than type B
- masonry bearing wall construction
- wood floor construction (stairwells and sometimes corridors replaced with concrete)
- two to three stories
- steep pitched hip roof
- double-hung wood windows
- high ceilings
- T-shaped first floor circulation
- wide central corridors with stairs at either end
- plaster interior partitions on wood lath
- large attic space
- basement



Hubbard School, Columbus, Ohio — 1894



Felton School, Columbus, Ohio — 1893



Felton School, Columbus, Ohio — 1893

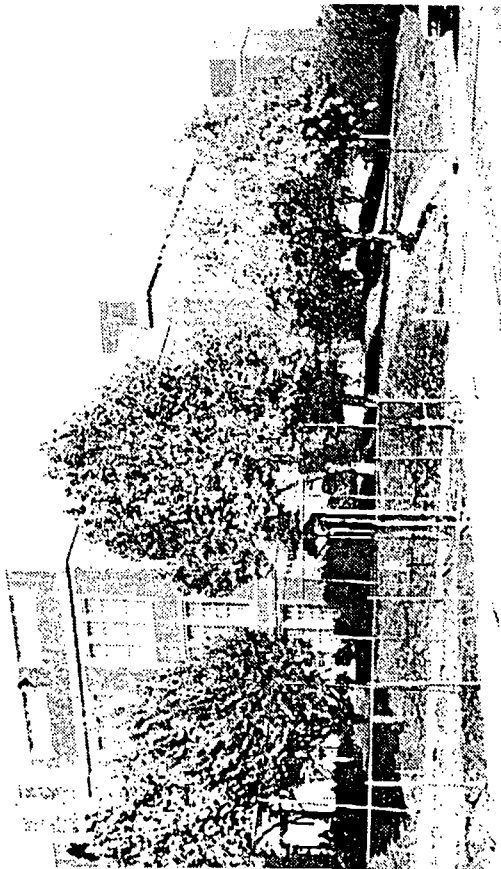
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Type D

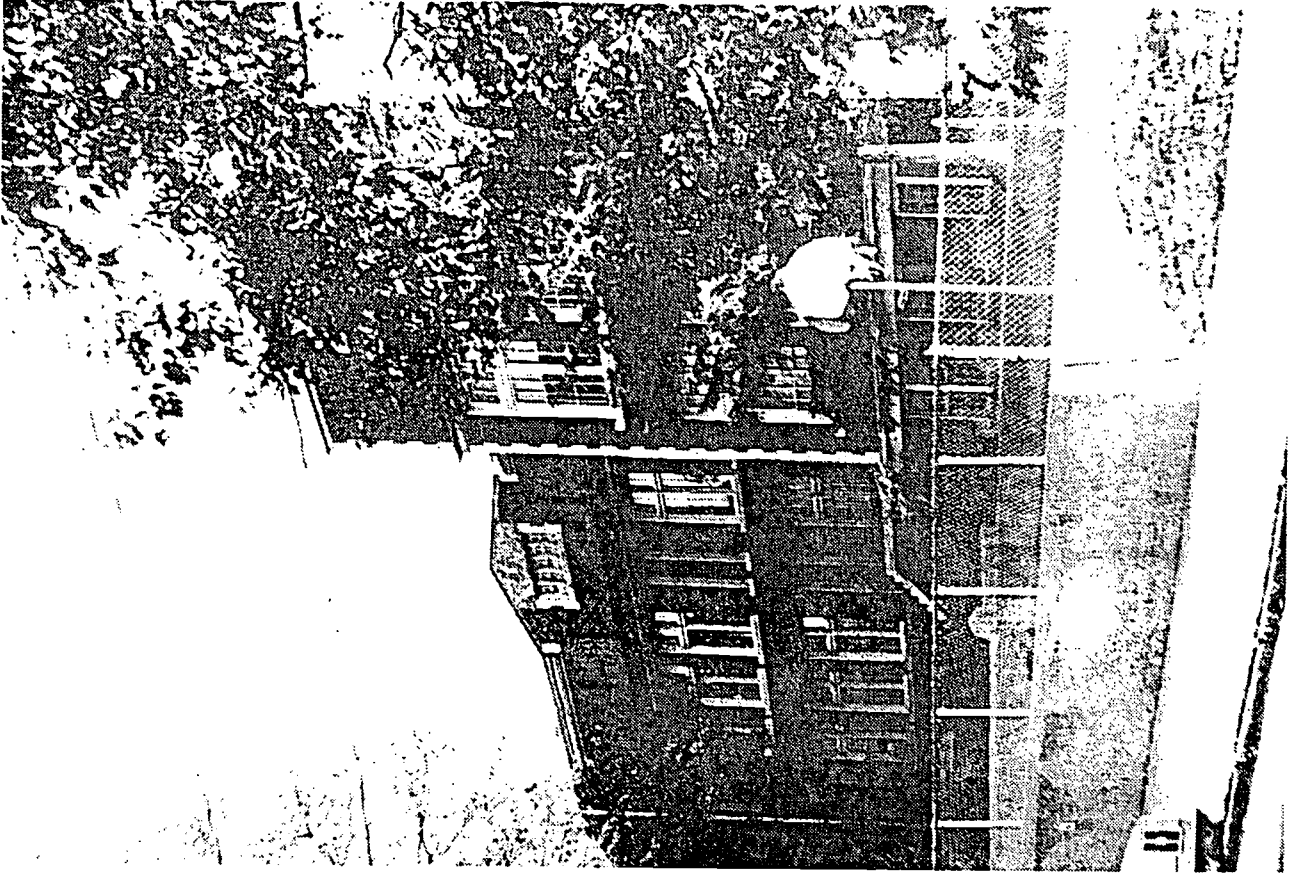
General Description

These buildings were built during a period spanning from 1910 – 1940. They are frequently located in older, well-established neighborhoods. Architecturally, buildings of this classification are characterized by Jacobethan and Renaissance Revival influences on one hand, and on the other by completely unadorned “industrial look” exteriors. Their symmetrical facades usually feature two main entrances and the whole building presents a much more horizontal emphasis than those which preceded them.

Both type C and D buildings are many times viewed as liabilities by school officials, but, in fact, these buildings may possibly have the best reuse potential of any of the categories.



North High School, Columbus, Ohio — 1924



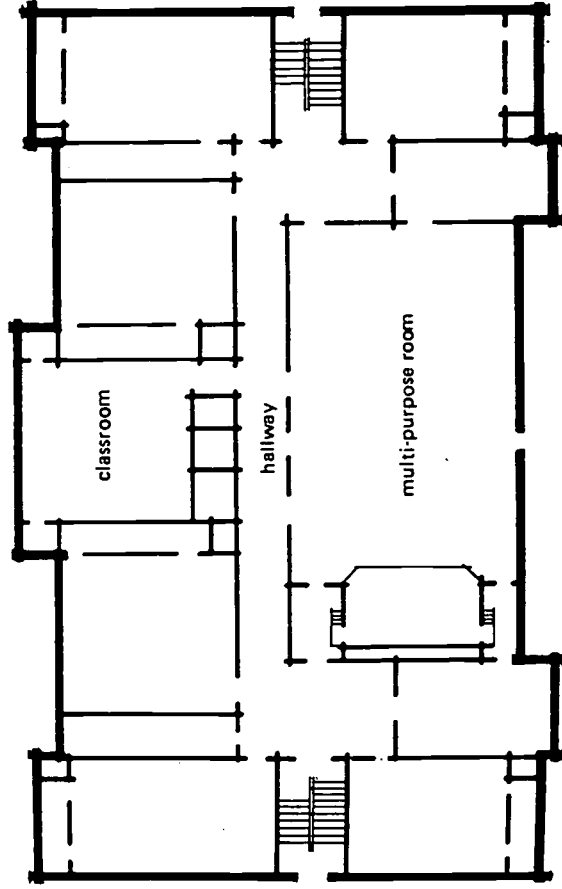
Crestview Junior High School, Columbus, Ohio — 1915

Physical Characteristics

- large rectangular plan
- masonry bearing wall construction with concrete floors
- two to three stories
- flat roof
- double-hung wood windows many times collectively grouped
- high ceilings
- wide corridors
- plaster interior finishes
- basement



Clinton School, Columbus, Ohio — 1922



Clinton School, Columbus, Ohio — 1922



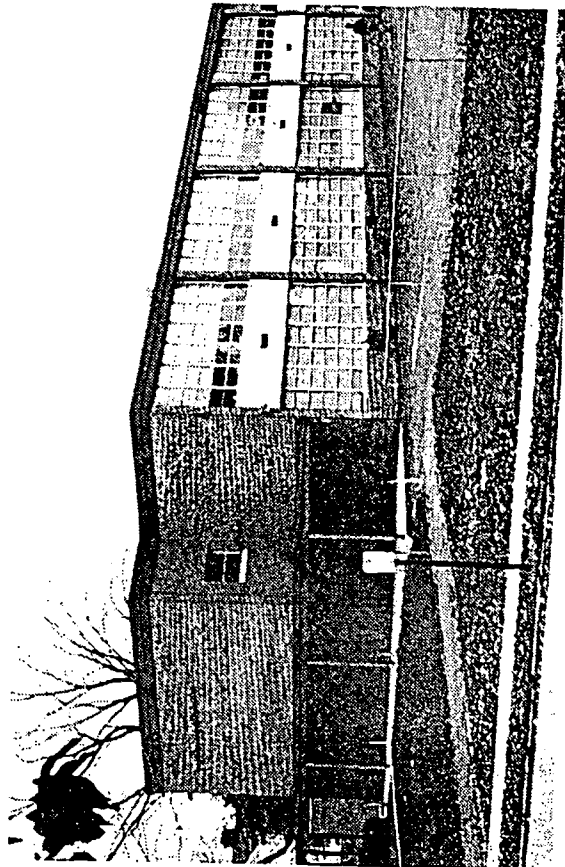
Roosevelt Junior High School, Columbus, Ohio — 1916

Type E

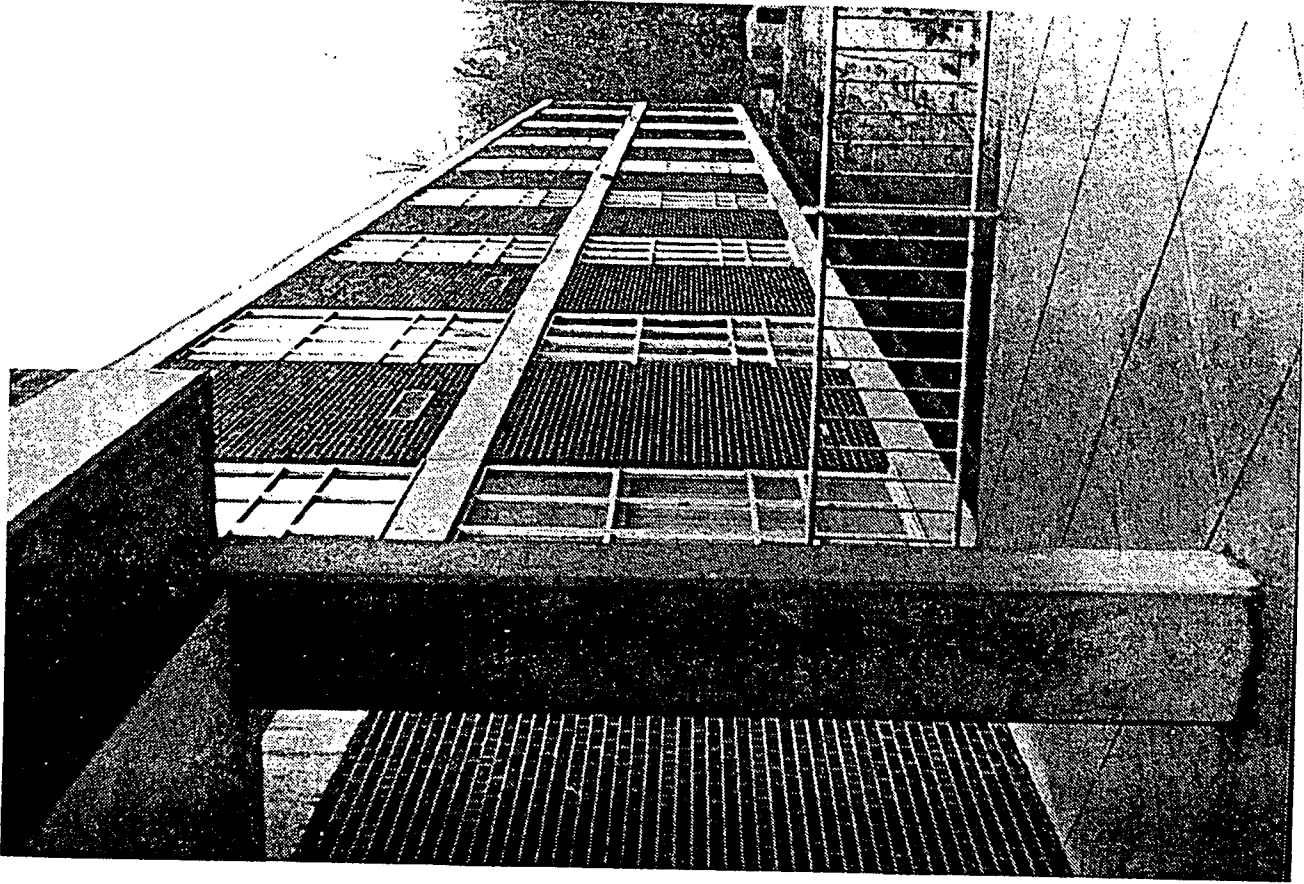
General Description

These buildings, commonly called "finger-plan" schools, are found in abundance, since they were popular during the post-war baby boom. In the rush to build enough space, many communities built a particular plan more than once. Most finger-plan schools are in suburban locations, their low horizontal classroom wings taking up a large amount of land as they snake out from the building's central circulation area. Finger-plan schools are rather austere, featuring unadorned face brick exteriors with large expanses of metal framed glass. These "window-wall" units were replaced with plexiglass later in this period to curb vandalism.

These buildings were constructed primarily during the 1950's and 1960's and represent a desire for more kinds of individualized space within the school building.



Maryland Park School, Columbus, Ohio — 1958



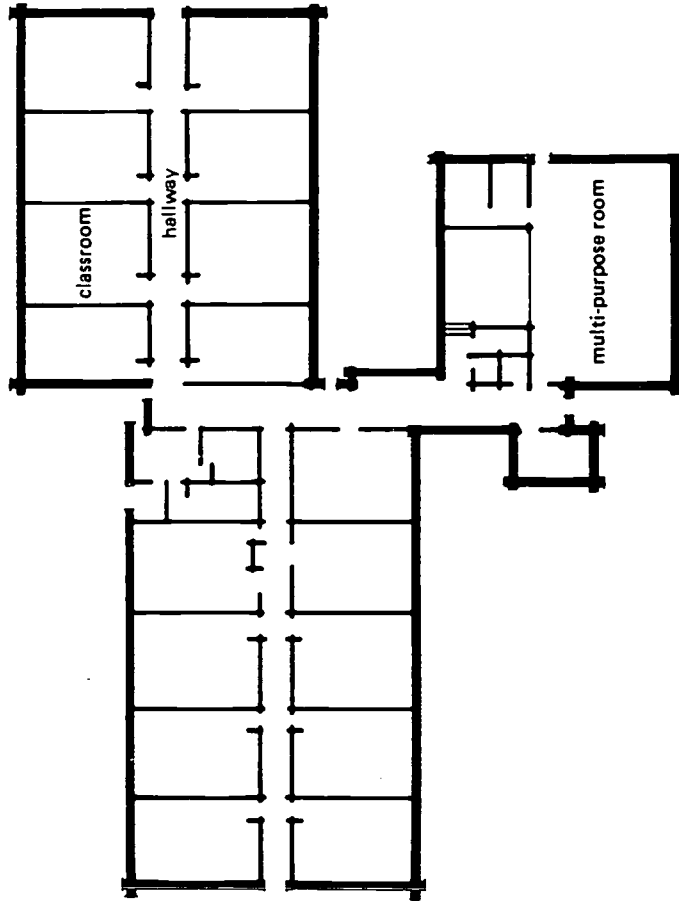
Calumet School, Columbus, Ohio — 1961

Physical Characteristics

- classrooms located along narrow single or double-loaded corridors joined at a central circulation space
- construction consists of concrete block bearing walls, metal joists and deck, and concrete slab floors
- one to two floors
- flat roof
- large expanses of metal-framed window-wall
- low ceilings
- narrow corridors
- painted concrete block interiors
- most without basements



James Road School, Columbus, Ohio — 1952



Marburn School, Columbus, Ohio — 1960



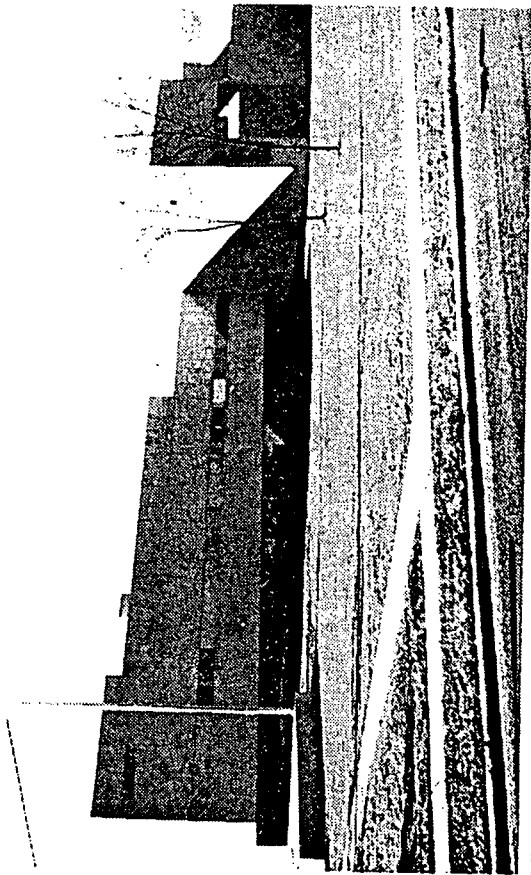
Shady Lane School, Columbus, Ohio — 1956

Type F_M

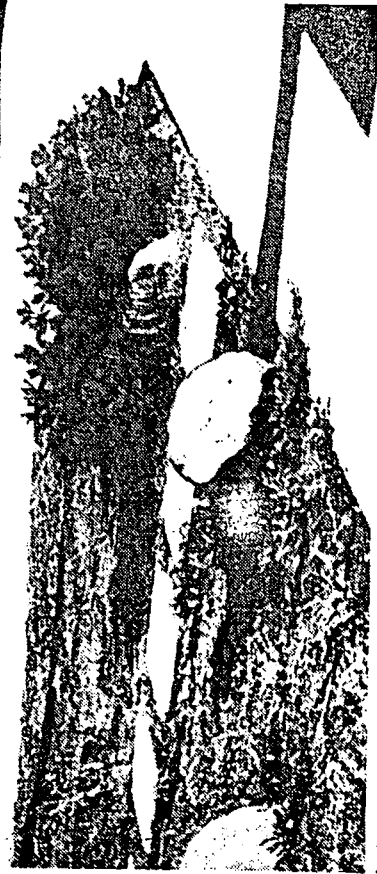
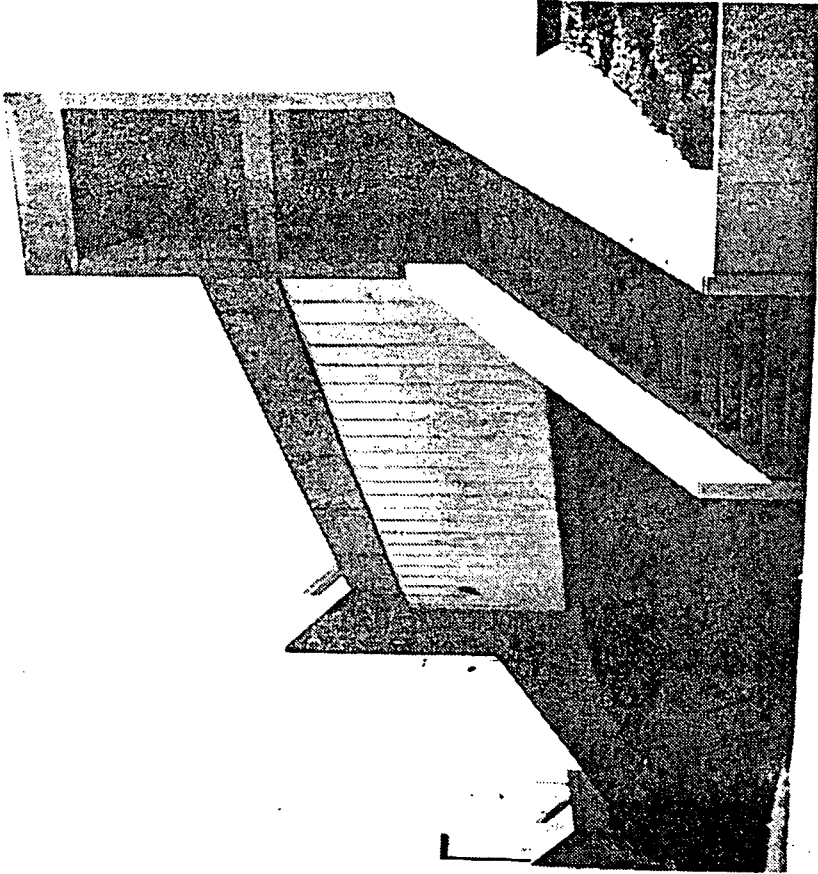
General Description

These buildings, called "open plan" schools, have been built predominantly during the 1970's. They exhibit the most individualistic architecture of any of the classifications, and feature large loosely defined flexible spaces which result from an absence of typical partitioned classroom areas. A drastically decreased glass area is characteristic, as is an increasing use of metal panels on the facades, though many are still constructed primarily of the same concrete block, metal joists and concrete slab materials used in the finger-plan schools.

Open plan schools represent a major shift in educational facility planning. Reactions by educators to this type of facility have been mixed at best, and many of these schools have had make-shift partitions put up where none were intended. The jury still seems to be out on their effectiveness.



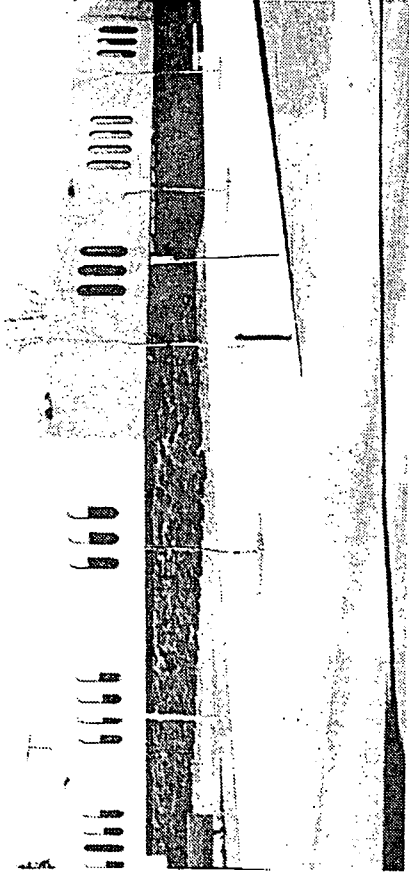
Liberty School, Columbus, Ohio — 1975



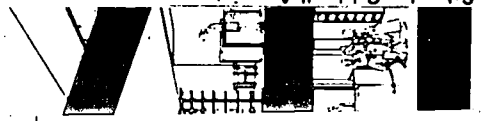
Independence Junior High School, Columbus, Ohio — 1974

Physical Characteristics

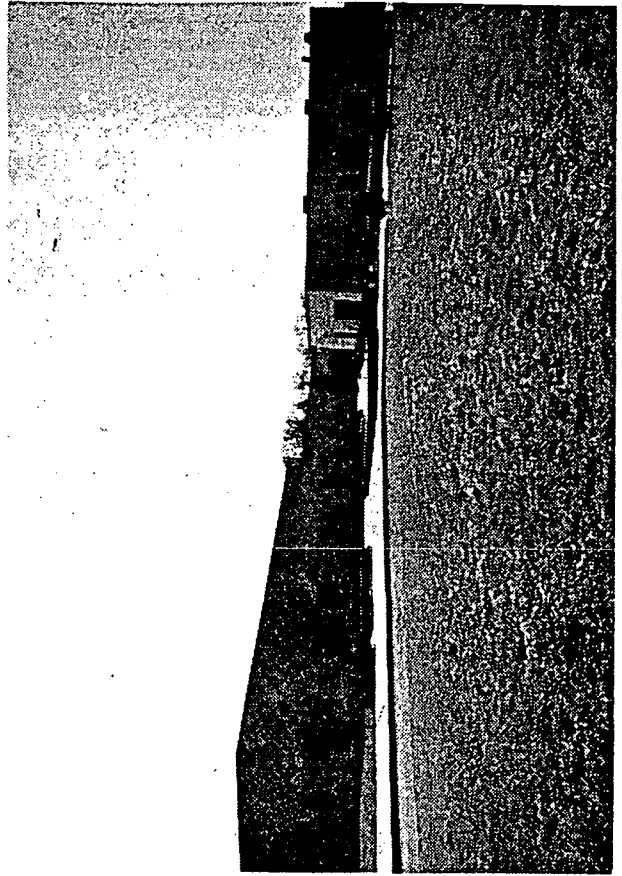
- large open plan free of load bearing walls
- truss, space frame, or post and beam construction — often exposed
- loosely defined flexible spaces
- one to two stories
- predominately flat roofs
- unique shapes and locations of windows
- high ceilings
- wide corridors — if defined
- wide use of bright colors and graphics



Franklin Junior High School, Columbus, Ohio — 1975



Mifflin High School, Columbus, Ohio — 1976



Footnotes

¹National Trust for Historic Preservation, AMERICA'S FORGOTTEN ARCHITECTURE, p. 107.

²IBID., p. 110.

³ARCHITECTURAL RECORD, "Evolution of the form of a traditional building type - the school," (April, 1977), pp. 122-127.

3

Creating new
uses

Reuse Potential

Surplus schools have a great potential for conversion to a large variety of new uses. The ease with which school buildings lend themselves to conversion and the type of conversion for which they are most suitable depend largely on the classification of the building.¹ The classification system presented earlier in this document describes the physical characteristics and identifies typical locations for each school building type. Identifying the needs of the new use and a comparison of those needs with the characteristics of each type of school will aid in providing a suitable match of building and use.

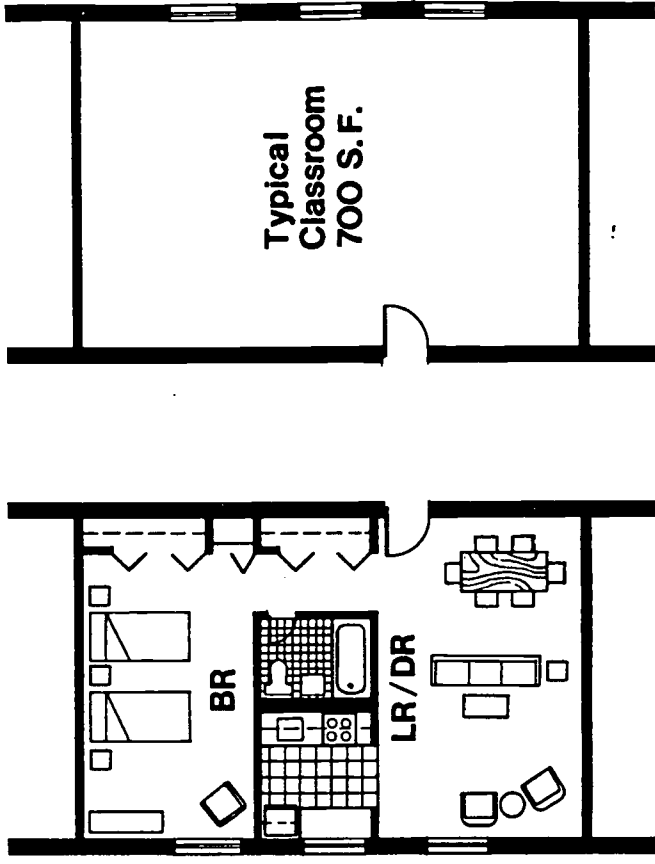
Due to the similarities in building design and materials and technology used for school building construction, the six classifications have been grouped into three categories for the purpose of examining adaptive use potential. Type A, the one room school house remains in a category by itself. Types B, C, and D are grouped together as a result of similar characteristics, as are types E and F.

There are some general characteristics which pertain to the adaptive use of all surplus school buildings. Schools were usually well constructed structures, and are often still structurally sound. Cosmetic damage, such as peeling paint and graffiti, often begins to appear after the school has been closed but is easily remedied.

Playgrounds and open areas are easily converted to parking for the new use. Schools with a large amount of open area may allow for additional property development, providing a greater return for the developer.

A major design feature in conversion to residential use is that typical classroom dimensions and size are often ideally suited for the creation of one bedroom apartments. Convenient and efficient kitchen and bath units can be installed in each classroom, allowing for a very spacious living room and bedroom.² Large closets, which are often present in older schools, can provide ample storage space, and the

apartment can be greatly enhanced by preserving hardwood floors and wood paneling when they exist.



The typical classroom converts easily to a one bedroom apartment with the installation of a kitchen/bath core.

Type A

The one room schoolhouse offers a unique opportunity for adaptive use where a small amount of floor space is required. Extreme flexibility is available with the single room—single story interior space. Hardwood floors, plaster walls and paneling are built-in amenities providing character and style. Wood double-hung windows allow sufficient light and ventilation. The construction technique and materials used in the one room schoolhouse are simple and basic, exhibiting a familiar charm and character, and the schoolhouses' small size permits most uses under building codes.

When most one-room schoolhouses were built about 150 years ago, they were built in rural, farm settings. Those schoolhouses that still remain in rural or suburban settings are easily converted to uses compatible with the surrounding residential areas, such as private residences, stores or shops, private offices, community organization headquarters, day care centers, churches, arts and crafts centers, or banks.

Schoolhouses that were built along roads which became main arterials for growing cities have found themselves often surrounded by commercial land uses and function well as small retail or commercial establishments. Small boutique shops, private offices and small businesses of all types are some possible new uses for the single room school in an urban environment. Museums, art galleries or historical societies are also compatible uses for one room schools in both urban and rural settings, displaying the character of the times in which the building was erected.

In some situations the one-room schoolhouses' small size could prove to be a liability in an urban area. Land value could be such that the economic return available from the small floor area may not be great enough to prove financially feasible.

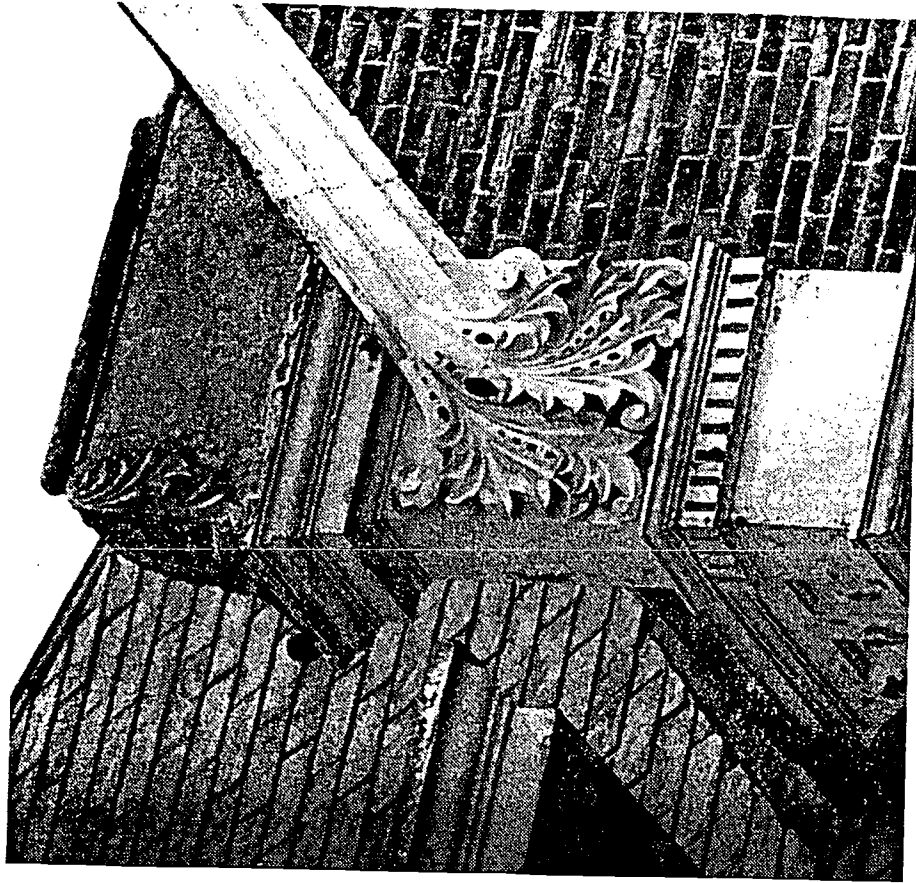
There are, however, few of the one-room schoolhouse structures remaining today. Considering the significance of these schoolhouses to the development of America and the flexibility they offer today for reuse, every possible effort should be made to see that the adaptive use potential of these structures is realized, giving the one-room schoolhouse a new lease on life.

Types B, C & D

Physical Characteristics

School buildings of these types are often the most available for adaptive use involving private sector interest. Most school systems

feel the older buildings have the least future value to the school system due to increasing physical and functional obsolescence, and consequently are first to be sold. However, for the person interested in rehabilitation of unused buildings, schools of this era contain many attractive amenities. Acquisition costs are relatively low for buildings of such size. They often contain architectural characteristics such as towers, heavy bracketed cornices, corbel tables, hoodmolds, and interior finishes not found in buildings today. Basements, attics and wide corridors can be recaptured into usable space. The relatively long structural spans allow for easy interior alterations, and



School buildings in the Type B, C, and D classifications are often enhanced by architectural details.

the unspecialized spaces and compact plans of these school buildings allow for extreme flexibility for adaptive use.

For multi-tenant use, the interior spaces of the building can be separated in a variety of ways. Each classroom can be utilized as an individual space within the building, such as an apartment, separate office space, or small shop. Combinations of adjacent classrooms provide larger usable spaces. An opening can be installed between the two classrooms, or if the structural system allows, an entire wall could be removed, as shown in the type B example on Page 40. The type C example illustrates how a large portion of a floor can be utilized as a single space, incorporating the classrooms and corridor. The stairwell at the end of the building then becomes a private entrance for that area of the building.

Part of the wide corridors can be incorporated into the classroom space, serving as a foyer, storage space, or a display area for retail uses. Corridors can also function as gathering spaces, creating small areas for common use by all tenants. In the type C building, where some stairs may not be needed, removal of the stairs would allow for additional usable floor space. Towers, which are often present at the front stairwell of type C buildings, provide an exciting amenity to the reuse of the stairwell area. Additionally, sufficient space is often available for the installation of an elevator in the central area of the building.

Auditorium spaces in type D schools have the potential for functioning as a single, large space (such as a central activity area for a community center or a residential complex) which can utilize the stage area, or can be divided into smaller spaces by installing an intermediate floor at the second level. The type D school building also provides opportunities for easy vertical separation of users. Security can be provided at each floor where the stairwell meets the hallway, allowing vertical separation without interruption of the activity on the floor. Placing public uses such as retail, museums or gallery space, or community organizations on the lower level, with residential or office space above, is an example of vertical separation in this type of school building. The type D building, usually

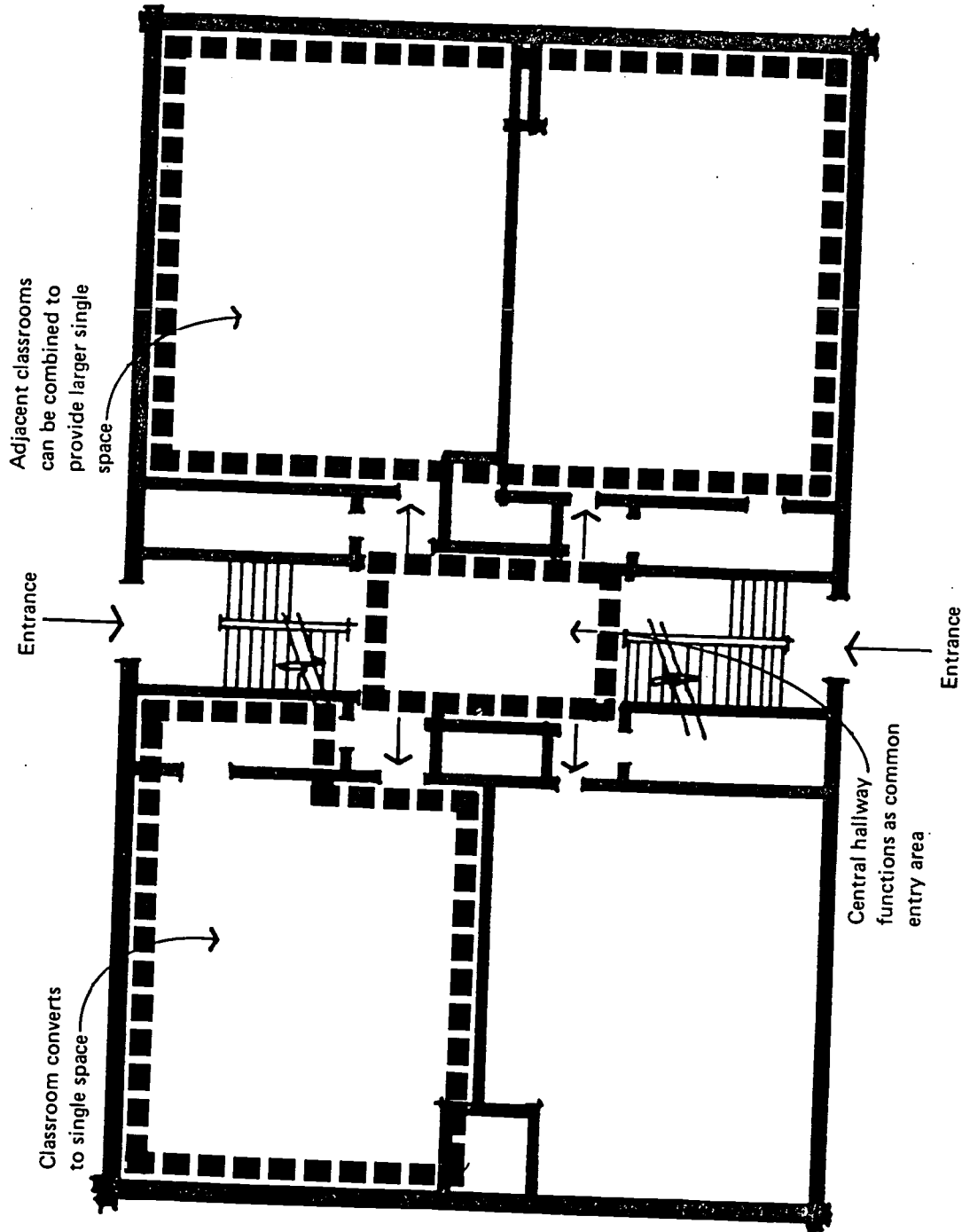
the largest of the category, is often large enough to support retail uses such as a small shopping mall on the first floor.

Location Characteristics

Many of the type B, C, & D schools are located on major roads near the downtown area of the city, a result of the city's past growth. Older neighborhoods which were residential when the schools were built, have taken on commercial uses. Public transportation, shopping districts, and services such as post offices, libraries, town halls, and professional offices are usually within walking distance of the school, a consideration which is a high priority in housing for the elderly. The centralized location of these schools also increases the viability of a new use which requires easy accessibility for the public, such as community activity centers, office space, retail uses, arts and crafts centers, civic center and town hall facilities, and alternative education program facilities.

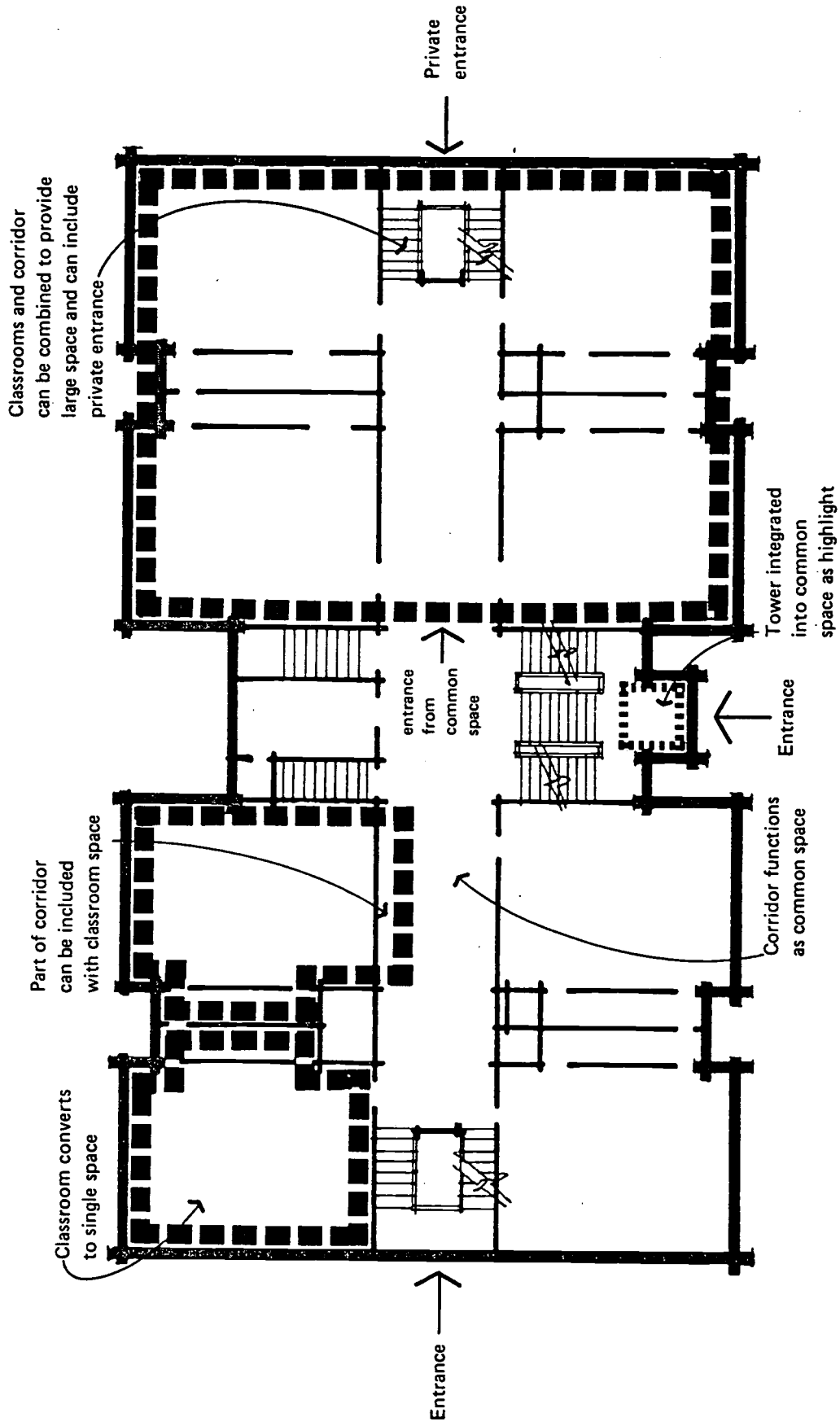
Neighborhood deterioration is one possible disadvantage of schools in this category. Although the school building may be in sufficient physical condition for reuse, no incentives may exist in the surrounding area for a new use in the building. However, the school may house facilities which can aid the neighborhood, such as a community center, vocational training center, a halfway house, or drug rehabilitation center in the case of residential neighborhoods. In urban areas that are primarily non-residential, adapting schools for new uses such as light industry or warehousing may initiate redevelopment interest in the area.

This category of schools exhibits a great deal of character and potential through their physical and locational characteristics, which, combined with their availability can result in successful and exciting adaptive use projects.



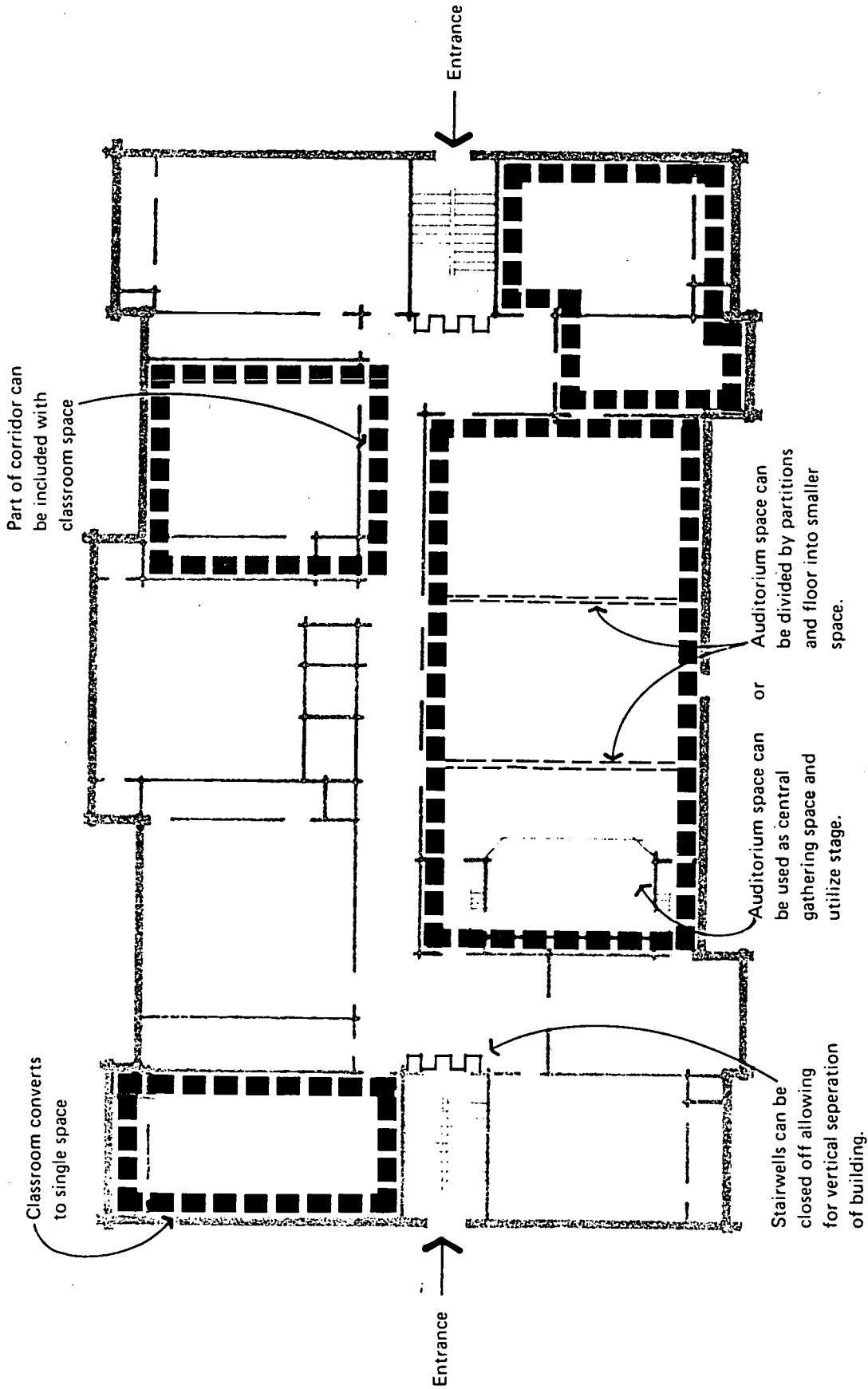
Type B

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Type C

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Type D

Types E&F

Physical Characteristics

The majority of the surplus schools available for reuse in this category are of the type E classification. However, since most of these school buildings are relatively new, most school systems are hesitant to put them up for sale as quickly as the type B, C or D buildings, feeling that the type E buildings will be of greater value to the school system should student enrollment increases require their return to service. Type F schools usually have been built as a response to recent growth patterns of the city, and therefore usually are not located in areas where they would be subject to closing due to declining enrollments.

Schools in this category offer specialized spaces which can be of value in the reuse of the building. Classrooms for functions such as music, arts and crafts, gymnasiums and libraries are present in elementary schools, while junior and senior high schools also contain industrial arts, home economics and science classrooms. These spaces can take on similar kinds of functions in the new use, and are particularly valuable to such uses as community centers, recreation centers, alternative education facilities, and senior citizens centers.

Type E buildings typically have long classroom wings, short spans, and a great number of bearing walls. These characteristics, while decreasing the flexibility of the building in terms of space planning, offer a good opportunity for multiple tenancy. The separate classroom wings can be easily controlled from a central circulation point, allowing several separate organizations to occupy the same building. This is important to small organizations such as senior citizen or community interest groups which may not need, or be able to pay for, a whole building.

As with type B, C & D buildings, each classroom can be utilized as an individual space such as an office or apartment. Depending upon

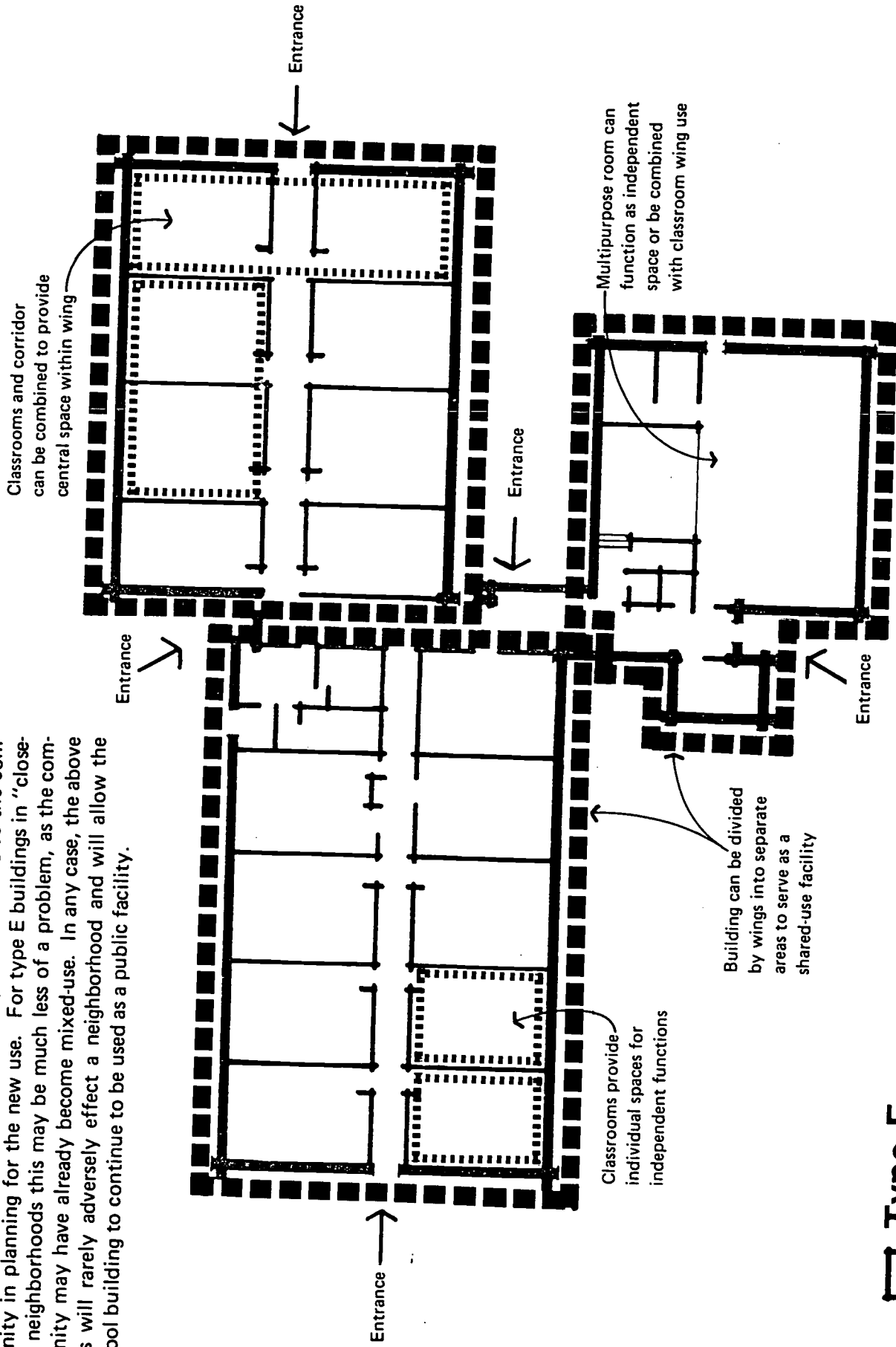
the direction of the roof joist spans, either the wall between adjacent classrooms, or the wall adjoining the corridor could be removed to create larger spaces. For simplicity of construction and durability, these non-load-bearing walls were most frequently constructed of concrete block and will require more work to remove than wood stud partitions. In any case, these enlarged spaces will provide more flexibility in design, and when created at the entrance to a classroom wing, could serve as a lobby or waiting area for such uses as health clinics, day care centers, or offices.

Type E buildings have several advantageous characteristics: ceilings often will already be at the desired height; auditoriums and gymnasiums can be converted to multipurpose spaces, or theaters. If sufficient height exists, intermediate floors can be added to inexpensively increase rentable areas. Many type E buildings are only one floor and will present few accessibility problems; and being relatively new, will often be in satisfactory physical shape. As more and more of the buildings become available, communities need to closely examine their potential for reuse.

Location Characteristics

Many type E school buildings are located within suburban residential areas, a direct product of urban sprawl during the 50's and 60's. This restricts, somewhat, their conversion to uses which would create a high volume of traffic which would disturb the surrounding residents. However, they present an excellent opportunity for conversion to uses which will offer a direct service to the surrounding community. Health care or clinic facilities, branch libraries, banks, day care centers, police and community service programs, community centers, and even public service branches of local government would find the space offered by these buildings easily adaptable to their requirements. Conversion to residential or office use would require more alteration but would again cause little disruption to the neighborhood. Again, conversion to multiple tenancy may allow several of these uses to occupy the same building simultaneously.

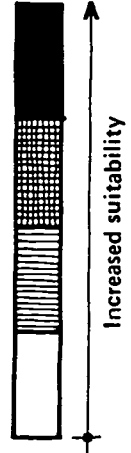
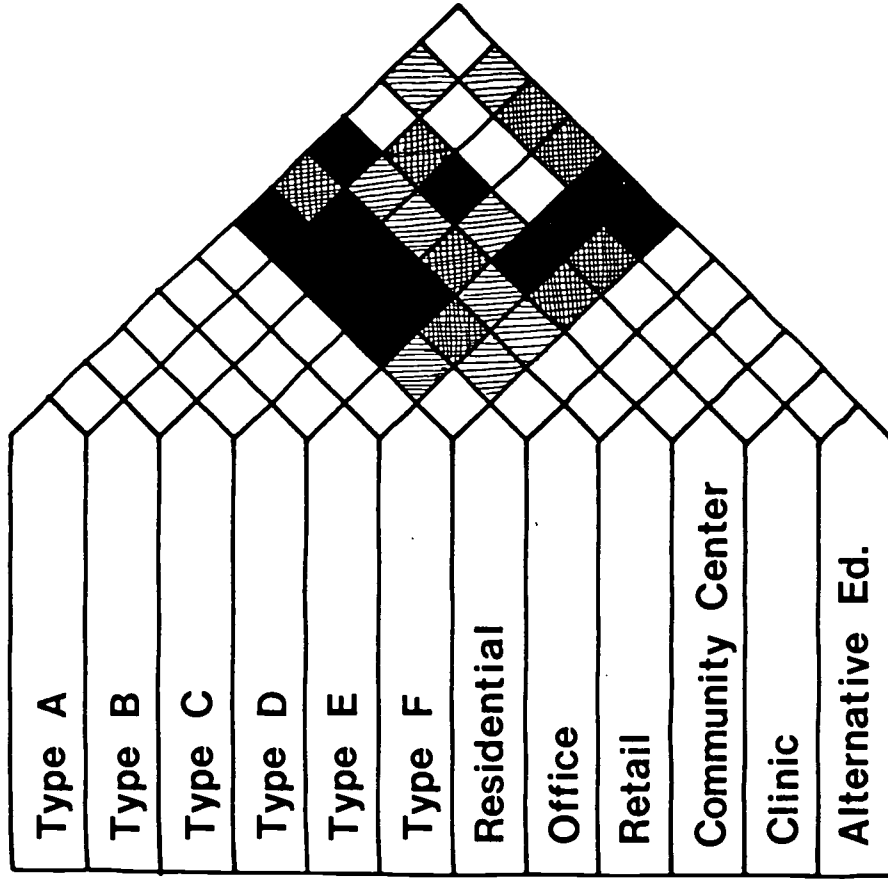
Since most suburban residential areas look with suspicion on intended new uses, it will be particularly important to involve the community in planning for the new use. For type E buildings in "close-in" neighborhoods this may be much less of a problem, as the community may have already become mixed-use. In any case, the above uses will rarely adversely effect a neighborhood and will allow the school building to continue to be used as a public facility.



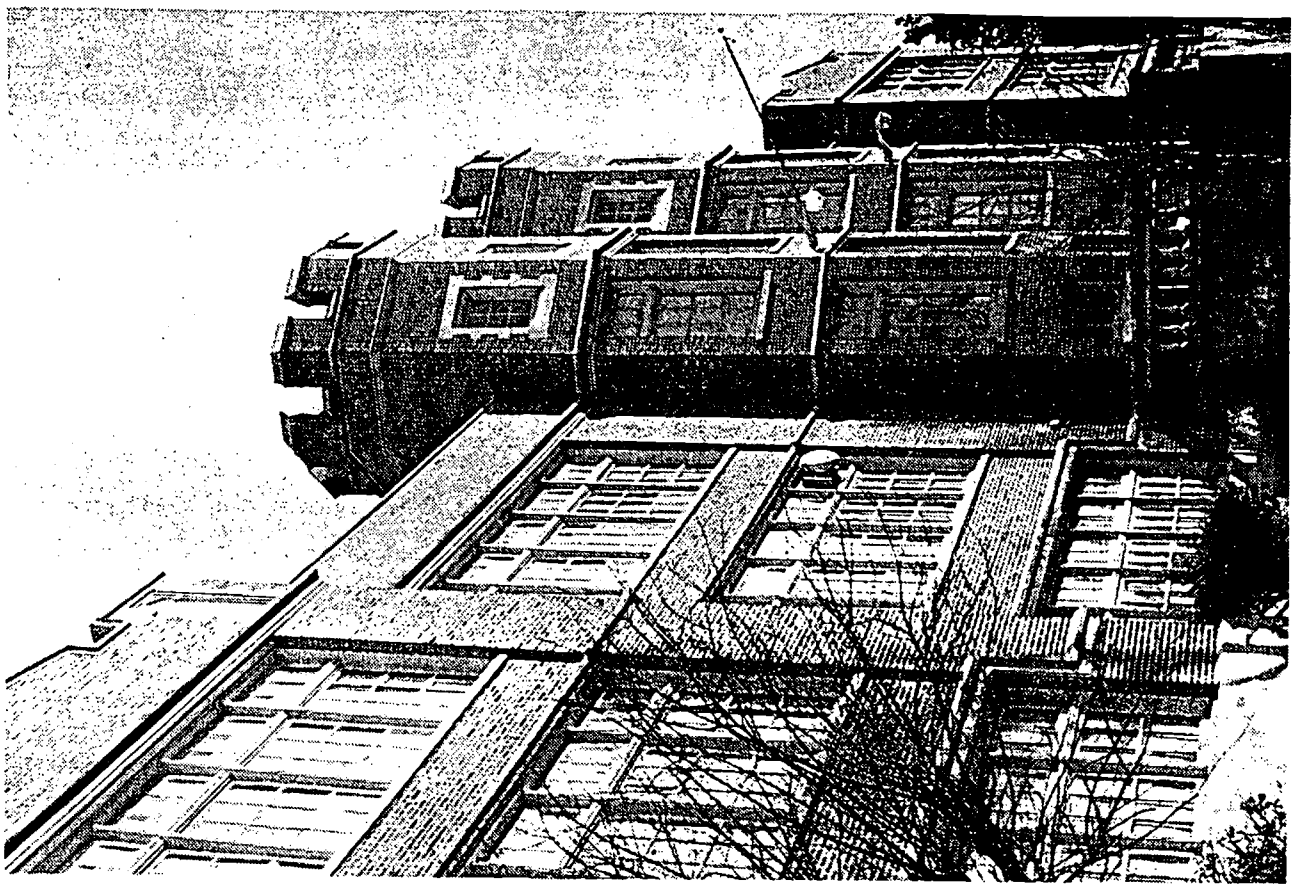
Type E

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Reuse Potential Matrix



The reuse potential of a school depends upon its age, configuration, method of construction, location and condition, among other determinates. This matrix attempts to show, in a general sense, the suitability of different new contemporary uses for each classification of building, based on many of the above factors.



Roosevelt Junior High School, Columbus, Ohio - 1916

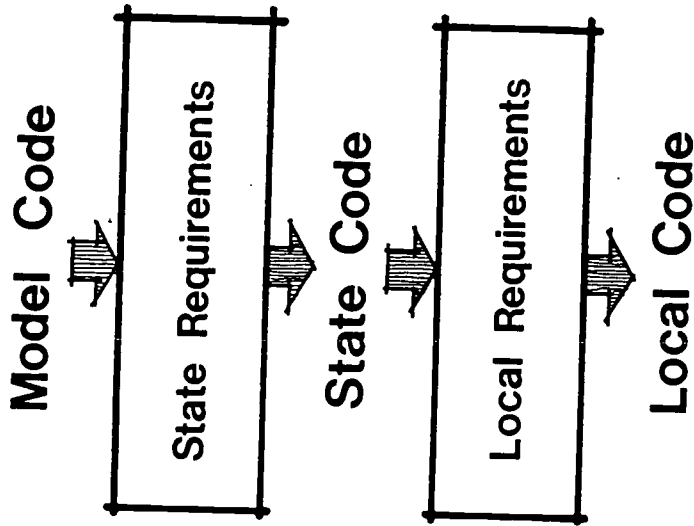
Building Codes

Building codes are regulations which govern the construction and design of buildings for the purpose of providing a minimum level of safety to the general public from potential hazards and dangers of the built environment. Codes are administered at the local and state level and apply to buildings designed for public occupancy.

Building codes have become more restrictive than codes from earlier years. Research into the causes and effects of building hazards, along with newly developed construction techniques and materials, have produced changes in the code requirements, upgrading their level of safety. Buildings constructed as recently as one or two years ago do not comply with building codes of today. To avoid having to replace a building every time codes are revised, most codes state that once a building is erected and approved for the code under which it was built, the structure does not need to be brought into compliance with any subsequent changes in the codes unless: 1) the use of the building changes (as from business to residential, or from warehouse to commercial); 2) the building receives an addition of a prescribed area; 3) major renovation is done to the building; or 4) it becomes unsafe for public use. The above conditions of the building code requirements are those with which school adaptive use projects must be concerned.

Basic Code Requirements

There are four model building codes that are nationally recognized: the Basic Building Code (BOCA), the Uniform Building Code, the National Building Code, and the Southern Building Code. Each state either adopts the code which it feels addresses the general issues in the manner that state prefers, or it may write its own code. Each state may modify the model code to meet desired standards. Cities and municipalities often establish local codes which deal with particular concerns of the individual city or town. Local code requirements are usually more stringent than state codes and function as an addition to the state code requirements.



In general terms, most building codes concentrate on the following basic subjects:

- Categorization of buildings according to occupancy
- Classification of construction
- Limitations of area, height, and volume
- Requirements for exits
- Provisions for handicapped persons
- Listing of structural live loads
- Requirements for sanitary facilities
- Requirements for ventilation

Building Codes and Adaptive Use

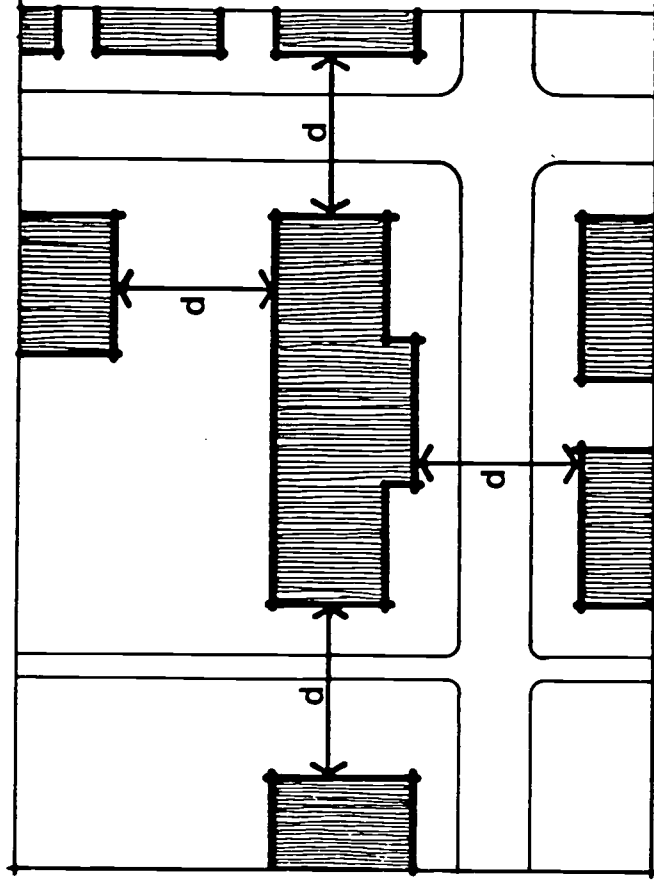
Each of the four model codes addresses the relationship of code requirements as they pertain to existing buildings. When a building

undergoes a change in occupancy, or acquires a new use, the building must be brought into compliance with the code requirements for the new use, as if it were new construction. It is therefore important to know the exact classification of the adaptive use as defined by the governing code to determine the extent of the alterations required to bring the building into compliance.

For example, in the Basic Building Code,⁴ assembly type uses (theaters, dance halls, art galleries, restaurants, etc.) that have an occupancy of fewer than fifty persons, are classified as a business use in which the egress requirements are less restrictive than the assembly classification. The occupancy design load for assembly uses can be as much as fourteen times that of a business use classification. Requirements for egress capacity would therefore be much greater for the larger occupancy load of the assembly use classification.

There is some relief available in knowing that schools have traditionally been in one of the more restrictive classifications in terms of egress, construction, and loads. For the past 30 to 40 years (classification types E and F) schools have been constructed of non-combustible materials, and very recent buildings have occasionally provided accessibility for handicapped persons.

The open area that usually surrounds a school building can be advantageous when considering new uses that have restricted area limitations in the code. The maximum allowable building area for a particular use classification is limited by the type of construction of the structure. If sufficient area is provided around the structure for fire fighting, the allowable area for the new use may be increased. For example, Michigan Avenue School (a type B classification) in Columbus, Ohio, a 1905 masonry bearing wall and wood floor structure was purchased for rehabilitation into an elderly housing complex. The school has a floor area of 12,000 square feet per floor, but residential use in this construction classification was limited to 9,600 square feet. Since the building had extensive surrounding grounds, applying the allowable increase factor of the governing code (BOCA) made the building acceptable for residential use.



A building that is separated from adjacent structures by a minimum distance (d) is eligible for an increase in the allowable floor area established by the building code (BOCA code).

Wooden floor systems are a major code problem when reusing older structures, a fact which should be recognized early in the design process. If a wooden floor building cannot be deemed acceptable due to code requirements, the floor system must be either protected or replaced. In many situations, these hardwood floors add to the character of the interior spaces. Adequate protection can sometimes be obtained by providing a fire resistant ceiling to the floor below. Sprinkler systems, though expensive, often provide adequate fire protection and also increase the allowable floor area. If removing the wooden structure is required, the finished flooring can be saved and replaced over the new structural floor. This method would be an expensive alternative, but will retain the character of the original space. Placing a topping coat of lightweight concrete directly over the original floor may be feasible, however an analysis of the structural members must first be completed to assure sufficient structural capacity. Protection of the structure from below may also be required to insure total safety.

Plumbing and sanitary systems presently in school buildings often meet code requirements when reusing the school for another public purpose. Clinics, senior centers, or community centers will often require no alteration in the number or location of restrooms. If the school was an elementary school, the fixtures may need to be raised or replaced for adult use. However, the plumbing system will not need to be changed. Adaptive use that requires extensive plumbing work, as in residential usage, will be a considerably more expensive conversion.

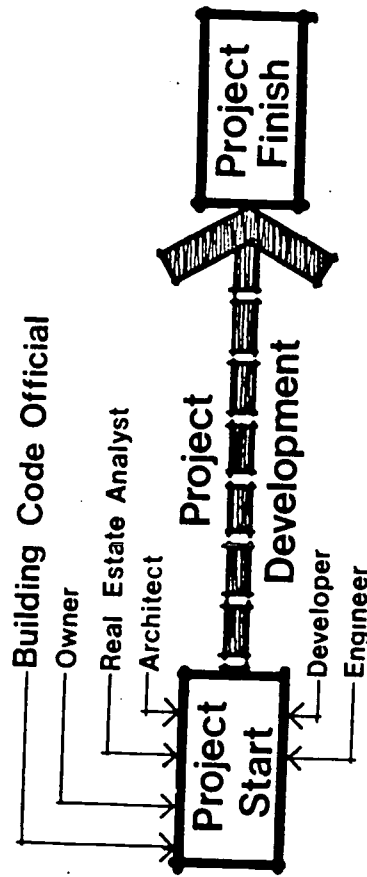
The relatively large amount of window and glass area of most schools provides necessary natural light and ventilation requirements. Older school buildings utilized large operable windows while the later model schools have incorporated fixed glazing and mechanical ventilation systems. The design of specialized classrooms in the later schools, such as home economics, chemistry, or industrial arts classrooms, may have required additional ventilation equipment that would be valuable to the new use. For example, senior centers that wish to provide facilities for arts and crafts utilizing products with extreme vapors and odors, can utilize the already existing ventilation systems in the specialized classrooms.

Usually, the most demanding change the codes require is in means of egress. In multi-level buildings, an adequate number of exits determined by the number of occupants, is necessary. If a sufficient number of stairways already exist, it may only be necessary to enclose them in proper fire-rated enclosures. Fire stairs are required to be of non-combustible construction which may necessitate the removal of existing wood stairs and replacing them with steel or concrete. If additional stairs must be added, their locations are critical, as there is a maximum code-imposed distance established for travel to the fire stairs from every part of the building. This distance can be increased, thereby decreasing the possible need for additional stairways, by installing a sprinkler system in the building. Sprinkler systems have been proven to be extremely effective in increasing the safety of a building. Building code officials (and insurance companies), look favorably upon buildings that contain sprinkler systems, and may give extra consideration for the increased

safety produced by a sprinkler system when examining other conditions of the building which are almost, but not quite, in full compliance with the code. Insurance companies prefer sprinkler systems because they also aid in minimizing property loss from fire. These systems are rather expensive to have installed, however the return on such an investment can potentially be very high.

Building Code Officials

The final decision as to whether a new use is in compliance with codes rests with the building code officials. It is extremely beneficial to involve the code official with the conversion early in the project. It would also be advisable to receive a preliminary determination as to the necessary changes required prior to the purchase or signing of a lease on the building. A poor match of use and building could result in a very expensive or possible "no-go" project. By working with the code authorities early in the process, they may be more agreeable and understanding with the reuse project and any code related problems that may arise. Some questions may come down to code interpretation — make sure the project has the code officials' support.



Historic Buildings and Building Codes

Many school buildings often exhibit sufficient characteristics for being deemed an historic structure or community landmark. Special

provisions have been made in all four of the model building codes in regard to historic buildings. The proposed restoration, renovation, or rehabilitation work is subject to approval by the code administrator. Code officials pass a judgement on whether the proposed plans are within the interests and safety of the general public and occupants of the building. The same basic code requirements previously listed must be addressed, and when dealing with historic structures, the designer must establish priorities for both the code requirements and the historically significant elements when considering the safety of the occupants and the historic property. Many code officials, however, are reluctant to approve any project which does not comply, fully, with all health and safety regulations.

Building codes are an important consideration in any building project as they are designed to provide safety to the occupants of the building. With careful inspection and consideration of the code requirements, a school reuse project will result in a safe environment for all that use it.

Design Considerations

The following guidelines are designed to help individual owners begin to formulate plans for the rehabilitation, preservation and adaptation of surplus school buildings to an efficient, contemporary use while preserving those features of the building which are important and significant to its historic, architectural and cultural value. Specific information on rehabilitation and preservation technology may be found in the SECRETARY OF THE INTERIOR'S STANDARDS FOR REHABILITATION or by writing to the Technical Preservation Services Division, National Parks Service, U.S. Department of the Interior, Washington D.C. 20240, or the appropriate State Historic Preservation Officer. Additionally, the bibliography at the end of this document contains many other sources of information. Advice should also be sought from qualified architects and other professionals skilled in the preservation and rehabilitation of buildings.

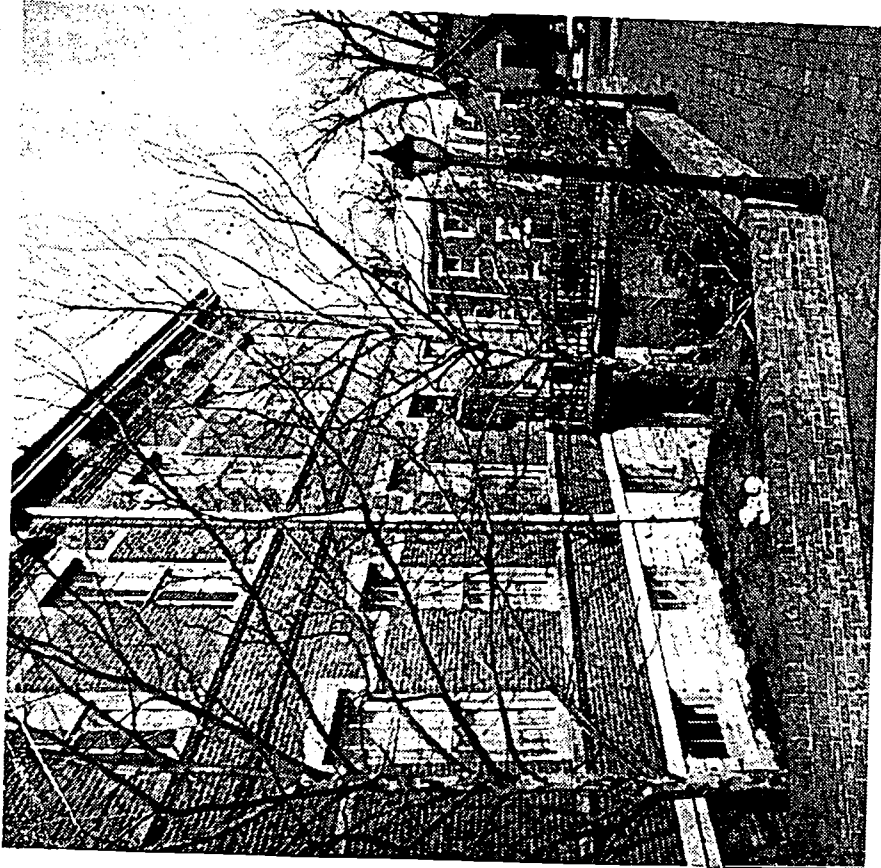
Found Space

The architect shoulders the responsibility of assisting the client in maximizing the potential rentable area of any existing building. The ratio of net to gross square footage is a key determinant of the revenue capability of a building, and can be favorably affected by the recapture of underutilized spaces. This involves identifying existing areas of school buildings such as attics, basements, or towers, which, with imagination, could become desirable spaces. Also, enclosing spaces which may already have three sides can inexpensively increase rentable area. In school buildings which have sufficiently high ceilings, new intermediate floors may sometimes be added. Mechanical equipment may be stacked either above a lowered ceiling or below a raised floor, thus reducing the amount of rentable area lost to equipment.

Many of the school reuse projects which are used as examples have elements of "found space" as an integral part of their success. In German Village Center (see case studies) for example, the usable area was increased to 20,000 square feet (twice that of the former school) by using the attic space and by opening the lower level directly to the outside by creating two sunken courtyards. To meet building codes, the basement was excavated six inches to create sufficient ceiling height.

Schools often have more entries and stairways than are required by the new use. In the residential conversion of the Stephen Palmer School in Needham, Massachusetts, a triangular apartment was created in one of the former front entrances, and each of the tenants has a private front door and garden area.

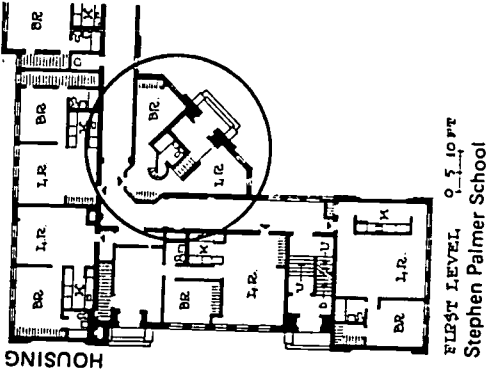
In Central Grammar School in Gloucester, Massachusetts (see case studies), unused attic space was opened, part of which was used for the upper levels of two-story units which have their main entrances on the floor below. The balance of the added space is taken up by flats that open to large private balconies made by cutting the roof back along both sides of the building. One entrance to the school was glazed-in and made into a living area in an apartment, and the



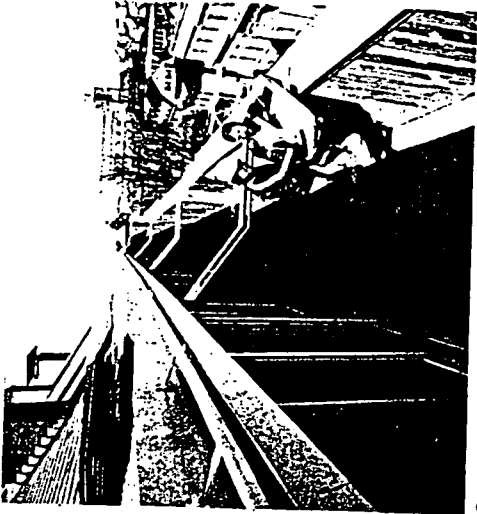
Development of a sunken plaza at German Village Center (St. Mary's School) allowed the basement level to be developed as rentable space.

basement entryway was converted into a main entrance and lobby. The coal room was rebuilt as a laundry and restrooms, and a former stage became a tenant lounge and a small kitchen.⁵

In the Center Stage Project, a theater reuse of the Loyola High School in Baltimore (see case studies), a former stair vestibule has become a sound screen between the theater and the lobby. Irregularly shaped spaces have become stairways; a corner holds a lounge; a niche on the roof contains air-conditioning equipment; and the area behind the pediment will become a rehearsal hall.



Stephen Palmer School



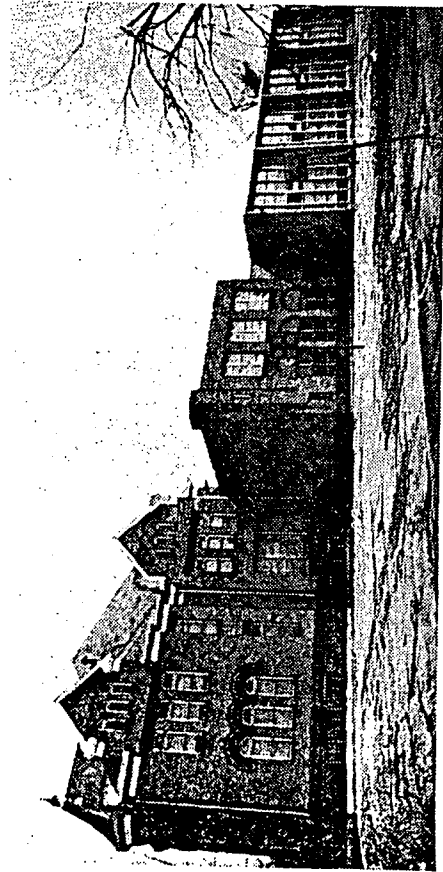
Central Grammar School balconies

In type C & D school buildings, large light wells were often designed to bring more outside light into the classrooms. These can be developed into gardens, or roofed over to become atriums or nodes of vertical circulation containing stairs or exposed elevators. In type E buildings, intermediate floors can often be added in gymnasiums, libraries and cafeterias to increase floor area.

Thus, almost every corner of a school building can be converted into usable space. And many of these spaces will become marketable assets which give a school building the advantage over other competing structures.

Additions

The prospective owner of a surplus school may very well be able to find a building which closely approximates his needs. However, cases may arise where an addition to an existing building must be considered as an integral part of the reuse. The owner's program requirements may be greater than the available square footage, or an increased rentable area may be necessary to realize the desired level of income. In such instances, first consideration should be given to



Successive additions to Milo School represent the style popular at the time of construction rather than a respect for the original building.

possibilities for utilizing inexpensive "found space" as mentioned previously. If still more space is required, an addition to the existing building is certainly a plausible solution. Such an addition must be compatible with the existing structure as well as with the character of the surrounding neighborhood in terms of materials, style, proportion and scale. Additions to type E and F schools will be much easier to accomplish in these terms than additions to type B, C and D buildings. Designing sympathetic additions to older structures is not easy, and an owner contemplating such an undertaking should engage the services of an architect with previous successes in this area.

Another problem which is often encountered is that of already existing school additions. These may either be assets or liabilities depending upon the individual circumstance. Access to additions may be controlled separately from that of the main building, which will be an asset in situations where multiple tenancy is desired. In many cases, however, especially with older schools, these additions are aesthetically incompatible with the existing structure — a poorly designed type E addition to a type C school, for instance. In these situations, if the addition cannot be successfully altered to fit the "image" of the proposed new use, and the space is not an integral

program requirement, demolition of the addition may be the best alternative.

Accessibility

Under Section 504 of the Rehabilitation Act of 1973, all programs which receive or benefit from Federal assistance must make certain that they do not discriminate against persons with physical disabilities. Additionally, state and local building codes, and local accessibility and anti-discrimination ordinances will contain special provisions for the handicapped.

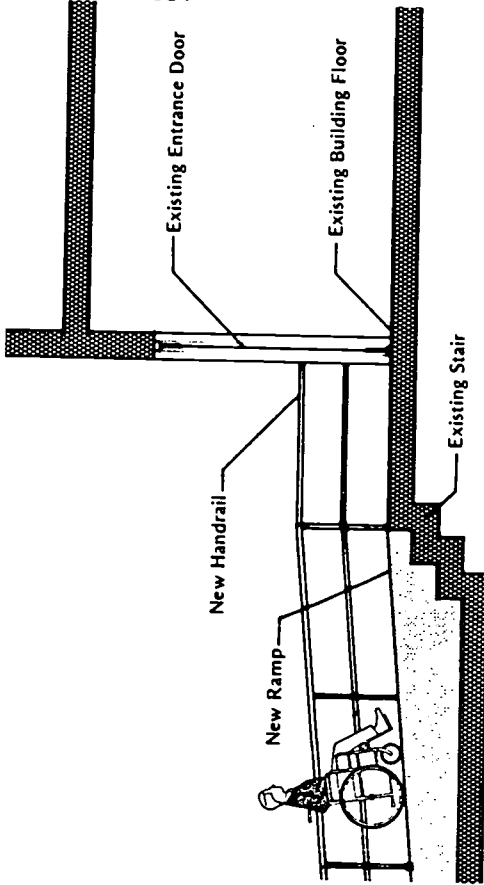
Most school buildings can be modified for full accessibility. The age and site of the building, the new use of the building, and the number of occupants are all factors which must be taken into consideration.⁶ A comprehensive on-site survey of the existing facilities will uncover those aspects of the building which must be up-graded.

"A building cannot be considered barrier free if people cannot park, negotiate the site, and use the entrance into the public spaces of the building."⁷ Special parking spaces should be designated, and walks and entrances must be made accessible. Some school buildings, particularly newer ones, have already been altered in several of these respects.

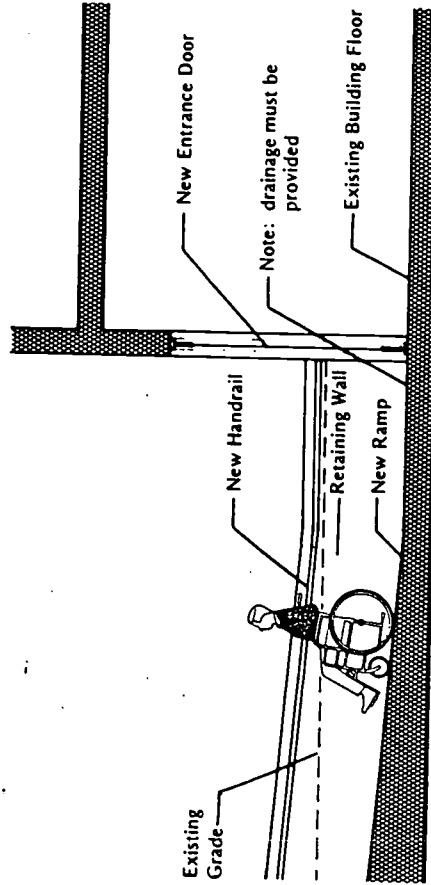
Regrading at the entrance may be the easiest and least expensive solution to accessibility problems, if the level changes are not great. Otherwise, ramps to either the first or ground floor will most likely be required. Ramps can either be used exclusively or in conjunction with stairs. In some instances, the floor height at ground level may be close enough to grade to gain direct access to that level, as was accomplished in the reuse of Old Central High School in Tulsa, Oklahoma (see case studies).

All floor levels of the existing school building should be made accessible. This will require the installation of properly designed stairways, handrails, and an elevator if none presently exists. Elevators can often be integrated into existing stairwell locations, since many of

ACCESS FOR ALL

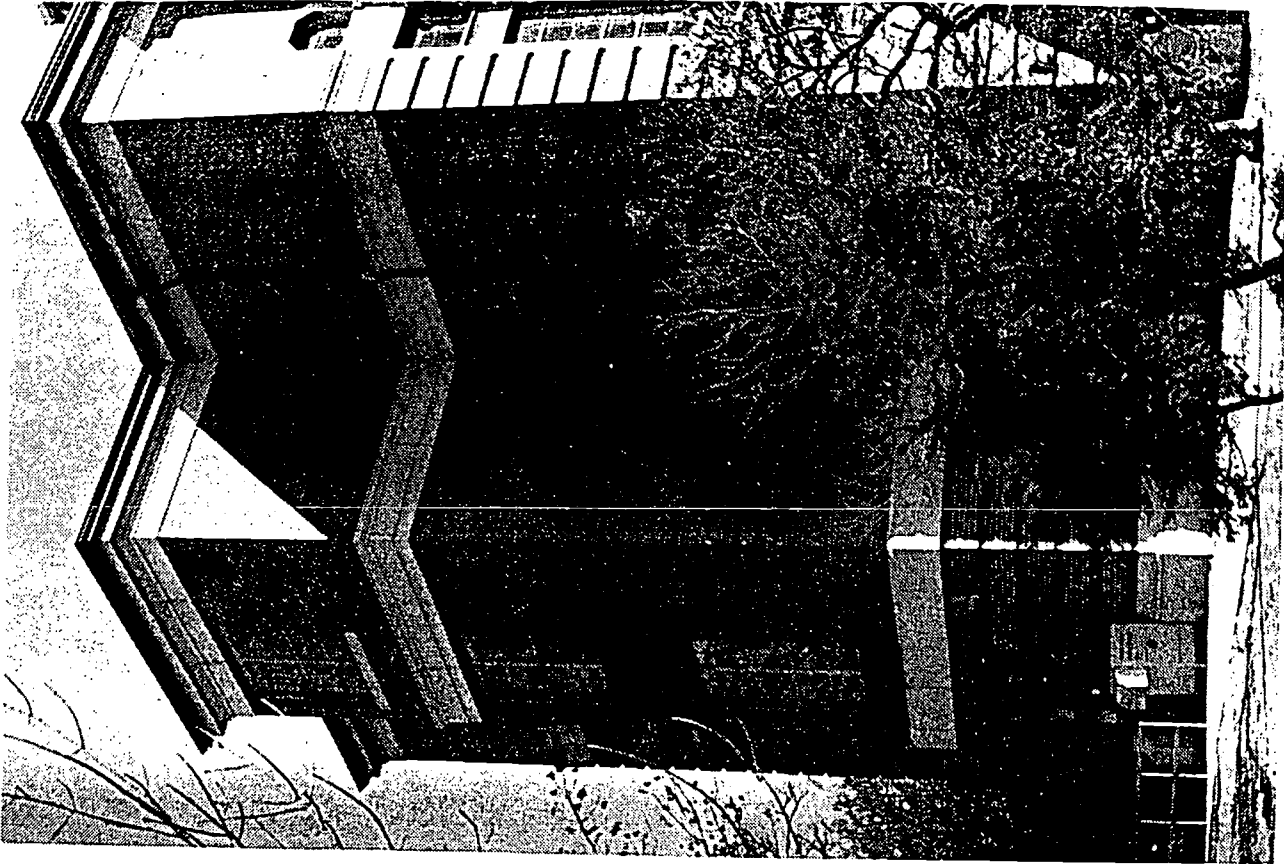


Elimination of Stair at Building Entrance by Exterior Ramp



New Entrance to Basement by Exterior Ramp 9

these monumental stairs are much larger than will be required for most new uses. Elevators can also be added to the exterior of the building, if necessary, possibly in conjunction with a new entrance.



Sensitive design allows elevators to be added to the exterior of existing buildings, where necessary, to provide for accessibility of handicapped persons (Stillman Hall, The Ohio State University).

Toilet rooms also must be modified to provide adequate room for maneuverability, stalls and fixtures of the proper size and height for the handicapped. A barrier-free accessibility manual such as ACCESS FOR ALL, 8 by the Ohio Governor's Committee on the Employment of the Handicapped and Schooley Cornelius Associates, can provide proper dimensions, as well as further information on other interior elements such as doors, thresholds, drinking fountains, signage, floor surfaces, etc. The building code applicable to the project area will also provide important information and requirements.

Obviously, accessibility modifications will be much easier in schools undergoing complete interior remodeling. Each building, however, will present unique problems which will require creative design solutions. Minor changes or additions which are inexpensive may be all that will be needed to make a school building usable by disabled persons. On the other hand, major modifications may be extremely difficult and costly. Modification priorities will vary from one building to another and should be considered on an individual basis, reflecting the building's new use, type of construction, and economics.

Energy Efficiency

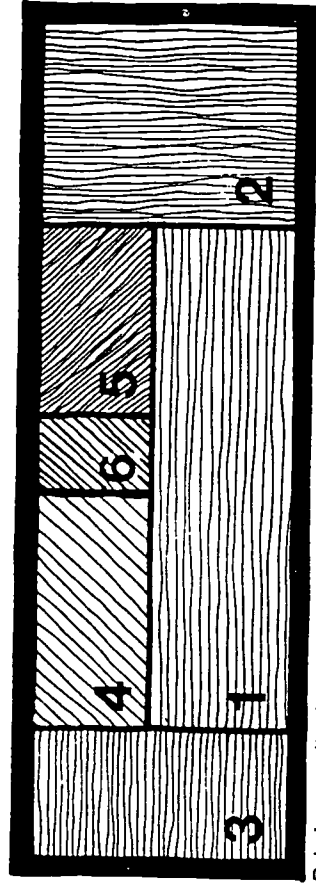
Increased desire for energy efficiency has placed new demands upon existing buildings. Reuse architects are also requiring increased thermal efficiency from old buildings. Many means for accomplishing increased thermal efficiency are available, though some can result in the inappropriate alteration of important architectural features or cause damage to existing building materials. Both passive and active methods of energy conservation can be utilized in retrofitting.

The following list includes the most common retrofitting measures:

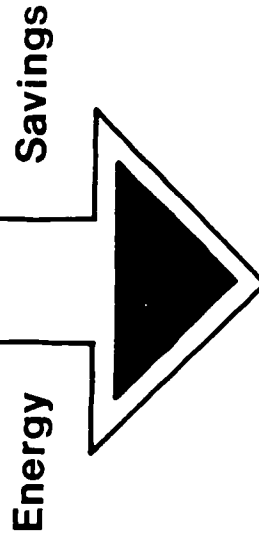
1. Seal Against Air Infiltration
2. Attic Insulation
3. Storm Windows
4. Basement Insulation
5. Vestibules

6. Wall Insulation

The recommended measures for retrofitting begin with those at the top of the list. The first ones are the simplest, least expensive, and offer the highest potential for saving energy. Those toward the end of the list require a much closer evaluation of potential problems and cost effectiveness, since construction costs may outweigh the anticipated energy savings. 10



Relative contributions of the listed energy retrofit measures



AIR INFILTRATION

Substantial heat loss occurs in buildings due to air infiltration through loose windows, doors, and cracks in the outside shell of the building. Adding weatherstripping to doors and windows, and caulking open cracks and joints will substantially reduce infiltration. Materials which visually impair the architectural character of the building should be avoided. Reducing infiltration should be a first priority

increasing thermal efficiency. The cost is low, little skill is required, and the benefits are substantial.

Vestibules create a secondary air space at a doorway to reduce air infiltration caused when the primary door is opened. These will be more easily installed in buildings undergoing complete interior alteration, however they will still require a careful consideration of their visual impact on the interior character of the building. Vestibules may be valuable in very cold climates where traffic patterns cause door use to be very high, otherwise, energy savings will be comparatively small compared to construction costs.

ATTIC INSULATION

Heat rising through the attic and roof is another major source of heat loss in existing buildings. Adding insulation in accessible attic spaces is another high priority item which can be accomplished with little skill and at reasonable cost. Common insulations include fiberglass and mineral wool blankets, blown-in cellulose (treated with boric acid only), and blown fiberglass. If the attic is unheated, the insulation should be placed between the floor joists; if the attic is heated, the insulation should be placed between the roof rafters. Local guidelines should be consulted for the amount of insulation which should be used, and a proper vapor barrier and adequate attic ventilation must be provided to prevent moisture problems.

STORM WINDOWS

Windows are a primary source of heat loss and infiltration in school buildings, and adding storm windows greatly improves their thermal characteristics. Storm windows should be installed on the exterior side of the window and the frames painted to match the existing window. Hopefully, storm windows of the proper size will be available. If storm windows must be custom made, their cost effectiveness must be carefully considered. Interior storm windows can be as thermally effective as exterior storm windows, however they are not recommended due to a high potential for damage to both win-

dow and sill from condensation. With storm windows on the interior, the outer sash (the original window) will be cold in the winter, hence causing moisture to condense there. This condensation often collects on flat surfaces and causes paint blistering and wood deterioration.

BASEMENT INSULATION

Installing insulation in a school building's basement, if one exists, can reduce a substantial source of heat loss. This is often complicated however, by the presence of moisture. Thus it is important to assure that insulation is properly installed for the specific location. In unheated basements or crawl spaces, the insulation should be placed between the floor joists; in heated basements or where the basement contains the heating plant, insulation should be installed against the foundation walls. In all cases, adequate ventilation of unheated spaces and a proper vapor barrier must be insured.

WALL INSULATION

Heat loss from uninsulated walls is a relatively small percentage of total heat loss, and most of this can be attributed to infiltration. Retrofitting wall insulation into school buildings is therefore not recommended since the potential benefits are outweighed by the risk of damage to surrounding building components. In wood frame buildings (some type A & B schools), the installation of wall insulation often traps moisture within the wall cavity, since a proper vapor barrier can rarely be maintained. This moisture condenses and causes serious deterioration in adjacent wood building materials.

Most masonry wall construction (many schools) has acceptable thermal performance, especially older cavity-wall buildings. The mass of these walls acts as a "heat sink" and the air space within the wall additionally slows heat transfer, thus improving thermal performance. This air space also allows condensation within the wall to fall to the base of the wall and escape through weep holes. Introduction of insulation into the wall cavity alters both of these

functions and is not recommended.

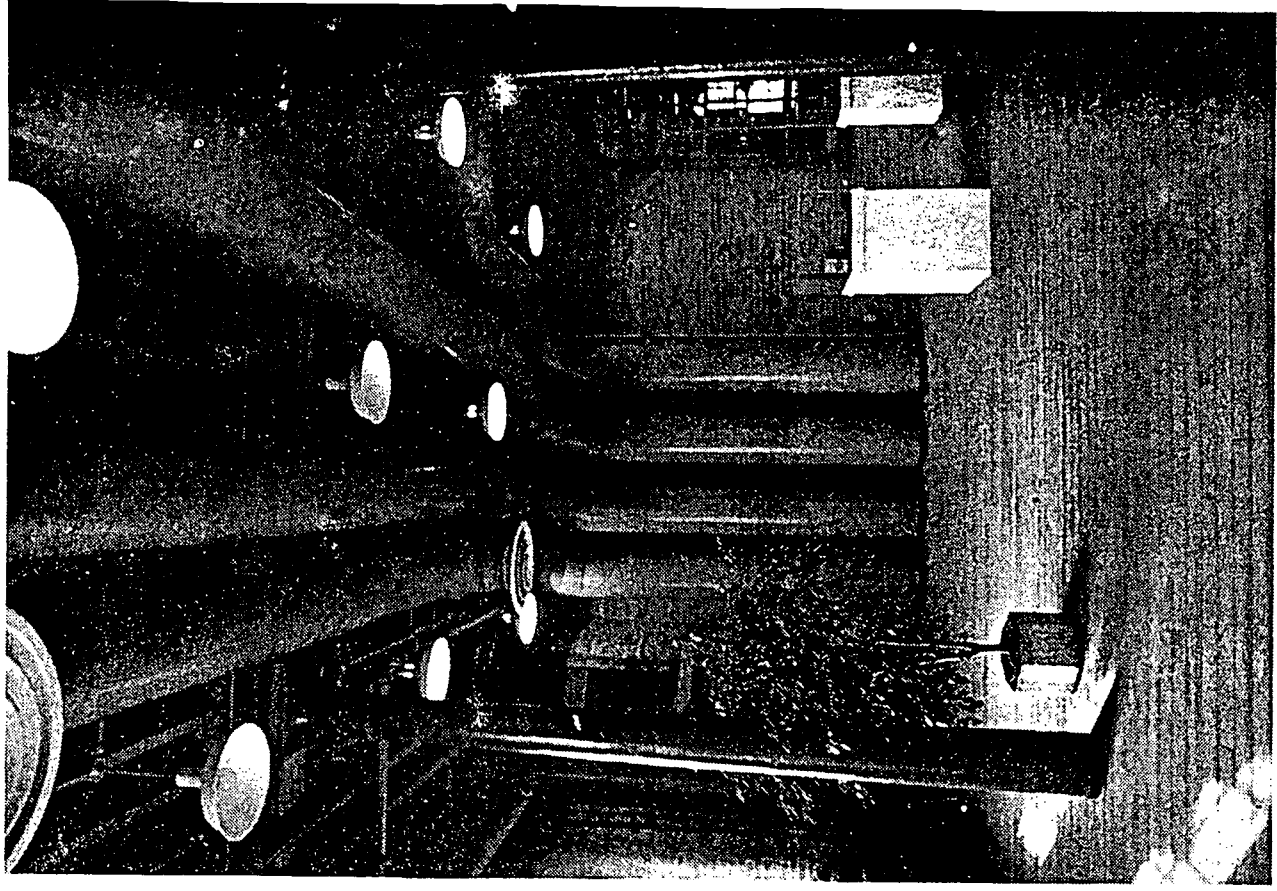
If desired, wall insulation can be successfully installed on the interior using either rigid or batt insulation attached to furring strips on the interior wall surfaces. Insulation installed in this manner is expensive and should only be considered in buildings where the existing interior trim or finishes have little or no architectural significance.

The preceding recommendations represent sound economic investments which do not damage existing building components. Specific solutions must be determined based on the facts and circumstances of the particular problem; therefore, the advice of professionals experienced in building reuse such as architects, engineers, and mechanical contractors should be solicited.

Mechanical Retrofit

The mechanical systems encountered in school buildings will cover a variety of types and conditions. Some systems will be antiquated and difficult to control and thus need replacement, while others may be relatively recent and need little or no alteration. Many types of new mechanical systems are available, and the most appropriate type for each application will be dependent upon the new use. Decisions regarding mechanical equipment should, of course, be discussed with a competent mechanical engineer and an architect who can determine the cost effectiveness of the various alternatives.

The Cumberland Hill School in Dallas, Texas (type C), has been converted to the corporate headquarters of SEDCO, Inc., an international energy engineering firm. The building now utilizes a 2-duct heating, ventilation, and air-conditioning system installed throughout the building. Mixing boxes, blending the hot and cold air, and individual thermostat controls are located in each office. Michigan Avenue School in Columbus, Ohio (type B), a residential conversion, will utilize a central hot-water heating plant with individual fan-coil units located in, and controlled from, each unit. In contrast, many recreation or community center uses may successfully continue



Exposed mechanical systems can become a design feature, as at the Columbus Cultural Arts Center, a reuse of an old state arsenal.

utilizing the steam or hot water system already in the building.

New equipment should not be installed in such a way that its installation, or possible later removal, will cause irreversible damage to significant building elements. The concept of complete invisibility may not always be the most appropriate. Every effort should be made to select a mechanical system which, while compatible with the new use, will cause the least intrusion into the building's fabric, and which can therefore be installed and updated without major intrusion into the wall and floor systems. Both lowered ceilings and raised floors provide built-in channels for routing "mechanicals", but in many reuse projects, mechanical systems have been left completely exposed and made integral parts of the design.

Plumbing and sanitary systems will likely have to be changed for most new uses. Passing these systems through floor structures may not be easy in school buildings with concrete floors (types D, E and F), especially in residential applications where plumbing requirements are extensive. To reduce the number of penetrations which will need to be made, one drain-waste-vent stack can be installed to serve two units per floor instead of the conventional one stack — one unit configuration. This will reduce both labor and material costs significantly for this part of the work.

Since schools are public occupancy buildings, sufficient electric service will probably exist for most new uses, although older buildings may not have 3-phase power needed for air conditioning units. The greatest problem will be routing this service to new locations of demand. In community center and clinic type uses, routing new electric service in wire mold may be an appropriate method since it is usually the least expensive. In residential or office conversions, however, where aesthetic considerations are a much higher priority, new service can, and should, be installed and concealed within new walls wherever possible.

Many questions will have to be answered by the owner/developer. Do tenants pay for their own utilities? Do we want the individual units to be he ted separately or have one central plant? Will the

building be air-conditioned? If not, will we allow window units? Can solar power be used for hot water? Again, an architect and a mechanical engineer should be an integral part of the decision-making process.

Roofing

The roof is a highly vulnerable element of every building. With many older schools (types A, B & C), the roof imparts much of the architectural character by defining the style and contributing to the building's aesthetic quality. A leaking roof, however, will permit accelerated deterioration of many other building materials. A complete internal and external inspection of the roof should be conducted to determine present and potential future causes of failure and to identify alternatives for repair or replacement.

The most common roof materials encountered in school construction are:

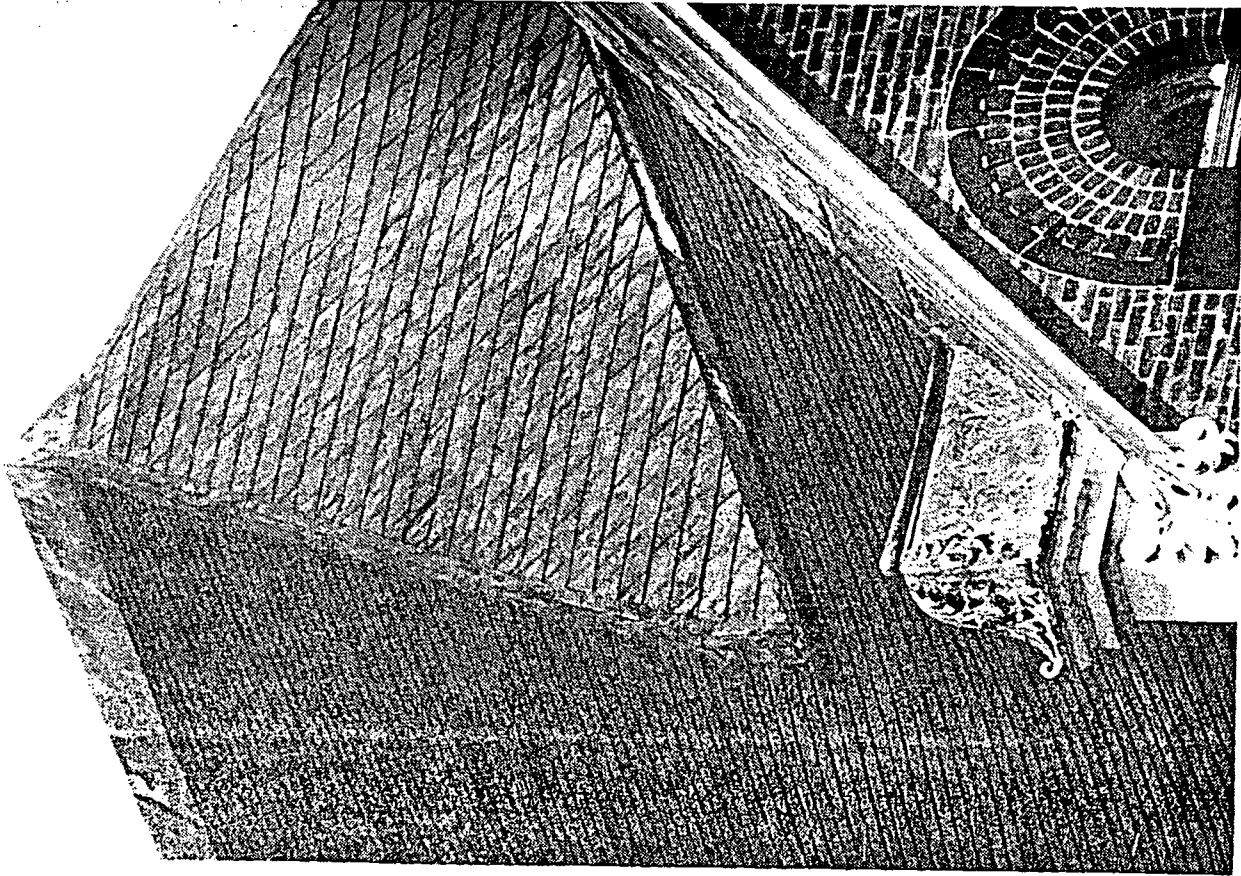
- slate
- shingle
- metal
- composition (built-up)

In addition to the roofing material itself, the sheathing, battens and deck, gutters and downspouts (especially those that are "built-in") and flashing should be inspected. Failure of gutters and downspouts is a common problem causing damage to eaves, soffits, and sheathing. Additionally, replacing flashing is a major operation necessitating the removal of portions of the roof surface; therefore, top quality flashing material should be used. Care should also be exercised since some roofing, flashing, and gutter materials, such as copper and aluminum or iron, are not compatible due to galvanic action. Repairs in these areas should generally be made in conjunction with the repair or replacement of the roof surface.

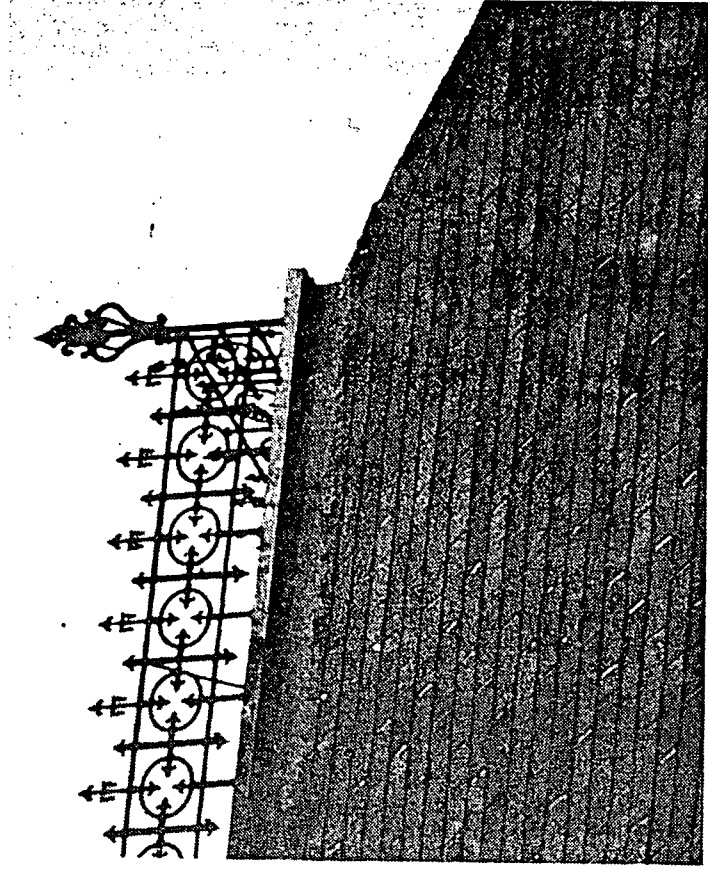
Most school roofs can be repaired or replaced with the same type of material, which is desirable. However, in some rehabilitation projects,

there may be valid reasons for replacing the roof with a material other than the original (which may have already been replaced). The original material may be unavailable or the cost prohibitive, for instance. Professional advice will be necessary in evaluating the alternatives. Consulting an architect, a reputable roofing contractor, or a craftsman familiar with the inherent characteristics of the roofing material will insure that the proper course of action is taken. In any case, if the roof is readily visible, the alternative material should match as closely as possible the scale, texture, and color of the original roofing material.

Finally, the repair or replacement of damaged or missing roof decoration such as iron cresting, finials or ridge combs should be considered whenever possible, as these elements are integral parts of the building's character.



The scale and texture of this roof has been seriously altered by replacing the original slate roof (right face) with asphalt shingles (left face).



Roof decoration such as ornamental iron cresting gives important character to a building and should be retained.



While investigating the roof, a building should also be examined for related problems such as eave and gutter damage.

Masonry

Most school buildings are of masonry construction. Types A, B, C & D are usually of brick or stone bearing wall construction, often on a stone foundation. Types E & F are commonly concrete block bearing wall buildings with a brick veneer. Water problems, air pollution, and structural failures may all have caused damage over time. Structural defects such as cracks and bulges caused by settlement or broken lintels, and water damage indicated by rising damp, efflorescence or spalling should be remedied before further masonry preservation takes place. Only a specialized professional should tackle problems this severe.

Masonry cleaning has become a standard element of building reuse. Unfortunately, however, this has led to the cleaning of buildings which either need not, or should not, have been cleaned. Several methods of masonry cleaning which are in common use actually cause severe damage to the masonry surface.

The reasons for cleaning a school building must be considered carefully before arriving at a decision to clean.

- Is the cleaning being done to improve the appearance of the building or to make it look new? The so-called "dirt" actually may be weathered masonry (patina), not accumulated deposits; a portion of the masonry itself thus will be removed if a "clean" appearance is desired.
- Is there any evidence that dirt and pollutants are having a harmful effect on the masonry? Improper cleaning can accelerate the deteriorating effect of pollutants.
- Is cleaning an effort to "get your project started" and improve public relations? Cleaning may help local groups with short term fund raising, yet cause long term damage to the building.¹¹

The owner of the building must also ask himself if an old building should look "new", and whether cleaning the building will actually negate the building's historic place in the community. In any case, an architect trained in preservation and the local historic preservation officer, if one exists, should be consulted before making a determination as to whether a school should be cleaned and by what method.

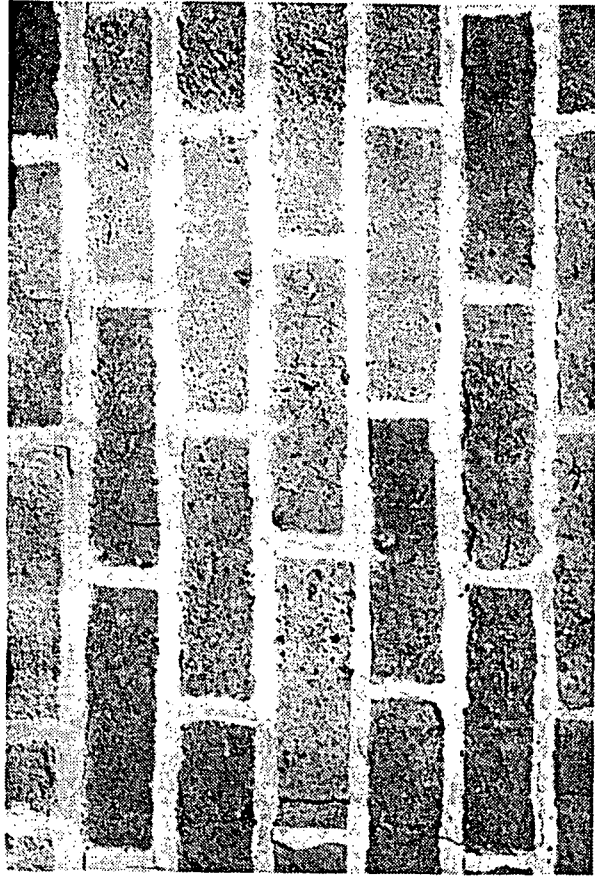
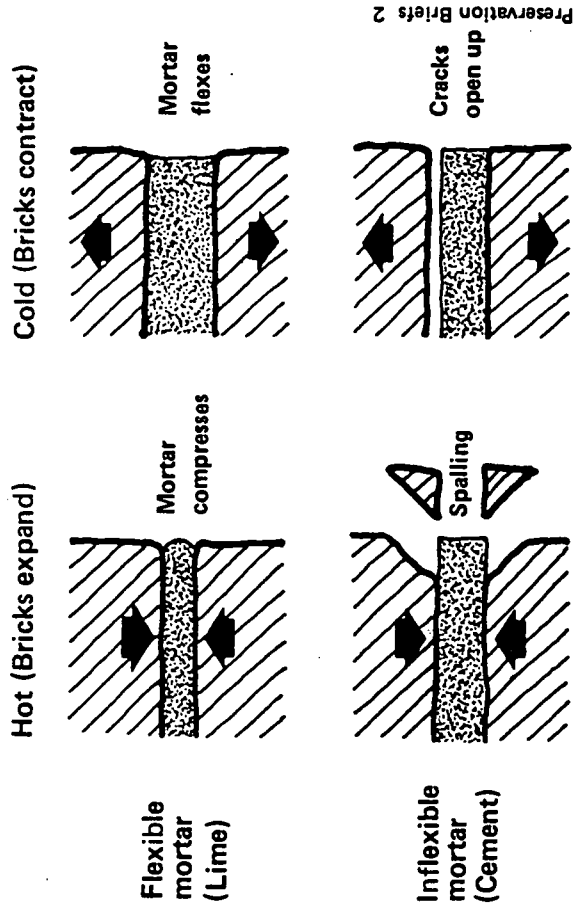
If it is determined that the building should be cleaned to remove harmful deposits or the results of vandalism (graffiti) is a common problem with abandoned schools) the gentlest effective method from among the water, detergent, and chemical cleaning methods should be used, possibly cleaning only the effected area. Test-cleanings should be made on a small section of the wall before the entire job is done to evaluate the results. Under no circumstances should brick be sandblasted, as this abrasive method severely damages the brick surface by removing the protective crust.

It was not uncommon historically to paint brick, for aesthetic reasons, to protect the brick, or to disguise subsequent repairs which

failed to match the original brick. Brick which is painted should usually be repainted rather than cleaned, as complete paint removal will often necessitate a relatively harsh cleaning method.

The application of water repellent substances to masonry surfaces should not be undertaken unless there is actual physical evidence that water is getting through the masonry units, and the problem is not due to faulty or missing mortar, poor roof or water drainage, or rising ground water. Waterproofing impairs the natural "breathing" mechanism of the brick, trapping moisture within the wall, leading to spalling and cracking of the masonry surfaces.

Repointing of masonry walls (also known as "tuck-pointing") is a common method of replacing deteriorated mortar (moisture problems must be corrected before repointing). The type of mortar which is used is important. Hardness is often mistaken as a sign of durability. A mortar which is stronger and harder than the brick (Portland cement used in conjunction with older brick, for example) will not "give", thus causing expansion and contraction forces to be absorbed by the masonry units themselves. This results in cracking



The scale, texture, and overall appearance of the original brick wall (above) has been adversely affected by sandblasting and improper repointing (below).

and spalling. Mortar should be used which is as compatible with the original mortar as possible in terms of color, texture, physical nature and chemical compatibility. Again, consulting a qualified professional is the best course of action.

Ceilings

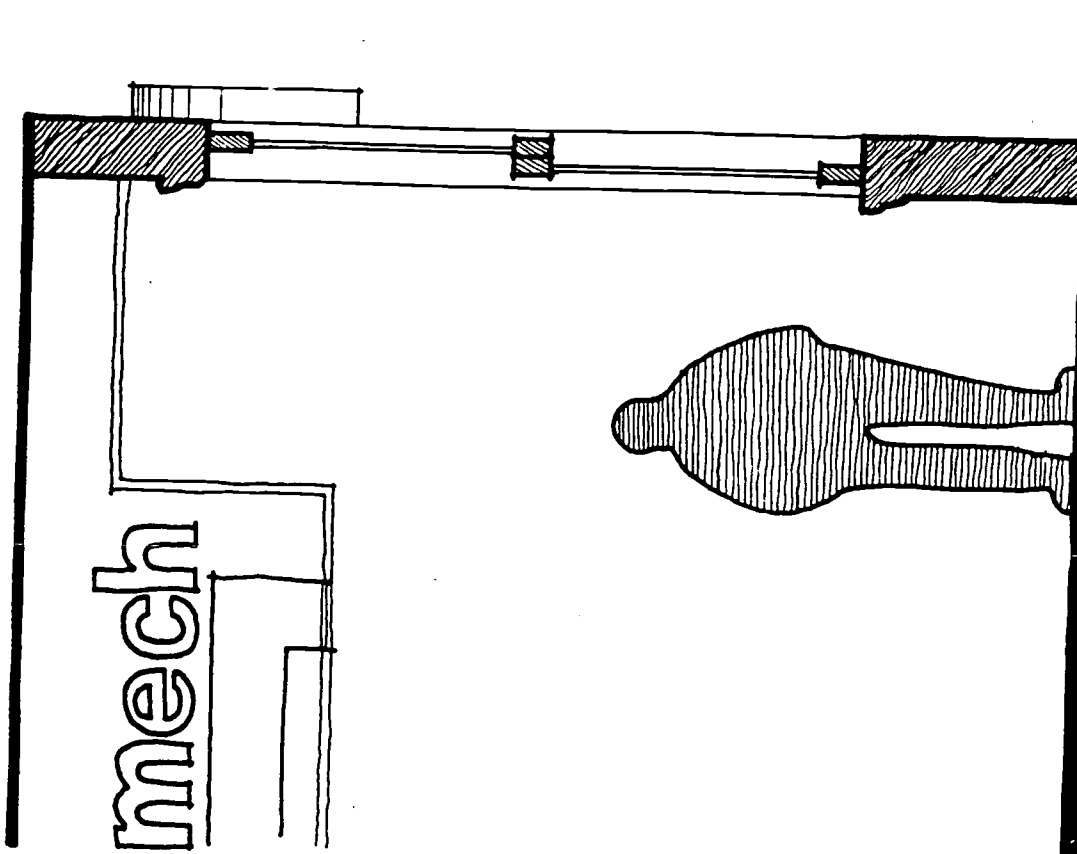
The problem with the 13–15 foot high ceilings commonly found in type B, C & D school buildings is that they are too low for adding intermediate floors and too high for efficient heating. Also, smaller rooms may end up being taller than they are wide. Because of these factors, lowered ceilings may become a necessity; though they can be kept higher than “normal” – 9-1/2’ to 10’, for instance – as a special amenity. Ceilings can also be retained at existing heights in common congregating areas and circulation spaces.

Every effort should be made to hold the ceiling height above the head height of the windows if at all possible. If the ceiling must be dropped below the head height, the whole window can be exposed by beveling the ceiling to the windows, or by holding the ceiling back away from the windows. Ceilings will not be a problem in more recent buildings, which often have existing 9’ ceiling heights. The standard 2’ x 4’ lay-in acoustical ceilings should be avoided, particularly in residential conversions. There are many new acoustical ceilings available which, through texture, character, and lack of an exposed grid, present a much more aesthetically pleasing appearance, especially in older buildings. Though somewhat more expensive, new pressed metal ceilings are also available and can be installed in buildings which had them originally.

Attention to detail can prevent the unacceptable application of lowered ceilings often encountered in renovation projects.

Windows and Doors

A variety of glazing problems confront anyone contemplating re-using a school building. Type E buildings usually have “window-

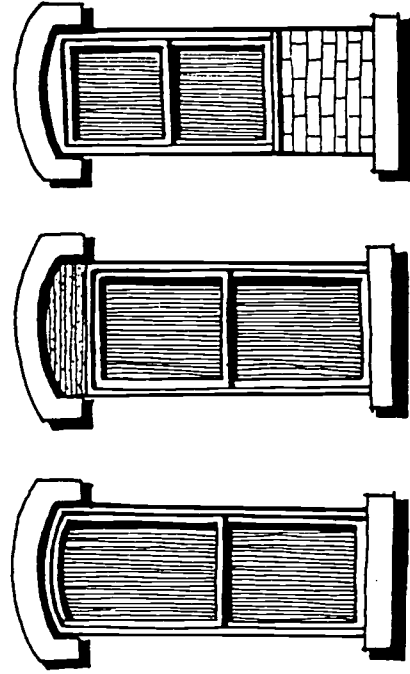


If ceilings must be lowered to allow space for mechanical systems, etc., they can be held away from windows to allow the full opening to be exposed.

“wall” units which generally are too large for the new use and permit excessive heat loss and gain. Type A, B, C & D buildings generally have wood double-hung windows which again may be too large or badly deteriorated, yet give important character to the historic

facade. Attention to the following items will help avoid poor design solutions when dealing with both existing windows and doors.

A common weatherization measure in older buildings has been the replacement of historic windows with modern double-paned windows. The intention was to improve the thermal performance of the existing windows and to reduce long-term maintenance costs. The evidence is clear that retaining the existing windows and adding exterior storm windows is a viable, and possibly less expensive alternative, and is the recommended approach in preservation retrofitting (a lumber supply store or mill shop can be of assistance). However, if the historic windows are badly deteriorated and their repair would be impractical, or economically unfeasible, then replacement windows, of either wood or metal, should match as closely as possible the historic window in size, number of panes, frame, color, and reflective qualities of the glass. Some misguided reuse efforts have resulted in the filling-in of the upper sash of double-hung windows with wood or metal clad panels, or the blocking-in of existing window openings to fit the size of a readily available modern window. These methods should be avoided, since altering window openings destroys the scale, proportion and character of historic facades. Also to be avoided are fake "historic" windows not in keeping with the style of the building.



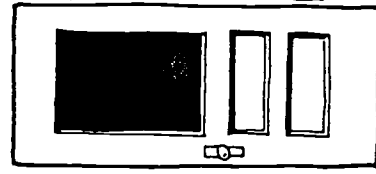
This

Not This

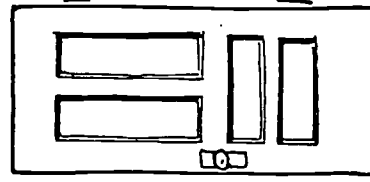
Or This

Newer buildings (type E especially) must be approached in a slightly different manner, depending upon the new use. The "window-walls" of these buildings can be replaced with insulated glass with a simplified mullion pattern. However, whereas community centers and clinics may be able to function with this amount of glazed area, office and residential uses probably will not. A possible solution in these cases would be to remove the entire window-wall unit and install a smaller glazed area in conjunction with sensitively designed infill wall. Careful design can make this a solution to both the light and heat loss problems.

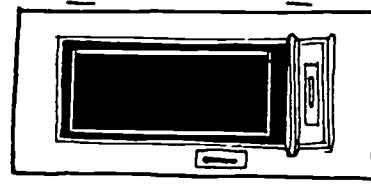
Similar considerations are involved when making decisions concerning doors. If the existing doors in the building are workable, it may be possible to reuse them, possibly by relocating them in the new plan. Unfortunately, maintenance, security or privacy reasons (many school doors are glazed) may necessitate the replacement of both interior and exterior doors. Where new interior doors are contemplated, and retention of a traditional appearance is desired, especially in older schools, wood panel doors are a good choice where they are permitted by code. In all cases, it is important to recognize key features of existing doors such as paneling, glazing, and hardware, and utilize this information in the reuse design.



Office



Residential



Retail



Footnotes

- 1 "Surplus School Buildings: New Opportunities for Adaptive Use," AIA JOURNAL, (April, 1977), p. 59.
- 2 Janice H. Huff, "School Recycling," INNOVATIONS 3(Spring, 1979), p. 5.
- 3 National Trust for Historic Preservation, PRESERVATION AND BUILDING CODES, p. 25.
- 4 OHIO BASIC BUILDING CODE, The BOCA Basic Building Code/1978, Seventh Edition.
- 5 "Profit from those old schools nobody wants," HOUSING (November, 1978), p. 81.
- 6 Robert D. Loversidge, Jr., Elizabeth A. Aino, et. al., ACCESS FOR ALL, p. 149.
- 7 IBID., p. 149.
- 8 IBID., p. 192.
- 9 IBID., p. 152.
- 10 Baird M. Smith, AIA, "Conserving Energy in Historic Buildings," PRESERVATION BRIEFS 3, p. 4.
- 11 Robert C. Mack, AIA, "The Cleaning and Waterproof Coating of Masonry Buildings," PRESERVATION BRIEFS 1, p. 1.

4

implementation

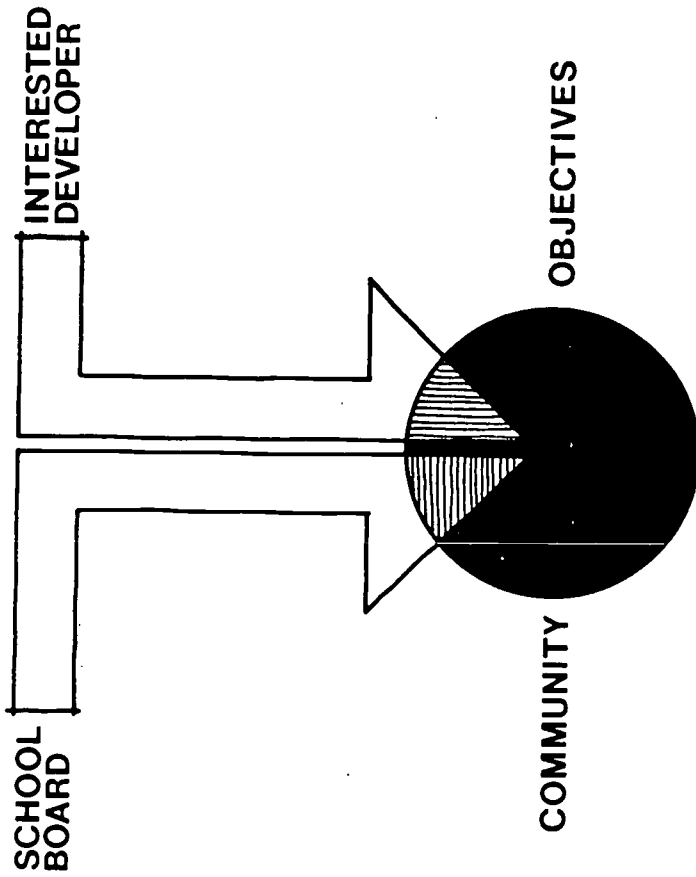
Transfer of Ownership

In Ohio, the Ohio Revised Code allows school systems to dispose of property which has been declared in excess of need. If the prospective buyer is another public institution, such as a city government, library, university, etc., the school system can negotiate a direct sale. In order to turn the building over to the private sector, however, a public auction must be utilized and the school system cannot negotiate directly with a private developer. Most states place similar restrictions upon their school systems.

Auctions have limitations, though. Since most auction processes utilize a method of sealed bids, developers are uncertain as to whether they will actually be able to acquire the building, and are thus hesitant to devote much expense toward studying reuse potential. The less sure a developer is of a building's potential, the less he is willing to bid for that building.

With school building sales becoming more and more common, states may wish to consider changing the auction process. It may be desirable to allow school systems to market their surplus buildings as if they were any other piece of real estate. If school systems were allowed to work along with private developers, more detailed preliminary analysis could be made, and a use and developer could likely be found which would be the most viable for the neighborhood, while bringing the highest return at sale to the school system.

Along the same lines, the zoning of many school buildings may need to be changed to allow reuse. Developers could be allowed to make their offers contingent upon securing the proper zoning. Most developers would likely be willing to offer more for a building if they knew they would not be saddled with a "no-go" project should they be unable to secure the proper zoning. School systems, on a selective basis, may wish to assist the prospective purchaser secure a zoning change, either by getting the zoning changed to a new, but still compatible zoning before the sale, or by testifying on the purchaser's behalf at zoning hearings.



The form of legal entity which will ultimately own a school property cannot be realistically established until the building's new use is determined. Ownership may take the form of partnerships, corporations or syndicates. Other approaches to ownership of school reuse projects involve the creation of various types of local development corporations and non-profit corporations. Others include small business investment corporations created under Section 301 of the Small Business Investment Act, and local development corporations set up under Section 502 of the same act.

For example, Central Grammar School (see case studies) is owned by a ten-member limited dividend partnership with the general contractor and Gloucester Development Team serving as general partners. The contractor agreed to become a limited partner once the building was 95% occupied. The local non-profit Gloucester Development Team remains the sole general partner and operating decisions thus remain in local hands.¹

Another example involves the former Highland School in Boulder, Colorado, which was converted for use by a variety of community organizations. The non-profit Historic Boulder, Inc., wanting to see the abandoned 19th century schoolhouse preserved, undertook a careful feasibility study and found organizations which needed space and matched their requirements to specific areas of the building; obtained commitments from these organizations to lease space; and arranged for financing. Historic Boulder bought the building, retained the architect, borrowed the money, supervised the remodeling, and is now leasing space to various tenants, while looking for a permanent owner for the building.²

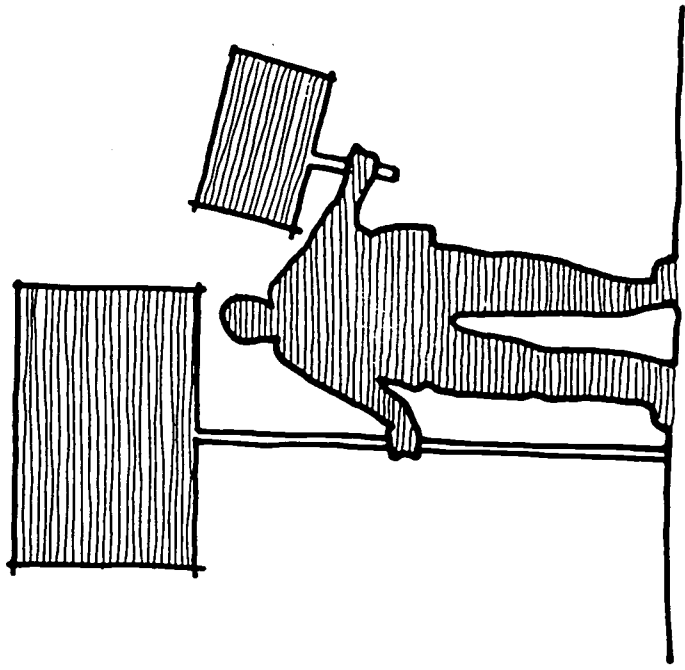
Again, states may want to re-evaluate the limitations they place on school districts in selling surplus schools. These policies were established when school sales were a rare occurrence, which is no longer the case. Efforts should be made to make school reuse a viable development form for developers, as well as bring the best return to the school system and a viable new use to the neighborhood.

The Development Process

An architect's initial impressions of a building's condition, along with working knowledge of zoning and building code regulations and requirements, can aid in an initial evaluation of recycling options. However, a much more thorough evaluation will be required to determine the financial feasibility of the undertaking.

Many aspects of the school reuse development process are just like those for any real estate venture, as shown in the illustration on the following pages. A thorough market feasibility survey and analysis must be done to test the potential acceptance of the proposed project. This process involves the collection and analysis of demographic and other data and should be entrusted to a competent marketing consultant. In recycling projects, it is important to identify unusual market opportunities such as specialty shopping development, recreation, or special types of housing. Public agencies,

especially planning and/or development offices, can usually provide valuable information and impressions which are useful in market analyses.



It is not enough to "save" a school by loudly touting its potential for reuse. Emotion is not a substitute for sound economics.

The location and site characteristics of a school property must be evaluated for development potential. An analysis of both public and private activities in the area should be initiated along with the market study. Key considerations of the neighborhood which should be investigated include: parking availability, transportation access, plans in progress which will alter site accessibility, existing levels of public services and safety, existing and planned uses of adjoining properties and their compatibility with the intended use.³

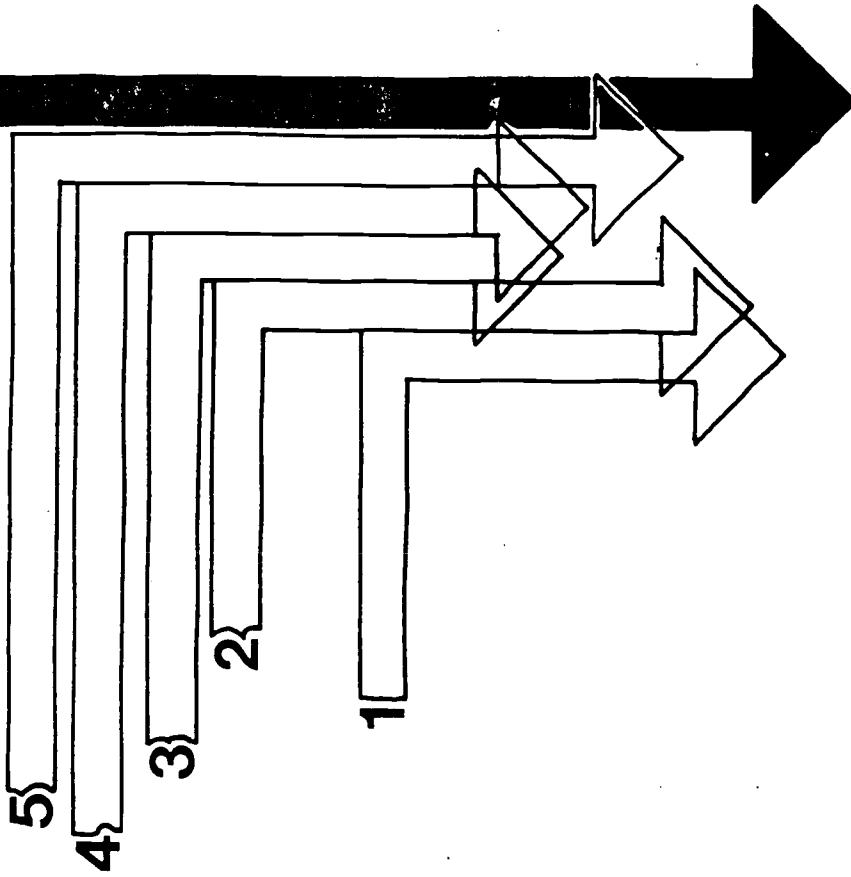
An architectural and historical evaluation (fabric analysis) of the school building is a primary consideration when dealing with an older

school. The age, composition and condition of building components should be identified, as well as the sequence of all additions, if any. Unique architectural features should be identified, and a list of all elements which should be preserved in the adaptation to a new contemporary use compiled. Physical analysis should include identification of structural damage, and the correction of same considered in the feasibility analysis. And the costs of upgrading for code compliance must be carefully examined, as such costs may be a major factor in determining economic viability.

Some older school buildings may either be on, or have been nominated to the National Register of Historic Places or to an equivalent state or local register of historic properties. A school owner/developer can realize several benefits from National Register listing. Such recognition for a structure may bring an increase in image and marketability to the project. Owners of Register-listed buildings are also eligible to apply for U.S. Department of the Interior 50% matching grants as well as the rapid write-off provisions of The Economic Recovery Act of 1981 (see Financial Considerations). Other public funding sources also give priority to Register-listed properties. "Such designation, however, may also lead to some additional costs and requirements in implementing a school reuse project. These costs may be related to delays caused by the need for permits or design review. For structures located within historic districts, or neighborhoods zoned as historic areas, these requirements for permits and design review may already exist and will need to be checked as part of the overall architectural and historic evaluation."⁵

Once a project's preliminary economic feasibility has been ascertained, design and financing can proceed toward final implementation. A final determination of feasibility must be made once preliminary design and financing details have been worked out. If comprehensive planning and implementation procedures are followed, the final product will be more successful in terms of aesthetics, function, and financial return to the sponsor. Equally rewarding, is the fact that a product has been created which will have a long term positive effect on the community.⁶

6 IMPLEMENTATION



The feasibility of several possible new uses may be investigated before one is chosen and actually implemented.

Financial Considerations

With school reuse projects, as in any preservation/reuse project, the issue of where to obtain the necessary funding always becomes an important consideration. Fortunately, many innovative funding sources are available to both public and private non-profit groups and private sector developers to aid in making projects such as school building reuse possible.

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The School Reuse Development Process⁴

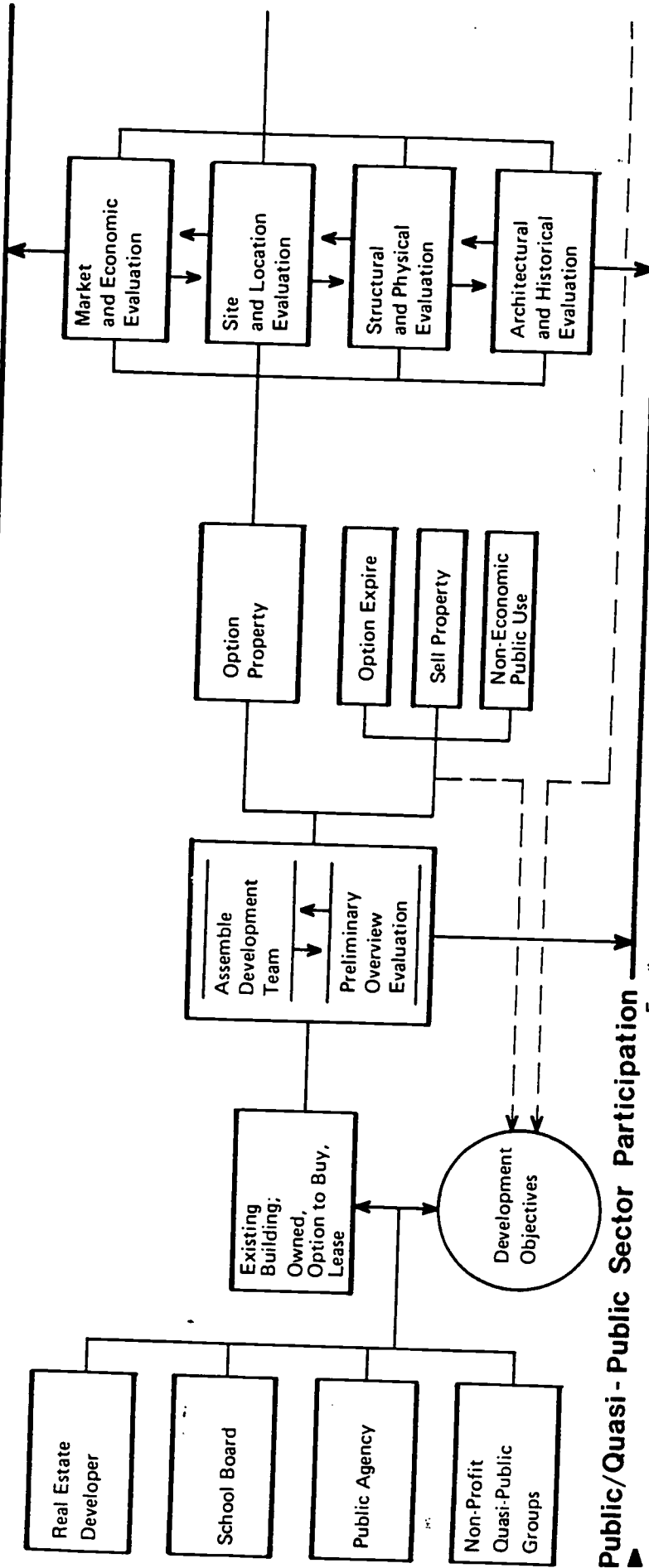
Project Initiation

Project Feasibility

Private Sector Participation

- R. E. Developer
- Financial Institutions
- Private Sources/Owners
- Chamber of Commerce

Development Process



Public/Quasi-Public Sector Participation

- Funding of Studies
- Staff Support
- Background Studies

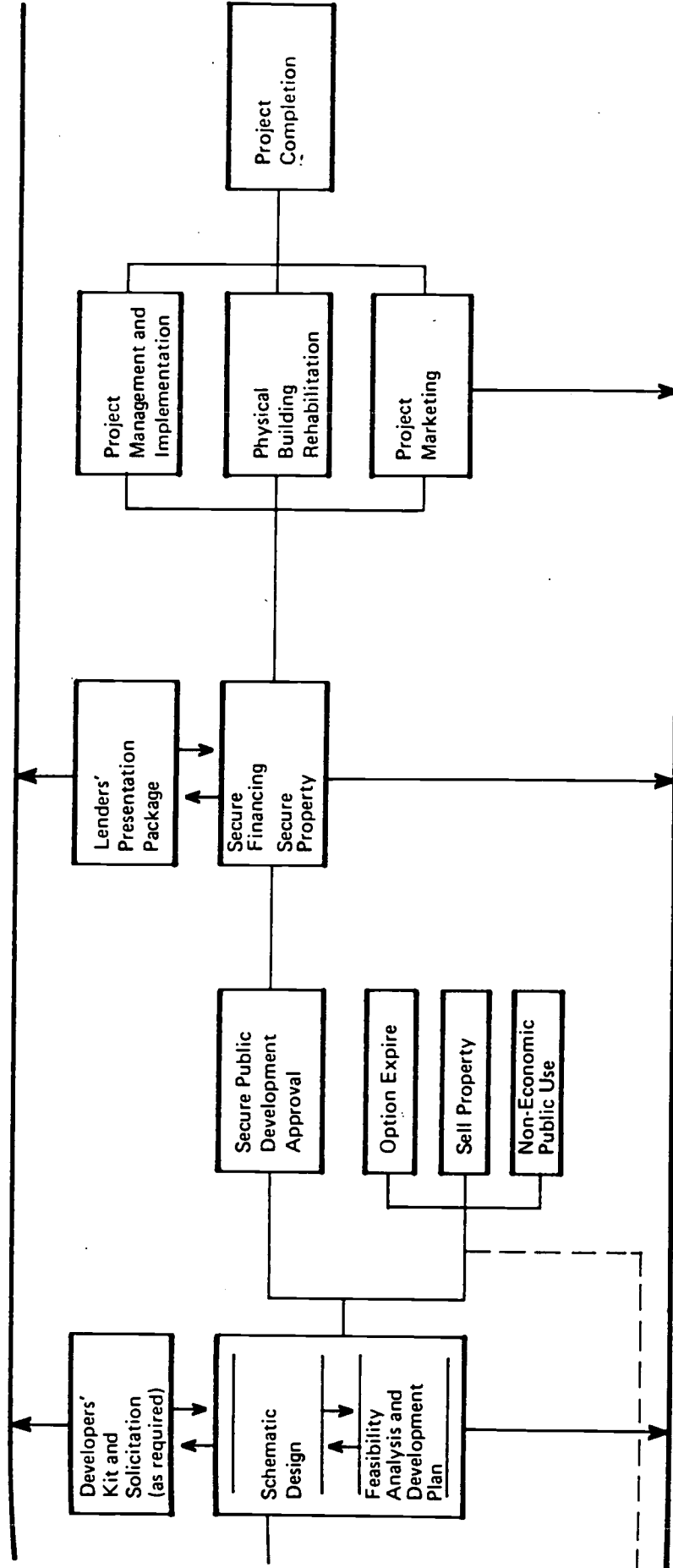
- Funding of Studies
- Staff Support
- Fund Raising
- Liaison with Public Groups



Project Planning and Financing

- R. E. Developer
- Financial Institutions
- Private Industry
- Business Organizations

- Commercial Banks
- Mutual Savings Banks
- Insurance Companies
- Syndications
- R.E.I.T.s
- Pension Trust



Project Implementation

A major source of funds for public and private non-profit groups considering school reuse would be Community Development Block Grant (CDBG) funds, authorized by the Housing and Community Development Act of 1974 (which replaced urban renewal grants, model cities, and other diverse Federal programs). Each year, cities with populations of more than 50,000 and urban centers with 200,000 persons or more receive automatic HUD formula-derived grants to prevent blight, assist low and moderate income persons, and meet urgent community needs. Within basic guidelines, cities plan and administer their CDBG programs. Any non-profit group who plans to utilize the funds for a public purpose may apply through its local development department or commission. Small communities and rural areas that do not qualify for direct CDBG entitlements, may also apply for funds on a competitive basis. Local county commissioners can provide further information.

CDBG funds can be used for projects which include property acquisition, establishment of financial programs, including low interest loans and grants for rehabilitation of historic and architecturally significant structures; establishment of a revolving fund for the acquisition, rehabilitation and disposition of historic properties; relocation payments; and programs to aid the elderly and handicapped. Since 1977, neighborhood based non-profit corporations have been eligible to receive CDBG funds and contracts from community development agencies to carry out neighborhood revitalization and development projects, such as school building reuse. While considered local money for the purposes of matching Federal grants (such as the historic preservation grant program), block grant money carries with it the responsibility to comply with Federal laws and regulations protecting historic structures.⁷

The Northend Community Center in Columbus, Ohio, is an example of the use of Community Development Act (CDA) funds. The center is utilizing \$140,000 in CDA funds along with a \$100,000 state appropriation to renovate the former Northwood School (type B), built in 1887. The improvements include an elevator, wheelchair ramps, a new entrance, airlocks for the stairways, and new kitchen facilities for a planned hot lunch program. The build-



Northwood School in Columbus, Ohio, now serves as a Northend Community Center.

ing was purchased by The Ohio State University and is leased to the center for \$1 a year under a 25 year lease agreement.

Non-profit organizations can also take advantage of grants available through state and local arts councils and public and private foundations. These are commonly planning funds, but they can often be used as seed money for other grants, and are valuable in demonstrating a willingness to work on the part of the prospective recipient when applying to larger foundations or Federal programs.

Though most schools can be acquired for relatively reasonable terms, sizable amounts of renovation capital will need to be obtained for many conversions. Because of the relative newness of adaptive use, many private institutions are still wary of providing financing. Inherently conservative, most commercial lenders will insist that the financial feasibility of the project be well established and relatively free of risk. This is not to say that private financing is not available. The residential conversion of the Stephen Palmer School in Needham, Massachusetts, for example, was financed by a conventional mortgage as was the German Village Center conversion of St. Mary's School in Columbus, Ohio (see case studies).

In addition to the regularly used sources of real estate funding such as savings and loans, commercial banks, insurance companies, real estate investment trusts, etc., there are several other sources of funds, particularly federal programs, available for school reuse projects which owners/developers can use to their advantage. Further information concerning the programs which follow can be obtained by writing to the addresses listed in the Appendix.

The Historic Preservation Loan Program expands HUD's Title I program by providing FHA insurance for loans to finance the preservation, restoration and rehabilitation of residential properties listed or determined eligible for listing in the National Register of Historic Places, including all properties within a National Register District. Schools converted to residential uses would be eligible, provided they meet the above criteria, and they could have an incidental commercial use not to exceed 20% of the structure's area. Avail-

able from private lending institutions at market rates (not to exceed 12%), these loans can be made for up to \$15,000 per unit for 15 years (not to exceed \$45,000 per structure). Community Development Block Grants may be used to subsidize the market interest rates. The State Historic Preservation Officer must review proposed improvements.

HUD's Section 8 program can also be integrated into a residential conversion of a surplus school. The Academy Knoll Apartments School conversion in Marlborough, Massachusetts, utilized this program, as have several others. The Section 8 program encourages the provision of lower-income housing through rent payment contracts with property owners in which HUD agrees to pay the difference between what a low income family can pay and a HUD established fair market rent on new, substantially rehabilitated or existing rental units. The Housing Authority Act of 1976 directs HUD to allocate Section 8 funds in accordance with block grant communities Housing Assistance Plans. Therefore, the priority assigned to rehabilitation of units is established by the individual community.

HUD periodically solicits proposals from interested owners, developers, non-profit organizations and public housing authorities for specific rehabilitation projects. Projects chosen are provided HUD assurances for Section 8 subsidies for a period of 70 to 80 years. HUD does not provide rehabilitation financing, but owners/developers can use income projections from the HUD assured rents to obtain conventional financing. Owners must rent to eligible families. The subsidy is tied to the property and families that move are not assured of continuing Section 8 support.

Several states currently have state housing finance agencies which can also be tapped for school reuse. The Massachusetts Housing and Finance Agency, which provided both construction and permanent mortgage money for the conversion of Central Grammar School (see case studies) is an example of one of these agencies as is the Connecticut Housing Finance Agency which provided money for the purchase of New Britain High School in New Britain, Connecticut. A considerable number of the projects financed through these

programs have been adaptive use projects.

Prior to 1976, a developer renovating an existing structure faced shorter amortization periods than the developer of a new structure — 20 years instead of 35 years, for example, and then increased property taxes reflecting the increased value of the building.

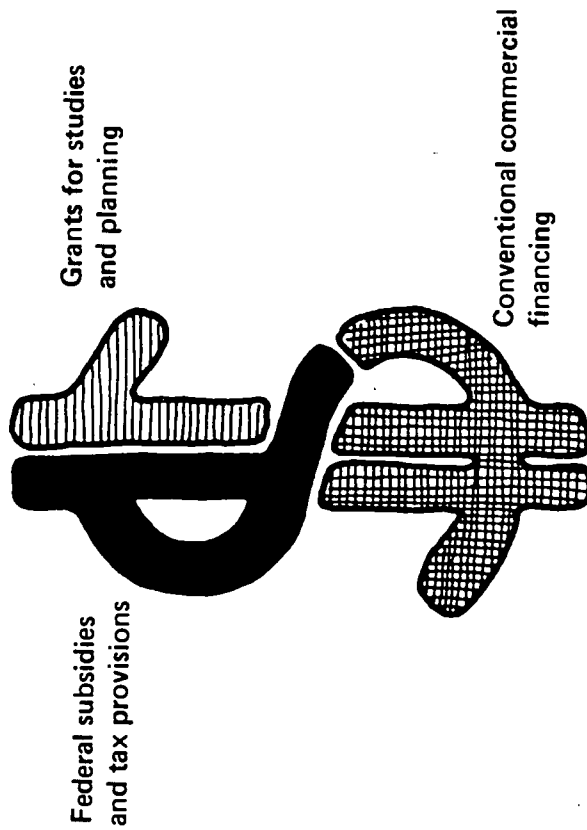
Recognizing that these facts were at odds with the government's desire to promote preservation, Congress included provisions in the Tax Reform Act of 1976 to increase incentives for developers to preserve and reuse historic structures. Congress decided that the existing tax advantages of demolishing historic structures and of building replacement structures should be reduced, and that incentives should be granted to those rehabilitating older buildings. These incentives have been revised and significantly expanded with the passage of the Economic Recovery Act of 1981, and the resulting legislation is applied to all depreciable structures that are listed individually in the National Register of Historic Places, or are located within a historic district listed in the National Register, or that are within a state or locally designated district established under a statute or ordinance approved by the Secretary of the Interior.

Provisions of the Economic Recovery Act of 1981 permit owners of these buildings who invest in rehabilitation to recoup their investment through a 25% investment tax credit, which can be combined with a 15 year accelerated depreciation of the adjusted basis of the entire historic building. To qualify for the investment tax credit, the building must be substantially rehabilitated, meaning the rehabilitation cost must equal the greater of \$5000 or the actual cost of the building, less any depreciation taken.

After a property owner receives notification from the Keeper of the National Register that his building has been certified for significance, he can proceed to apply for a certification of rehabilitation. All information concerning the proposed rehabilitation is reviewed by the Department of the Interior's Technical Preservation Services Division according to the "Secretary of the Interior's Standards for Rehabilitation."

Certification of Rehabilitation is issued only when rehabilitation work has been completed and the owner has sent Technical Preservation Services the projection completion date, a statement that the project meets the Secretary's Standards, and photographs of the completed work. In some cases, an on-site inspection of the project may be necessary.

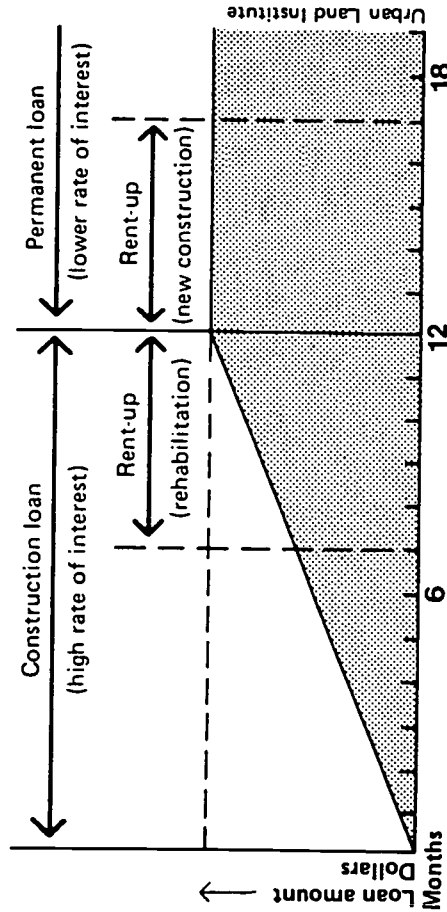
The law also includes a 15% investment tax credit for buildings thirty years and older, and a 20% investment tax credit for buildings forty years and older. These credits apply only to commercial and industrial uses, and not to residential rental properties. To qualify for these lesser tax credits, review by the National Parks Service is required only when the buildings are within a Register-listed Historic District. This new law enables the rehabilitation of older buildings which are not necessarily certified historic structures to qualify for tax incentives. School buildings meeting the Act's provisions are eligible for its benefits. The investment tax credit is deducted directly from the income tax liability of the owner.



The financing package for a school reuse project may be put together from a variety of sources.

The length of time required for the development process can be substantially reduced with school reuse when compared with comparable new construction. Inflation in construction and finance costs places a premium on speed. By cutting development time, the developer cuts costs and at the same time generates cash flows earlier. The more highly marketable areas of the project, such as the lobby or models, can be given priority in construction and a developer can often obtain a permanent loan (which carries a lower interest rate) sooner because marketability of the building has been proven.

Development Loan Graph 8



Communities can instigate some creative programs locally to develop an economic climate which is friendly to school reuse. Revolving fund loans, seeded by federal grants or long term loans and matched by private and state (or local) public monies, could be enormously helpful. This program could be administered by the school system, or preferably, by the city. Revolving fund money would be used to finance the purchase of school buildings by non-profit groups and private developers who would renovate them. When the buildings are resold to permanent long-term owners the proceeds would be returned to the fund to be used for subsequent purchases, renovations, and resale. The buildings, once renovated, would potentially have a much wider market appeal to permanent owners. Preserva-

tion revolving funds have already been successful in Savannah, Charleston and Pittsburgh. Additionally, city officials may want to solicit the help of local lending institutions in establishing a pool of funds for a low interest loan program aimed specifically at school reuse projects.

An inability to obtain typical institutional financing should not be cause for immediate alarm. Other sources of potential funding are available. A call to a local landmarks foundation or commission and/or the state historical society can put the school reuse developer in touch with the proper authorities for each of the programs mentioned. These groups can also assist in filling out grant applications, locating additional sources of funding, and may even agree to lobby for your cause.

Pending Legislation

Senate Bill 792, submitted by Senator John Heinz (R-Pa) in February, 1977, would reinforce school reuse if passed. "Currently in the Senate Committee on Banking, Housing and Urban Affairs, the bill proposes to 'authorize the Secretary of Housing and Urban Development to make grants to local governments for converting closed school buildings to efficient, alternative uses, and for other purposes'. As the present intention is to retain schools for public use, either as conducted by governments or not-for-profit organizations, the bill currently limits grants to conversions serving 'productive educational and social service purposes.'"

House Bill H.R. 1421, which is called the Surplus School Conservation Act of 1979, has the same stated purpose as Senate Bill 792. It cites in its findings that "declining enrollments and population immigration have caused the closures of schools at all levels throughout the country," and "the school buildings that have been closed represent valuable resources to communities and should be maintained and operated for other productive uses."⁹ This legislation has been sent back to committee for re-examination, and thus its future is uncertain. If passed, this legislation, with the funding it

provides, would be very helpful to communities in reusing their surplus schools.

State support for the joint use of schools is coming into favor in some states. Minnesota in 1971 passed the Community School Law, which offers financial assistance to districts adopting expanded community use of schools. California law expressly permits community use of school property for certain purposes.

Local communities can help promote school reuse by establishing a policy that explicitly supports the multiple uses of school buildings by both the public and private sectors, and through local legislative programs such as new zoning and historic district and landmark preservation ordinances, as well as developing tax abatement programs and revolving funds.

Additionally, as reusing schools become more and more important to community continuity, states may wish to consider revising the legislation (such as Section 3313.41 of the Ohio Revised Code) which constrains a school district's disposition of its property. States, communities, and school officials all must work together to develop legislation which is in the best interests of all those involved, considering the changing issues.

Footnotes

¹Urban Land Institute, PROJECT REFERENCE FILE (October-December, 1977), p. 2.

²Surplus School Buildings: New Opportunities for Adaptive Use," AIA JOURNAL, (April, 1977), p. 59.

³Urban Land Institute, ADAPTIVE USE, p. 14.

⁴after IBID., pp. 4-5.

⁵IBID., p. 16.

⁶IBID., p. 36.

⁷"Sources of Preservation Funding," Heritage Conservation and Recreation Service, 1978.

⁸Urban Land Institute, ADAPTIVE USE, p. 36.

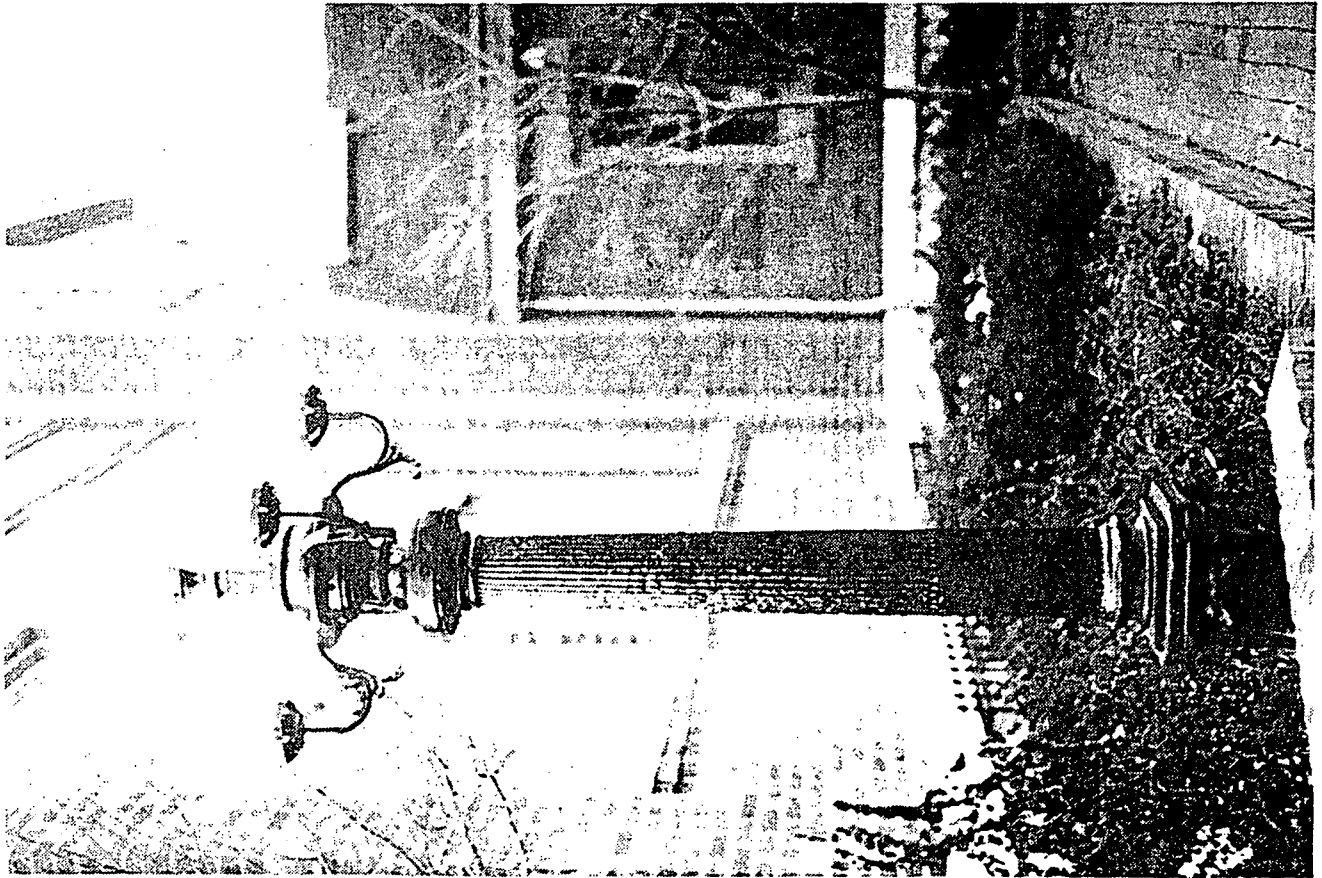
⁹United States House of Representatives Bill H.R. 1421, p. 2.

5

the state
of the art

The State of the Art

In cities across the country, the adaptive use of schools has continually benefited communities, school boards, and developers. The case studies contained in this section illustrate how rehabilitated schools have aided revitalization, provided new spaces containing irreplaceable amenities, saved local landmarks, and provided economic benefit for new and former owners. Each case study represents a unique use, method of financing, or method of acquisition. These selected case studies represent only a few of the many types of conversions that should be investigated when considering the reuse of a school building.

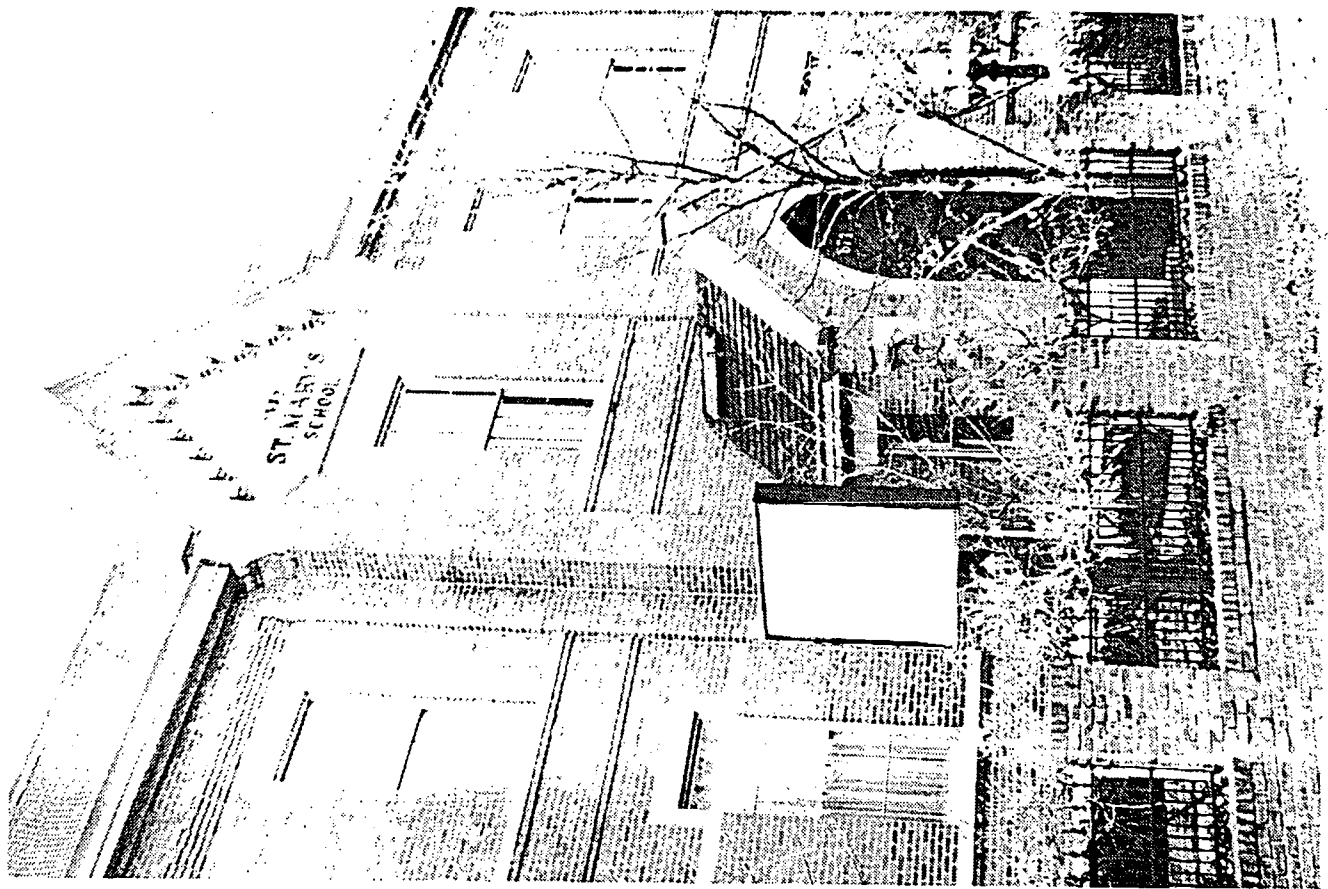
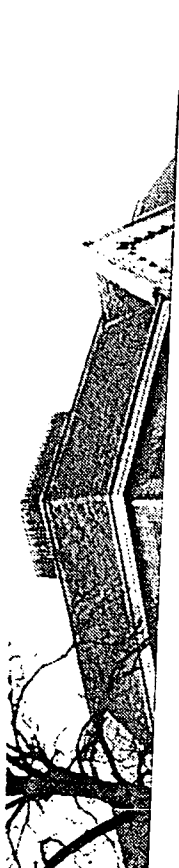


St. Mary's School Columbus, Ohio

adaptive use:
**The German Village Center
A multi-use office building**

General Description

This 19th century parochial school located in Columbus' German Village area has been adapted to a multi-use office building, including professional offices, retail space, and a savings and loan. Built in 1887, the old schoolhouse is a two-story brick structure, with four large classrooms on each floor located around a central hallway and stairs. (This building represents the type B classification.) Since the existing basement and attic space were utilized in the conversion, four usable floors were created.



Design Features

The two classroom floors were easily converted into office space, with the savings and loan occupying part of the first floor. The attic space was adapted to office space while the basement was given access from the outside for retail use by developing two sunken courtyards. With the utilization of the basement and attic space, the usable square footage was increased to 20,000 square feet, nearly twice that of the former school.

The original exterior appearance of the school building was retained and enhanced through extensive cleaning and restoration, elaborate landscaping, and careful design of an adjacent parking area.

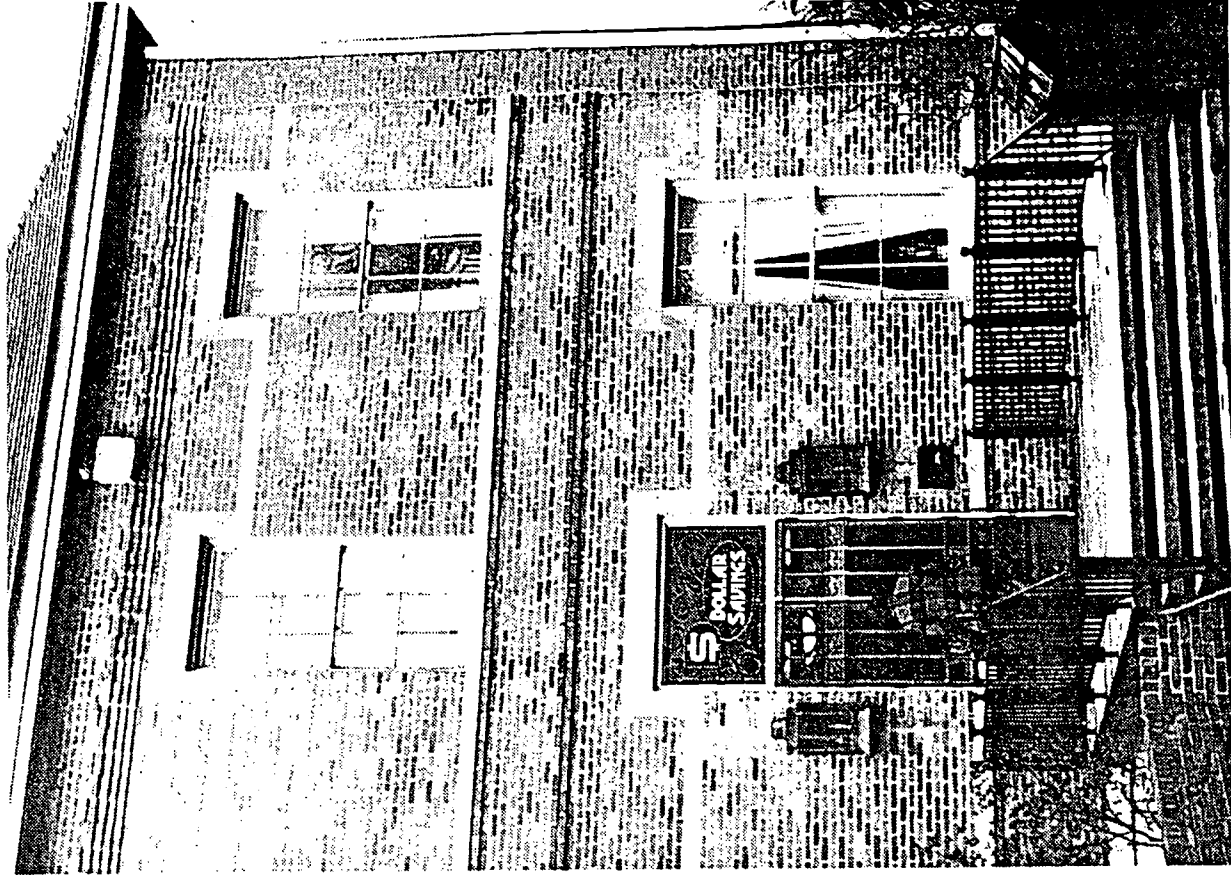
The renovation created a totally new interior while saving some existing features such as part of a major stairway and exposing brick walls. The savings and loan offices were designed in the style of an 1870's bank facility to fit the character of the building.

To satisfy building codes, the basement level was excavated six inches to provide sufficient ceiling height and a fire escape stairway was added. Elevators were installed for convenience and access for the physically handicapped.

Financing

The project was undertaken by a private developer in 1971, when conversion of the old schoolhouse to office space cost \$30 per square foot. Conventional funding sources were used for property acquisition, the construction loan, and the permanent financing.

The rehabilitation and adaptive use of this structure, which is listed in the National Register of Historic Places, has played a role in the continuing revitalization of the surrounding, nationally-recognized German Village historic district, and the building continues to be a valuable asset to its community.



This information compiled and condensed from: Ohio Department of Economic and Community Development. ADAPTIVE REUSE OF EXISTING STRUCTURES IN OHIO. June 1979, pp. 31-32.

Central Grammar School Gloucester, Massachusetts

adaptive use:

Central Grammar Apartments Housing for the elderly

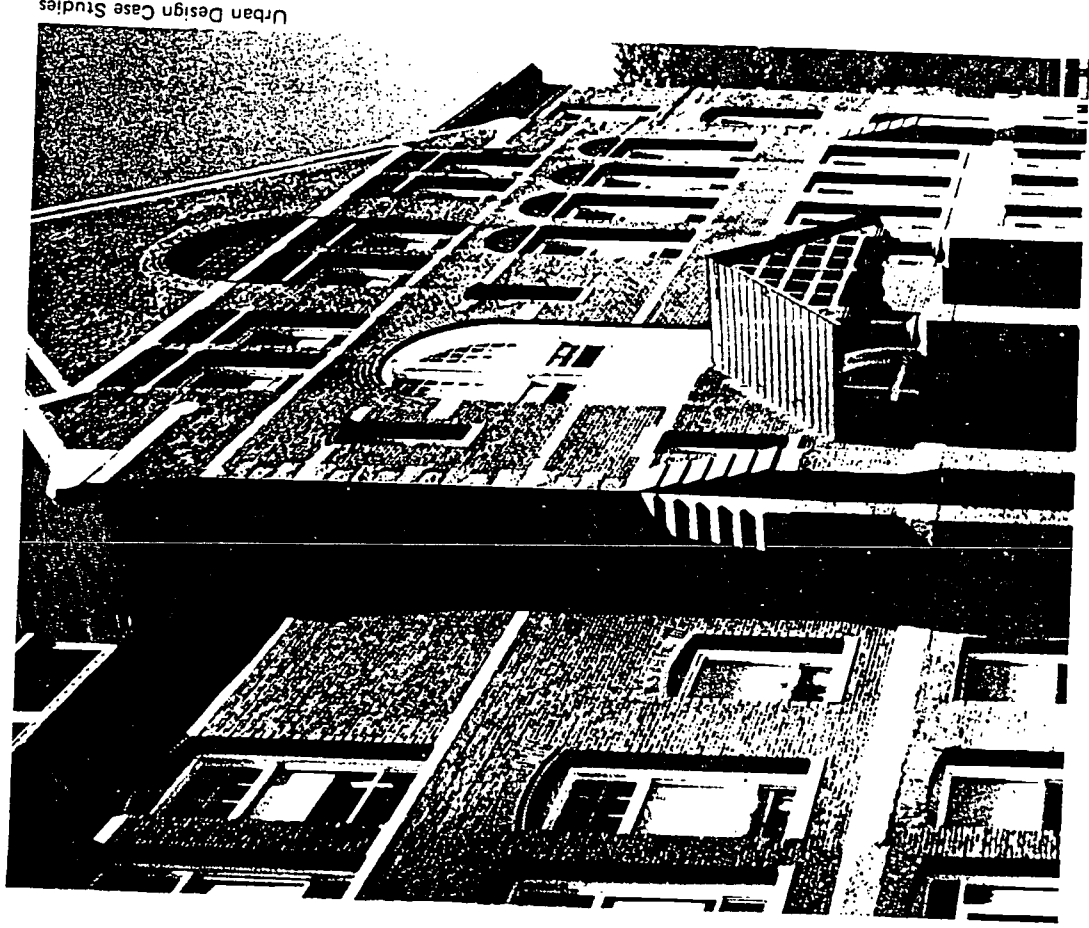
General Description

Central Grammar School in Gloucester, Massachusetts, received its first pupils in 1889, was enlarged in the 1920's, and by the late 1960's had become obsolete. (This building represents the type B classification, with a type D addition.) After standing vacant for a number of years, the building has become an 84 unit subsidized apartment house for the elderly. Many of the fine amenities inherent in an older building, along with its location near the city hall, shops, a library and clinic, have made it a very successful project. Ironically, most of the people on the waiting list are residents of a new and modern high rise elderly housing complex nearby, which was built at a cost far exceeding the school conversion.

Design Features

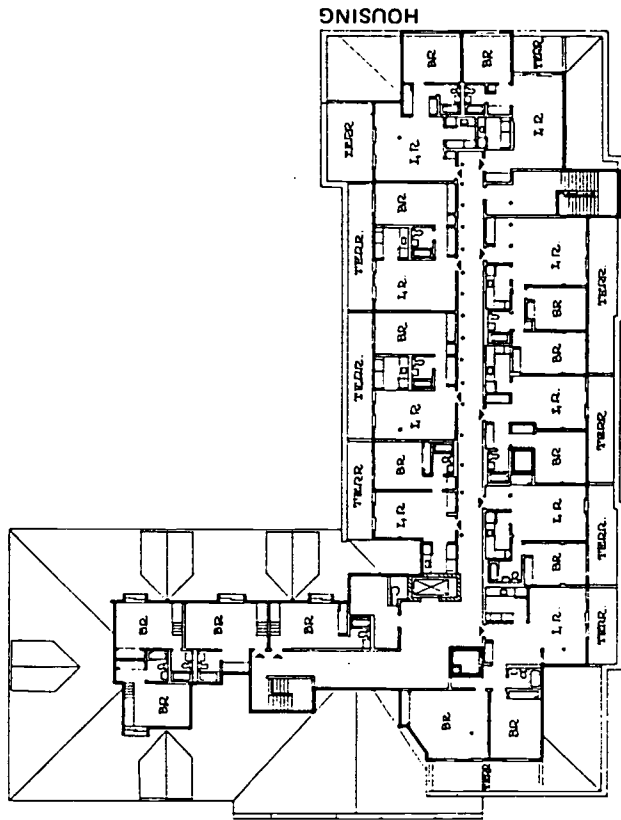
Most of the units contain one bedroom and they were built fairly easily by "dropping" free-standing kitchen and bathroom units into the classrooms, installing partitions to separate living and sleeping areas, and erecting party walls between adjoining units that are fitted into the same classroom. Irreplaceable amenities including maple floors that were retained and polished, oak wainscoting and trim, large windows, and paneled closets, were saved wherever possible. The ceilings that were too high for one floor units and too low for two floor units were simply dropped. The window space

effected by this lowering of the ceiling was blocked in with plywood, a method later determined somewhat awkward. (On the firm's succeeding jobs, the ceiling was beveled to the window, leaving the whole window exposed.)



Urban Design Case Studies

An unused stairway became baths and storage for a line of apartments, while the wide corridors serve as a foyer to the apartments. The unused space in the attic was transformed into apartments by cutting back the roof line, thus making available a space for exterior patios, which provide spectacular views to the town and harbor. Ground floor units were given private outdoor living spaces by puncturing the exterior wall for doorways. Special accommodations have been included for handicapped persons, along with an elevator, complete security system, individually controlled heating units, and a central garbage compactor system.



TOP FLOOR (FORMER ATTIC)

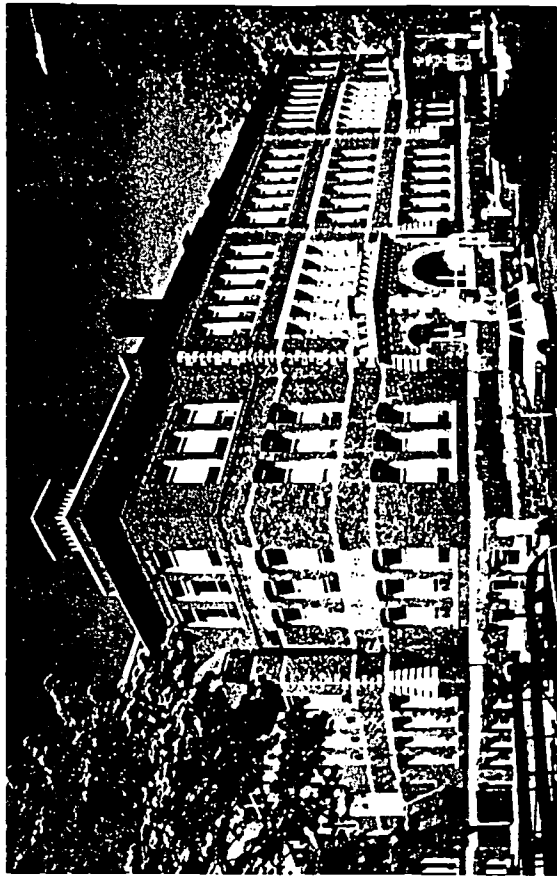
Financing

The building was purchased from the city by a non-profit organization for \$95,000, with the city holding the option to regain possession in 50 years for \$1. The city had intended to demolish the building at a cost of \$45,000. Instead, with the new use, the

rehabilitated structure provides \$24,000 a year income to the city in property taxes. The rents, ranging from \$185 to \$215 in 1975, are subsidized by a state agency. The construction cost per unit in 1975 was \$22,525, with both construction loan and permanent financing acquired through the Massachusetts Housing Finance Agency. Each apartment unit supplied a 15% — 20% savings in cost over new construction.

With style, grace, and economy, this project has met a serious need in housing. The Gloucester project has sparked other school adaptations for elderly housing in many other communities, and is a well known example of the rehabilitation of school buildings.

HOUSING



This information compiled and condensed from:

Gerardi, Natalie. "Profit from those old schools nobody wants," HOUSING, (November 1978), pp. 76-85.

"Housing from a public school," URBAN DESIGN CASE STUDIES, Second Awards Program.

"Surplus School Buildings: New Opportunities for Adaptive Use," AIA JOURNAL, (April 1977), pp. 58-63.

DeWitt Junior High School Ithaca, New York

adaptive use:

The DeWitt Building A Multi-use Center

General Description

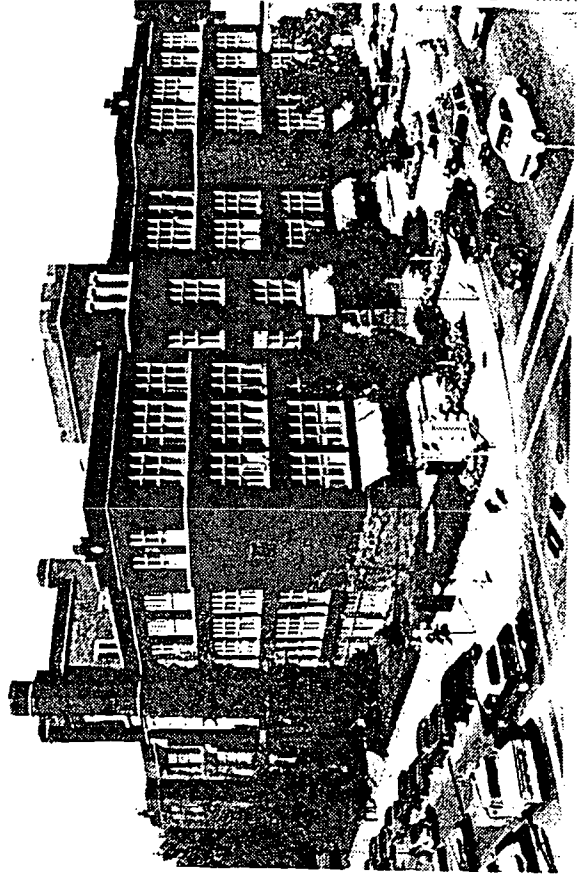
The DeWitt Junior High School, which served as a schoolhouse from its construction in 1915 until its closing in 1971, has been given a new life as a multi-use indoor shopping mall, with apartments and office space. This project was not only a success for the developer, but also significantly improved the quality of Ithaca's downtown. Rehabilitating the school building has generated interest and aided in the revitalization of the downtown area, increased the tax base for the property, and provided jobs for construction workers and business for local material suppliers. (This building represents the type D classification.)

Design Features

A special flavor was maintained within the building by retaining the turrets, wood-paneled entrances, high ceilings, thick and soundproof walls, and waterproof fixtures. An art gallery and French cafe highlight the shops and restaurants of the first floor retail space, which has become a very active center in downtown Ithaca. The three upper stories have been converted into apartments, providing greatly desired downtown housing. An elegant 1,500 square foot apartment unit with three bedrooms and two baths was converted from the school library, and the former school auditorium in the central core of the building was developed into new office space.

Financing

The developer paid \$20,000 for the building in 1971, with the stipulation that at least \$500,000 would be put into the building renovation, thus giving the city a higher assessment for property taxes. The original intention for the structure by another interested party was to demolish the building for a parking lot, which would have yielded \$6,000 in taxes per year. The rehabilitation proposal yielded the municipality, including the school board, \$40,000 annually in property taxes.



William Downing Associates

The adaptive use of the DeWitt Junior High School has been a success for both the developer and the community. Only one commercial enterprise has failed in the mall since the complex opened in 1974, and the downtown area has a project sparking redevelopment, interest, and income for the community.

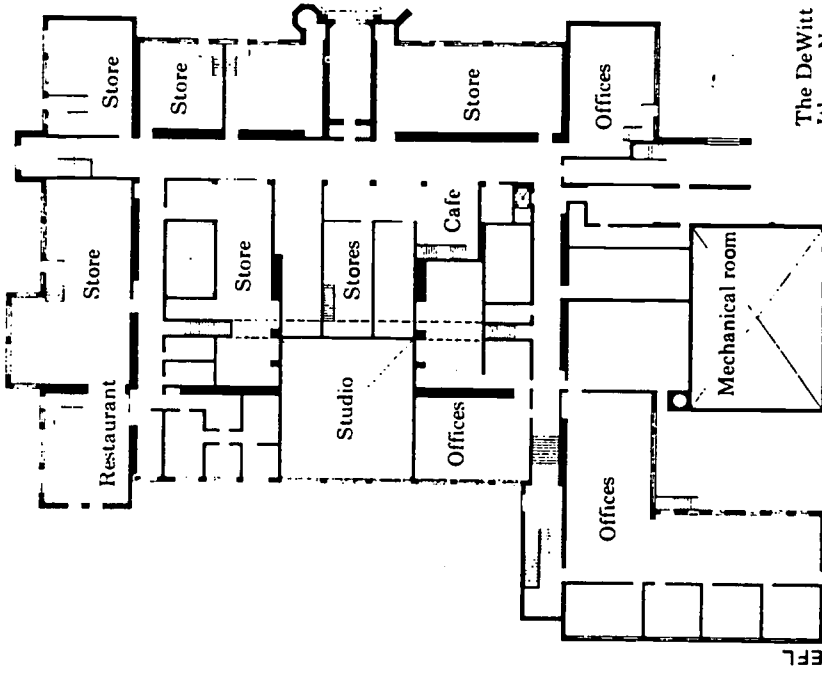
The \$500,000 investment by the developer was made with the help of a local bank, which, unlike most lending institutions, was willing to make the loan because it previously had been involved with a successful rehabilitation project.

This information compiled and condensed from:

Educational Facilities Laboratories, **SURPLUS SCHOOL SPACE: OPTIONS AND OPPORTUNITIES**, New York: Educational Facilities Laboratories, 1976, p. 34.

Getzels, Judith N. "Don't Scrap That School," **PLANNING**, (November 1976), pp. 22-24.

"Surplus School Buildings: New Opportunities for Adaptive Use," **AIA JOURNAL**, (April 1977), pp. 58-63.



The DeWitt Building
Ithaca, New York

Loyola High School Baltimore, Maryland

adaptive use:

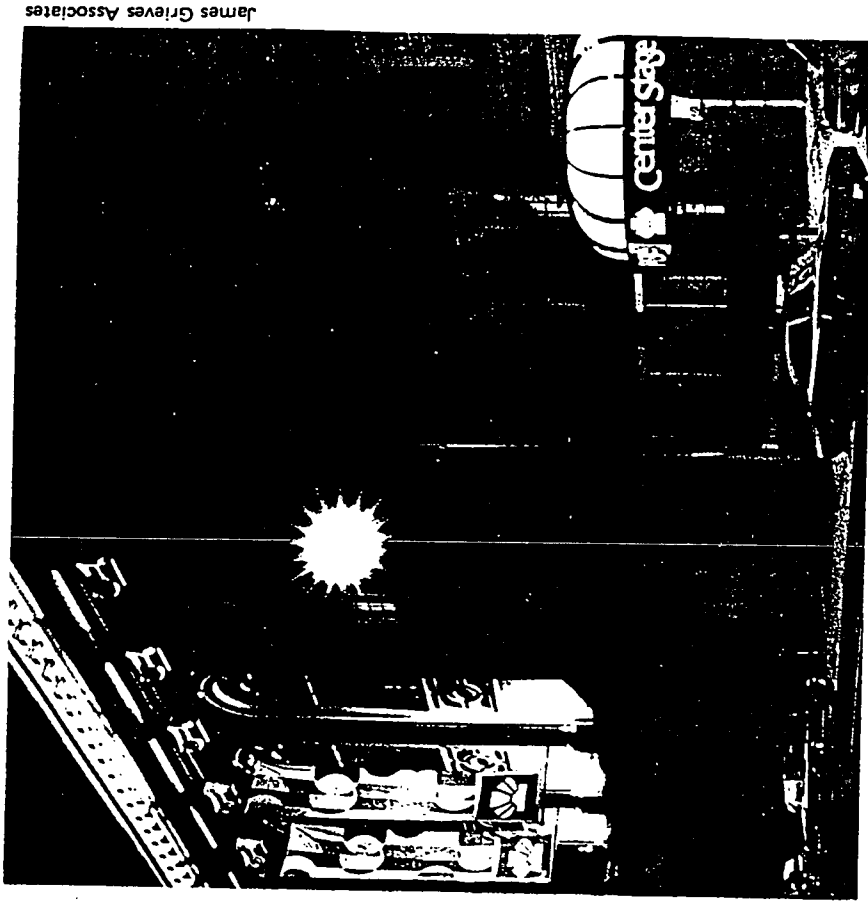
The Center Stage A performing arts theater

General Description

Through extensive redevelopment work, the Loyola High School and College in Baltimore, Maryland, has been adapted to a performing arts theater for the Center Stage Association, a Baltimore theater organization. Losing their previous downtown building in a fire, the organization searched for a new downtown location, rather than move to the suburbs. The former owners of the school, knowing of the theater organization's dilemma, offered the 1856 school to the Center Stage Association for a nominal charge, providing the Baltimore landmark be preserved. The building suited the needs of the theater organization well. Not only did the old school offer enough room to rebuild their operations, but also provided enough built-in expansion space to double the size of the facilities. Adapting the old school cost less than building a new theater, and took less time to complete as well.

Design Features

The redesign is a masterpiece that makes use of found spaces and found materials. The project is designed to be completed in three phases, the first of which is finished. Covering 40,000 of the available 95,000 square feet, phase one includes a 500 seat auditorium with balcony and "open thrust" stage, a two-level entrance lobby, a 150 seat restaurant, offices, and rehearsal space. The second and third phases will add a 300 seat theater, a restaurant, apartments for visiting actors, classrooms, and more rehearsal space.



James Gieves Associates

The imagination incorporated into the redevelopment has been a key to the successful reuse. A former stair vestibule has become a sound screen between the theater and lobby. Three eleven-foot deep trusses inserted over the stage and theater hold a system of catwalks. The second theater will rest on top of these trusses; the space between the chords is used for office space and will become a sound shield between the theaters. Irregularly shaped spaces become stairs; a corner holds a lounge; a niche on the roof contains air conditioning equipment; and the area behind the pediment will be a rehearsal hall. Elevators, to be built in the courtyard to take patrons to the second theater, will utilize the existing arched windows as entrances.

Materials found in the building have been used with imagination also. A large kitchen exhaust hood was electrified with small light bulbs and serves as the focal point of the cafe. Old frame mirrors line the natural brick walls of the women's lounge. All signs in the building are on pieces of black slate, recalling the building's history.

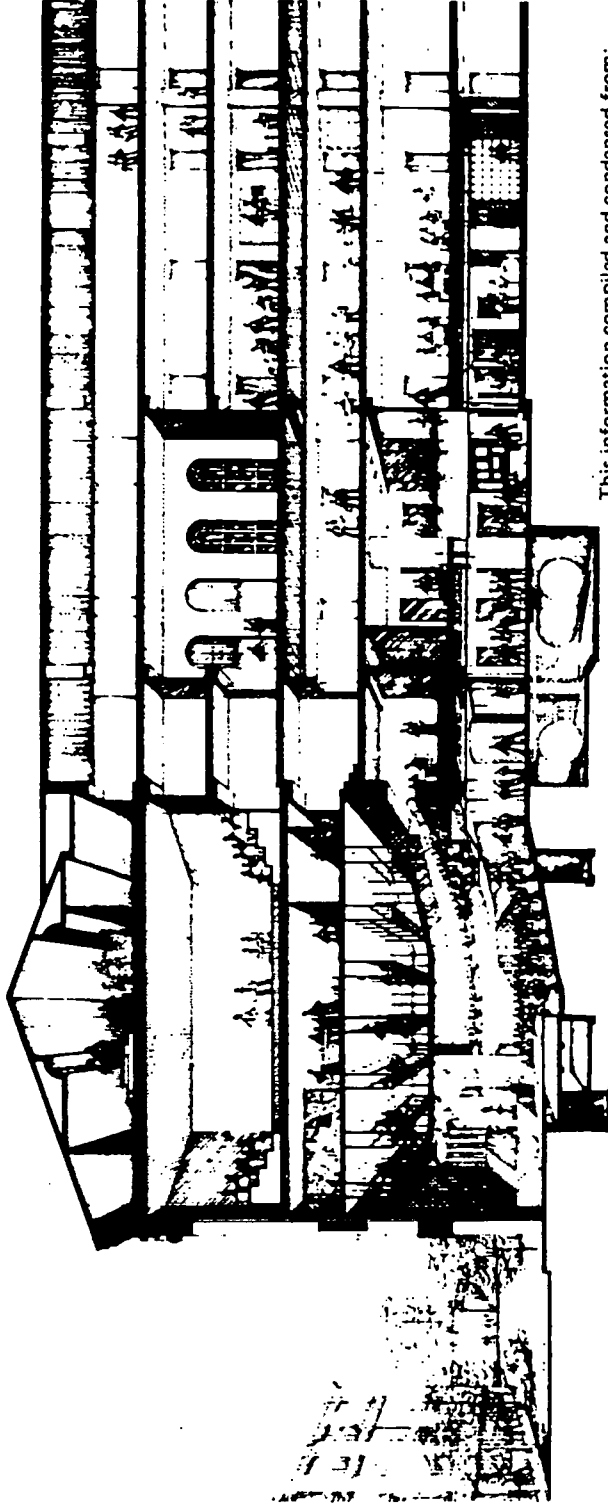
Financing

The method by which the theater company acquired the old school was, as some claimed, a miracle. The building was offered in 1971 to the theater at a total cost of \$5. Because of the school's location in an urban renewal area, the city paid \$200,000 to the previous owners, the Jesuit Church, who agreed to donate the \$200,000 to

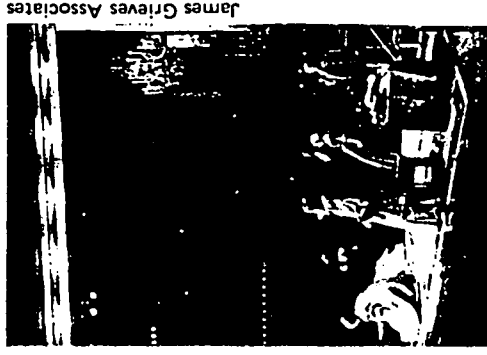
the theater. The city then sold the building to the Center Stage for \$5.

The National Endowment for the Arts made a \$100,000 grant to cover the design fees. A consortium of five banks loaned \$300,000 and the city loaned \$200,000. \$750,000 was loaned from the Ford Foundation and the last \$150,000 of the total \$1.7 million was raised in a fund drive and from theater operating funds.

Rehabilitation of the old school resulted in a \$0.8 million savings and two years sooner move—in over comparable new construction. The Center Stage has given Baltimore a theatrical hit. It is an architectural one, too, especially for those with enough imagination to realize that old school buildings can have new lives.



James Grieves Associates



James Grieves Associates

This information compiled and condensed from:

"A Baltimore School Becomes a Theater with Room to Expand," AIA JOURNAL, (June 1976), pp. 33-34.

Urban Land Institute. ADAPTIVE USE . Washington D.C., The Urban Land Institute, 1978.

Old Central High School Tulsa, Oklahoma

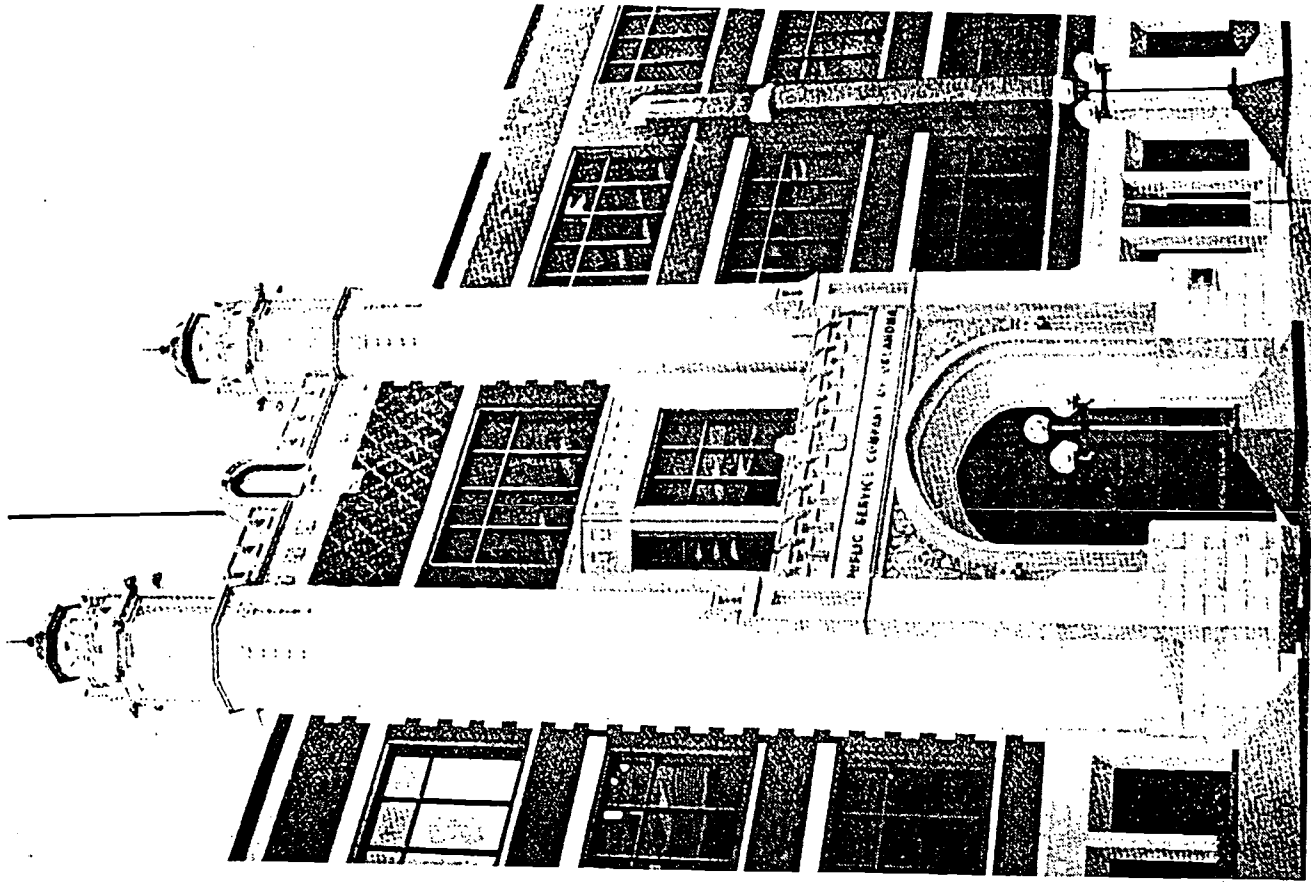
adaptive use:
**Public Service Company of Oklahoma
Corporate offices**

General Description

The adaptive use of the Old Central High School in Tulsa, Oklahoma, is an example of the flexibility and creative results that can be achieved through innovative design in rehabilitating surplus schools. The Public Service Company, the new owner/occupant, is an electric utility company whose representative felt that not only was the renovation project an act of historic preservation and civic pride, but also was an intelligent and economically rewarding undertaking. The new company headquarters facility was able to accommodate nearly 800 Public Service Company employees previously housed on 27 floors in seven Tulsa buildings. Convenience and increased productivity was accomplished through a functional, open-plan office concept. The 54 year-old school building is a prominent Tulsa landmark, designed in the English Renaissance style. (This building represents a type D classification.) During the 1920s it was the second largest high school in America.

Design Features

A major concern in the rehabilitation was the preservation of the architectural integrity of the English Renaissance exterior so that it would remain an identifiable landmark to alumni and citizens. Overgrown vegetation obliterated most of the neo-classical design proportions, which were in great need of simplification and unit. White painted wood windows which dominated the exterior facade were replaced with solar bronze glass in dark frames, bringing immediate relief and unity to the entire exterior. The main entrance



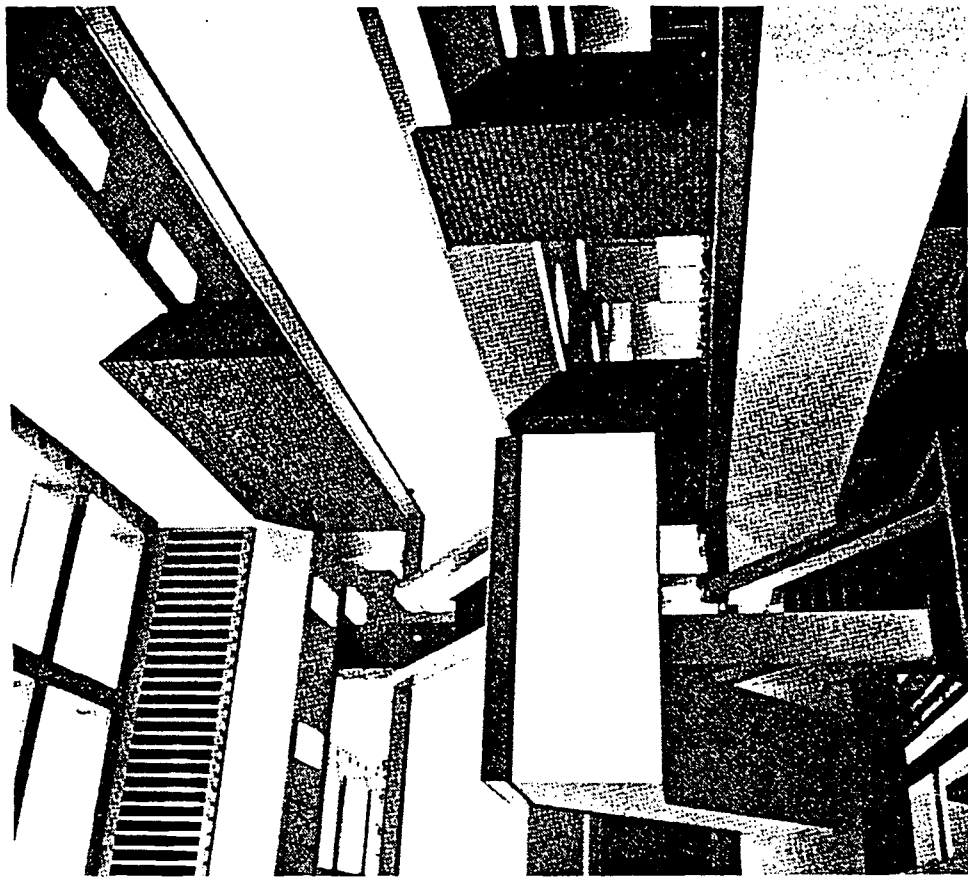
on the first floor was reached by monumental stairs ascending from the street level, creating an awkward and unimpressive entrance. The discovery that the ground floor was at street level led to the removal of retaining walls and overgrown plantings surrounding the building along with the steps, allowing for the creation of a spacious two-story reception area. The newly exposed masonry was cleaned and tuck-pointed resulting in a like-new appearance, greatly enhancing the facade of the renovated structure.

A major interior design goal was to create an open, spacious, and flexible office space arrangement. To accomplish this, the 300,000 square foot structure was completely gutted except for the basic concrete structural components. The hardwood flooring was removed to allow for a new concrete floor. Soft surfaces for floor coverings, partitions and ceilings have created a quiet, serene atmosphere. Four new interior landscaped atriums were converted from existing interior light courts, adding architectural drama to the new interior. Skylights were installed over the light courts to allow light to filter throughout all four floors. Vertical circulation was included in the atriums adding activity and visual excitement to the spaces. The two story reception area has a simulated skylight lighting system, and attractively designed brickwork forming the walls and floors.

Energy conservation issues received a high priority in the renovation, resulting in features that will insure energy savings for many years to come. Double glazed solar bronze windows were used for all exterior windows, and insulation was installed on the interior of all outside walls before applying the interior finished walls. Additional insulation was applied to the roof and insulated plexiglass was used in the skylights over the atriums. As a result of the energy-related improvements, the PSO maintenance engineers expect about a 25% savings in maintenance and operation costs in the first year of operation.

Financing

An estimate of costs for a new building of comparable size was \$14.7 million at \$50 per square foot. Renovation costs, including



site work and landscaping was \$35.16 per square foot. (1977 dollar values). Total cost of the school conversion, including the initial land and building costs, was \$11.0 million, a savings to the owner, over new construction, of 30%. Total construction costs were \$9.7 million for 294,771 square feet of building.

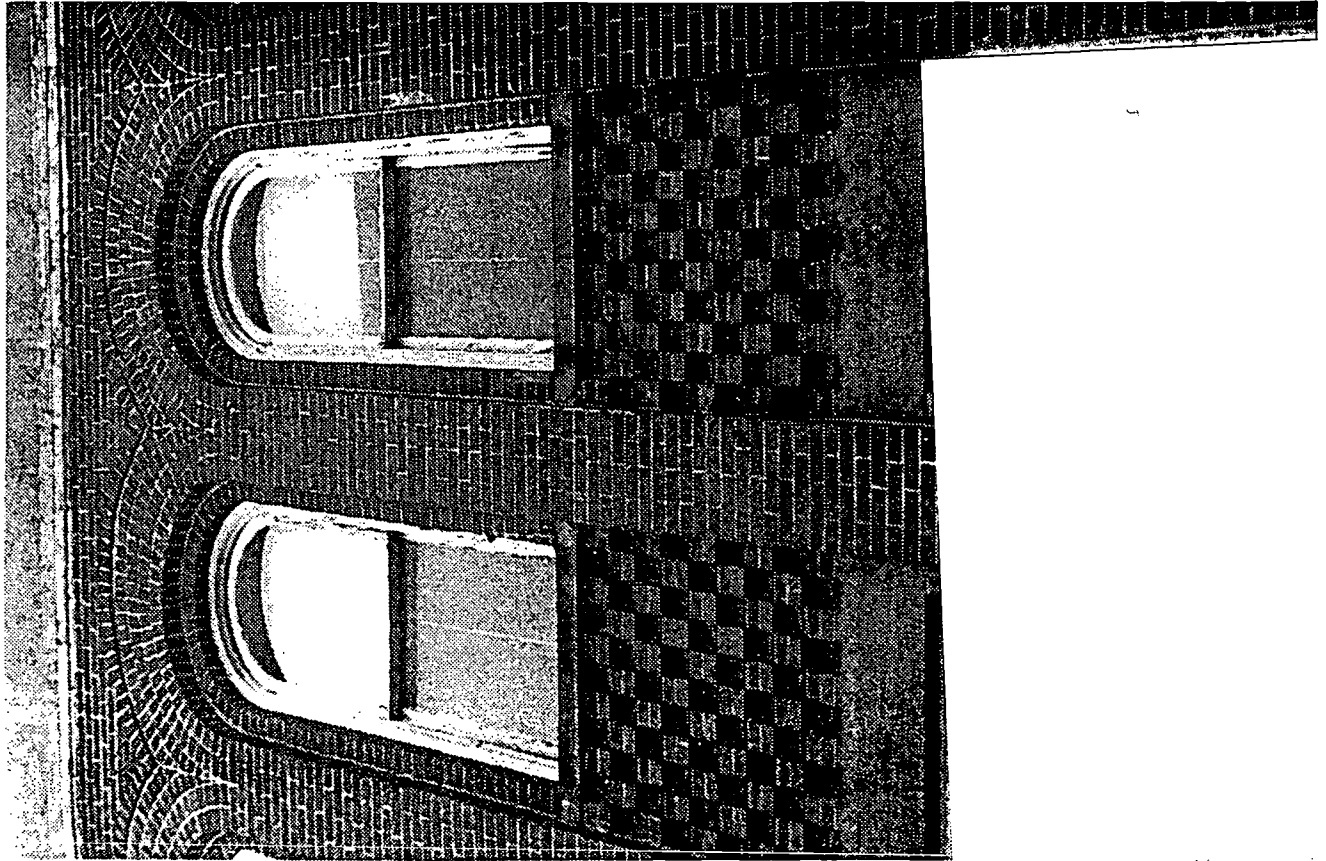
This material compiled and condensed from:

"High School Converted to Office Building," COMMERCIAL REMODELING, (October 1979) pp. 40-45.

Two More Approaches

To further demonstrate the reuse potential of school buildings, two vacant Columbus school buildings were selected by the authors, and detailed architectural designs developed for each building showing a potential new use. The new uses selected are as different as the buildings themselves. Felton school, a masonry bearing-wall and wood floor type C school is shown converted to a performing arts center, while Thurber school, a masonry bearing-wall and concrete floor type D school is shown converted to condominiums. In both cases an effort was made to maximize usable interior space through the design of a completely new interior, while preserving the building's exterior and those interior elements judged to be of aesthetic or architectural importance, such as pressed metal ceilings, large window openings and hardwood floors.

As with the case studies which preceded, these are only representative of the many potential conversions that should be investigated when considering reuse of a school building. It is hoped they demonstrate the flexibility and potential for an exciting new building which lies within each surplus school.



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Felton Elementary School Columbus, Ohio

adaptive use:

A Performing Arts Center

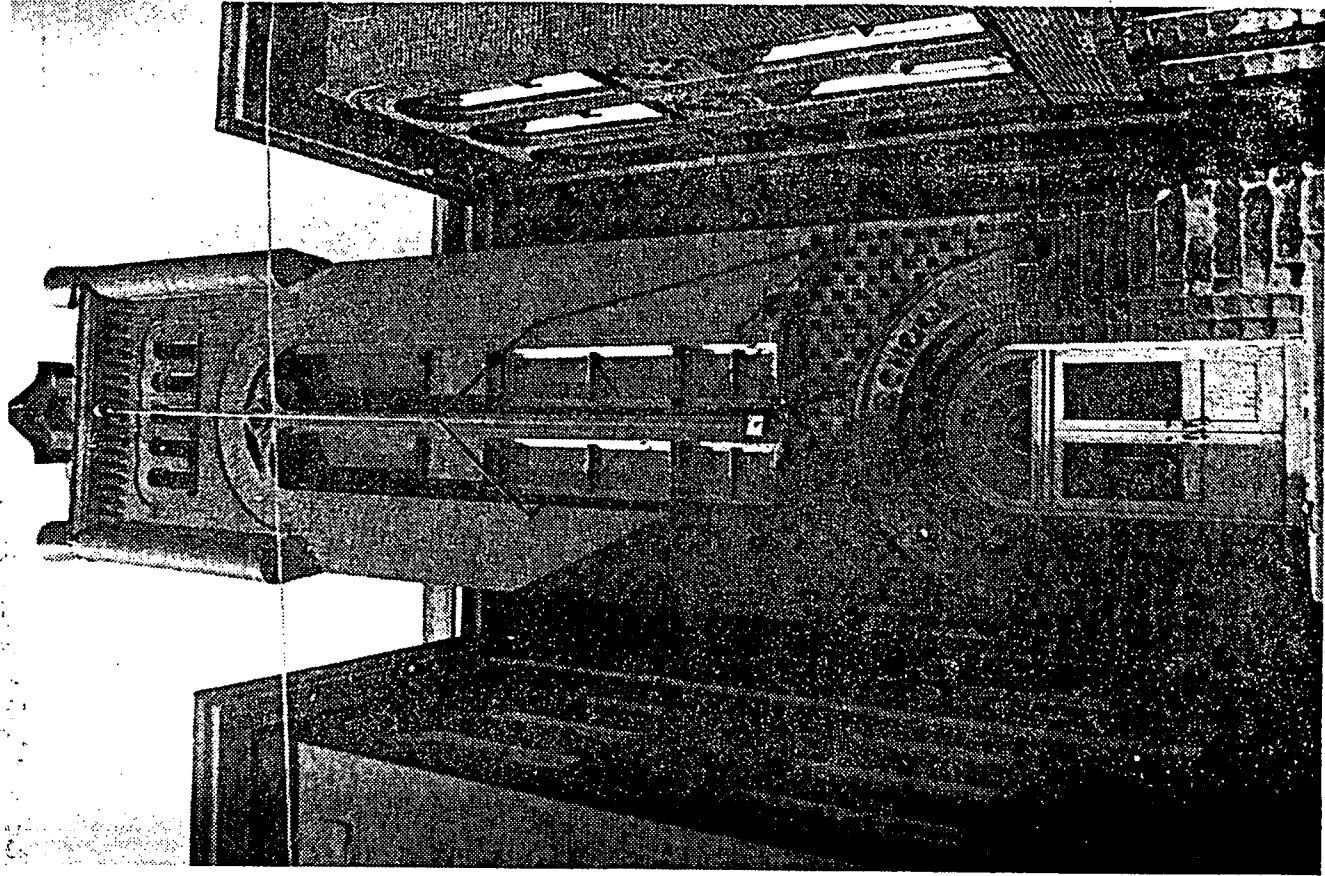
General Description

Felton elementary school, closed in 1975 by the Columbus Public Schools and presently used for storage, is illustrated here transformed into a performing arts center. Performing and rehearsal space as well as an administrative center are programmed into the 1896 schoolhouse which will be used collectively by many of Columbus' performing arts groups. A main theater, recital room, film screening room, classroom space and rehearsal space make up the buildings performance spaces. The administrative center provides spaces for offices, secretarial and conference areas, and printing and mailing functions. These administrative services are designed to be shared by many of the smaller groups that cannot support a staff and administrative facility of their own. This administrative center will also function as a central ticketing service for performances.

Felton school was designed by D. Riebel, a prominent Columbus school architect. Showing influences of the Romanesque Revival style, the building is a two-and-a-half story brick bearing-wall structure, with round arched window openings, decorative brickwork and an elaborate tower centered on the main facade. This type C building received two classroom wing additions in 1950, and a cafeteria/multipurpose room in 1956.

Design Features

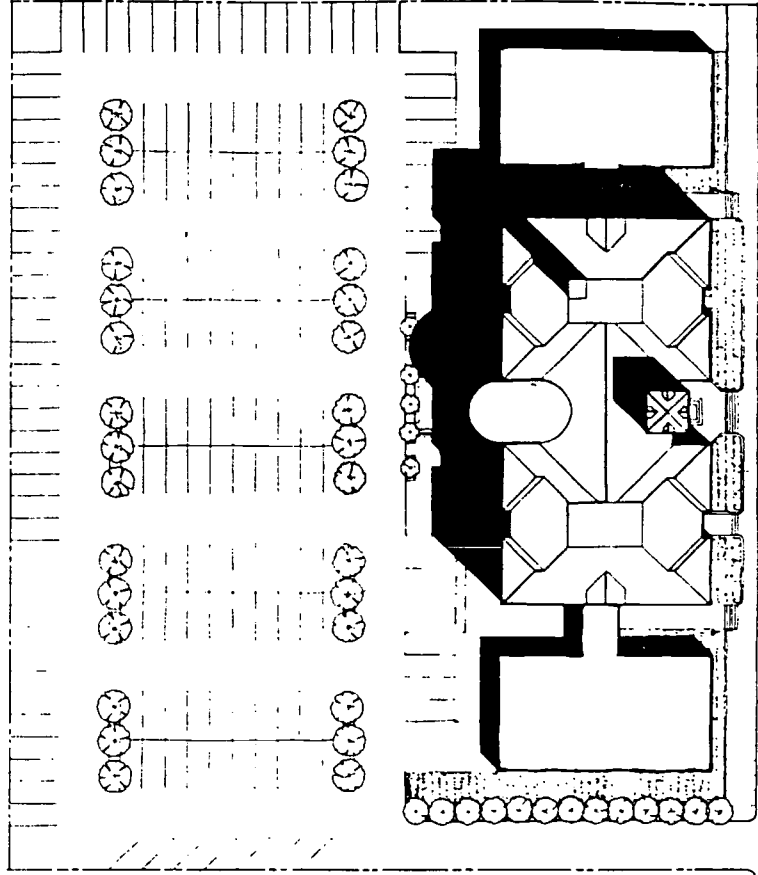
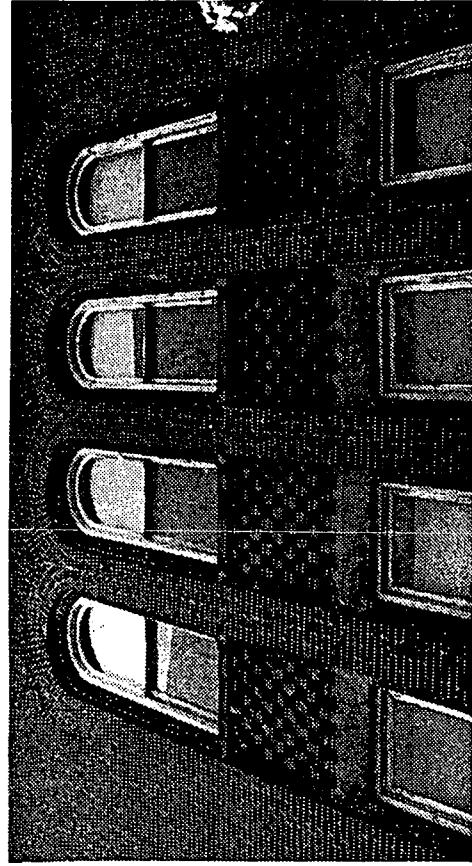
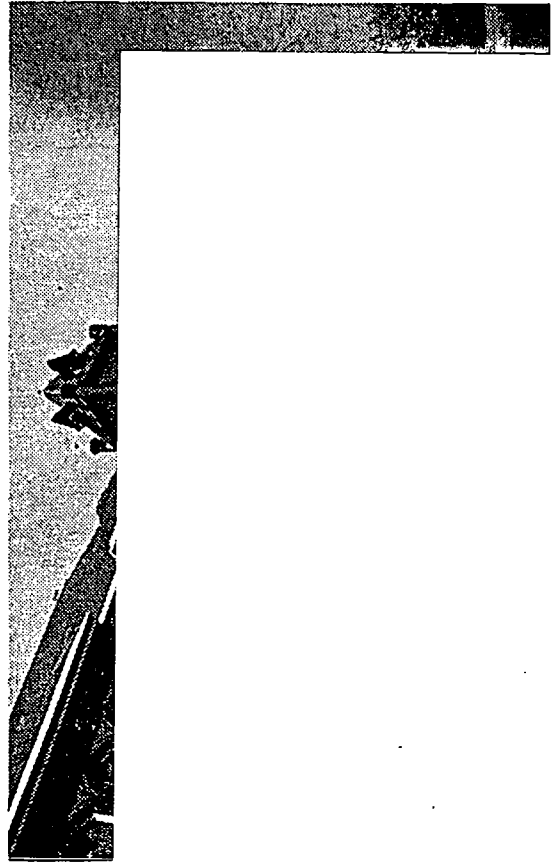
Accommodating the two theaters was the major design consideration in adapting this bearing-wall structure. One half of the 1896 schoolbuilding is given over to the main theater for its full three-story height. The theater seats 470 people. Middle and upper



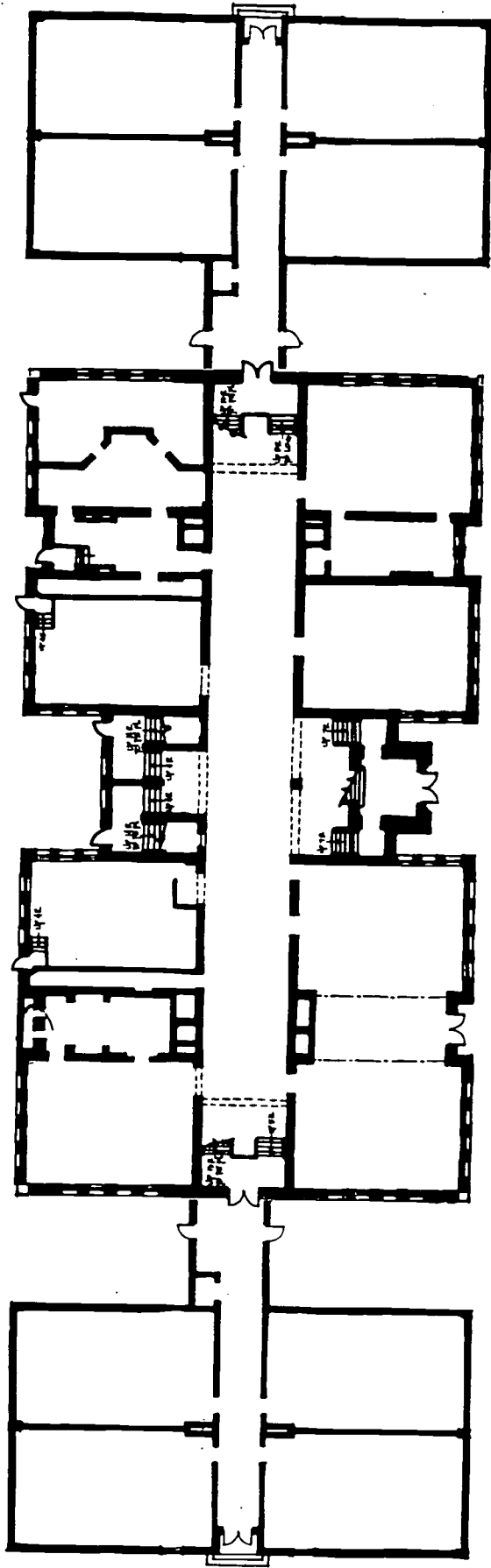
level floors were removed, creating a three-story space in which the theater is defined by acoustical wall and ceiling systems. The stage is located with direct access to one of the classroom wing additions which houses the dressing rooms, rehearsal space, and shop area. A backstage area provided to either side of the stage is separated from the performing area by movable acoustical walls. The mobility of the acoustical walls allows the stage to be adjusted as necessary for concerts, live performances or films.

The experimental theater, located on the upper level, was created by combining the space of two classrooms and the adjacent corridor. This experimental theater was designed as a flexible space furnished with movable risers for seating up to 150 people. The stage or performance area will be defined by the location of the movable risers. A backstage area leads directly into the space for performers and a storage area.

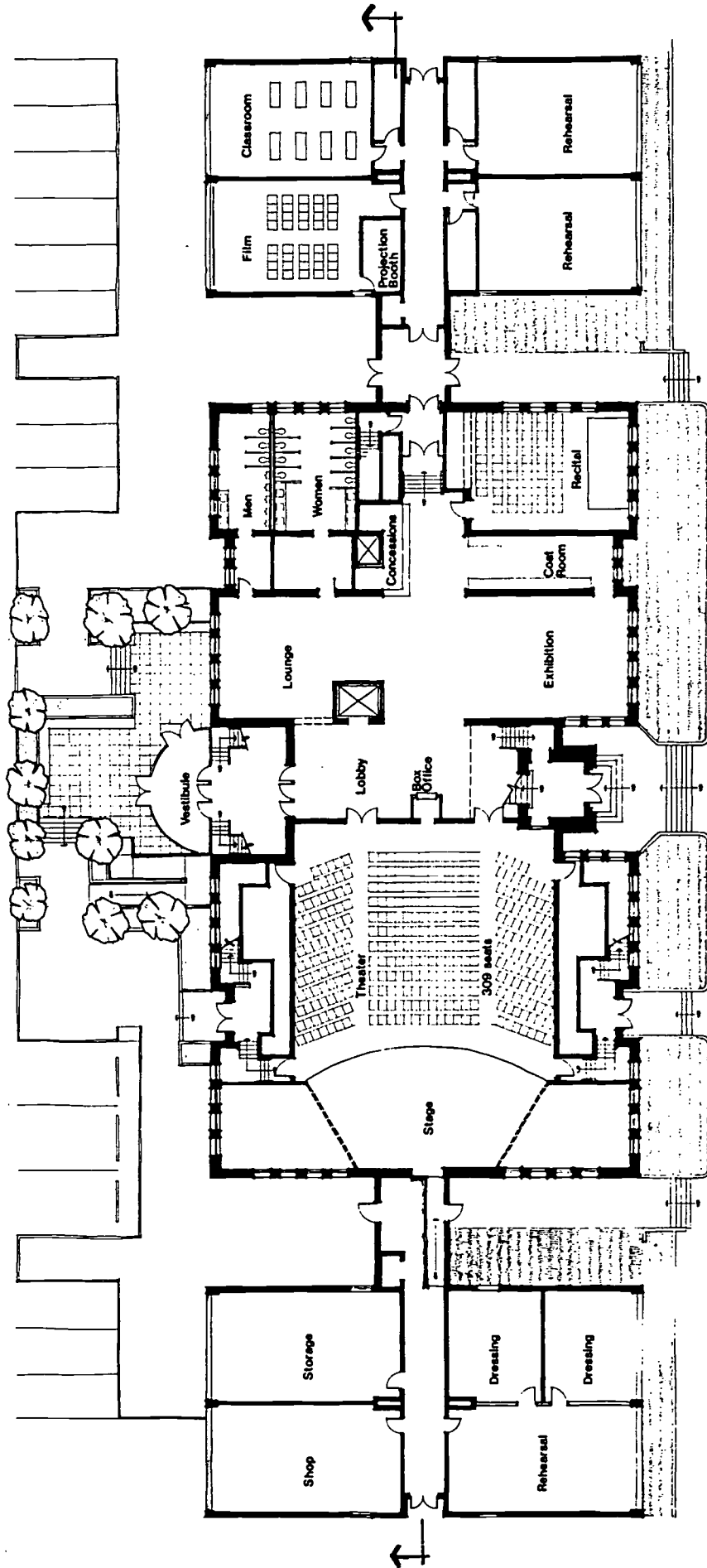
The recital room, film screening room and additional rehearsal space have been directly adapted from existing classrooms. Necessary acoustical wall, floor and ceiling finishes are installed to provide proper acoustics for performances. Public spaces, including lobbies, lounges, exhibition spaces, restrooms, and concession areas are



Proposed Site Plan

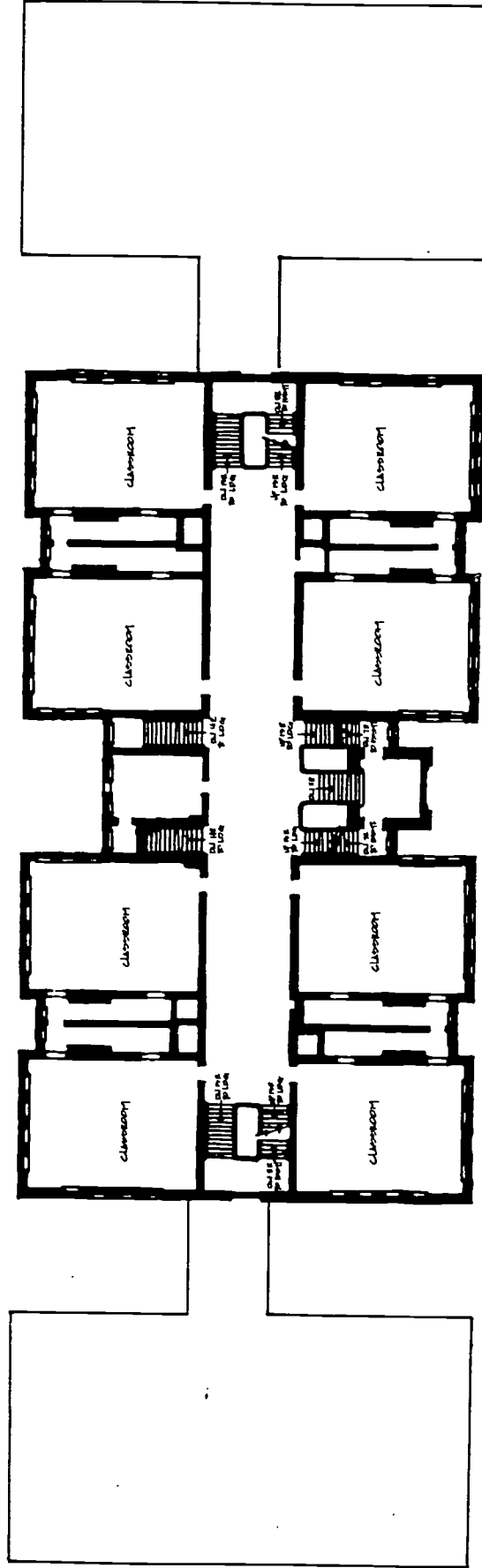


Existing Lower Level

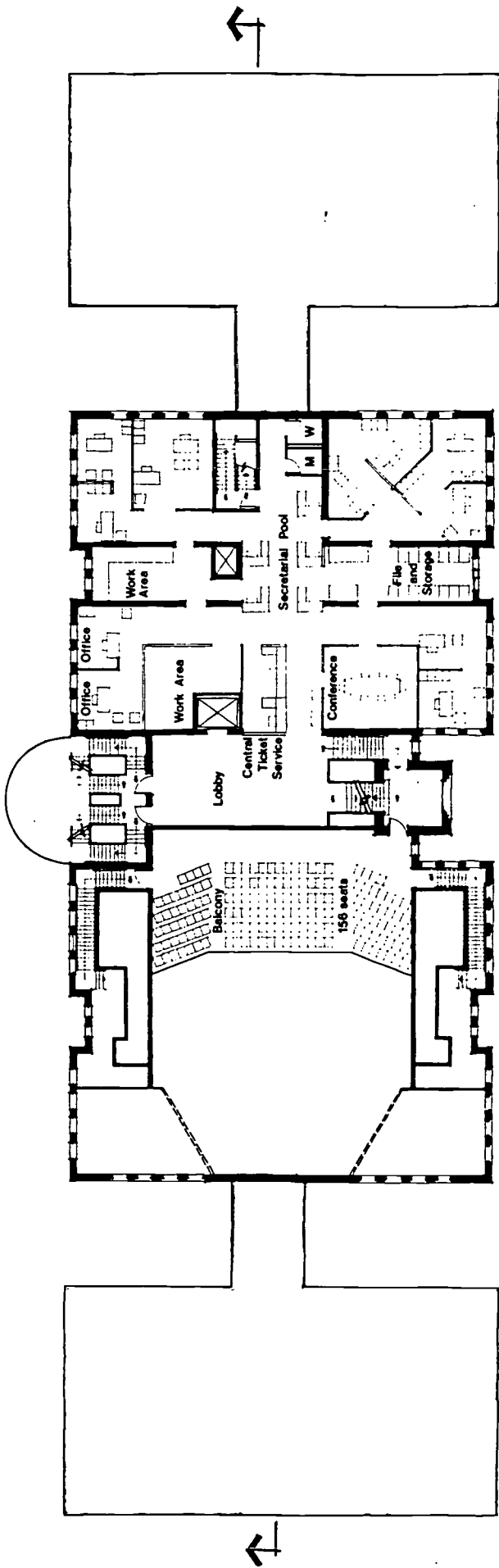


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Proposed Lower Level



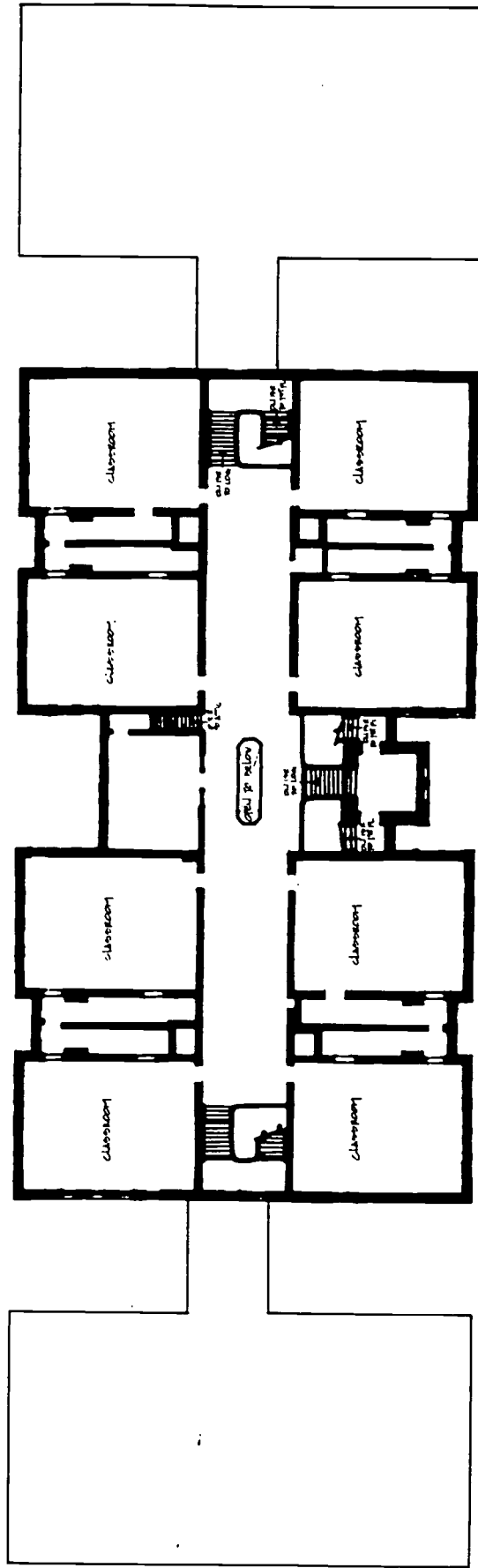
Existing Middle Level
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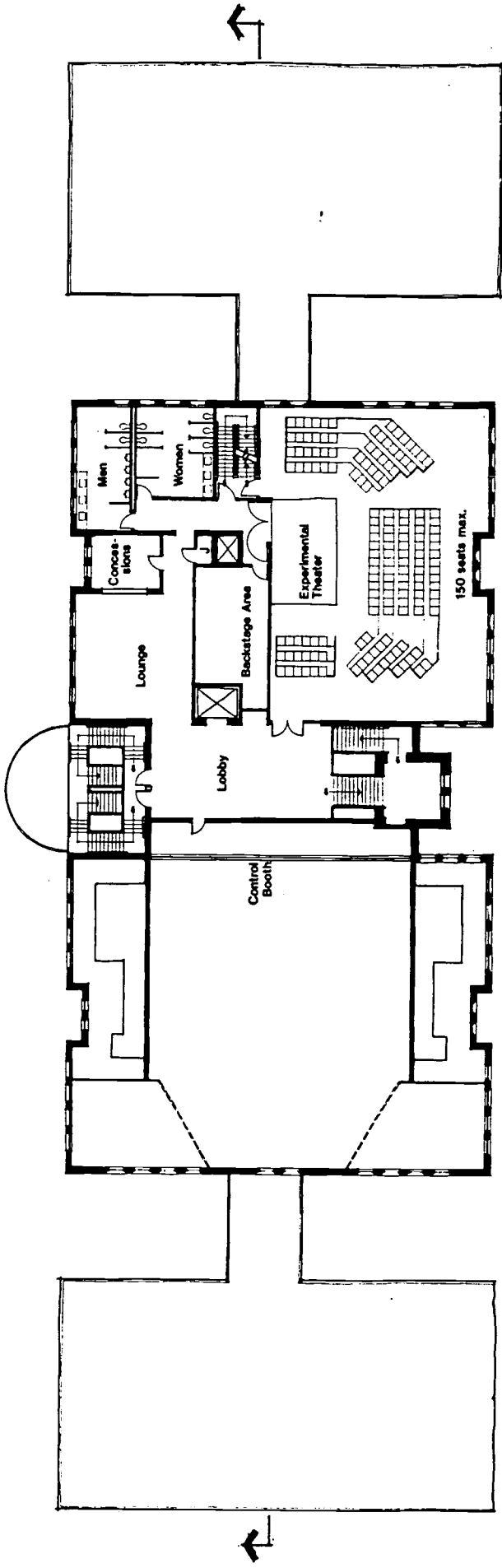


**Proposed Middle Level
193**



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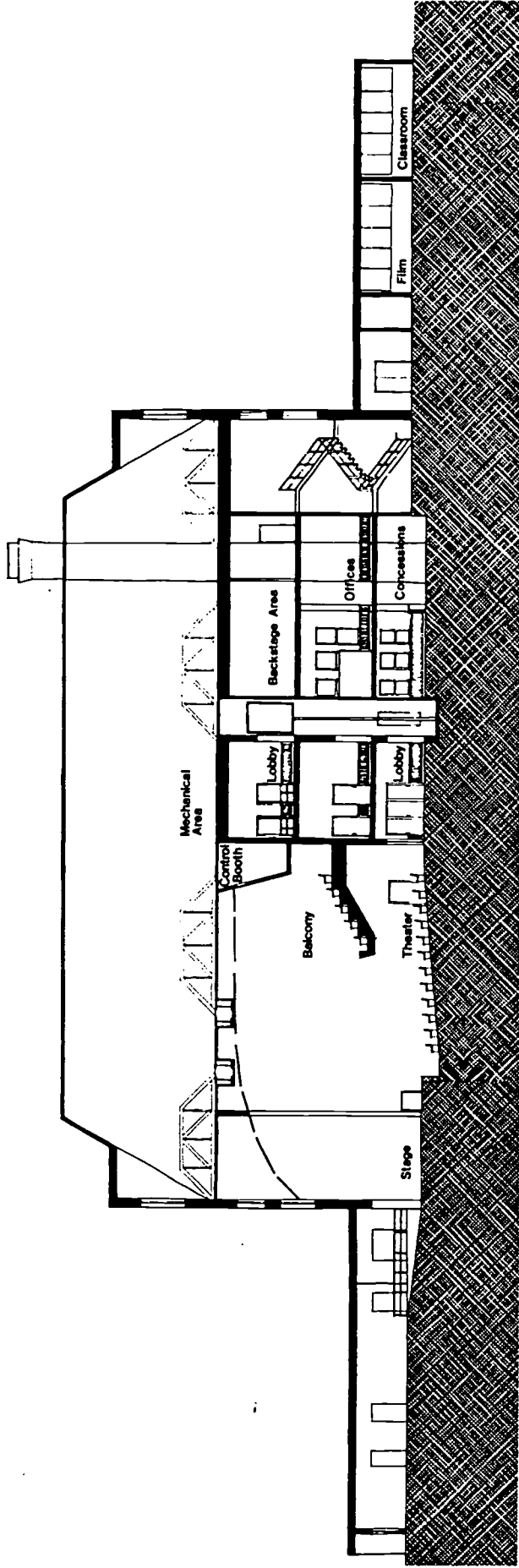
Existing Upper Level



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Proposed Upper Level 1977



Section

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located on both upper and lower floors adjacent to the theaters and performing spaces.

The administrative center is located on the middle level of the main school building. Low movable office partitions divide the combined space of four classrooms into individual offices and work space. Individual offices located around the perimeter take advantage of the large windows, while the low office partitions allow light to filter throughout the area. This area can be closed off during evenings and weekends allowing uninterrupted circulation for performances.

Many of the architectural features, such as wood wainscoting, maple floors and metal ceilings are kept in the public and office areas to retain the 1896 school building's character. Circulation to the balcony and upper level will be enhanced by passing through the tower on the front facade.

While the interior is undergoing major changes, the exterior will remain very much intact. In order to retain windows in performance areas where light is not desirable, interior shutters will be provided to close the windows where necessary, while maintaining the exterior appearance.

Because of the orientation of the parking lot (formerly the playground), the back of the building will become the main entrance, with the front tower remaining the entrance for passenger drop-off. A sunken courtyard located between the parking and the building serves as the entrance to the center. A ramp is incorporated into the courtyard for handicapped persons. A recess in the building's rear facade has been converted to a stairwell providing circulation to all three floors. A semi-circular glazed vestibule rises up all three stories, enclosing the stairwell. An elevator is located inside the main entrance to provide handicapped persons with easy access to the upper floors.

Financing

The performing arts groups that would be using this facility are capable of supporting their activities and small or part-time staff,

however they cannot afford a physical facility of their own. City ownership of the proposed performing arts center would allow the performing arts groups to apply the money they now pay for small staffs and rents toward the staffing and operating costs of the center. The groups using the center would be able to take advantage of the economies of scale inherent in sharing one facility. Grants could be sought in the name of the center separate from the individual organizations for physical operating costs, leaving the performing arts groups to seek funds for their individual performance expenses.

A long term, low cost lease on the property to the city by the school board would relieve the school board of the maintenance costs on the closed school and add an incentive to the city for reusing a local landmark school building.

The adaptive use of Felton school illustrates how a public school that has fallen out of use can again be a center for public activity and growth. Surplus schools offer great potential and flexibility. School boards and city governments should strive toward keeping school buildings actively used in the best public interest.

Thurber Elementary School Columbus, Ohio

adaptive use:
Condominium Units

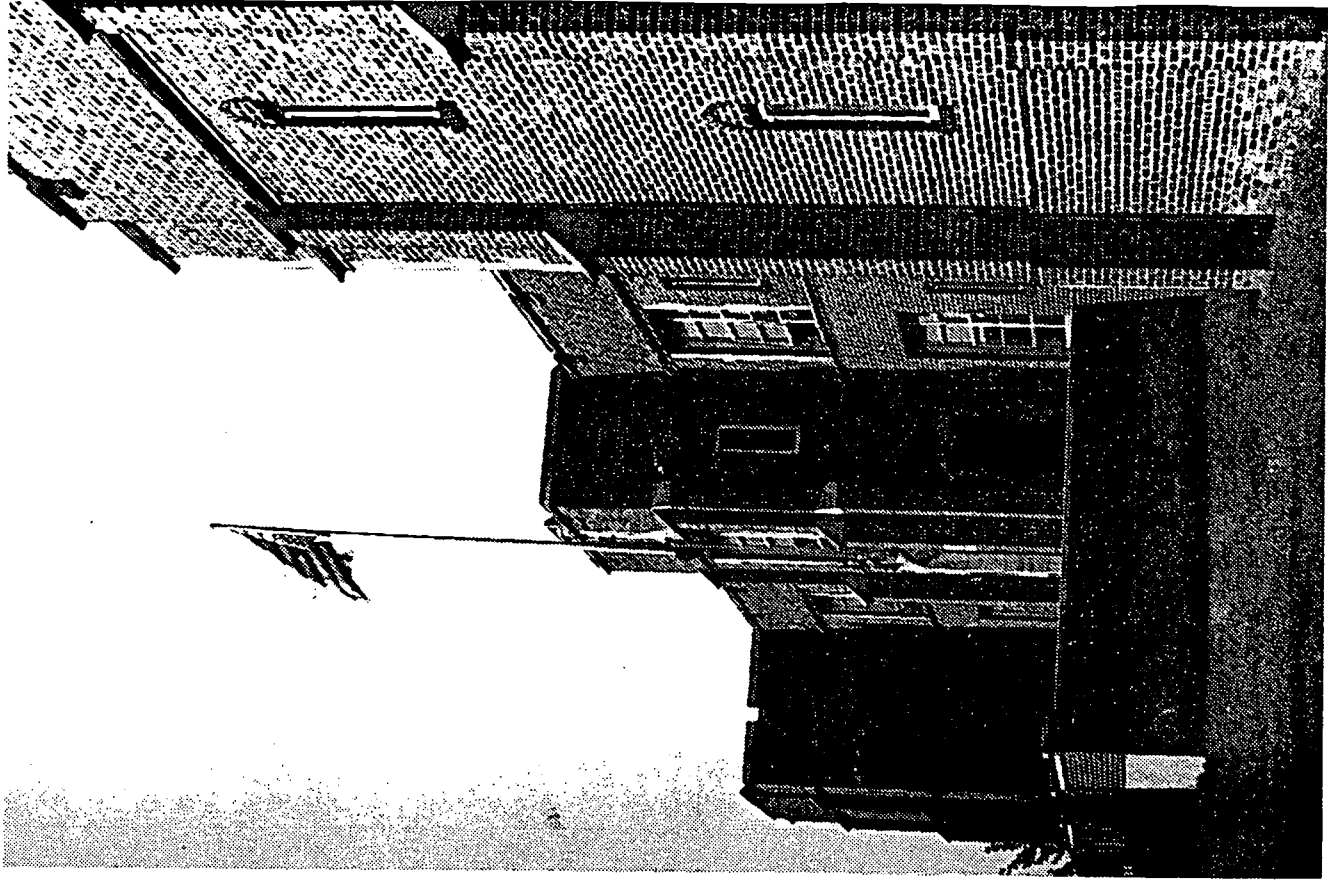
General Description

Thurber school is located on the near north side of Columbus, and was originally constructed as the Olentangy school in 1922. Designed by Howard Dwight Smith, a local architect who also designed several other Columbus schools, the building was closed in June 1980 along with 14 other Columbus schools, bringing the total number of schools closed in Columbus near 50. Thurber school is of masonry bearing-wall and concrete floor construction, and has an H-shaped plan. The building exhibits Jacobethan influences in its styling, having stone quoins and cornice trim, and represents the type D classification of school building.

Thurber school is located directly south of the Near North Side Historic District, and is surrounded by both single and multi-family residences, including two high-rise residential towers. In addition there is a landscaped park directly adjacent, and the site is just north of downtown Columbus, with excellent access to primary transportation routes. These surrounding uses make a residential conversion a natural. A condominium project was chosen over rental units because of the building's relatively small size, and since the current high interest rates make long-term mortgages unattractive for a developer.

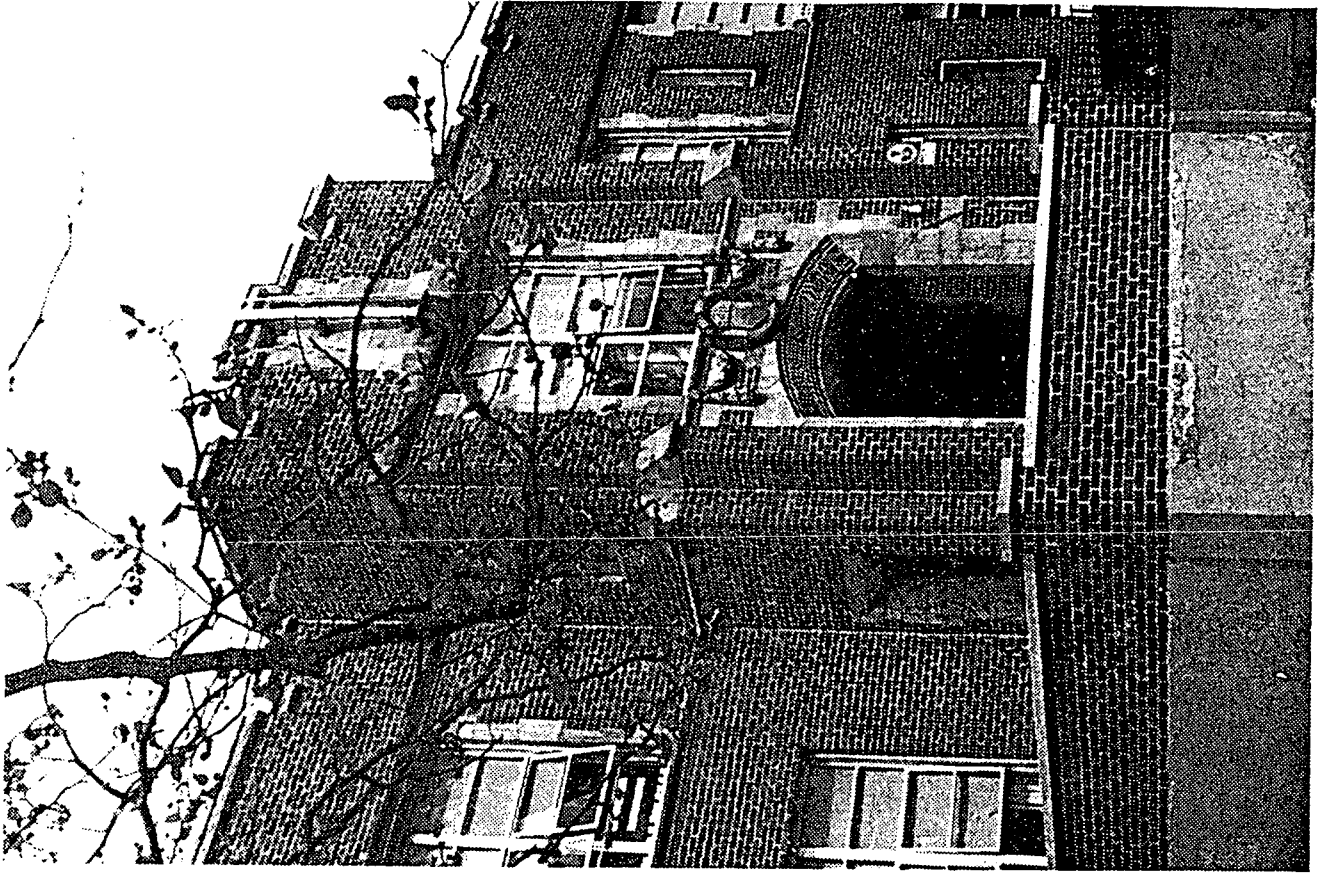
Design Features

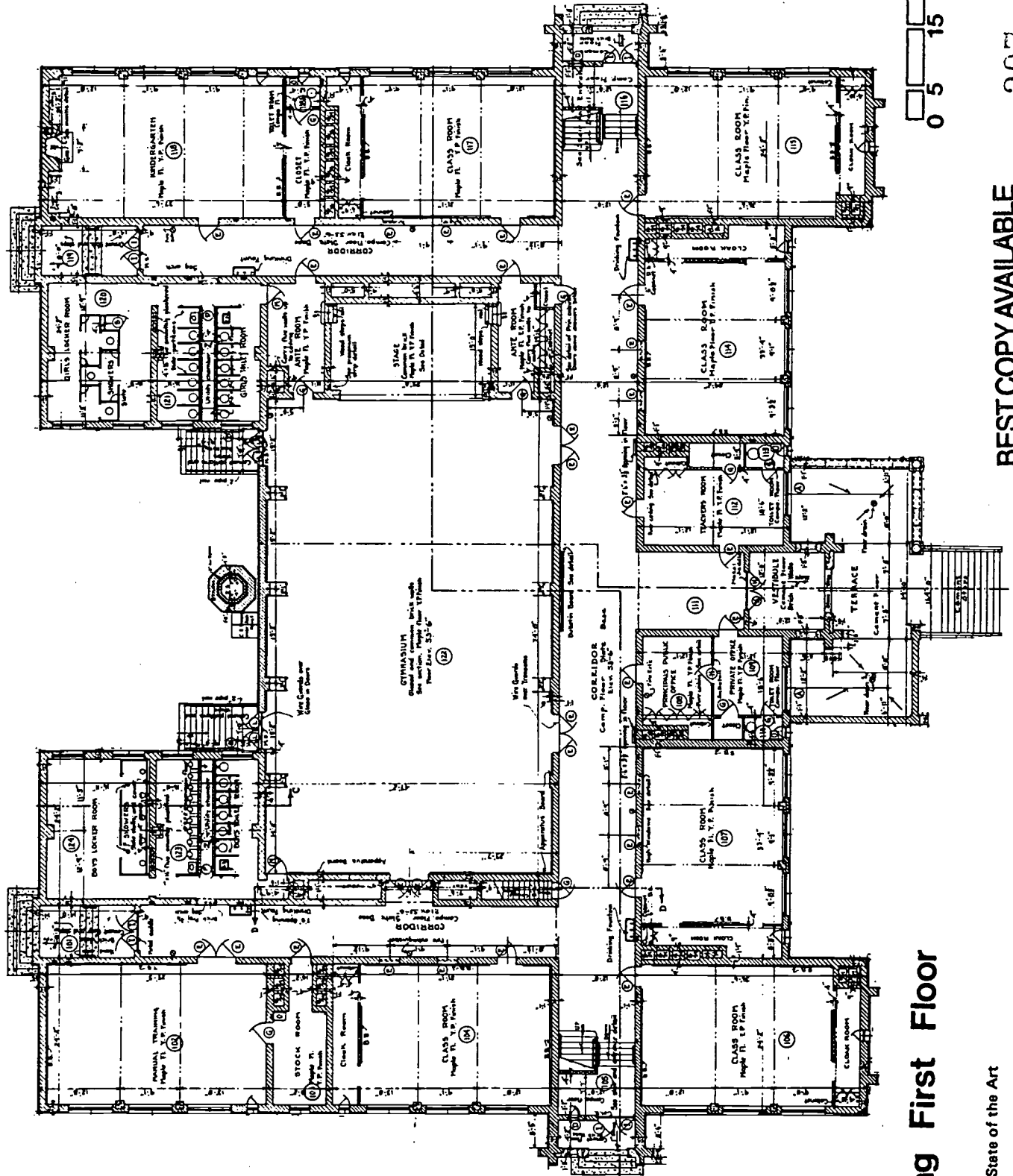
The Thurber school conversion contains 23 units ranging in size from one-bedroom flats to three-bedroom townhouses with the following mix:



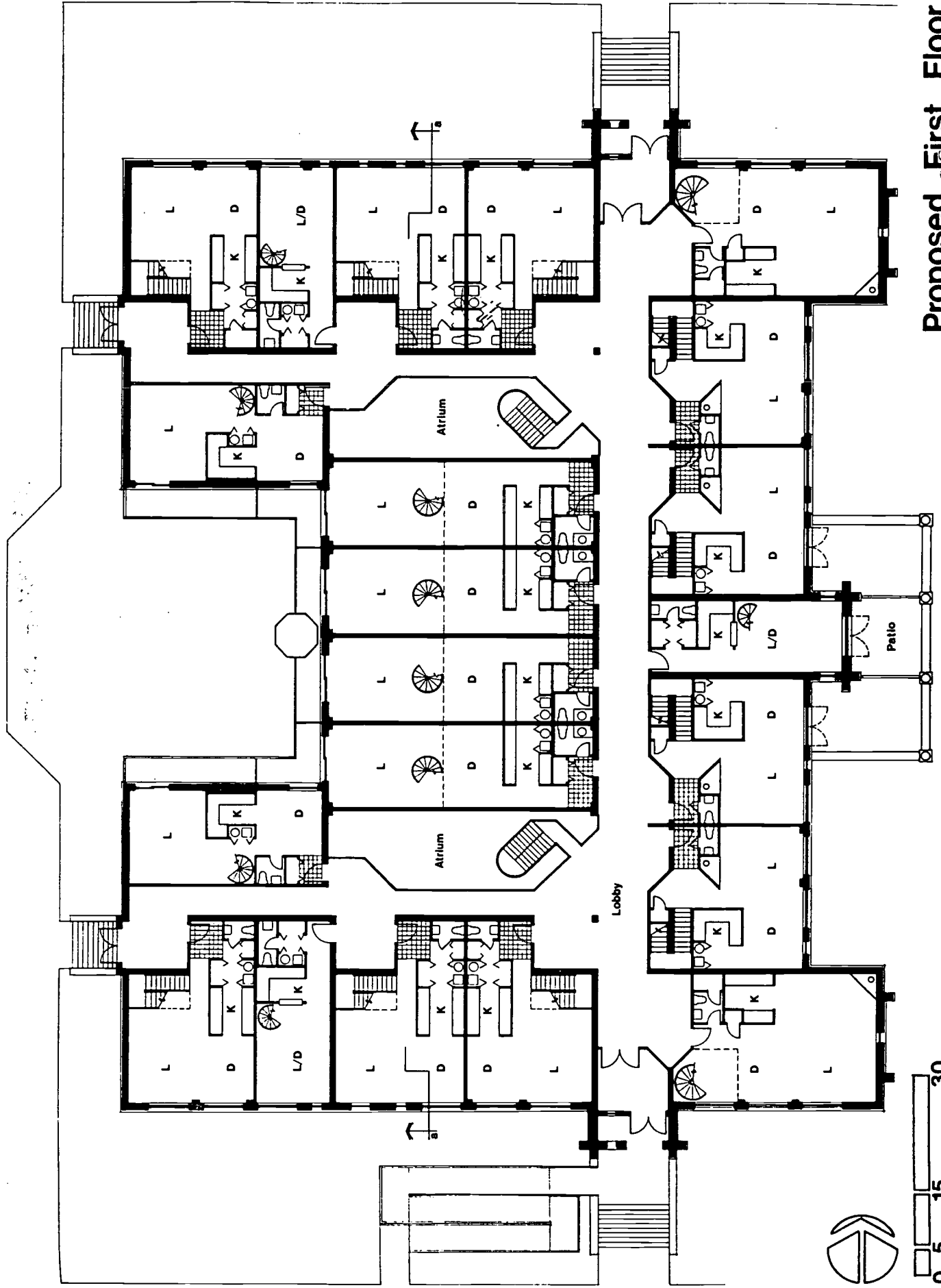
3 bedroom townhouse	2
2 bedroom townhouse with study	10
2 bedroom townhouse	2
1 bedroom townhouse with study	1
1 bedroom townhouse	6
1 bedroom flat	2
total	<u>23</u>

The concept of 'found space' played an important role in this design. By designing the units in a townhouse format with no public second floor circulation, stairs, halls and elevators were not required, allowing all of this space to be integrated into the units. Two-story open elements are a part of many of the units providing a heightened sense of 'space'. The former front entrance has become a one-bedroom unit with stone quoins on the exterior wall. The gymnasium was converted to four one-bedroom loft units by installing partial second floors in the full height space. And the former boiler room and coal storage area has been recaptured for use as a community room, laundry, and two flats which open directly onto an outside deck and pool. This deck was created by excavating the area behind the building five feet to the basement floor level.





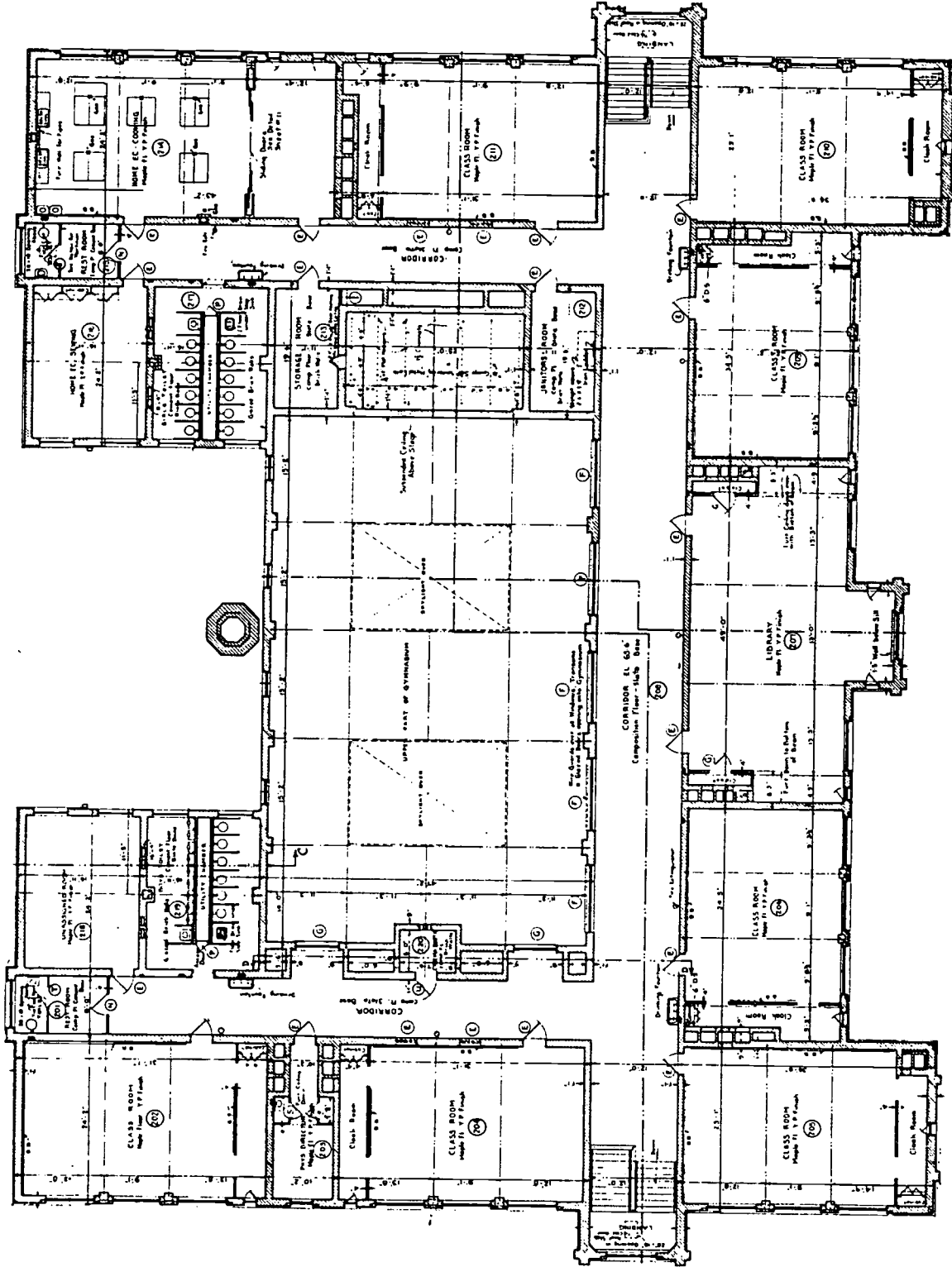
Existing First Floor



208

Proposed First Floor

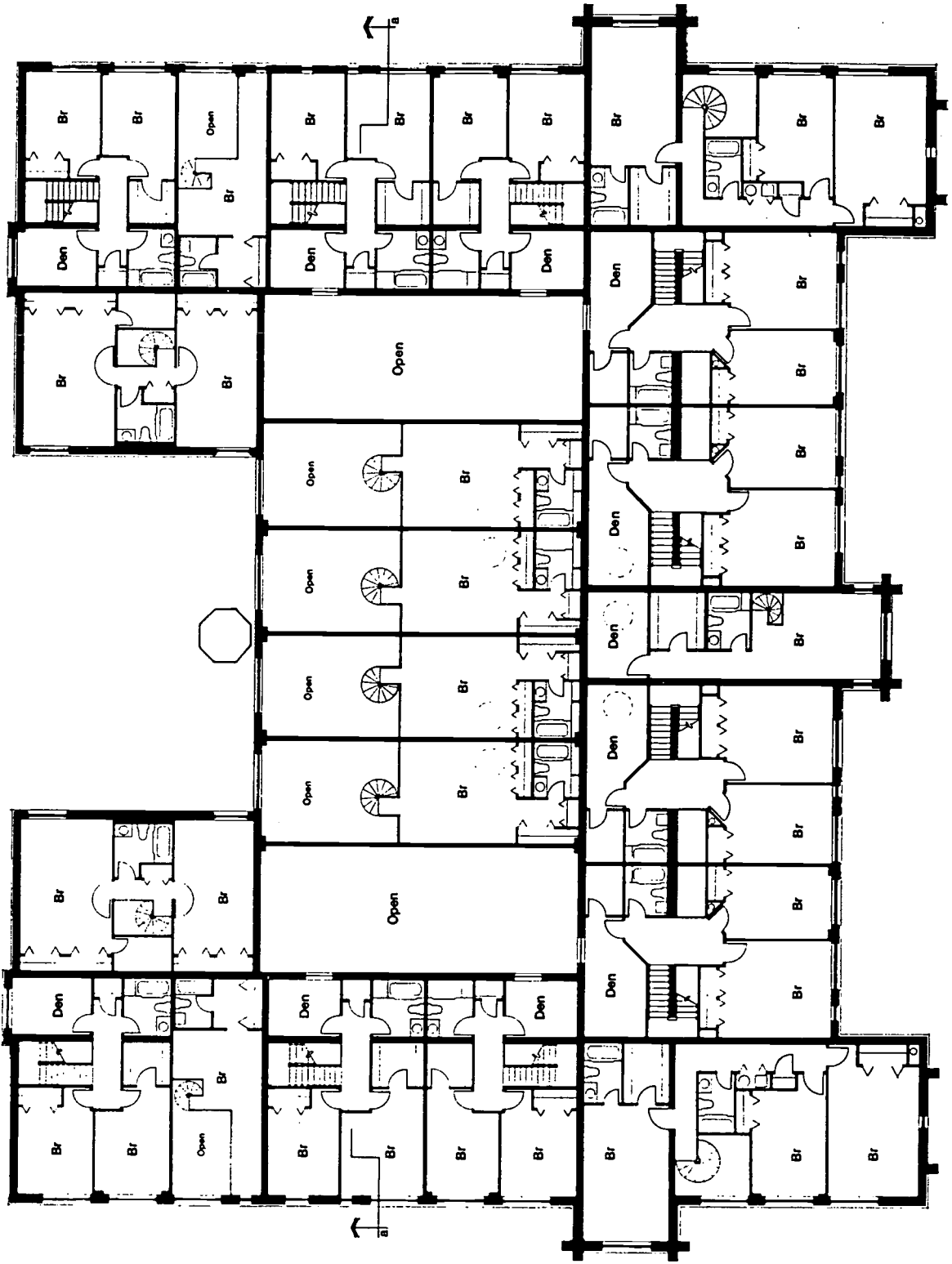
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Existing Second Floor

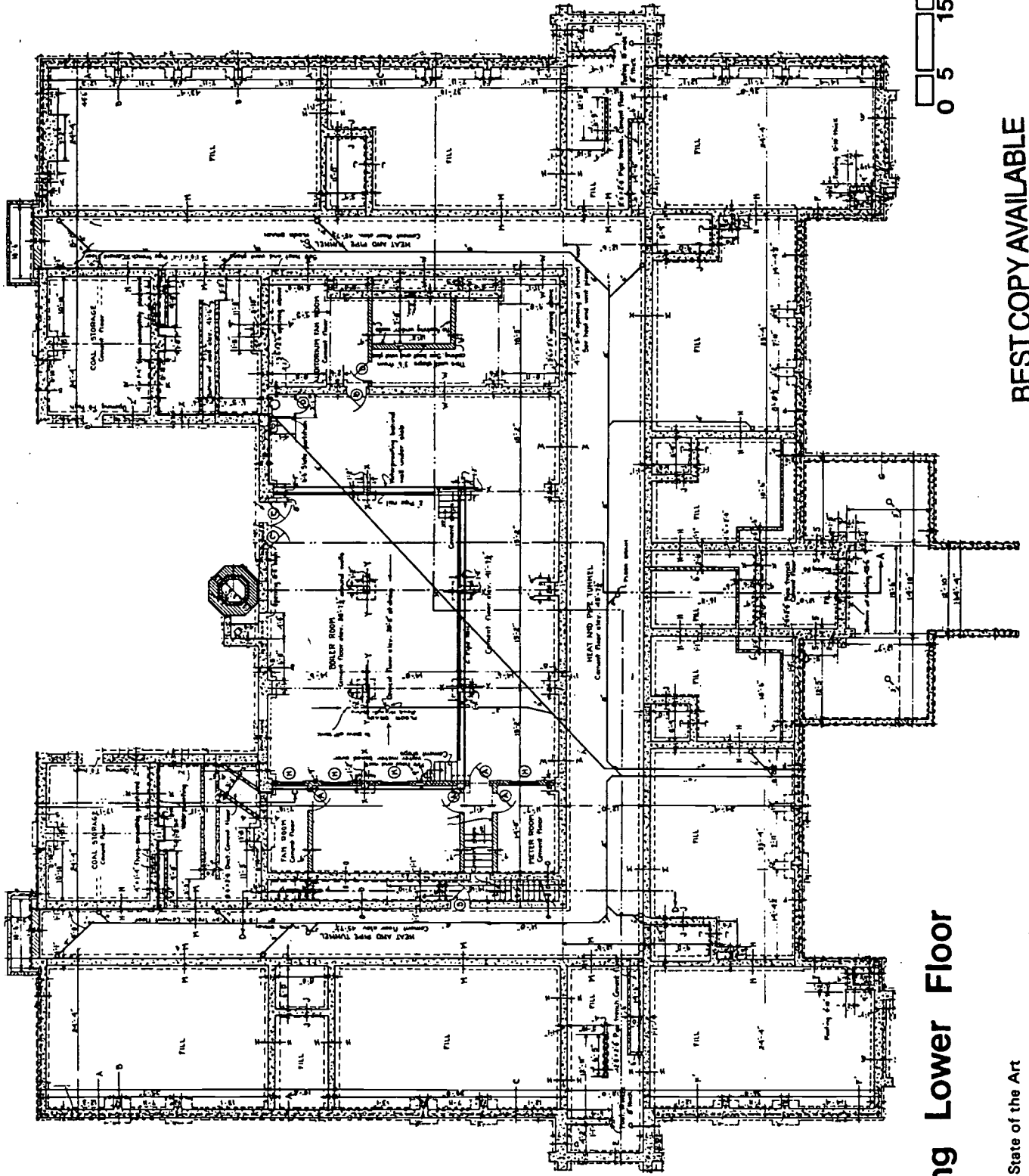
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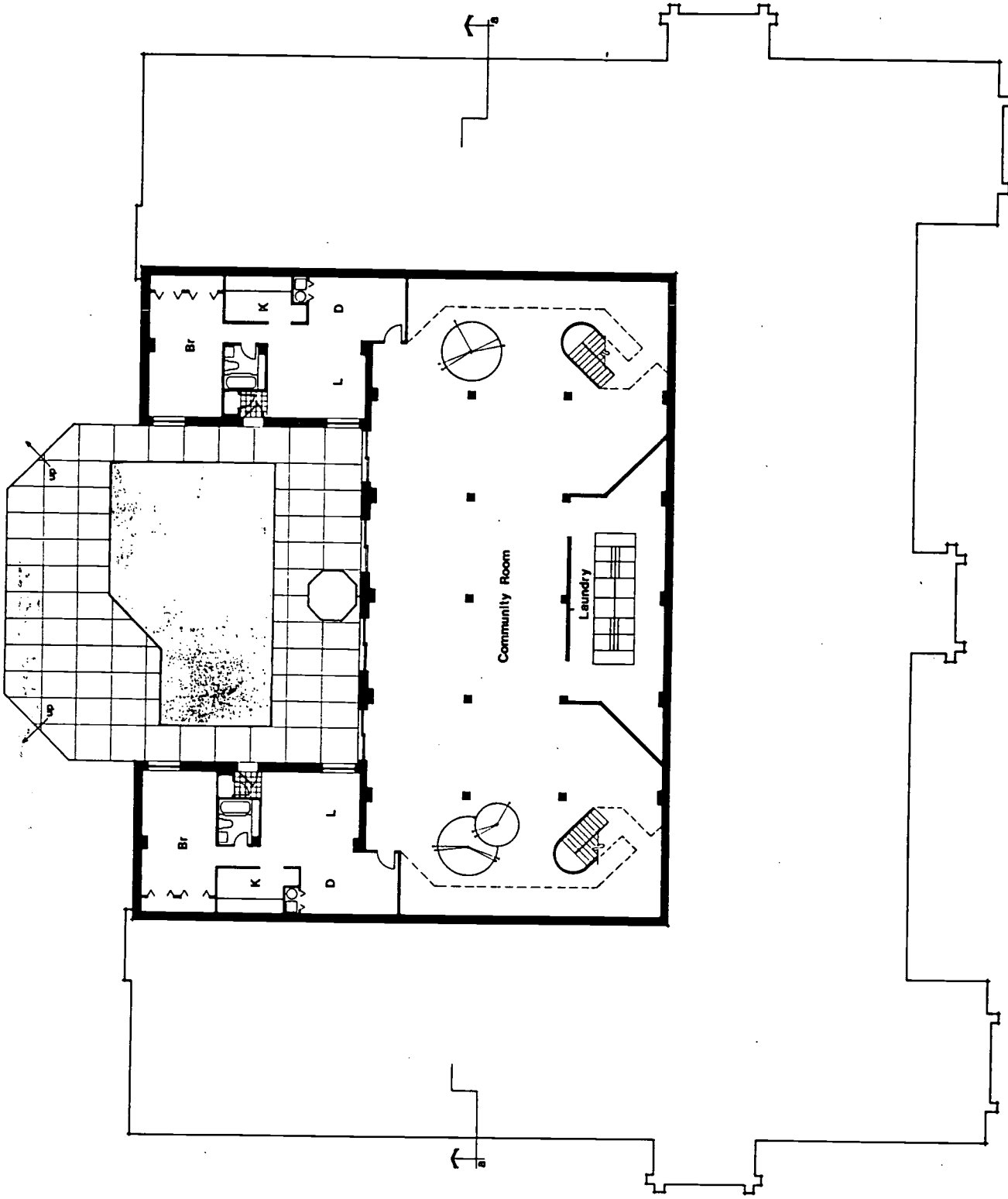


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Proposed Second Floor

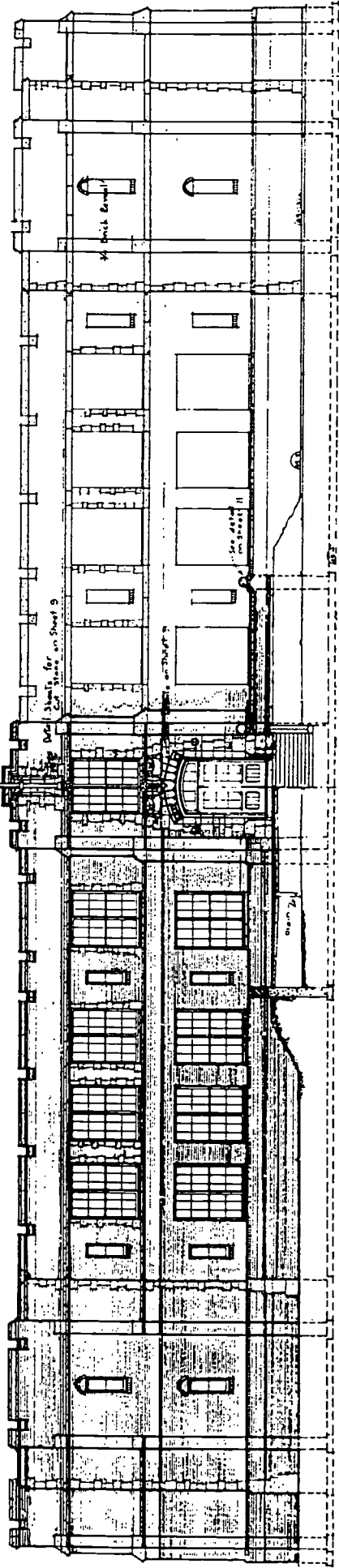


Existing Lower Floor

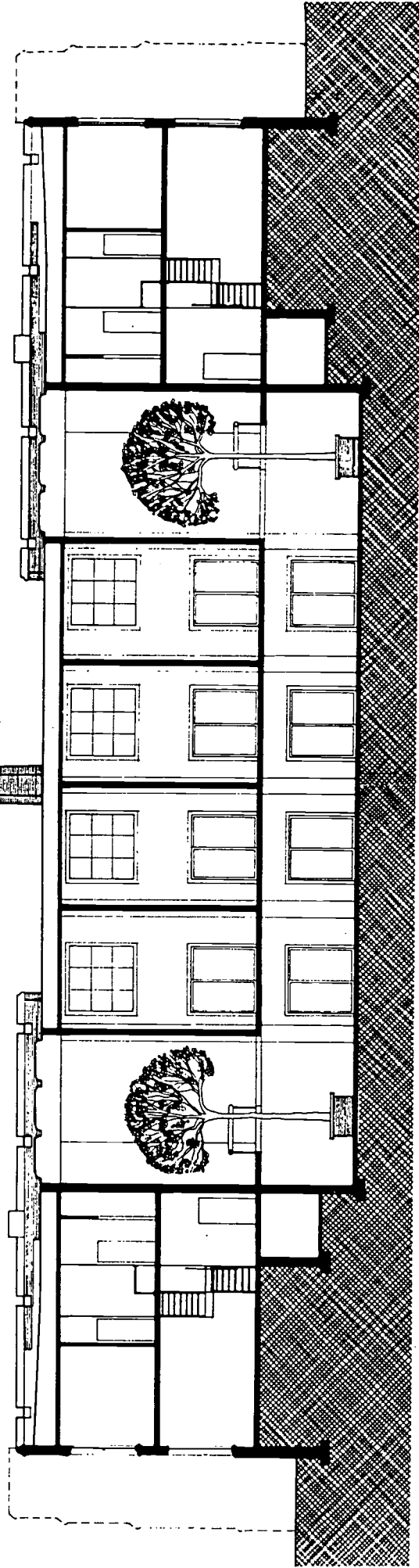


Proposed Lower Floor

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East Elevation



Section

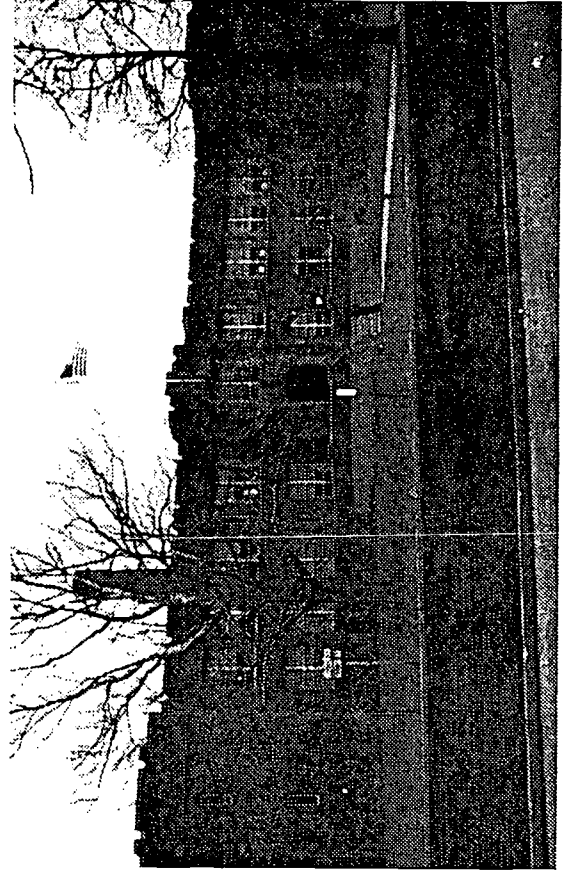
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Parking is to the southwest of the building with the main entrance on the south side entering into a controlled public lobby. Three-story atriums on either side of the former gymnasium provide both light and a new feeling of spaciousness to the public corridor area of the building. Most units are entered from recessed 'private' alcoves in the hall, and two-and-three-bedroom units in the front of the building have fireplaces. Several units have been given private outdoor living spaces by converting the former entrance patio, and by constructing balconies around the pool/deck area. Kitchens, baths and mechanical rooms will receive lowered ceilings to accommodate ductwork and plumbing. Other living areas such as living, dining and bedrooms will retain their eleven foot ceilings, giving full benefit of the large window openings. Corridors will be carpeted, while individual units will retain their hardwood floors, with carpeting at the owner's option.

Financing

The Thurber school conversion, due to the market-rate nature of its condominium units, would likely be executed by a private developer utilizing conventional institutional financing, though other alternatives are certainly open. Important here, as mentioned earlier in the section on financial considerations, is that the length of time required for the development process can be substantially reduced with school reuse when compared to comparable new construction. By cutting development time, the developer cuts costs and at the same time generates cash flows earlier, since the more marketable areas such as the lobby and model unit can be given priority.

Residential reuse is in its infancy in Columbus, and the conversion of Thurber school has the unique opportunity to be on the cutting edge of a brand new market.



East Elevation



South Elevation

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Summary

Recent projections show school enrollments are still declining, and thus the problem of surplus school space will be with us for some time to come. Before sacrificing a school to the wrecking ball, however, consideration should be given to maintaining the structure and adapting it to a new and useful life: There is no one best use, though, and school officials and communities must be aware of, and investigate, all of the options available.

Surplus schools can be used for alternative education or other programs by the school system, or can be rented, leased or sold to community groups, organizations, or private developers who can put the space to use, thus conserving and recycling an environmental resource. If reuse is approached with ingenuity, commitment and attention to the design guidelines discussed herein, most schools can be adapted to serve contemporary needs, often at a lower cost than comparable new construction. Reuse designs which retain the basic school configuration of repetitive modular units are generally the most expedient and least costly to accomplish. Also, school adaptive use designs can often capitalize on 'found space' — underutilized or previously unused areas within the building.

It is worth pointing out again that the ease with which school buildings lend themselves to conversion, and the type of conversion for which they are most suited, depends largely on the building type. Reference to the reuse potential matrix on page 45, in conjunction with an assessment of the community's particular needs, will aid in the selection of an appropriate new use.

School reuse is viable, and with imagination and conviction on the part of school boards, communities, architects and developers, school buildings which are no longer needed for educational purposes can continue to be the vital centers of community activity for which they were constructed.

Credits

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RESOURCES AND PROGRESS
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Illustration, p. 59: Preservation Briefs 2
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Photo, p. 87: COMMERCIAL REMODELING

All other photographs and drawings are by the authors.

appendix

Appendix I

The following "Standards for Rehabilitation" are used by the Secretary of the Interior in determining if a rehabilitation project qualifies as "certified rehabilitation" pursuant to the Tax Reform Act of 1976, the Revenue Act of 1978, and the Economic Recovery Act of 1981. These standards are a section of the Secretary's "Standards for Historic Preservation Projects" and appear in Title 36 of the Code of Federal Regulations, Part 1208 (formerly 36 CFR Part 67).

"Rehabilitation means 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."

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.

Appendix II

SOME FUNDING PROGRAMS

Historic Preservation Grants
Consultant Services Grants

contact:

National Trust for Historic Preservation
1785 Massachusetts Avenue, N.W.
Washington, D.C. 20036

or

National Trust for Historic Preservation
Midwest Regional Office
407 South Dearborn Street, Suite 710
Chicago, Illinois 60605

Historic Preservation Loan Program

HUD Section 8 Program

HUD Section 202 Loans for Housing for the Elderly

contact:

Department of Housing and Urban Development
451 Seventh Street S.W., Washington D.C. 20410

The Urban Reinvestment Task Force

contact:

The Urban Reinvestment Task Force
1120 19th Street N.W., Suite 619
Washington D.C. 20036

Multipurpose Senior Centers

contact:

Office of State and Community Programs
Administration on Aging
Department of Health, Education and Welfare
Washington D.C. 20201

Economic Recovery Act of 1981
contact:

Technical Preservation Services

National Park Service

U.S. Department of the Interior
Washington D.C. 20240
(202) 272-3721

Office of Archeology and Historic Preservation

U.S. Department of the Interior
Washington D.C. 20240

Historic Preservation Matching Grants Program

Survey and Planning Grants (for studies)

Acquisition and Development Grants (brick and mortar)
in Ohio, contact:

Ohio Historic Preservation Office
Ohio Historical Society
1-71 and 17th Avenue
Columbus, Ohio 43211

Design Demonstration Grants

General Services Grants

contact:

National Endowment for the Arts
2401 E Street, N.W.
Washington D.C. 20506

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